Influence of Lifestyle on Housing Preferences of Multifamily Housing Residents

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ABSTRACT

Lifestyle is a popular concept used to understand consumers' behaviors; however, the lifestyle concept rarely has been applied to housing studies. Although renting a multifamily dwelling is a non-normative housing choice in the United States, many people prefer to rent multifamily housing units for reasons other than financial.

The purpose of this study is to identify the housing preferences of multifamily housing residents as determined by their lifestyles. The model of influences on housing choice was used as a theoretical framework for the study.

Fifty nine housing activity, interest, and opinion (AIO) statements were developed as a lifestyle measurement for this study. A total of 211 responses were collected from residents of nine selected apartment communities in Charlotte, N.C., through two phases of questionnaire surveys. The respondents were represented by young single-person or couple households with high income and college degrees or higher education.

Four lifestyle factors (Well-being, Social, Spaces, and Envirotech) were derived from housing interest and opinion items, and the respondents were grouped into four lifestyle clusters (Community Cluster, Basics Cluster, Home Cluster, and Environment Cluster) on the basis of the lifestyle factors. The relationships between the lifestyle clusters and their housing preferences were tested and the model of influences on housing choice was partially supported.

Households in the Community Cluster had a strong downtown-orientation and the weakest perception of homeownership, and preferred to have security features. Households in the Basics Cluster had the weakest preferences for apartment home and community features and the second weakest perception of homeownership. Households in the Home Cluster had the strongest perception of homeownership and relatively strong feature

preferences, including preferences for upscale interior design features. Households in the Environment Cluster had a strong suburban-orientation and preferred to have outdoor parking spaces in front of the building, plant watering service, and an on-site car care center.

The findings from this study can be applied to the design and management of apartment communities and to marketing strategies that are sensitive to lifestyle concepts. Because of the unique sampling framework, the results from this study cannot be generalized. Instead, it is recommended that further research studies test the housing AIO statements with different groups in diverse markets.

DEDICATION

To My Parents

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CHAPTER 1. INTRODUCTION

A house is the primary built-environment for a human being (Aragonés, 2002). It is not only shelter providing security and protection from harm (Aragonés; Aragonés, Francescato, & Gärling, 2002; Betchel, 1997), but it is also a place where a person can express him/herself (Marcus, 1997). A house is a place where a person can develop his/her identity, where human activities and social relationships start to be structured, and where the most important experiences occur (Aragonés). A house also reflects social and cultural values and ideas of the society and culture where it is built (Lawrence, 1987). Because a house plays such an important role to those who reside there, it is very important for a household to find the most suitable place to live.

In the United States, the ownership of a single-family detached house is an important housing norm (Beamish, Goss, & Emmel, 2001; van Vliet, 1998). Morris and Winter (1978) report that home ownership has been a strong societal norm since the founding of the United States. The U.S. Census Bureau in 2000 (2002a) reported that the home ownership rate was over 66%. The National Association of Home Builders [NAHB] (2004) states that this rate is expected to continue rising. Varady and Lipman (1994) state that in the United States home ownership reflects upward socio-economic status, and that owning a house has been considered a great financial asset. Glink (1996) suggests that a family obtains a sense of belonging and a sense of rootedness by owning a home in the community.

In addition to the individual or societal preferences of home ownership, government policies encouraging home ownership also influence a steady increase in the home ownership rate. Tax deductions for real estate taxes and mortgage interest are some of the benefits of being a homeowner (Follain, 1994; Glink, 1996). For these reasons, home ownership has became a societal housing norm in the United States and owning a dwelling has been considered a prior condition for economic stability. Renting a dwelling has been considered an inevitable housing choice for low-income families who are not able to afford to buy a house (Follain; van Vliet, 1998).

Today, many people choose to rent for reasons other than financial limitations. Recent trends in the rental housing market show that the perception of rental housing has changed from an undesirable housing option suitable only for low-income families to a preferable housing choice for people looking for affordability and flexibility (Joint Center for Housing Studies of Harvard University, 2003). Krueckeberg (1999) states that there has been too much societal pressure for home ownership and insists that federal and state housing policies should balance tenure choices.

In the United States, multifamily housing is the structure type most often associated with rental housing. Convenience, flexibility in choosing location, freedom from responsibility for maintenance and repair, and affordability are all reasons more people prefer to rent multifamily dwellings than in the past (NAHB, 2004). Multifamily rental housing is found to be especially attractive to singles, unmarried couples, and older adults (van Vliet, 1998).

As mentioned before, it is very important for a household to find a dwelling that meets its expectations because a dwelling plays an important role for its residents. A house should be designed to be responsive to a household's needs and expectations regardless of tenure or structure type. Because renting traditionally has been considered an undesirable temporary housing option, the housing preferences of rental housing residents have not been considered an important topic to explore. Most of the research studies about multifamily rental housing have been focused on public or other federally-assisted multifamily housing. In those studies, affordability and residents' quality of life perspectives were most often investigated (Gilderboom & Markham, 1993; Hall & Hula, 1997; Higgit, 1996; Rodriguez, Mead, Laquatra, & Chandra, 1998).

To develop a housing unit that satisfies its residents, it is important to understand characteristics of existing and prospective residents. Lifestyle is one of the most popular concepts in marketing, used to explain consumer behaviors when demographic characteristics are not sufficient (Plummer, 1974; Wells, 1975). Lifestyle is useful to distinguish one group of people from another when demographic characteristics are not enough to make the distinction (Demby, 1994; Waldrop, 1994; Wells). The lifestyle concept has been used in many fields to understand and predict consumer behavior and

various attempts have been made to measure lifestyles since the concept was introduced in the early 1960s. The activity, interest, and opinion (AIO) rating statements, developed by Wells and Tigert (1971), is one of the most widely used approaches to measure lifestyles (Plummer).

Justification of the Study

Despite the strong emphasis on ownership of single-family housing in the United States, a significant number of households choose multifamily rental housing. One third of American households rent, and an increasing number of households who could afford to buy are choosing multifamily rental housing for a variety of reasons. Housing preference studies, like the one conducted by the NAHB (2002), however, have focused more on home buyers than on renters, and more on single-family housing than on multifamily housing. There have been very few studies that attempt to understand characteristics of multifamily housing renters and to explore their housing expectations and preferences.

Lifestyle is one of the most popular concepts used to explore consumer behavior. In various fields, the lifestyle concept has been widely used to understand and explain certain consumer behaviors. In the field of housing, however, the lifestyle concept rarely has been mentioned in research studies. Instead, as indicated by Beamish, Goss, and Emmel (2001), there have been several other concepts influencing housing choice, including housing values, economic status, cultural norms, stage in the family life cycle, and housing needs. Instead of clarifying residents' lifestyles, some studies have focused on examining the relationship between certain demographic characteristics and housing behavior. Demographic characteristics are the most frequently used features to explain housing behaviors. Also, few housing features have been included in previous studies in other fields that profile lifestyle groups. There has not been previous empirical study to identify lifestyles in relation to specific housing behaviors.

This study focuses on identifying housing preferences of multifamily housing residents by utilizing the lifestyle concept. Multifamily housing residents are grouped according to their lifestyle traits related to housing behavior and the housing expectations and preferences of each group are explored and compared with each other.

Purpose and Objectives of the Study

The purpose of this study is to identify the housing preferences of multifamily housing residents as determined by their lifestyles. There are two research objectives:

(1) To determine the lifestyle dimensions of multifamily housing residents; and

(2) To examine the relationships between residents' lifestyle and their housing preferences.

Research Hypotheses

To achieve the second research objective, three research hypotheses were tested:

H1: There are differences in demographic characteristics among the lifestyle groups.

H2: There is a relationship between the lifestyles of renters and the likelihood to be a renter.

H3: There are differences in the preferences for multifamily housing and community features among the lifestyle groups.

Significance of the Study

Lifestyle dimensions related to housing behavior have not been developed or examined in previous research in the field of housing. For this reason, instruments to measure lifestyles related to housing behaviors of multifamily housing residents were developed for this study based on the review of previous studies related to lifestyles and housing values. The instrument and procedure used in this study are expected to provide useful research study tools to other researchers wanting to study the lifestyle concept and its relation to housing in more detail. The instrument can be used for cross-market comparisons of lifestyle profiles and housing preferences. Also, the instrument can be used to compare homeowners and renters in terms of their lifestyles in order to understand the tenure norm in the United States from a different perspective.

By clarifying lifestyle clusters and the relationship between lifestyle clusters and housing preferences, the industry will be able to predict prospective residents' housing preferences more easily. By doing so, they will be able to develop future multifamily

housing which will be sensitive to the residents' lifestyle. Also, they will be able to develop marketing strategies according to the lifestyle and housing preferences of their target groups.

Study Area

Charlotte, North Carolina (N.C.), is the research setting for the study. Charlotte is one of the vibrant, growing cities in the United States. This study targets multifamily housing renters in Charlotte because there are various types of multifamily housing communities in the area, and it was anticipated that those communities reflect various lifestyles of residents. In addition, Charlotte is accessible to the researcher because of its location. The Charlotte Apartment Association (CAA) is an active association of people who own, manage, and provide services to multi-family rental housing in the area. CAA was asked and was willing to help with the sampling and survey process of the study.

Assumption of the Study

In sampling procedures it was assumed that residents of private multifamily housing were likely to have chosen their current housing based on their lifestyles. It was also assumed that their choice of multifamily housing location was related to lifestyles and that high-cost multifamily housing communities have more features related to lifestyles.

Delimitation of the Study

This study focuses on multifamily rental housing because it is easier for renters to decide to relocate based on their housing preferences than it is for homeowners. Furthermore, this study focuses on private rather than public multifamily housing. Most previous studies about multifamily housing have focused on public housing in terms of affordability and quality of life, and there have been few studies about privately owned multifamily housing. Residents in private rental housing are assumed to have more chance to choose their housing according to their lifestyle. Residents in public housing are assumed to have less housing choice and the choice is mainly influenced by their economic condition, rather than lifestyle.

Only lifestyle traits that may influence housing behavior are included in the questionnaire used in this study, instead of testing all lifestyle traits used in previous studies. Also, only multifamily home and community features that are assumed to be influenced by lifestyles are included in the study.

Definition of Terms

Activity, Interest, and Opinion (AIO) Statements

Lifestyle measurement based on personal perception of statements focused on activities, interests, and opinions on general or specific topics or conditions.

Apartment

An individual dwelling unit, usually on a single level and often contained in a multi-unit building or development (Institute of Real Estate Management [IREM], 2003, p. 8). The term apartment can be used interchangeably with multifamily unit and apartment home.

Apartment Building

A term that is used interchangeably with multifamily housing.

Apartment Community

A group of one or more apartment buildings with common amenities clustered on a specific site. The term apartment community can be used interchangeably with multifamily housing community.

Apartment Community Features

In contrast to the term apartment home feature, apartment community features refer to services and amenities that are provided outside individual apartment units and are intended to be used by all residents of the apartment community.

Apartment Home

A term that is used interchangeably with apartment and multifamily unit.

Apartment Home Features

Features and amenities provided for an individual apartment unit that are intended to be used privately by the household living in the unit.

Housing AIOs

AIO statements that were developed for this study to measure lifestyle profiles focusing on housing behaviors.

Housing Preferences

Expression of the quantity and quality of housing features that residents would like to have (Morris & Winter, 1978).

Housing Values

A set of internalized standards that guide decision making related to housing behavior (Adapted from Montgomery, 1966).

Human Values

A set of abstract concepts of generalized preferences that is useful in evaluating specific goals over time (Lindamood & Hanna, 1979, p. 90).

Market-rate Apartment

Apartment whose rent is determined by the owner based on prevailing market conditions. A market-rate apartment does not receive any financial assistance from government or other public entities. (IREM, 2003; Citi Relocation, n.d.)

Multifamily Housing

A building that contains five or more housing units that is distinguished from single-family detached housing, duplexes, triplexes, quadraplexes, and row houses.

Multifamily Unit

A unit located in a multifamily housing development. The term multifamily unit can be used interchangeably with apartment and apartment home.

CHAPTER 2. LITERATURE REVIEW

The purpose of this study is to identify the housing preferences of multifamily housing residents as determined by their lifestyles. In this chapter, previous studies regarding approaches to studying lifestyle, multifamily housing, housing preferences, and housing values are reviewed, and the theoretical framework of the study is defined and explained. Also, the characteristics of Charlotte, North Carolina, the study setting, will be described.

Lifestyles

Definition of Lifestyle

Understanding and predicting consumers' preferences and buying behavior is the most important marketing issue for most industries. Lifestyle is one of the most popular concepts used to understand consumer behavior. There are many definitions of this concept from sociology and marketing researchers. Solomon (2002) defines lifestyle as a consumption pattern that reflects a person's choice of how to spend time and money. Blackwell, Miniard, and Engel (2000) explain that people use their lifestyle to understand, interpret, conceptualize, and predict events happening around them, and to reconcile these events with their values.

The concept of lifestyle patterns was introduced in the field of marketing by Lazer in 1963 (Plummer, 1974), and methods of measuring lifestyle patterns and their relationship to consumer behavior have been developed and refined since then. The most widely used approach to lifestyle measurement has been the Activity, Interest, and Opinion (AIO) rating statements developed in 1971 by Wells and Tigert (Plummer). The main purpose of lifestyle research is to better understand consumers in order to provide effective communication and marketing (Plummer). Lifestyle is influenced by many factors including age, education, socio-economic status, income, wealth, presence of children, marital status, location, values, and hobbies (Beamish, Goss, & Emmel, 2001), and is developed and changed through the dynamics of living in a society (Lazer, 1963).

Psychographics

Psychographics is one of the most frequently used terminologies to explain consumer behavior. Wells (1975) indicated that there is no single definition of psychographics that is generally accepted. However, the definitions of psychographic research can be summarized as quantitative research to place consumers on psychological dimensions (Demby, 1974; Wells). Lawson and Todd (2002) indicate the term psychographics and lifestyles are used in different ways in previous literature. They describe three main trends in literature to link psychographics to lifestyles: (1) psychographics as a method and technique to construct lifestyle profiles; (2) psychographics as a different measurement since psychographics focuses on psychological perspectives while lifestyles measures activities and behavior; and (3) psychographics as a term that can be used interchangeably with lifestyles.

Human Values

Human values are another concept that has been widely used to understand certain patterns of human behaviors including consumption patterns. Values are important determinants of human behavior that motivate and guide certain actions in desirable and valuable ways (Downer, Smith, & Lynch, 1968). Lindamood and Hanna (1979) define human values as "abstract concepts of generalized preferences that are useful in evaluating specific goals over time" (p. 90).

The List of Values (LOV) Scale is one of the early measurement approaches of human values and their relation to buying behavior. In the first study that used LOV, respondents were asked to indicate the first and second most important values among nine values: self-respect, sense of accomplishment, being well respected, security, warm relationships with others, sense of belonging, fun and enjoyment in life, self-fulfillment, and excitement. Those nine values were developed from Rokeach's list of terminal values, Maslow's hierarchy of human needs, and various other values research (Kahle & Kennedy, 1989).

Activities, Interests, and Opinions (AIO)

How people spend their time, their interests and priorities, and their opinions of themselves and the world around them are main issues in measuring lifestyle characteristics (Plummer, 1974). Activity, interest and opinion (AIO) rating statements, developed by Wells and Tigert (1971), are the most widely used approach to lifestyle measurement. Wells and Tigert conducted a self-administrating questionnaire with 300 AIO statements that covered various topics including daily activities; interests in media, the arts, clothes, cosmetics, and homemaking activities; and opinions on many matters of general interest. Plummer describes the dimensions of AIOs:

(1) Activities: Work, hobbies, social events, vacation, entertainment, club membership, community, shopping, and sports.

(2) Interests: Family, home, job, community, recreation, fashion, food, media, and achievements.

(3) Opinions: Themselves, social issues, business, economics, education, products, future, and culture (p. 34).

AIO statements are applied in many research studies to understand people's behavior. Reynolds and Darden (1972) developed 148 AIO statements to find differences between frequent shoppers and infrequent shoppers in order to understand intermarket patronage. The 148 AIO statements consisted of 85 general statements, 22 trade area specific statements, and 41 product specific statements, and respondents indicated their agreement or disagreement with the statements on a six-point agree or disagree scale. Wall, Dickey, and Talarzyk (1978) developed 168 five-point agree or disagree AIO statements related to consumer behavior and satisfaction with clothing performance. To explore the relationship between lifestyles and general consumption patterns, Cosmas (1982) identified seven lifestyle clusters based on 250 six-point agree or disagree AIO scales and linked the lifestyle clusters with seven product assortment groups defined by frequency of product usage.

In addition to these, AIO statements have been utilized in many other research studies to profile male innovators (Darden & Reynolds, 1974), to understand women's shopping behavior (Roberts & Wortzel, 1979), to understand general consumption patterns

(Hoch, 1988), to determine the influence of the male role and lifestyles on clothing selection (Oliver, 1989), to understand factors affecting older adults' interest in attending college classes (Linville, 1992), and to explore the relationship between travel behavior and healthy-living (Hallab, 1999). Tao (2003) conducted a cross-cultural study that compared lifestyle characteristics of consumers in Taiwan and the United States, and AIOs were used as the measurement of lifestyles.

Lifestyle Market Segmentation

Schaffer and Green (1998) and Weiss (2000) indicated that the popularity of cluster-based market segmentation has increased since the early 1970s and now is very common in many fields that target consumers. Market segmentation is based on the idea that the society is no longer homogenous. As indicated by Swenson (1990), market segmentation is necessary because consumers get more sophisticated and society gets more and more complicated.

Lifestyle market segmentation is a combination of market segmentation and the lifestyle concept (Plummer, 1974). That is, lifestyle market segmentation, or lifestyle segmentation, refers to a market segmentation based on the lifestyle characteristics of consumers.

Values and Life Style (VALS™) is a consumer segmentation system that was developed by Arnold Mitchell in 1978 to explain changes in U.S. values and lifestyles (Mitchell, 1983). It is based on Maslow's hierarchy of human needs and classifies people into nine psychographic segments: survivors, sustainers, belongers, emulators, achievers, I-am-me, experiential, societally conscious, and integrated (Kahle, Beaty, & Homer, 1986; Mitchell). The VALS™ had wide and dramatic impact on industries (Kahle et al.) and was considered the only psychographic segmentation that was widely accepted in industry until the late 1980s (Riche, 1989).

After ten years, the VALS™ was refined as VALS2™ in order to make it more applicable in predicting consumers' buying behavior (Riche, 1989). VALS2™ was developed based on the idea that consumers should be segmented based on enduring personality traits rather than values and lifestyles which change over time (Beamish, Goss, & Emmel, 2001; Riche; SRI Consulting Business Intelligence, n.d.). VALS2™ groups

people into eight psychographic segments based on their type of resources (minimal to abundant) and self-orientation (principle, status, or action oriented): actualizers, fulfilled, believers, achievers, strivers, experiencers, makers, and strugglers. The VALS2™ has also been modified over time. In the recent VALS2™, there are eight lifestyle groups based on an individual's resources (low to high) and motivations (motivated by ideals, achievement, or self-expression): innovators, thinkers, believers, achievers, strivers, experiencers, makers, and survivors. These eight groups have different characteristics from the previous eight groups.

Potential Rating Index for Zip Markets (PRIZM®) is a geodemographic clustering approach created from the idea that families with similar characteristics might gather together in a geographic area. The basic idea of this geodemographic clustering is that people living in the same neighborhoods tend to behave in the same way (Weiss, 2000). In 1974, Claritas Corporation developed this geodemographic market segmentation system based on the U.S. Census. Claritas determined the primary geographic unit for the segmentation as the smallest census block group that was consistent with statistical reliability and availability of data. The size of the groups ranges from 250 to 550 households. In 2000, there were 62 lifestyle clusters defined and those were divided into 15 socioeconomic groups (Weiss). In 2004, however, 66 lifestyle clusters in 14 socioeconomic groups can be found on the Internet website of Claritas Corporation (Claritas Corporation, n.d.).

Lifestyle Approaches in Other Fields

The lifestyle concept has been used mainly in the field of consumer science and marketing. The concept also has been widely adopted in other fields to explain and predict consumer behavior, decision making, and characteristics. For example, Glanz, Basil, Maibach, Goldberg, and Snyder (1998) determined seven health lifestyle clusters to understand individual food consumption. Swinyard and Smith (2003) examined computer-oriented lifestyles to explore why on-line shopping was growing so fast among some households, and so slowly among others. Naylor and Kleiser (2002) examined the differences in vacation experiences across customers using lifestyle segments.

Lifestyle in Housing Studies

Varady and Lipman (1994) reveals six lifestyle groups of apartment renters from a 1991 national survey of renters sponsored by the National Association of REALTORS® utilizing a series of factor analyses and cluster analysis. The six lifestyle clusters were identified based on demographic and mobility characteristics and attitudes toward owning versus renting. The six clusters are (1) families moving up the housing ladder, (2) lifestyle renters, (3) college graduates starting out, (4) black renters, (5) elderly life cycle renters, and (6) struggling blue-collar workers. Varady and Lipman state that among these six clusters, families moving up the housing ladder, black renters, and struggling blue-collar workers may be targets for home ownership assistance.

Some housing characteristics including tenure, structure type, or location have been included in lifestyle studies (See, e.g., Weiss, 2000). However, neither Varady and Lipman's (1994) lifestyle clusters nor housing characteristics included in other lifestyle studies can provide empirical implications for the housing industry. These studies included only limited housing characteristics and failed to relate the lifestyle characteristics to other specific housing behaviors that may influence housing design and marketing.

Multifamily Housing

Definition of Multifamily Housing

Multifamily housing is a less private form of dwelling than single-family housing because multifamily housing is a denser type of development and residents share public space (Follain, 1994). The definition of multifamily housing is purely based on structure type. In contrast to single-family housing, multifamily housing is a building that contains multiple units in general. However, there has been no clear definition of multifamily housing. The Bureau of U.S. Census defines multifamily housing as five or more units contained within a single building (Urban Land Institute [ULI], 2000; van Vliet, 1998). Simmons (1997) also defines multifamily as "units located in structures with a total of five or more units (p. xxiii)" and classifies housing as single-family homes; multifamily units, and dwellings in structures containing two to four units.

In contrast, Schafer (1974) defines multifamily housing as “structures with three or more units (p. 1).” Kain’s (1980) classification of dwellings was single-family, two-family, and multifamily dwelling; which in effect, is the same definition of multifamily housing that Schafer uses. Van Vliet classifies dwellings as “single-family detached structures; duplexes, triplexes, quadraplexes; row houses, where two or more dwelling were joined together linearly; or apartment buildings containing dozens of dwelling units (p. 219).” A real estate company provides the definition of multifamily housing as “a building with more than four residential rental units” (Mortgage Minders, LLC, n.d.).

“Apartment” is a term that often emerges in defining multifamily housing. The term “apartment” is often used to indicate a certain building type; however, the Institute of Real Estate Management [IREM] (2003) defines apartment as “an individual dwelling unit, usually on a single level and often contained in a multi-unit building or development (p. 8)” and an apartment building as “a building containing more than one dwelling unit (p. 8).”

In this study, multifamily housing is defined as a building that contains five or more housing units to distinguish multifamily housing from other single-family detached housing, duplexes, triplexes, quadraplexes, and row houses. The term apartment can be used interchangeably with multifamily unit and apartment home, and the term apartment building can be used interchangeably with multifamily housing.

Types of Multifamily Housing

Multifamily housing types can be categorized based on tenure type, the height of the building, design, or the degree of government intervention in the housing market. In terms of tenure type, multifamily housing is either for rent or for sale. Because most multifamily housing in the United States is intended for rent (National Association of Home Builders [NAHB], 2004), a multifamily unit is often assumed to be a rental unit (Follain, 1994). There also are multifamily units developed to be sold to individual home buyers. Particularly, these types of units emerged in the early 1980s and are usually sold as condominiums or cooperatives (van Vliet, 1998).

Building Height. Multifamily housing also can be classified based on the height of the apartment building. However, different authorities use somewhat different criteria to categorize multifamily buildings. Kelley (2003) categorizes multifamily housing into three

types: low-rise, mid-rise, and high-rise. Kelley defines low-rise as buildings with one to four stories, mid-rise housing as buildings with five to nine stories, and high-rise as buildings with ten or more stories. On the other hand, van Vliet (1998) classifies multifamily housing into three types: garden apartments (also called garden density), mid-rise buildings, and high-rise buildings. Since garden apartments in van Vliet's classification correspond to low-rise multifamily building in Kelley's classification, both classifications are similar. However, van Vliet defines the number of stories that distinguish one type from another in different ways: garden apartments have two or three stories, mid-rise multifamily buildings have four to eight stories, and high-rise buildings have nine or more stories. ULI (2000) classifies types of multifamily properties as garden-density buildings that range from two to three stories without an elevator; elevator buildings that are mid-rise and high-rise buildings with four or more stories with an elevator in at least one building; and townhouses.

Building Design. Although multifamily housing terms vary by geographic location, De Chiara, Panero, and Zelnik (1995) classify multifamily housing units based on the number of bedrooms and the number of levels in a unit. In terms of the number of bedrooms in a unit, De Chiara et al. (1995) classify multifamily housing units as efficiency/studio, one-, two-, three-, four-, or five-bedroom apartment. Based on the number of story levels for a unit, they classified multifamily housing units as: simplex apartments/flats, which have all rooms on one level; duplex apartments, which have rooms on two levels; or triplex apartments, which have rooms on three levels. In duplex or triplex apartments, the living room, kitchen, and dining area are usually located on the lower level, and the sleeping area is located on the upper level, and those levels are connected by an interior stair.

De Chiara et al. (1995) also provide classifications of multifamily housing buildings. Based on the existence of an elevator, they classified multifamily housing buildings as walk-up or elevator apartments. Based on the floor plan of the multifamily housing building, multifamily housing buildings are classified as center-corridor plans, open-corridor plans, and tower plans. In De Chiara et al.'s classification, a center-corridor plan refers to a plan that has apartments on both sides of the corridor, and an open-corridor plan refers to a

layout that consists of an exterior corridor serving a single line of apartments. A tower plan has a central core with a staircase or an elevator lobby, and apartments are arranged around the core. De Chiara et al. identify that a center- or an open-corridor plan has an advantage from the developers or owners' perspective. Those types are considered economical in terms of their space usage because they allow the maximum number of apartments per floor, and because it is possible to extend the length of building. However, these plan types have disadvantages from the residents' perspective. Because of a long corridor, some units do not have good access to an elevator or a staircase. In addition, there is a loss of privacy because of people walking in front of each apartment. In comparison with the advantages and disadvantages of center- or open-corridor plans, a short public corridor is indicated as a significant advantage of a tower plan. However, a tower plan has a disadvantage in that a limited number (four to six) of apartments can be attached to a core. In addition to the classifications, Chiara et al. also classified multifamily housing building plans as three-wing plans (Y plan), cross plans, five-wing plans, or circular plans and so forth based on the shape of the building.

Government Intervention. Based on the degree of government intervention in the housing market, multifamily housing is classified as private multifamily housing and public multifamily housing. Private multifamily housing is privately owned and can be leased for rent by the owner (van Vliet, 1998). Some of these units are rented at market rate and others have rent subsidies from local, state, or federal government. Public multifamily housing is a form of low-income housing in the United States that is owned and/or managed by a local or state governmental agency (IREM, 2003).

Today, almost all new affordable housing is built under the federal tax credit program. Tax credit properties are owned and operated by private developers, owners, and managers and receive Low-Income Housing Tax Credits (LIHTC) from the federal government. The LIHTC program grants tax credits to developers or investors who set aside a percentage of a project's units for low-income households who meet the low-income criteria set by government (van Vliet, 1998). Van Vliet states that 34.5% of all multifamily units started in the United States in 1995 received Low-Income Housing Tax Credits.

In addition to these classifications, Guido (2001) uses a classification of apartment types that developers build and market as: affordable apartments, market-rate apartments, luxury apartments, student housing, active adult communities, assisted living, and military apartments. These tend to classify the rental market into some demographic and/or lifestyle segments. However, specifics of what is being built in each segment are not clear.

Demographic Profile of Multifamily Housing Residents

NAHB (2004) summarizes the profile of multifamily housing residents from the 2000 U.S. Census and 2001 American Housing Survey as follows:

> Of an average 3.5 million tenants moving into apartments annually, nearly 40% were one-person households, almost two thirds were headed by a white person, and 82% had no school-age children (age 6-17). The average age of the household head was 34.3 years, and the average household income was $37,000. … Most of the new tenants were households moving from one rental unit to another, although a substantial number were the results of new household formations (p. 22).

From the March 1997 Current Population Survey, Goodman (1999) found that compared with demographic profiles of homeowners, apartment renters tend to be younger, with smaller household size, and with more moderate incomes. Goodman indicates that household size is the most distinctive demographic characteristic of multifamily housing renters. He also indicates that multifamily housing renters are more mobile than other types of renters or homeowners.

Multifamily Housing as a Housing Choice

Goodman (1999) describes four types of housing choices that are a combination of tenure type (ownership or rental) and structure type (mainly single-family or multifamily housing). Among those combinations of housing choices, there is no doubt that home ownership of a single-family detached house is the dominant choice in the United States (Beamish, Goss, & Emmel, 2001; Joint Center for Housing Studies of Harvard University, 2003; Morris & Winter, 1978; NAHB, 2004). However, renting also becomes a preferable

housing choice, not only for people looking for affordability, but also for those looking for flexibility (Joint Center for Housing Studies of Harvard University). The U.S. Census Bureau in 2000 (2002a) reports that 34% of Americans rent both single-family housing and multifamily housing. Goodman indicates that multifamily rental housing is the second most prevalent combination of the housing choice combinations, and households living in multifamily rental housing comprise 25% of all households in the United States (NAHB, 2004). NAHB (2004) states that convenient location, freedom from responsibility for maintenance and repair, and affordability are the main reasons people choose multifamily housing. The National Multi Housing Council and National Apartment Association Joint Legislative Program [NMHC/NAA] (2002) states that 40% of apartment residents have chosen to live in apartment homes for reasons other than their financial situation and that apartment living is found to be attractive to high-income households.

Among people who choose to rent multifamily housing, some have a choice, but others are influenced by their circumstances (Gleason, Bogdon, & Lang, 1999; Kelley, 2003). Kelley named those two types of renters as renters by choice and renters by circumstance. Renters by choice are also called lifestyle renters (Goodman, 1999). Households who rent multifamily units because of financial reason are a major component of renters by circumstance, and households who need to move frequently or live apart from their family because of their job or school are also renters by circumstance. Compared to the renters by circumstance, renters by choice are households who choose to be renters based on reasons other than financial difficulties, such as lifestyle. Goodman indicates that renters by choice tend to have much higher incomes than renters by circumstance. From managerial perspectives, Kelley mentions that renters by choice are “likely to stay longer, cause fewer problems, and make better residents.” Goodman describes three requirements to be a renter by choice:

(1) They are old enough to be established in the labor force and do not have to move every year or two for reasons of job or school. About 87% of all apartment renters are age 25 or older.

(2) They have adult interests and schedules. About 69% of all apartment renters are single-person households or married couples without children under age 18.

(3) They have enough income to buy a house and may previously have been homeowners. In 1997, about 31% of all apartment renters had incomes above $33,220, which was the National Association of REALTORS® estimate for the national average income required to buy a starter home (p. 43).

Goodman (1999) indicates that approximately 14% of apartment renters have the potential to be renters by choice when these three characteristics are combined.

Lifestyles and Multifamily Housing

Lee (2004) predicts there will be three phases of the multifamily industry in the next ten years: recovery and transition (2004-2006); New Urbanism (2007-2009); and lifestyle housing (2010-2012). Lee states that by 2010, diversity in the renter population will result in a shift from the traditional apartment community to the lifestyle housing community, and that understanding the residents will become more important than knowing about the properties. Lee indicates the 11 types of population groups whose housing preferences will need to be targeted in multifamily housing design are: (1) just retired, but not old; (2) first-time renters; (3) young families with children; (4) rent-to-own residents; (5) snowbirds; (6) retired military; (7) empty nesters; (8) families with teens; (9) college professors; (10) singles; and (11) renters by choice.

Among the various types of multifamily housing, private multifamily housing that does not receive any government subsidy may have more features that are attractive to people who choose to rent a multifamily housing unit based on their lifestyles than public multifamily housing or private multifamily housing with government subsidies. Also, people who have different lifestyles may prefer multifamily housing with different floor plans or different spatial relationships between individual units and public spaces, and their multifamily housing choice may be influenced by the existence of an elevator in the building.

Multifamily Housing in Neighborhood

NAHB (2004) indicates that having multifamily housing has benefits in meeting the future housing needs of communities. Some of those benefits are as follows: (1) lower demand on local services such as schools and infrastructure; (2) lower fiscal costs for higher density; and (3) positive economic impact by creating jobs, sales of materials and goods used in construction, and spending money by new residents. In addition to these benefits, NMHC/NAA (2002) describes that multifamily housing as beneficial to neighborhoods because of following:

(1) Creating pedestrian-friendly environments;
(2) Providing vibrant 24-hour neighborhoods;
(3) Conserving green space; and
(4) Reducing auto traffic by making mass transportation feasible.

Housing Preferences

Definition of Housing Preferences

Based on Morris and Winter (1978), housing preferences can be defined as the expression of the quantity and quality of housing features that residents would like to have. Morris and Winter distinguish housing preference from other related terms, housing expectation and housing aspiration. Housing aspiration is defined as a housing desire or norm oriented toward the future and expectation is a realistic assessment of future housing conditions. Both aspirations and expectations are future-oriented concepts derived from norms and preferences. Expectation differs from aspiration because it is more realistic and achievable than aspiration.

Housing Preference Studies

Housing preferences, along with housing satisfaction and expectations, have been major topics in housing research during the last three decades (Beamish, Ahn, & Seiling, 2001). Dillman, Tremblay, and Dillman (1979) maintain that housing preference studies are important because attainment of a person's housing preferences is related to his/her perception of quality of life.

Housing preference studies have been used to help researchers and developers understand the current trends in housing and predict market changes for the near future. A housing preference study is a consumer-oriented approach to understanding the housing situation from the consumers' view as compared to other market-oriented approaches which focus on the investigation of physical features and the condition of housing. Beamish, Goss, and Emmel (2001) state that past housing preference studies have identified several concepts influencing housing choice and these include housing values, economic status, cultural norms, stages in the family life cycle, and housing needs.

Dillman et al. (1979) investigated the influence of housing norms and personal characteristics on housing preferences by asking respondents to indicate the first and second most preferred housing situation from a list of seven possible choices. The seven possible choices they developed were combinations of tenure options and structural options.

NAHB (2002) conducted a nation-wide survey exploring housing preferences of home buyers. The study targeted single-family home buyers and aimed to give immediate and practical information to home builders. The survey included a wide variety of housing features in detail, including flooring materials and interior features. The most frequently mentioned list of home features included in the survey was shown to reflect the current trends in the single-family housing market.

Housing Preferences of Multifamily Housing Residents

Because home ownership is an important housing norm in the United States, housing preference studies like the one conducted by NAHB (2002) have focused more on home buyers than on renters, and more on single-family housing than on multifamily housing. The housing preferences of multifamily housing renters have been neglected in research studies.

Morris and Winter (1975, 1978) theorize that a family is continuously evaluating and changing its housing situation to improve housing satisfaction. In the case of home owners, this change includes replacing old components and altering the house, such as remodeling. However, rental housing residents are not allowed to alter their house. They may move into another multifamily unit within the same market if they are looking for a better housing environment (Kelley, 2003), and this will cause frequent turnover. As

indicated by multifamily housing marketers, it is not always easy to predict and prepare for prospective residents (McKenna-Harmon & Harmon, 1993) because of the more frequent turnover among multifamily housing renters. However, by understanding characteristics of residents in the current multifamily housing market, it will become easier to determine the characteristics of future residents.

Duobinis (2002) provides an overview of housing preferences and choice among current multifamily housing renters. Duobinis reports that cost and location are the major reason residents chose their current apartment home, and nice surroundings and convenience are top in their housing preferences. Duobinis indicates that 54% of multifamily housing renters prefer to live in the suburbs.

There are some reports of multifamily housing residents' preferences within industry reports. Plank (2001) lists the top ten amenities that are favored by lifestyle renters. The ten amenities are: (1) indoor and outdoor sport court ; (2) clubhouse; (3) media/movie room; (4) business center and conference room; (5) custom home features; (6) concierge/social services director; (7) fitness center; (8) resort-style swimming pool and whirlpool; (9) covered parking; and (10) landscaping.

Jossi (2003) indicates that current demographic changes in the multifamily industry results in changes in design features. The upgraded interior design features that are expected in multifamily housing today are the interior design features that have been popular in the single-family housing market in the recent past. These features include larger spaces, such as larger bedrooms and a large master bath; luxurious interior design features, such as crown molding, ten-foot ceilings and floor-to-ceiling windows; up-to-date features, such as professional-line appliances and garden tubs; and newer-trend layouts, such as eat-in kitchens with islands.

Housing Values

Definition of Housing Values

Adapted from Montgomery (1966), housing values can be defined as a set of internalized standards that guides decision making related to housing behavior. Values are formed based on many factors including an individual's ideals, motives, attitudes, and

tastes, and these factors are usually determined by one's cultural background, education, habits, and experiences (Beyer, Mackesey, & Montgomery, 1955).

Morris and Winter (1978) state that values play roles as general guidelines used to evaluate and organize norms in order to control certain behaviors and conditions. Values tend to formulate the direction of action (Stoeckeler & Hasegawa, 1974) and an individual usually makes a compromise between these values and other aspects of a situation in order to take actions (Beyer, 1959). Beyer explains that values differ from preferences because a preference is generally based on individual's personal experiences and not on common standards or moral judgments. Beyer also states that an attitude differs from a value because an attitude may be what is "desired," while a value refers to what is "desirable." Beyer adds that both preferences and attitudes are more likely than values to change over time.

Housing Value Studies

In the early stages of housing research, housing values was an important concept in explaining the preferences and choices of people selecting different types of housing. Cutler (1947) developed a paired-comparison statement survey instrument of ten values to measure family housing values. The ten values included in the study were beauty, comfort, convenience, location, health, personal interests, privacy, safety, friendship activities, and economy. Description of the ten values and 45 pairs of those ten values were given and fifty families were asked to choose one statement from each pair of value statements. Cutler's housing values study served as the framework for further housing values studies.

Based on Cutler's work, Beyer et al. (1955) developed nine housing values: economy, family centrism, physical health, aesthetics, leisure, equality, freedom, mental health, and social prestige. These nine values were grouped into four main values in their study: economy, family, personal, and social. From the study, it was found that most families had hierarchies of housing values that can classify families into certain value groups.

Beyer (1959) conducted a follow-up study using Beyer et al.'s (1955) nine housing values. Beyer used compared agreement or disagreement scale-analysis and forced-answer technique and found limitations of the forced-answer technique. Stoeckeler and Hasegawa

(1974) adopted these nine housing values of Beyer to develop a scoring technique to identify individual values that were adaptable for use in computer and other new statistical techniques.

McCray and Day (1977) compared the housing values, aspirations, and satisfaction of low-income urban respondents and those of low-income rural respondents. They found that rural and urban respondents showed differences in their housing satisfaction, but showed similar patterns in housing values and aspirations. Beamish, McCray, Weber, and Brewer (1989) conducted a research study on household's ranking of housing values. Beamish et al. (1989) utilized four housing values that were defined by Beyer et al. (1955), and found that the major pattern of value ranking was family, economy, personal, and social. Ha and Weber (1992) applied the value ranking pattern to investigate the relationship between a household's socioeconomic characteristics and its value orientation. Ha and Weber found that persons with lower income and lower education tended to place the economy value higher than other values and persons from rural areas showed the same tendency.

Theoretical Framework

The model of influences on housing choice (Beamish, Goss, & Emmel, 2001) is the basis for the theoretical framework of this study. Beamish, Goss, and Emmel propose a research model that explains the relationship between household characteristics and housing values, lifestyle, and housing preferences. It is hypothesized that the demographic characteristics and housing values of a household determine lifestyle, and that the housing preferences of the household are influenced by their lifestyle, filtered by housing norms (Figure 1).

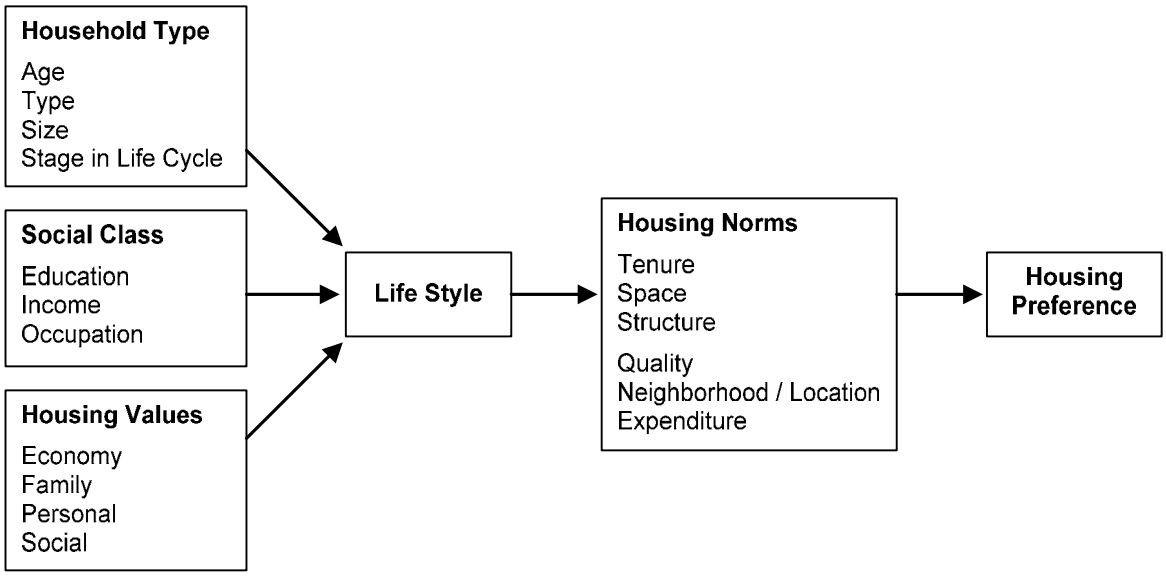

Figure 1. Original Model of Influences on Housing Choice. From "Lifestyle Influences on Housing Preferences," by J. O. Beamish, R. C. Goss, and J. Emmel, 2001, *Housing and Society*, *28*(1&2), p. 4. Copyright 2001 by Housing Education and Research Association.

In this study, the original model is modified to be consistent with the research purposes and objectives (Figure 2). The main modifications are the expansion of housing values to include housing interests and opinions, the addition of housing activities and the control of housing norms. Morris and Winter (1975, 1978) suggest six American housing norms: tenure, structure-type, space, quality, neighborhood/location, and expenditure. Obviously, home ownership of a single-family home is a strong tenure and structural housing norm in the United States (Dillman et al., 1979). This study focuses on residents of multifamily rental housing which is a non-normative housing option. In addition, because of sampling it was anticipated that the participants would meet space, quality, neighborhood/location, and expenditure norms. Thus, the six housing norms that were used in the original model of Beamish, Goss and Emmel are controlled in this study.

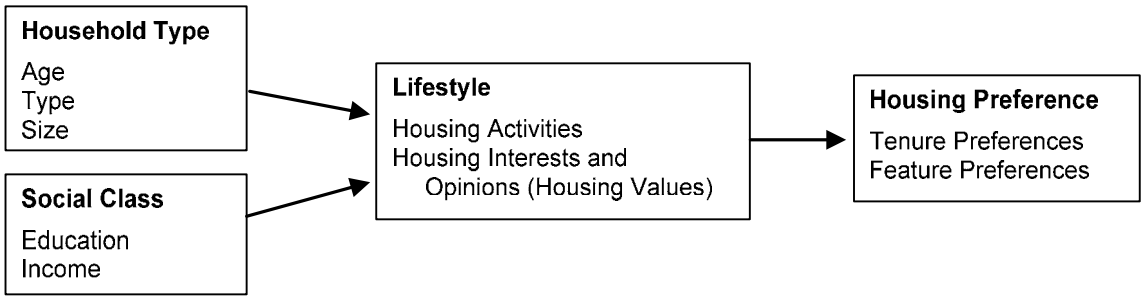

Figure 2. Modified Model of Influences on Housing Choice for the Study

This study uses housing AIOs to help determine lifestyle. Housing values are included as part of the housing interests and opinions. Instead of using the four housing values in the original model, this study adopts the nine housing values from Beyer (1959). Since Beyer's study was conducted more than 45 years ago, housing values regarding technology and environment are added to reflect changes in housing values over time.

Among the seven demographic characteristics of household type and social class identified in the original model, this study explores five characteristics: age, type and size of household, educational attainment, and household income. Stage in life cycle and occupation were not included in the study because they were considered to be too complicated to be asked in a survey of limited length. In terms of housing preferences, this study focuses on exploring preference to be a renter again and preferences of apartment and community features.

Charlotte, North Carolina

The target area of the study is Charlotte, North Carolina (N.C.). Charlotte is located in Mecklenburg County. The demographic and housing profiles of the target area are examined from the county level using data of the U.S. Census in 2000. Figure 3 shows location of Mecklenburg County in North Carolina.

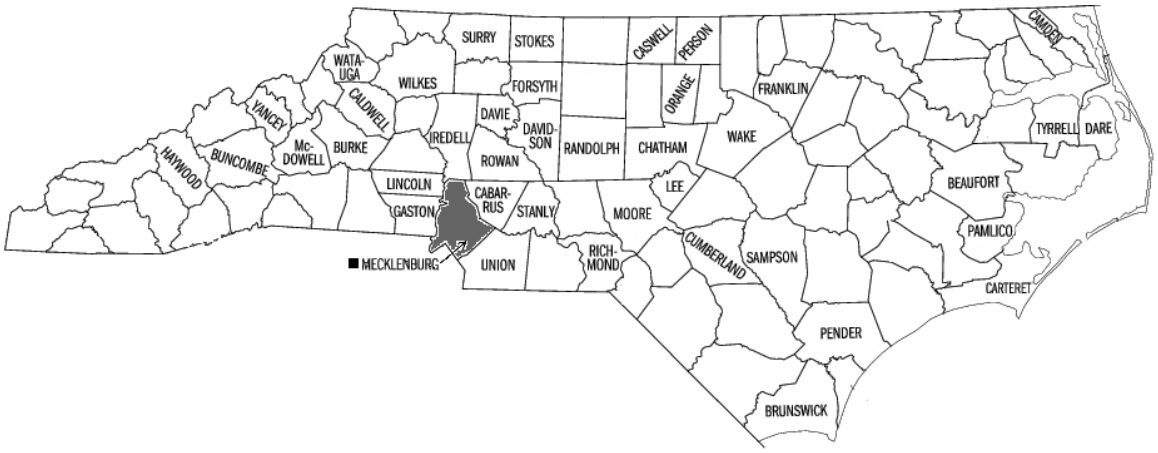

Figure 3. Location of Mecklenburg County in North Carolina. From "*North Carolina County Map*," by U.S. Census Bureau (n.d.).

Demographics of Mecklenburg County, N.C.

The total population of Mecklenburg County, N.C., in 2000 was 695,454. Table 1 and Table 2 show the population growth and housing unit increases of the county in comparison with state-wide and nation-wide growth between 1960 and 2000. From 1960 to 2000, the population growth and housing unit increase in Mecklenburg County has been much higher than those of North Carolina or the United States in most decades. In fact, Mecklenburg County showed 36% population growth from 1990 to 2000, and it is ranked as the seventh highest population growth among the 100 counties in North Carolina (CensusScope, n.d.b). In addition, housing units in Mecklenburg county increased 14.6% between April 1, 2000 and July 1, 2003 and the county ranked as the 55th fastest growing city in the United States for this reason (CensusScope, n.d.a). Table 3 shows the summary of the demographic characteristics of people in Mecklenburg County, N.C., and the United States in 2000. Mecklenburg County residents have more per capita income and higher educational attainment than the national average.

Table 4 profiles households and families in Mecklenburg County and the United States according to the U.S. Census in 2000. The U.S. Census Bureau (2003c) defines a household as "people who occupy a housing unit (p. B-14)" and defines a family as "a householder and one or more other people living in the same household who are related to

the householder by birth, marriage, or adoption (p. B-16).” Households and families in Mecklenburg County show higher median household and family income when compared to the national average, and a lower percentage of families below the poverty level (6.6%).

Table 1. Population Growth of Mecklenburg County, North Carolina, and the United States (1960-2000)

	1960	1970	1980	1990	2000
Total population					
Mecklenburg County, N.C.	272,111	354,656	404,270	511,433	695,454
Population growth					
Mecklenburg County, N.C.		30.3%	14.0%	26.5%	36.0%
North Carolina		11.6%	15.7%	12.7%	21.4%
The United States		13.4%	11.4%	9.8%	13.2%

Source: U.S. Census Bureau (2004)

Table 2. Housing Unit Increases in Mecklenburg County, North Carolina, and the United States (1960-2000)

	1960	1970	1980	1990	2000
Total housing units					
Mecklenburg County, N.C.	82,461	114,974	156,134	216,416	292,780
Housing unit increase					
Mecklenburg County, N.C.		39.4%	35.8%	38.6%	35.3%
North Carolina		24.1%	38.5%	23.9%	25.0%
The United States		17.8%	28.7%	15.7%	13.3%

Source: U.S. Census Bureau (2004)

Table 3. Demographic Characteristics of Mecklenburg County and the United States (2000)

Demographic characteristic	Mecklenburg County, N.C.	The United States
Total population	695,454	
Gender (% of total population)		
Male	49.1	49.1
Female	50.9	50.9
Race (% of total population)		
White	64.0	75.1
Black or African American	27.9	12.3
Asian	3.1	3.6
Economic characteristics in 1999		
Per capita income (dollars)	27,352	21,587
Individuals below poverty level (% of total population)	9.2	12.4
Education (% of population 25 years and over)		
High school graduate or higher	86.2	80.4
Bachelor's degree or higher	37.1	24.4

Source: U.S. Census Bureau (2002a, 2002b, 2003a, 2003b)

Table 4. Households and Families in Mecklenburg County and the United States (2000)

Household/Family characteristic	Mecklenburg County, N.C.	The United States
Total households	273,416	
Total families	175,063	
Average size		
Average household size (person per household)	2.49	2.59
Average family size (person per family)	3.06	3.14
Economic characteristics in 1999		
Median household income (dollars)	50,579	41,994
Median family income (dollars)	60,608	50,046
Family below poverty level (% of total population)	6.6	9.2

Source: U.S. Census Bureau (2002a, 2002b, 2003a, 2003b)

General Housing Profiles of Mecklenburg County, N.C.

Table 5 shows the housing characteristics in Mecklenburg County, N.C., in comparison with those of the United States as reported in the 2000 U.S. Census. Mecklenburg County has a higher percentage of multifamily housing units (32.4%), a higher occupancy rate (93.4%), and a somewhat higher percentage of renter-occupied housing units (37.7%) than those of the United States.

Table 5. Housing in Mecklenburg County and the United States (2000)

Housing characteristic	Mecklenburg County, N.C.	The United States
Total Housing Units	292,780	
Occupancy Status (% of total housing units)		
Occupied housing units	93.4	91.0
Vacant housing units	6.6	9.0
Tenure Status (% of total occupied housing units)		
Owner-occupied housing units	62.3	66.2
Renter-occupied housing units	37.7	33.8
Units in Structure (% of total housing units)		
1, detached or attached	65.5	66.0
2 or more	32.4	26.2
Mobile home and other	2.1	7.8

Source: U.S. Census Bureau (2002a, 2002b, 2003a, 2003b)

Multifamily Housing in Mecklenburg County, N.C.

Apartment Real Data (2004), a consulting firm that analyzes multifamily housing, reports that the number of multifamily housing units in the area is steadily increasing and 3,461 units were added between August, 2003 and August, 2004. There were over 92,000 total multifamily housing units in August, 2004. NAHB (2004) reported the top 50 metro markets for multifamily permits in the first nine month of 2003, and the Charlotte-Gastonia-Rock Hill metropolitan area ranked as the 32nd metro market. Figure 4 shows Mecklenburg County and the neighboring counties, including the Charlotte-Gastonia-Rock Hill metropolitan area.

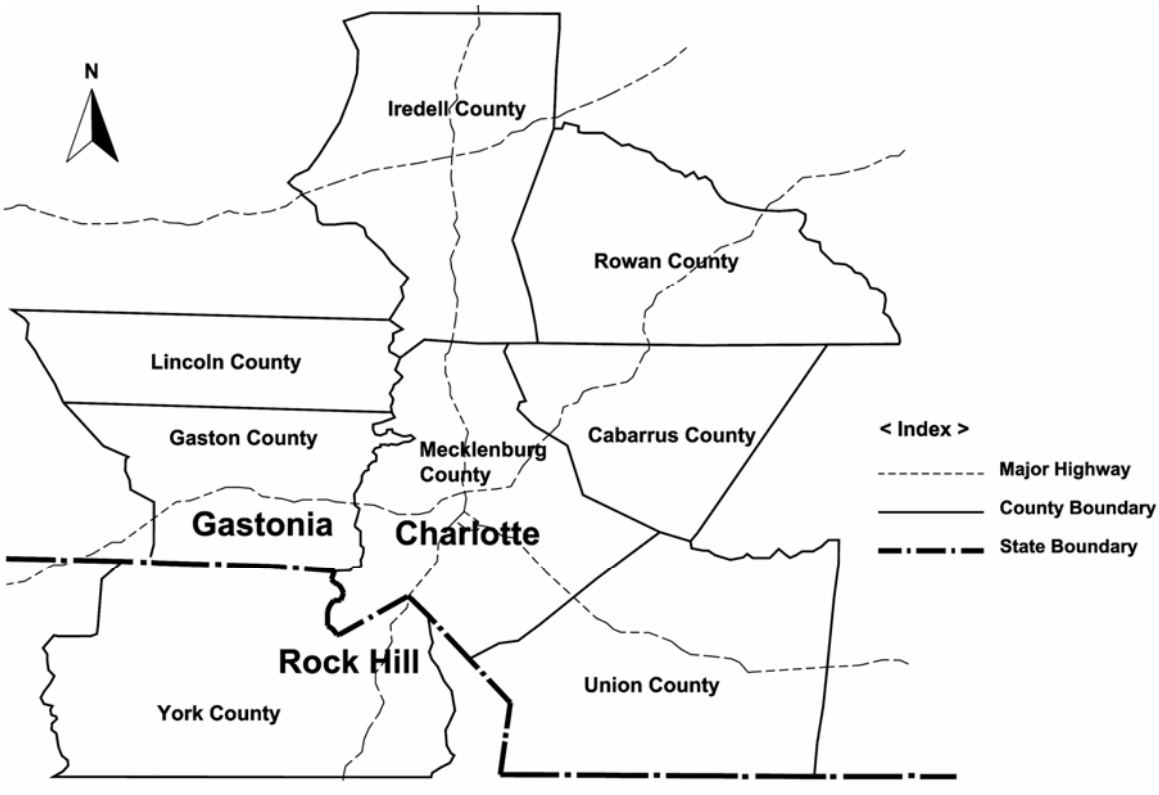

Figure 4. Mecklenburg County, N.C., and Neighboring Counties. From "*Charlotte Apartment Index*," by Apartment Real Data (2004), p. 29.

According to Apartment Real Data (2004), among all of the multifamily housing units in the area, about 48% were in communities that were 15 years old or more, approximately 27% were 6-15 years in age, and 20% were built within the past five years. The vacancy rate in the area decreased between February and August, 2004, because demand outpaced the new supply of multifamily housing. The Charlotte multifamily housing market is classified into 14 submarkets: Downtown; East-1, -2 and -3, North, Northeast-1, - 2 and -3; Northwest; Southeast-1, -2 and -3; Southwest-1 and -2 (Figure 5).

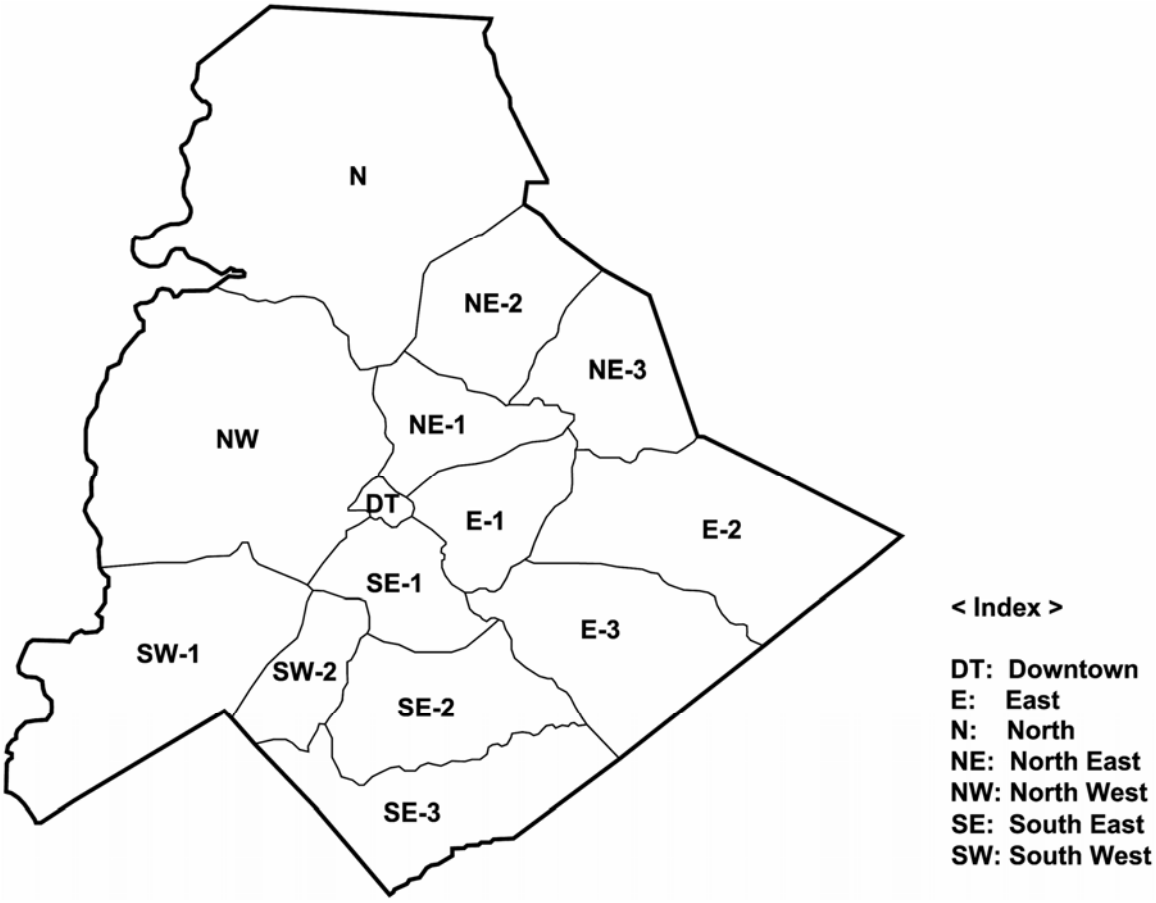

Figure 5. Housing Submarkets of Mecklenburg County, N.C.. From "*Charlotte Apartment Index*," by Apartment Real Data (2004), p. 12.

Among those markets, the Downtown market showed the highest average rent ($1,094) and average rent per square-foot ($1.232/ft^2) in August 2004 and the Southeast-1 market also showed a high average rent ($794) and average rent per square-foot ($0.822/ft^2). In The Northeast-3 market, about 465 multifamily housing units were under construction and about 356 multifamily housing units were proposed in 2004. The Northwest market showed the lowest average rent ($459) and average rent per square-foot ($0.585/ft^2) among the 14 multifamily housing markets in 2003.

Summary

Lifestyle is one of the most popular concepts used to explore consumer behaviors and AIO rating statements are one of the most widely used measurements of lifestyles. Even though the lifestyle concept has been widely used to understand many fields of study, it rarely has been applied in housing studies to provide empirical information to understand residents. The housing preferences of multifamily housing renters have been neglected in housing research studies because renting a multifamily house is a non-normative housing choice in the United States. However, many people choose to rent apartment homes for reasons other than lack of resources. This study identifies the relationship between lifestyle characteristics and housing preferences of multifamily housing residents on the basis of the model of influences on housing choice. AIO rating statements are used as the measurement of lifestyle characteristics.

CHAPTER 3. METHODOLOGY

The study was designed as a quantitative study, and the data were collected through a mail survey. Since there is no reliable instrument to measure the lifestyles and housing preferences of multifamily housing renters, an instrument was developed based on the review of previous studies related to housing values, housing preferences, and lifestyles. The survey was pretested and administrated to multifamily housing residents in Charlotte, North Carolina. The data were analyzed by utilizing advanced statistical analysis techniques including factor analysis and cluster analysis.

Instrument Development

An anonymous questionnaire survey was designed for the study. The questionnaire consisted of three parts: the first part included 59 lifestyle questions related to living in multifamily housing, the second part included housing expectations and preferences questions, and the last part included housing and demographic characteristics of respondents. The instrument was reviewed by the Institutional Review Board (IRB) at Virginia Tech and an exemption approval was obtained (See Appendix A for the IRB approval letter).

Part I: Lifestyles

For the first part, 59 activity, interest, and opinion (AIO) statements related to multifamily housing lifestyles were developed using a six-level agree or disagree scale: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. The first 17 statements were about activities that residents carry out in multifamily housing. Although the concept and format of activity statements were found on AIO statements in previous studies, most housing activity statements were created by the researcher. Because activities in major rooms in a housing unit (e.g., living room, bedroom, kitchen, dining room, etc.) were considered to have influence on design and features in the rooms, possible activities in each of those rooms were created. Among those activity items, items related to cooking were based on a previous kitchen space and storage research project (Emmel, Beamish, & Parrott, 2001). In addition to the items, activity items related to outdoor

activities, entertainments, driving, and shopping were created because those activities were considered to have influence on preferences of apartment community facilities, parking spaces, and storage spaces. The other 42 statements were about interests and opinions related to housing. These interest and opinion statements were developed on the basis of previous AIO studies (Mitchell, 1983; Wall, Dickey, & Talarzyk, 1978; Wells & Tigert, 1971, etc.) and housing values studies (Beyer, 1959; Cutler, 1954) and the concept and format of the items followed AIO statements in previous research studies. Most interest and opinion statements were designed to focus on general housing, in order for the instrument to have future applications, and some statements were adjusted to be in accordance with multifamily housing experiences, if needed. Some of the statements that were adjusted to multifamily housing experiences were "I want to participate in events sponsored by my apartment community" and "I want an apartment home in a convenient location." Housing value statements were used to formulate interest and opinion statements because housing values reflect an individual's or a family's view of housing and were considered by the researcher to be similar to interest and opinion statements. Because most value and AIO studies were from the 1950s and the 1970s, AIO statements related to technology and the environment were added to reflect these concepts. Also statements about attitudes toward apartment living were added.

Part II: Housing Expectations and Preferences

In the second part of the questionnaire, the housing expectations and preferences for an ideal apartment home were asked. Some respondents might not plan to move to another apartment home, but they were believed to have opinions on housing expectations and preferences for an ideal multifamily home. In this part, the most important aspect in choosing the next apartment home and the preference of location were asked as multiple choice questions. Participants were also asked to rate their expectations and preferences on given apartment home and community features regarding parking, laundry, exercise facilities, security, and residents services on a four-level scale: do not want, does not matter, prefer to have, and must have. The option "do not want" had to be chosen if the respondent did not want to have the feature in their next apartment home or community. "Does not matter" indicated that having or not having the feature in the next apartment home would

not influence the respondent's apartment home choice. "Prefer to have" indicated that the respondent preferred to have the features even if they have to pay a reasonably higher rent. "Must have" indicated that the respondent would not choose an apartment home or community without the feature. Since this four-level scale reflected the degree of willingness to have the features, the variables could be considered as continuous variables. The apartment home and community features were based on features that were marketed on Internet websites of apartment properties operated by professional property management companies in metropolitan areas including Washington D.C., Charlotte, N.C., Raleigh, N.C., and Chicago, Ill.

Part III: General Information

In the last part, housing and demographic characteristics of the participants were identified. The questions included in this part are length of residency in current apartment home, previous tenure status, main reason for choosing current apartment home, importance of home ownership, future housing plans, households income, household type, gender, age, and educational attainment of respondents.

Pretest

Pretests were conducted in two steps: a questionnaire review by two property management professionals and two non-professional consumers, and an inter-item reliability test of housing AIO items with a student sample.

Step 1: Review by Two Professionals and Two Non-professionals

The questionnaire was reviewed by two property management professionals who have more than eight years of experiences in apartment property management and marketing. Also, the questionnaire was reviewed by two non-professionals who were apartment residents. Those two non-professionals were living in different apartment communities in Blacksburg, Va., and one was a female in her thirties living with her family and the other was a female over age 55 living alone.

After the review, the questionnaire was revised to reflect the feedback. The revisions were as follows:

(1) Part I: Housing AIOs

(a) An additional option of “not applicable” for each statement rating was added.

(b) The difference between the activity part and the interests and opinions part was clarified. The activity statements were about the respondents’ actual activities in their current apartment home, but the interests and opinions were about their attitude toward their home in general and might not correspond with their actual housing situation.

(2) Part II: Preferences of apartment home and community features

(a) In the second part of the questionnaire, the question about the preference of location of washer and dryer was removed. The locations included the washer and dryer in the apartment communities and washer and dryer in the apartment building. Most apartment communities that were recently built have washers and dryers in each unit or at least on each floor, so this item was not needed.

(b) Items about preference of some interior design features, such as raised ceilings and crown moldings, and some community features related to exercise and recreation, such as tennis courts and pools, were added because those features have become important among people looking for an apartment home.

Step 2: Inter-Item Reliability Test

After the questionnaire revision, the second step of pretest was conducted to examine the inter-item reliability of AIO items. The second pretest was administrated to Virginia Tech students living in off-campus apartment communities between November 30 and December 7, 2004. A total of 108 students participated in the pretest. Sixty-nine undergraduate students were given the questionnaire in the Residential Property Management class. Thirty-nine graduate students who were in a graduate class, or participated in a monthly meeting of the Graduate Student Assembly at Virginia Tech, or could be contacted personally by the researcher were also administrated the questionnaire.

The demographic characteristics of the students who participated in the pretest are shown in Table 6.

Table 6. Demographic Characteristics of Pretest Respondents

	Undergraduate Students	Graduate Students	Total
Number of Respondents	69	39	108
Gender[a]			
Male	42	20	62
Female	27	17	44
Total	69	39	108
Age[a]			
18 – 24 years	69	9	78
25 – 34 years	0	23	23
35 – 44 years	0	5	5
Total	69	37	106
Number of people living together including self[b]	3.41	1.84	2.86
Number of non-family roommate living together[b]	2.40	0.30	1.65

Note. [a] Frequencies are presented. [b] Group means are presented.

Separate Cronbach Alpha reliability tests were used to examine inter-item reliability of the entire 59 AIO items, and of the 17 activity items and 42 interest and opinion items that made up the AIO items. To see the item-to-total correlation at each test, some items showed negative correlation with the total items. An item showing the strongest negative item-to-total correlation was recoded to reverse the score and the Cronbach Alpha test was run again. This process was repeated until all items had positive item-to-total correlations. The final Cronbach Alphas for the entire 59 AIO items, the 17 activity items, and the 42 interest and opinion items were 0.8576, 0.7053, and 0.8795, respectively. It was found that the reliability could be increased by eliminating some items. However, no items were removed because inter-item reliability scores were strong enough.

The undergraduate students were asked to complete the entire questionnaire, and 43 additional housing preference features were suggested by 29 respondents. Among the features suggested, washer/dryer in unit, high-speed internet access, balcony or patio, pet allowance, and reliable maintenance services were added.

Sampling Procedure

The sampling frame was residents of private apartments in Charlotte, North Carolina. The sample was drawn from selected apartment communities that are members of the Charlotte Apartment Association (CAA). A total of 1,777 residents were sampled in two steps: target apartment community selection and random sampling of apartment communities.

Step 1: Target Apartment Community Selection

The profiles of apartment communities in Charlotte, N.C., were obtained from the CAA, and types and age of each apartment community, location, and market rating were identified. In this study, only private apartment properties that were rented at market rate and not receiving government subsidy were included. To hold age consistent, only apartment properties that were built between 1999 and 2003 were included in the sampling procedure. The reasons to include only apartment properties built in this period were: 1) apartments that were recently built were assumed to include more lifestyle features; and 2) apartment properties that were built in 2004 are now leasing up and might not have many residents. There were 66 apartment properties built between 1999 and 2003 in Charlotte. The final list of apartment properties was made based on their location and the cost of these communities.

It was assumed that choice of housing location was related to lifestyles. The apartment communities were classified into downtown communities and non-downtown communities. The location was defined based on the submarkets where the apartment communities were located. There are 14 multifamily housing submarkets in Charlotte. The "downtown communities" were the apartment communities that were located in downtown and the "non-downtown communities" were apartment communities that were located in the other 13 submarkets. There were eight apartment communities in the downtown area and 59 in the non-downtown area that were private apartment properties not receiving any type of government subsidy.

To compare costs of the apartment communities, rent per square-foot was used to further classify the apartments. Because there were variations in size of apartments as measured by number of bedrooms, average rent per square-foot of the standard two-

bedroom unit at each property was compared. Two apartment properties in the non-downtown area did not have two-bedroom units and were excluded in the sampling procedures. This resulted in a final sample of six downtown properties qualifying for inclusion in this study and those downtown properties had an average rent per square-foot over $1.00/ft^2 for a two-bedroom unit.

Finally, properties in the non-downtown area whose average rent per square-foot of two-bedroom units were below $0.80/ft^2 were excluded. These properties were excluded because higher cost properties were assumed to have more features related to lifestyles. Finally, there were 12 properties in non-downtown properties that were qualified to be included in this study.

All five downtown properties consisted of mid-rise buildings, while all 12 non-downtown properties consisted of two- or three-story low-rise buildings. As of September 2004, there were 1,242 one, two, three, or four bedroom apartment units those are not townhouses in the five downtown communities and the number of those units in non-downtown communities were 3,164. The ratio of the number of one, two, three, or four bedroom units in the downtown communities to the number of those in the non-downtown communities was 1 to 2.6. A sample of 2,000 was planned for this study. In order to reflect the ratio of the number of one, two, three, or four bedroom apartment units in downtown and non-downtown properties, approximately 600 units from downtown properties and 1,400 units from non-downtown properties was expected to be selected.

Step 2: Random Sampling of Apartment Communities

Apartment communities from both locations were randomly selected to establish an order to contact for permission to study. After the order was set, the executive director of CAA was asked to help contact properties. Property managers of the first three downtown properties and the four non-downtown properties were contacted by the executive director of CAA and a CAA staff member between December, 2004 and February, 2005 and were asked to participate in the study. The property managers requested the instrument for their review. A survey packet, including a letter to the property management professional (Appendix B), a sample cover letter for residents (Appendix C), and a copy of the questionnaire (Appendix D), was mailed to each of the property managers. After the

instrument review, all agreed to allow the researcher to conduct the study in their communities. There were 750 units in the downtown communities and 1,405 units in the non-downtown communities. Because the number of total units in both locations exceeded the expectation of 600 downtown units and 1,400 non-downtown units, no further attempt was made to identify other properties. The seven properties were managed by four different management companies and four non-downtown communities were in different sub-markets from each other.

Each property manager of the seven apartment communities was contacted by telephone by the researcher to discuss how the questionnaires would be distributed to each unit in the property. The property managers of six communities suggested mailing the questionnaire to each occupied unit. One property manager allowed door-to-door distribution at first. To obtain consistency of the survey distribution method, however, the manager was contacted again and agreed with the mailing procedure. The lists of mailing addresses of every occupied unit were provided by the property managers with residents' name and personal information removed. Only occupied units of one, two, three, or four bedroom units that were not studios, townhouses, or corporate apartments were included in the study and the studios, townhouses, and corporate apartment units were identified by the property managers and excluded.

As results of the sampling procedures, the mailing addresses of a total 1,777 occupied units were obtained. Among those units, 577 units were from three downtown communities and 1,200 were from four non-downtown communities. The ratio of the number of downtown units to the number of non-downtown units was approximately 1 to 2.1.

Data Collection

Alphabet codes on the first page of the questionnaire identified each apartment community. To obtain a better response rate (Dillman, 2000), a $50 gift certificate from either a discount or high-end department store was presented to one participant from each apartment community. The participants were asked to provide their initials and phone number to be included in the random drawing so that they could be contacted in case they

won. The participants needed to provide their contact information only if they wanted to be included in the random drawing.

A questionnaire packet, including a cover letter, a copy of the questionnaire, and a business reply envelope was mailed to each targeted unit between March 1 and March 3, 2005. To encourage the residents' interest in opening the survey packet, the chance to win a gift certificate was indicated on the envelope. Each cover letter included the name of the apartment community where the residents receiving the packet lived and were printed on high quality paper and individually signed by the researchers.

Property managers in six out of seven communities agreed to display posters that were designed by the researcher to advertise the survey in their communities and to encourage the residents to participate in the survey. On March 5, 2005, a poster (15"W x 24"L) advertising participation in the survey and copies of a small size poster (8.5"W x 11"L) containing the same content were delivered to each of the six communities and the property managers displayed or promised to display the poster in their rental office and around residents' mail boxes so that residents could see the posters before they actually received the survey packets (See Appendix E for a small size poster). Reminder postcards (Appendix F) were mailed to 1,777 target units on March 12, 2005.

Between March 15, 2005 and May 23, 2005, 106 questionnaires were returned to the researcher because of vacancies, and a total of 160 responses were collected. The response rate was 9.6%. Random drawings were held by faculty members of the department on April 26, 2005, and a participant from each of the seven apartment communities was selected in the drawings. Among the seven winners, six winners could be contacted by the researcher and received a $50 gift certificate of their choice.

A second data collection was planned because the number of responses was too small for valid data analyses, and the ratio of the number of units in each location needed to be adjusted. After the first data collection, one of the communities that had been classified as a non-downtown property according to the Charlotte Apartment Report was found to be more appropriately classified as a downtown property because of its actual location. Thus, it was decided to sample approximately 550 more units from additional non-downtown properties. The same sampling procedure was used and property managers of two

additional non-downtown communities agreed to mail the survey packet to each of the one to four bedroom units in their communities and provided mailing addresses of each occupied unit.

Questionnaire packets including a cover letter, a copy of the questionnaire, and a business reply envelope were mailed to 591 targeted units at the communities between May 28, 2005 and June 4, 2005. Reminder postcards were sent to each unit on June 4, 2005 and June 11, 2005. Between June 10, 2005 and July 5, 2005, 104 questionnaires were returned to the researcher because of vacancies, and a total of 51 responses were collected from two additional communities. Random drawings were held on June 30, 2005, and a participant from each of the two apartment communities won gift certificates. See Table 7 for the number responses and the response rate. The number of apartment communities in the downtown and non-downtown locations reflect the final sample after adjustments and the second survey.

Table 7. Response Statistics

	Survey		
	First	Second	Total
Number of apartment communities[a]			
Downtown	4	0	4
Non-downtown	3	2	5
Total	7	2	9
Number of questionnaires mailed[a]			
Downtown	798	0	798
Non-downtown	979	591	1,570
Total	1,777	591	2,368
Number of questionnaires actually delivered (A)[a]			
Downtown	759	0	759
Non-downtown	904	487	1,391
Total	1,663	487	2,150
Number of Responses (B)[a]			
Downtown	100	0	100
Non-downtown	60	51	111
Total	160	51	211
Response Rate ((B/A) x 100%)			
Downtown	13.2	0	13.2
Non-downtown	6.6	10.5	8.0
Total	9.6	10.5	9.8

Note. [a] Frequencies are presented.

Data Analyses

The purpose of this study was to identify the housing preferences of multifamily housing residents based on their lifestyles. There were two research objectives:

(1) To determine the lifestyle dimensions of multifamily housing residents; and

(2) To examine the relationship between residents' lifestyle and their housing preference.

To achieve the second research objective, three research hypotheses were tested:

H1: There are differences in demographic characteristics among the lifestyle groups.

H2: There is a relationship between the lifestyle groups and the likelihood to be a renter.

H3: There are differences in the preferences for multifamily housing and community features among the lifestyle groups.

Flow of Data Analyses

The data were analyzed in order to achieve the research objectives and to test the hypotheses. The results included (1) overview of respondents; (2) lifestyle dimensions of multifamily housing residents; (3) profile of lifestyle clusters; and (4) the relationships between lifestyle clusters and housing preferences. Figure 6 shows a simplified flow of the data analyses. The flow of data analyses including statistical techniques and process of hypotheses and assumption tests is shown in Figure 7.

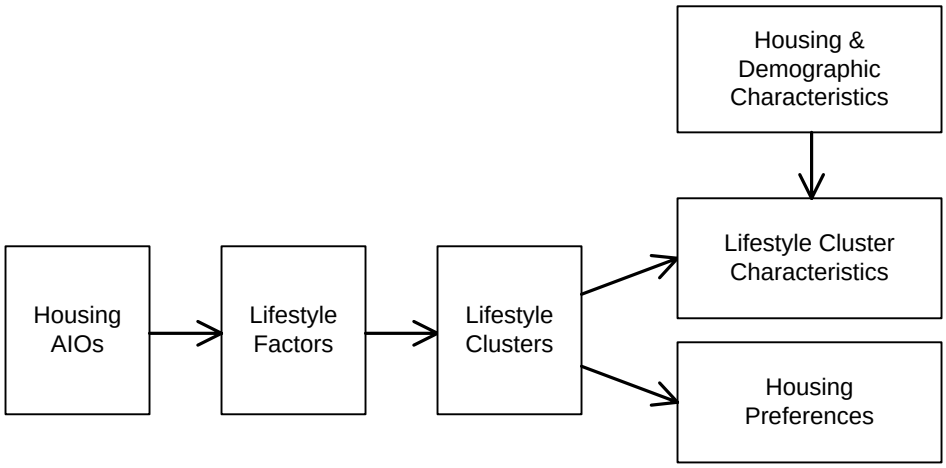

Figure 6. Simplified Flow of Data Analyses

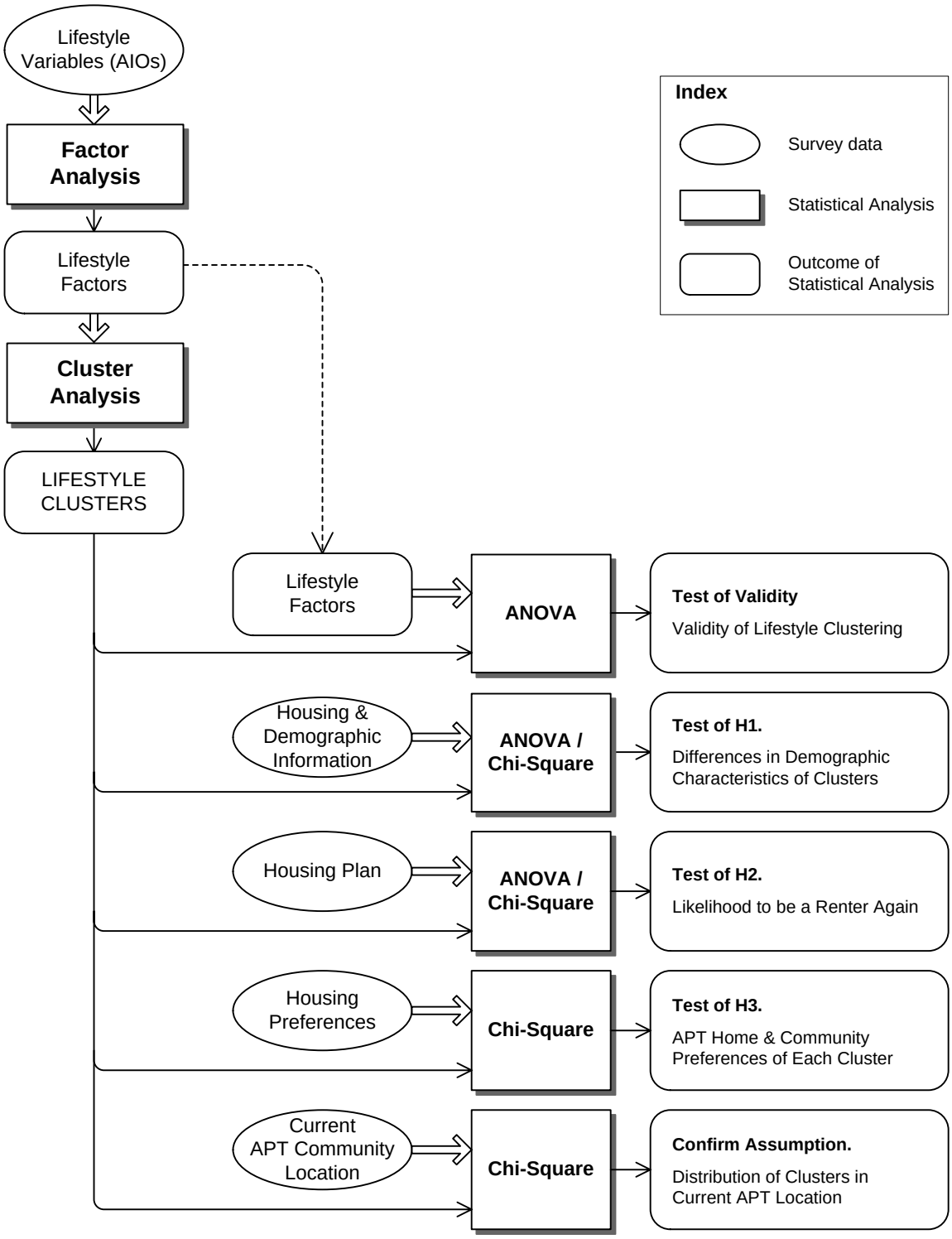

Figure 7. Data Analyses of the Study

Data Coding

Data were coded into numbers for statistical analyses. Data were analyzed using Statistical Package for the Social Sciences (SPSS) program.

Part I: Lifestyles. In this part, 59 housing AIO statements were provided and participants were asked to rate their agreement with each of the statements in six-levels: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. The levels were coded as 1 to 6 where "strongly disagree" was 1 and "strongly agree" was 6. The answers of "not applicable" were coded as missing variables.

Part II: Housing Expectations and Preferences. This part included two sections. The first section included multiple choice questions about the most important aspects in choosing an ideal apartment home, location preference for an ideal apartment home, and the most important aspect in choosing the ideal apartment location. The second section included preference ratings for specific apartment home and community features. Questions in the first sections were coded as categorical variables and the responses were coded into numbers that were the same as the numbers given in the questionnaire. Preference rating was measured in four-level scales: do not want, does not matter, prefer to have, and must have. The levels were coded 1, 2, 3, and 4, respectively, where "do not want" was 1 and "must have" was 4.

Part III: General Information. Questions in this part were multiple choice questions except for a question about household type. The multiple choice questions were coded as categorical variables and responses to those questions were coded into numbers that were the same as the number given in the questionnaire. For the question about household type, the number of household members included self and the number of members in each of seven household member types (spouse/partner, children age 5 and under, children age 6 to 18, children over the age of 18, parent(s), other relatives and roommate(s)). Each of the household member types was coded as an individual variable and the number was entered starting from 0, which meant there was none of the type in the household. A composite variable for household type was generated from the seven household member categories. The code for household type was an eight-digit variable consisting of each of the household member type categories recoded in the order they

appeared in the questionnaire. For example, a household of self and a spouse was coded as 11000000 because there were one self and a spouse, and there was none of the other types of household members. Another example would be for a household consisting of self, one child under 5 years of age, and two children age 6 to 18 to be coded as 10120000.

Summary

Housing AIO statements were developed as a measurement of lifestyle related to housing behavior. The questionnaire consisted of three parts: (1) lifestyles, (2) housing expectations and preferences, and (3) general information. The questionnaire was pretested and administrated to residents of selected apartment communities in Charlotte, N.C., through two phases of the survey. Between March 1, 2005 and July 5, 2005, a total of 2, 150 questionnaires were delivered and 211 responses were collected. The response rate was about 10%.

CHAPTER 4. FINDINGS

A total of 206 usable responses were included in the data analyses. Descriptive statistics were reported to provide an overview of respondent characteristics. A series of factor analyses and cluster analyses were used to explore lifestyle dimensions of the multifamily housing residents, and chi-square tests for independent samples and one-way analysis of variance (ANOVA) were applied to investigate the relationship between lifestyle and housing preferences.

Overview of Respondents

Among the 206 respondents, 97 respondents (47%) lived in four downtown communities and 109 (53%) lived in five non-downtown communities (See Table 8). Demographic characteristics and housing characteristics of the respondents are described below.

Demographic Characteristics of Respondents

Seventy-one respondents were male and 134 respondents were female. Eighty-six percent of the respondents were between age 18 and 44, and 85% of the respondents have a college degree or some higher education (Table 8). Fifty-one percent of the respondents were living alone, 27% were living with a spouse or partner, and 13% were living with one to three non-family roommates (see Table 9). The average number of household members was 1.6. Sixty-two percent of respondents reported their household income to be $50,000 or more.

Table 8. Demographic Characteristics of the Respondents

	Current location					
	Downtown		Non-downtown		Total	
Demographic characteristic	*n*	(%)	*n*	(%)	*n*	(%)
Number of respondents[a]	97	(47)	109	(53)	206	(100)
Gender[b]						
Male	43	(44)	28	(26)	71	(35)
Female	54	(56)	80	(74)	134	(65)
Total	97	(100)	108	(100)	205	(100)
Age[b]						
Less than 24 years	26	(27)	28	(26)	54	(26)
25 to 34 years	48	(50)	51	(47)	99	(48)
35 to 44 years	13	(13)	11	(10)	24	(12)
45 to 54 years	6	(6)	9	(8)	15	(7)
55 to 64 years	3	(3)	4	(4)	7	(3)
65 years or older	1	(1)	5	(5)	6	(3)
Total	97	(100)	108	(100)	205	(100)
Education[b]						
Less than high school diploma	1	(1)	0	(0)	1	(1)
High school diploma	1	(1)	7	(7)	8	(4)
Technical school/some college	3	(3)	18	(17)	21	(10)
College degree	64	(67)	63	(58)	127	(62)
Graduate degree or higher	27	(28)	20	(19)	47	(23)
Total	96	(100)	108	(100)	204	(100)

Note. The total of percents may not be 100 due to rounding. [a] Frequencies and valid percents among total 206 respondents. [b] Frequencies and valid percents within each location.

Table 9. Household Characteristics of Respondents

Household characteristic	Current location: Downtown	Current location: Non-downtown	Total
Number of household members[a]	1.45	1.74	1.60
Household type[b]			
Respondent only	58 (60)	45 (43)	103 (51)
Respondent + spouse/partner	21 (22)	33 (31)	54 (27)
Respondent + spouse + child(ren)	2 (2)	6 (6)	8 (4)
Child(ren) age 18 and under	2	6	8
Child(ren) over age 18	0	0	0
Respondent + child(ren)	0 (0)	6 (6)	6 (3)
Child(ren) age 18 and under	0	4	4
Child(ren) over age 18	0	2	2
Respondent + parent(s)[b]	0 (0)	0 (0)	0 (0)
Respondent + other relative[b]	0 (0)	3 (3)	3 (2)
Respondent + roommate(s)[b]	15 (16)	11 (11)	26 (13)
1 roommate	11	11	22
2 roommates	3	0	3
3 roommates	1	0	1
Other	0 (0)	1 (1)	1 (1)
Total	96 (100)	105 (100)	201 (100)
Household income[b]			
Less than $35,000	7 (8)	34 (32)	41 (21)
$35,000 to $49,999	12 (13)	20 (19)	32 (16)
$50,000 to $74,999	27 (30)	25 (24)	52 (26)
$75,000 to $99,999	18 (20)	15 (14)	33 (17)
$100,000 to $149,999	20 (22)	10 (9)	30 (15)
$150,000 or more	7 (8)	2 (2)	9 (5)
Total	91 (100)	106 (100)	197 (100)

Note. [a] Group means are presented. [b] Frequencies and valid percents with each location are presented. The total of percents may not be 100 due to rounding.

General Housing Characteristics of Respondents

Ninety-two percent of respondents had lived in their apartment home less than three years at the time of the survey (Table 10). Twenty-seven percent of respondents had previously owned or currently own a home and 64% have previously rented a single-family home or another apartment home (Table 11).

Table 10. Length of Residency in Current Apartment Home

	Current location					
	Downtown		Non-downtown		Total	
Length of residency	*n*	(%)	*n*	(%)	*n*	(%)
Less than a year	56	(58)	59	(55)	115	(56)
1 - 2 years	35	(36)	39	(36)	74	(36)
3 - 4 years	6	(6)	8	(8)	14	(7)
5 or more years	0	(0)	1	(1)	1	(1)
Total	97	(100)	107	(100)	204	(100)

Note. Percents are valid percents within each location. The total of percents may not be 100 due to rounding.

Table 11. Previous or Current Homeownership Status

	Current location					
	Downtown		Non-downtown		Total	
Homeownership	*n*	(%)	*n*	(%)	*n*	(%)
Previously owned a home	12	(20)	23	(22)	42	(21)
Currently own a home	8	(8)	4	(4)	12	(6)
Previously rented another apartment home	57	(59)	59	(55)	116	(57)
Previously rented another single-family home	6	(6)	7	(7)	13	(6)
Previously rented another single-family home and apartment home.	0	(0)	2	(2)	2	(1)
Previously never owned or rented a home	7	(7)	12	(11)	19	(9)
Total	57	(100)	107	(100)	204	(100)

Note. Percents are valid percents within each location. The total of percents may not be 100 due to rounding.

More than one response could be reported to explain the respondents' reasons for moving into their current apartment homes. The two major reasons were: (1) the respondents were new in the community and needed time to consider housing choices (34%), and (2) the respondents were not interested in owning a home at the current stage of their life (24%) (Table 12). For other answers, nine respondents reported they had moved into their current apartment homes to look for a better location that was close to such things as work/school or downtown amenities.

Sixty-seven percent of respondents reported that homeownership was important or very important to them (Table 13) and 64% reported that their next move would be to

homes that they had already purchased or expected to purchase (Table 14). Twenty eight percent of respondents reported that they would move to another rental house or apartment home in their next move.

Table 12. Main Reasons for Moving into Current Apartment Home

	Current location					
	Downtown		Non-downtown		Total	
Main reasons	*n*	(%)	*n*	(%)	*n*	(%)
I am new in the community and needed time to consider housing choice.	37	(38)	33	(30)	70	(34)
I was not interested in owning at this stage of my life.	28	(29)	21	(19)	49	(24)
I wanted to be able to move easily.	11	(11)	7	(6)	18	(9)
I was dissatisfied with my previous housing situation.	4	(4)	9	(8)	13	(6)
My family status had changed or would change soon.	3	(3)	9	(8)	12	(6)
I wanted to be able to be free from maintenance work.	4	(4)	6	(6)	10	(5)
I needed a larger or more luxurious apartment home.	4	(4)	6	(6)	10	(5)
I could not afford mortgage payments or down payments.	1	(1)	7	(6)	8	(4)
I own a house, but needed an apartment home for convenience.	5	(5)	1	(1)	6	(3)
I needed a smaller or less expensive apartment home.	0	(0)	3	(3)	3	(2)
I wanted to save money for other purposes.	1	(1)	1	(1)	2	(1)
Other	13	(13)	9	(8)	22	(11)
Total	97	(100)	107	(100)	204	(100)

Note. Multiple responses were allowed. Percents are valid percents within each location. The total of percents may not be 100 due to multiple responses.

Table 13. Perceived Importance of Homeownership

	Current location					
	Downtown		Non-downtown		Total	
Importance of homeownership	*n*	(%)	*n*	(%)	*n*	(%)
Not important at all	9	(9)	8	(8)	17	(8)
Somewhat important	24	(25)	22	(21)	46	(23)
Important	34	(35)	29	(27)	63	(31)
Very important	30	(31)	48	(45)	78	(38)
Total	97	(100)	107	(100)	204	(100)

Note. Percents are valid percents within each location. The total of percents may not be 100 due to rounding.

Table 14. Future Housing Plans

	Current location					
	Downtown		Non-downtown		Total	
Future housing plan	*n*	(%)	*n*	(%)	*n*	(%)
I expect to purchase a home or a condominium the next time I move.	62	(64)	63	(59)	125	(61)
Most likely, my next move will be to another rental house or apartment home.	28	(29)	28	(26)	56	(28)
I have no plans to move within the next three years.	2	(2)	9	(8)	11	(5)
I own or have already purchased a home and will move to it.	2	(2)	3	(3)	5	(3)
I do not know yet.	1	(1)	4	(4)	5	(3)
Other	2	(2)	0	(0)	2	(1)
Total	97	(100)	107	(100)	204	(100)

Note. Percents are valid percents within each location. The total of percents may not be 100 due to rounding.

Lifestyle (AIO) of Respondents

Housing AIO items were rated using a six-level agree-disagree scale ranging from 1, “strongly disagree” to 6, “strongly agree.” Among the 17 activity related items, “I usually drive to work or school (4.64),” “At home, I often have conversations with family and friends (4.57)” and “At home, I often surf the Internet (4.09)” were the items with the highest means, and “I often entertain others at my apartment community center (1.52),”

“Most evenings, I buy take-out food or have food delivered (2.34)” and “I often take a bath in my tub (2.34)” showed the lowest means (See Table G1 in Appendix G).

Among the 42 interest and opinion items, “I want a home where I feel secure (5.76)” had the highest means followed by “I want a home where I can rest and relax (5.74),” “I want a home that is easy to keep clean (5.53),” “I want an apartment home in a convenient location (5.51),” and “I want to live in my home which is pleasant for me to look at (5.50).” On the other hand, “My house is only a place to sleep and get dressed (2.00),” “I think owning a house leaves too little money for other things (2.18),” “I get bored when I stay in my home (2.62)” and “I would rather make repairs around my home than to have someone else make them (2.62)” had the lowest means (See Table G2 in Appendix G).

Housing Preferences of Respondents

In choosing an ideal apartment home, layout (23%) and size (22%) of the home, and price (22%) were the most important apartment home considerations (Table G3 in Appendix G), and location of the apartment community (57%), reputation of the neighborhood (11%), and price (11%) were the most important apartment community considerations (Table G4 in Appendix G). Forty-two percent of respondents preferred a downtown location for their ideal apartment home, while 33% preferred a suburban area and 20% preferred an urban area (Table G5 in Appendix G). In choosing an ideal apartment home location, proximity to work or school was most important to 56% of the respondents and proximity to downtown was important to 19% of the respondents (Table G6 in Appendix G).

Fifty specific apartment home and community features in seven categories (in-home amenities, storage, parking, security, interior design features, exercise/recreation, and resident services) that people might consider in choosing their ideal apartment home were developed for the study (See Table G7 in Appendix G for frequencies of feature preference variables). Those variables were measured with a 4-level scale: “do not want,” which meant the respondent did not want to have the feature, “does not matter,” which meant the feature would not influence the respondent’s apartment home choice, “prefer to have,” which meant the respondent preferred to have the features even if it meant a reasonably higher

rent, and “must have,” which meant the respondent would not choose the apartment unless it had the feature.

More than 70% of respondents reported that their ideal apartment home must have or they preferred to have even if it meant a reasonably higher rent: reliable maintenance services (98%), package/delivery acceptance (96%), a walk-in closet (90%), a balcony or patio (87%), a washer and dryer in unit (82%), guest parking (81%), controlled access to buildings (77%), raised ceilings (74%), high-speed Internet access (74%), newspapers and mail hold services (73%), and a linen closet (71%). Specifically, more than 50% of the respondents reported that they would not choose an apartment home without reliable maintenance services (74%), package/delivery acceptance (59%), a walk-in closet (53%), and a washer and dryer in the unit (51%).

On the other hand, more than 70% of total respondents did not want to have or would not be influenced by the existence of child care services (94%), a playground (83%), plant watering services (83%), a racquetball court (82%), a volleyball court (81%), garages/carports detached from the unit (81%), a conference room (80%), an indoor basketball court (79%), an outdoor basketball court (77%), and pet care services (74%).

Analysis of Lifestyle Dimension

The lifestyle part of the questionnaire included 59 AIO statements consisting of 17 activity related variables and 42 interest and opinion related variables. Among the 59 AIO variables, seven variables had missing values of nine or more and were excluded from further statistical analyses.

To determine the lifestyle dimension of residents in multifamily housing, data were analyzed in the following two steps:

(1) Among AIO variables, variables related to interests and opinions were grouped using factor analyses; and

(2) The respondents were grouped based on the lifestyle factors using a series of cluster analyses.

Lifestyle Factors: Factor Analysis

Factor analysis is a statistical technique used to define the underlying structure of data. The primary purpose of factor analysis is to categorize the information contained in a number of original variables into smaller sets of composite variates (factors) with a minimum loss of information (Hair, Anderson, Tatham, & Black, 1998). In this study, factor analysis was used to reduce the number of lifestyle variables for further statistical analysis.

The basic assumption of factor analysis is that variables should be metric and normally distributed (Hair et al., 1998). Because the lifestyle variables were measured in 6-level Likert type scales, the variables were assumed to be metric. However, normality tests including Kolmogorov-Smirnov tests, graphic analyses using histograms, and tests of skewness and kurtosis, showed that the normality assumption was violated. As a basic remedy for the normality violation, data were transformed. Because most of the skewed data were negatively skewed, meaning data were converged on high scores, data were transformed by taking the square root of the original score (Hair et al.; Howell, 2002; Pett, 1997). Although the normality problem was not completely solved even after the data transformations, it was considered to be improved and the transformed variables were used for further analyses. Although other assumptions including homoscedasticity and multicollinearity are suggested, these assumptions are considered conceptual and tests of appropriateness of the factor analysis are considered sufficient (Hair et al.). These tests include a measure of sampling adequacy (MSA) and the Bartlett test of sphericity which are statistical tests of intercorrelation among the variables.

After various approaches for preliminary analyses, 15 activity related variables were excluded from the factor analysis for two reasons: 1) it was necessary to reduce the number of variables in the factor analysis to meet the minimum case-per-variable ratio, and 2) activity related variables tended to be grouped only with similar activity variables and not to be combined with other lifestyle variables, which was not appropriate in the study. In factor analysis, it was recommended to have at least five times, and more preferably ten times, as many observations as variables to be analyzed for the sample size and metric variables (Hair et al, 1998). There were 52 lifestyle variables after excluding variables with

nine or more missing and the number of respondents was 206. The case-per-variable ratio was 4.0 which was less than the minimum ratio of 5. Considering the sample size, it was necessary to reduce the number of variables to 41 or less. Once the activity variables were removed there were 37 transformed variables related to interests and opinions which were included in a series of factor analyses and the case-per-variable ratio was 5.6, which exceeded the minimum ratio of 5.

The first factor analysis was conducted using the principle component method with VARIMAX-rotation, and then extracting factors with Eigenvalues greater than 1.00 in order to estimate the appropriate number of factors to derive. The VARIMAX-rotation method is one of the orthogonal rotation methods in factor analysis that has been proven to provide a clearer separation of factors than other rotation methods (Heir et al., 1998). Hair et al. suggested that there should be at least five or more variables in each factor (p. 98). To consider both the desirable number of variables in each factor and the result from the first factor analysis, it was found most reasonable to extract seven or less factors.

Thus, a second factor analysis with a 7-factor solution was conducted using the same methods as the first factor analysis. Extracting seven factors was found to explain 48.0% total of variance that could be explained by all 37 transformed variables. If any variable was found to have a VARIMAX-rotated factor loading less than 0.30, which was considered as a minimum acceptable factor loading, or to have similar factor loadings on two or more factors, the variable was excluded. If there was any variable that showed a negative factor loading on its major factor, the original score of the variable was reversed by recoding 1 to 6 and 6 to 1 and then transforming it by taking the square root. Follow-up factor analysis was conducted after excluding variables with poor factor loadings or multiple factor loadings and replacing variables that had negative factor loadings. This process was repeated until none of the above problems were found.

After a series of repeated factor analyses were conducted, seven factors were derived. The inter-item reliability of variables within each factor was examined using Cronbach's Alpha and the first four factors among the seven factors had Cronbach's Alpha greater than .60. Three factors that had Cronbach's Alpha lower than .60 were eliminated. Contents of the remaining four factors were reviewed and it was decided to exclude two

variables from one of the factors in order to increase the inter-item reliability within the factor and to enhance the soundness of the factor contents.

To confirm the remaining four factors, additional factor analysis was run using 21 variables loaded on the four factors. As a result of the additional 4-factor solution, all variables were grouped into the same four factors as in the previous factor analysis and the factor loadings were increased. Thus, the final four factors were confirmed. The Bartlett test of sphericity of the final 4-factor model was significant at $p < .05$ level and the MSA was .804, which meant that the variables in the model had "meritorious" (Hair et al., 1998, p. 99) intercorrelations and were proper for the factor analysis. This four-factor solution could explain 47% of the total variances of the 21 variables (Table 15).

Table 15. VARIMAX-rotated Extraction of Final Four-factor Solution

Number of factors extracted	Eigenvalues	% of variance	Cummulative % of variance
1	3.143	14.965	14.965
2	2.344	11.164	26.129
3	2.230	10.618	36.747
4	2.226	10.600	47.347

The first factor consisted of items that were mainly related to mental and physical health, and safety and security (Table 16). The second factor consisted of items that were related to social prestige and community. The third factor had relatively diverse items that were originally based on aesthetics, freedom and recreation. However, it was found that those variables shared an underlying meaning of sufficient residential spaces. The fourth factor had items related to environment and technology. Thus, the four lifestyle factors were named "Well-being," "Social," "Spaces" and "Envirotech," respectively. Cronbach's Alphas of the four factors ranged from .604 to .701 (Table 17). Although two factors had Cronbach's Alpha lower than .70 and one factor had less than five items, the content of the items were found to be reasonable and the factors were accepted for further analyses.

Table 16. VARIMAX-rotation Factor Loadings of Final Four-factor Solution

Variable	VARIMAX-rotated loadings			
	Factor1 Well-being	Factor2 Social	Factor3 Spaces	Factor4 Envirotech
I want a home that is easy to keep clean.	.709			
I want a home where I can rest and relax.	.632			
Keeping a house clean is important for the health of the occupants.	.595			
I want a home where I feel secure.	.583			
I want a home that contributes to my sense of well-being.	.557			
I want a home where I feel safe from falls and other accidents.	.555			
I want an apartment community located so that it is easy for friends and relatives to visit.	.327			
I want a home which will help me in my social contacts.		.733		
I want my apartment to be a part of the larger community.		.599		
I want to participate in events sponsored by my apartment community.		.598		
I think my home has a lot to do with my friends' opinion of me.		.566		
I want an apartment home located in a vibrant, active downtown.		.515		
I want an apartment home located in a natural setting.			.698	
Having a beautifully landscaped outdoor space adds much to the joy of living.			.686	
I want a home where I can have plenty of room for recreation activities.			.678	
I want a home where I can rearrange my furniture.			.536	
My apartment community should have the latest technologies.				.725
I want my home to have up-to-date features.				.690
My home should have energy-efficient features (e.g. triple-paned window).				.607
My home should be equipped with energy-efficient appliances.				.488
I want every room in my home to have good air quality.				.487

Note. Transformed variables are used.

Table 17. Inter-item Reliability of Lifestyle Factors: Cronbach's Alpha

Factor	Number of items included	Cronbach's Alpha
Factor1 (Well-being)	7	.701
Factor2 (Social)	5	.604
Factor3 (Spaces)	4	.655
Factor4 (Envirotech)	5	.700

Note. Transformed variables are used.

Lifestyle Clusters: Cluster Analysis

Cluster analysis is a multivariate technique to group objects based on the characteristics that they have (Hair et al., 1998). Cluster analysis has been one of the popular tools of market segmentation (Punj & Stewart, 1983). In this study, a series of hierarchical cluster analyses and a *K*-mean cluster analysis were used to group respondents based on their lifestyle characteristics.

Four composite variables that were means of transformed variables in each of the final four factors (Well-being factor, Social factor, Spaces factor, and Envirotech factor) were created and standardized Z scores of the composite variables were used as independent variables in cluster analyses. Hierarchical cluster analysis was conducted using 30% of randomly selected samples from the total 206 cases (62 cases) and three- to six-cluster solutions were examined. Thirty percent random sampling and hierarchical cluster analyses were repeated until there was no single-case cluster found. As a result, one of the four-cluster solutions was selected and the numbers of cases included in the four clusters were 10, 13, 35, and 4, respectively.

Cluster seeds were made with means of the standardized Z scores of the composite variables. *K*-mean cluster analysis using these cluster seeds were applied to the total 206 cases and the final four lifestyle clusters were obtained. The numbers of cases in the final four lifestyle clusters were 41, 45, 81, and 39. As one of the ways to validate clusters, Lee (2000) conducted additional cluster analysis with a reduced sample and compared cluster memberships of reduced-sample cluster analysis and those of original cluster analysis. In this study, separate *K*-mean cluster analyses with two different reduced-size samples (144

cases each, 70% of total sample) were conducted using the same cluster seeds produced from the original hierarchical cluster analysis. Ninety-five percent and 99% of the cases in each of the reduced-sample cluster analyses were assigned to their original clusters (Table 18). Thus, four lifestyle clusters were confirmed.

Table 18. Validation of Cluster with Reduced-sample Clustering

	Original cluster			
	1	2	3	4
Reduced sample	*n* (%)	*n* (%)	*n* (%)	*n* (%)
70% sample (1)				
Cluster1	27 (90)	0 (0)	0 (0)	0 (0)
Cluster2	1 (3)	27 (96)	0 (0)	0 (0)
Cluster3	0 (0)	1 (4)	59 (100)	3 (11)
Cluster4	2 (7)	0 (0)	0 (0)	24 (89)
Total	30 (100)	28 (100)	59 (100)	27 (100)
70% sample (2)				
Cluster1	28 (97)	0 (0)	0 (0)	0 (0)
Cluster2	0 (0)	27 (100)	0 (0)	0 (0)
Cluster3	1 (3)	0 (0)	63 (100)	1 (4)
Cluster4	0 (0)	0 (0)	0 (0)	24 (96)
Total	29 (100)	27 (100)	63 (100)	25 (100)

Note. Percents are valid percents within each original cluster.

Profiling Lifestyle Clusters

Lifestyle factors that were mean scores of transformed variables in each lifestyle cluster was compared using one-way analysis of variance (ANOVA) to identify lifestyle characteristics of the four lifestyle clusters. One of the critical assumptions of one-way ANOVA is homogeneity of variance among groups and violation of this assumption can influence hypothesis testing (Heir et al., 1998). Levene's equal variance test is one of the techniques used to test the equal variance assumption (Howell, 2002). When the equal variance assumption is violated, either Welch's method or Brown-Forsythe's method is recommended as an alternative way to measure mean differences among groups (Howell). It was found that only the Social factor did not violate the equal variance assumption among the four composite lifestyle factors. Thus, Brown-Forsythe's method was adopted to compare lifestyle factors that violated equal variance assumptions across lifestyle clusters.

After the additional tests, it was found that lifestyle clusters showed significant differences in all four lifestyle factors at $p < .001$ (Table 19). Tukey's honestly significant difference (HSD) tests were used to identify which pairs of clusters showed significant mean differences in the lifestyle factors.

Table 19. One-way ANOVA, Brown-Forsythe Test, and Tukey's HSD Comparisons: Lifestyle Clusters and Lifestyle Factors

	Cluster			
Factor	1	2	3	4
Well-being[A]	2.27_a	2.14_b	2.39_c	2.31_a
Social[B]	2.03_a	1.75_b	2.02_a	1.55_c
Spaces[C]	1.79_a	1.95_b	2.25_c	2.14_d
Envirotech[D]	2.26_a	2.07_b	2.37_c	2.38_c

[A] F (3, 133.21) = 43.628, p = .000 ($p < .001$). Compared using the Brown-Forsythe method.
[B] F (3, 202) = 62.599, p = .000 ($p < .001$)
[C] F (3, 138.56) = 71.313, p = .000 ($p < .001$). Compared using the Brown-Forsythe method.
[D] F (3, 129.09) = 89.151, p = .000 ($p < .001$). Compared using the Brown-Forsythe method.

Note. Variables used are composite variables that have mean scores of transformed values of items in each cluster. Means in the same row that do not share subscripts differ at $p < .05$ in the Tukey's honestly significant difference comparison.

Cluster 1 showed the highest mean score of the four lifestyle clusters on the Social factor and was named the "Community Cluster." Cluster 2 showed relatively modest mean scores on all lifestyle factors and was named the "Basics Cluster." In contrast to Cluster 2, Cluster 3 showed the highest mean scores on the four factors and was named the "Home Cluster." Finally, Cluster 4 was named the "Environment Cluster" because this cluster showed a high mean score on the Envirotech factor and the Spaces factor.

Because activity-related variables had been excluded in the lifestyle clustering procedure, 15 activity variables were compared using one-way ANOVA. Because some variables violated the equal variance assumption of Leven's statistics, the Brown-Forsythe's method was also applied. Among the 15 activity variables, two variables showed significant differences across the clusters at $p < .05$: "At home, I often have conversations with my family and friends" and "Most evenings, I buy take-out food or have food delivered" (Table 20). To compare group means using Tukey's HSD comparisons, it was found that respondents from the Home Cluster showed a greater tendency to have

conversations with family and friends at their home than the Community Cluster and the Basics Cluster respondents did. Also, the Community Cluster respondents showed a significantly greater tendency to buy take-out food or to have food delivered than those from the Environment Cluster.

Table 20. One-way ANOVA, Brown-Forsythe Test, and Tukey's HSD Comparisons: Lifestyle Clusters and Activities

	Cluster			
Activity	1	2	3	4
At home, I often have conversations with my family and friends.[A]	3.95_a	4.29_a	5.00_b	4.68_{ab}
Most evening, I buy take-out food or have food delivered.[B]	2.68_a	1.96_{ab}	2.30_{ab}	1.82_b

[A] F (3, 149.56) = 6.368, p = .000 (p < .001). Compared using the Brown-Forsythe method.
[B] F (3, 202) = 3.466, p = .017 (p < .05)

Note. Only variables with significant Fs are presented. Judgments were made on 6-point scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, and 6 = strongly agree). Means in the same row that do not share subscripts differ at p < .05 in the Tukey's honestly significant difference comparison.

Distribution of Lifestyle Clusters

The basic assumption of the sampling was that residents of private multifamily housing are likely to have chosen their current housing based on their lifestyles. To confirm the assumption, the following null hypothesis was tested using the chi-square test for independent samples with contingency table:

$H0_{a1}$: Lifestyle clusters and current apartment home location are independent of each other.

One of the critical assumptions for the chi-square test is that there should not be more than 20% of cells with expected frequencies less than five, and no cell should have an expected frequency less than one in the contingency table (Pett, 1997). The expected frequency for a cell in a contingency table is a frequency that could be expected in case the dependent and independent variables are independent of each other and can be obtained by multiplying the total for the row and the total for the column, which are called marginal totals, and dividing it by the number of total observations (Howell, 2002).

The contingency table of current location and lifestyle clusters with observed and expected counts (Table 21) showed that there was no cell which had an expected count less than five. Thus, the requirement was satisfied. Pearson Chi-square was significant at $p < .001$, which meant that two variables, lifestyle clusters and current apartment location (downtown and non-downtown), were not independent. That is, the distribution on each location varied across the lifestyle clusters. To compare observed counts and expected counts in the contingency table, cells of the Community Cluster in downtown locations and the Environment Cluster in non-downtown locations were found to contribute to the significant chi-square: significantly more households in the Community Cluster lived in downtown properties and more households in the Environment Cluster lived in non-downtown properties than expected counts would indicate if current location and lifestyle clusters were independent of each other.

Table 21. Contingency Table: Lifestyle Clusters in Current Apartment Home Location

	Lifestyle cluster				
Current location	Community	Basics	Home	Environment	Total
Downtown					
Observed *n*	32	22	35	8	97
[Expected *n*]	[19]	[21]	[38]	[18]	
(Valid %)	(78)	(49)	(43)	(21)	(47)
Non-Downtown					
Observed *n*	9	23	46	31	109
[Expected *n*]	[22]	[24]	[43]	[21]	
(Valid %)	(22)	(51)	(57)	(79)	(53)
Total	41	45	81	39	206

χ^2 (3, N = 206) = 27.376, p = .000 (p < .001)

Note. Percents are valid percents of observed frequencies within each cluster.

Hypotheses Tests

There were three research hypotheses proposed for this study. To test the research hypotheses, null hypotheses were set for each of the research hypotheses and the null hypotheses were tested using statistical analyses.

Hypothesis 1

H1: There are differences in demographic characteristics among the lifestyle groups.

To test the first research hypothesis, the following eight null hypotheses were examined using chi-square tests for independent samples:

$H0_{d1}$: Lifestyle clusters and age are independent of each other.

$H0_{d2}$: Lifestyle clusters and household type are independent of each other.

$H0_{d3}$: There is no difference in household size across lifestyle clusters.

$H0_{d4}$: Lifestyle clusters and educational attainment are independent of each other.

$H0_{d5}$: Lifestyle clusters and household income are independent of each other.

$H0_{d6}$: Lifestyle clusters and length of residency in current apartment homes are independent of each other.

$H0_{d7}$: Lifestyle clusters and previous or current homeownership status are independent of each other.

$H0_{d8}$: Lifestyle clusters and main reason for moving into one's current apartment home are independent of each other.

$H0_{d1}$: Lifestyle clusters and age are independent of each other. Respondents who were younger than 35 years of age comprised 74% of the total respondents. Specifically, respondents of this age comprised 85% of the Basics Cluster respondents and 78% of the Home Cluster respondents. In the contingency table for the lifestyle clusters and age, there were 13 cells that had expected frequencies of less than five and that comprised 54% of the total 24 cells in the table. Thus, age categories of "45 to 54", "55 to 64", and "65 or older" were combined as "age 45 and older" as a remedy for the small expected frequency violation. The other three categories remained the same. Pearson Chi-square was significant at $p < .05$ (Table 22). Thus the null hypothesis was rejected and age was not found to be independent of lifestyle clusters. Respondents whose age was between 35 and 44 in the Community Cluster contributed the most to the significant χ^2. There were significantly more respondents whose age was between 35 and 44 in the Community Cluster than expected if age and lifestyle were independent of each other.

Table 22. Contingency Table: Lifestyle Clusters and Age

Age	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Less than 25					
Observed *n*	9	13	24	8	54
[Expected *n*]	[11]	[12]	[21]	[10]	
(Valid %)	(22)	(29)	(30)	(21)	(26)
25 to 34					
Observed *n*	16	25	39	19	99
[Expected *n*]	[20]	[22]	[39]	[18]	
(Valid %)	(39)	(56)	(48)	(50)	(48)
35 to 44					
Observed *n*	12	1	7	4	24
[Expected *n*]	[5]	[5]	[9]	[4]	
(Valid %)	(29)	(2)	(9)	(11)	(12)
45 or older					
Observed *n*	4	6	11	7	28
[Expected *n*]	[6]	[6]	[11]	[5]	
(Valid %)	(10)	(13)	(14)	(18)	(14)
Total	41	45	81	38	205

χ^2 (9, N = 205) = 18.436, p = .030 (p < .05)

Note. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

$H0_{d2}$: Lifestyle clusters and household type are independent of each other.

Households living alone or living with a spouse or partner were the major types of households comprising 80% to 91% of each lifestyle cluster. The contingency table also had 17 cells (60.7%) with expected frequencies less than five. So, in order to test the independence of household type and lifestyle, the chi-square test was applied using only three major household types (self only, self and spouse or partner, and self and roommates) instead of combining categories. Pearson Chi-square was not significant at p < .05 (Table 23). Thus, it failed to reject the null hypothesis, and household type was found to be independent of lifestyle clusters.

Table 23. Contingency Table: Lifestyle Clusters and Household Type

Household type	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Self only					
Observed *n*	25	23	40	15	103
[Expected *n*]	[22]	[24]	[38]	[19]	
(Valid %)	(64)	(55)	(59)	(44)	(56)
Self + spouse/partner					
Observed *n*	8	13	17	16	54
[Expected *n*]	[12]	[12]	[20]	[10]	
(Valid %)	(21)	(31)	(25)	(47)	(30)
Self + roommate(s)					
Observed *n*	6	6	11	3	26
[Expected *n*]	[6]	[6]	[10]	[5]	
(Valid %)	(15)	(14)	(16)	(9)	(14)
Total	39	42	68	34	183

χ^2 (6, N = 183) = 7.447, p = .281

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster.

$H0_{d3}$: There is no difference in household size across lifestyle clusters. The average numbers of household members including the respondent was 1.46 for the Community Cluster, 1.60 for the Basics Cluster, 1.66 for the Home Cluster, and 1.63 for the Environment Cluster. One-way ANOVA was used to compare differences in household size across the lifestyle clusters and no significant difference was found at $p < .05$ (F (3, 200) = .641, p = .589). Thus, it failed to reject the null hypothesis.

$H0_{d4}$: Lifestyle clusters and educational attainments are independent of each other. It was found that 85% of the respondents had college degrees or higher. Specifically, 90% of the Community Cluster respondents and 89% of the Basics Cluster respondents had college degrees or higher. In fact, 35% of the Community Cluster respondents had a graduate degree or higher. The contingency table for lifestyle clusters and educational attainment using the categories from the survey had 11 cells (55%) with expected frequencies of less than five. Thus, the three lowest educational levels (less than high school diploma, high school diploma, and technical school/some college) were combined as "technical school/some college or less." After adjusting cells to meet the small expected frequency requirement, Person Chi-square was found not significant at $p < .05$

(Table 24), and it failed to reject the null hypothesis testing independence of lifestyle clusters and educational attainment.

Table 24. Contingency Table: Lifestyle Clusters and Educational Attainment

	Lifestyle cluster				
Education	Community	Basics	Home	Environment	Total
Technical school/some college or less					
Observed *n*	4	5	15	6	30
[Expected *n*]	[6]	[7]	[12]	[6]	
(Valid %)	(10)	(11)	(19)	(16)	(15)
College degree					
Observed *n*	22	30	50	25	127
[Expected *n*]	[25]	[28]	[50]	[24]	
(Valid %)	(55)	(67)	(62)	(66)	(62)
Graduate degree or higher					
Observed *n*	14	10	16	7	47
[Expected *n*]	[9]	[10]	[19]	[9]	
(Valid %)	(35)	(22)	(20)	(18)	(23)
Total	40	45	81	38	204

χ^2 (6, N = 204) = 5.616, p = .468

Note. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

$H0_{d5}$: Lifestyle clusters and household income are independent of each other. Households with incomes less than $75,000 comprised 64% to 66% of each of the Community Cluster, the Basics Cluster, and the Home Cluster, while households with the same income level comprised only 57% of the Environment Cluster. The contingency table had only four cells (16.7%) that had expected frequencies of less than five and it was accepted for the chi-square test because the proportion of the cells were less than 20% of the total number of cells. The Pearson Chi-square tested independence of lifestyle clusters and household income, but it was not significant at $p < .05$, and, therefore, it failed to reject the fourth null hypothesis. That is, household income was independent of lifestyle clusters (Table 25).

Table 25. Contingency Table: Lifestyle Clusters and Household Income

Household income	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Less than $35,000					
Observed *n*	7	12	14	8	41
[Expected *n*]	[8]	[9]	[16]	[8]	
(Valid %)	(18)	(28)	(18)	(22)	(21)
$35,000 to $49,999					
Observed *n*	7	6	18	1	32
[Expected *n*]	[6]	[7]	[13]	[6]	
(Valid %)	(18)	(14)	(23)	(3)	(16)
$50,000 to $74,999					
Observed *n*	11	10	19	12	52
[Expected *n*]	[10]	[11]	[21]	[10]	
(Valid %)	(28)	(23)	(24)	(32)	(26)
$75,000 to $99,999					
Observed *n*	5	4	15	9	33
[Expected *n*]	[7]	[7]	[13]	[6]	
(Valid %)	(13)	(9)	(19)	(24)	(17)
$100,000 to $149,999					
Observed *n*	6	11	8	5	30
[Expected *n*]	[6]	[7]	[12]	[6]	
(Valid %)	(15)	(26)	(10)	(14)	(15)
$150,000 or more					
Observed *n*	3	0	4	2	9
[Expected *n*]	[2]	[2]	[4]	[2]	
(Valid %)	(8)	(0)	(5)	(5)	(5)
Total	39	43	78	37	197

χ^2 (15, N = 197) = 19.592, p = .188

Note. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

$H0_{d6}$: Lifestyle clusters and length of residency in current apartment homes are independent each other. Fifty percent to 63% of the households in each lifestyle cluster had lived in their current apartment home less than a year at the time of the survey. Categories in length of residency in current apartment homes were combined into two categories to meet the small expected frequency requirement: less than a year and 1 or more years. The Pearson Chi-square test was not significant at $p < .05$ (Table 26) and it failed to reject the fourth null hypothesis. That is, the length of residency in current apartment home was independent of lifestyle.

Table 26. Contingency Table: Lifestyle Clusters and Length of Residency in Current Apartment Home

	Lifestyle cluster				
Length of residency	Community	Basics	Home	Environment	Total
Less than a year					
Observed *n*	26	26	44	19	115
[Expected *n*]	[23]	[25]	[45]	[21]	
(Valid %)	(63)	(58)	(55)	(50)	(56)
1 or more years					
Observed *n*	15	19	36	19	89
[Expected *n*]	[18]	[20]	[35]	[17]	
(Valid %)	(37)	(42)	(45)	(50)	(44)
Total	41	45	80	38	204

χ^2 (3, N = 204) = 1.552, p = .670

Note. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

$H0_{d7}$: Lifestyle clusters and previous or current homeownership status are independent each other. Two existing categories, "previously rented another rental apartment home" and "previously rented another single-family home," and an additional category "previously rented another single family home and apartment home" were combined as "previously a renter." And, two categories "previously owned a home" or "currently own a home" were combined as "previously/currently a homeowner." It was found that 58% to 68% of the households in each lifestyle cluster were previously renters and 21% to 34% were previously or currently homeowners. Because of the minimum expected frequency assumption, only these two categories (previously/currently a homeowner and previously a renter) were included in the chi-square test and Pearson Chi-square was not significant at $p < .05$ (Table 27). That is, previous or current homeownership status was not different across the lifestyle clusters.

Table 27. Contingency Table: Lifestyle Clusters and Homeownership Status

Previous/current homeownership status	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Previously a renter					
Observed *n*	24	29	54	24	131
[Expected *n*]	[27]	[29]	[50]	[25]	
(Valid %)	(63)	(71)	(76)	(69)	(71)
Previously/currently a homeowner					
Observed *n*	14	12	17	11	54
[Expected *n*]	[11]	[12]	[21]	[10]	
(Valid %)	(37)	(29)	(24)	(31)	(29)
Total	35	38	69	31	185

χ^2 (3, N = 185) = 2.107, p = .551

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster.

$H0_{d8}$: Lifestyle clusters and main reason for moving into one's current apartment home are independent of each other. The top five reasons for having moved into one's current apartment home were "I am new in the community and needed time to consider housing choices," "I was not interested in owning at this stage of my life," "I wanted to be able to move easily," "I was dissatisfied with my previous housing situation," and "I wanted to be free from maintenance work." The rankings of the Basics Cluster respondents and the Home Cluster respondents were the same as this ranking. On the other hand, "I was not interested in owning at this stage of my life" was the top reason for Community Cluster respondents followed by "I am new in the community and needed time to consider housing choices" and "I wanted to be free from maintenance work." Finally, for respondents in the Environment Cluster, "I am new in the community and needed time to consider housing choices," "I was not satisfied with my previous housing situation," and "I wanted to be able to move easily," respectively, were the top three most frequently cited reasons to have moved into their current apartment homes. As for the other answers, nine respondents (two in each of the Community Cluster and the Basics Cluster, three in the Home Cluster, and one in the Environment Cluster) reported that they had chosen their current apartment because it was close to work or school or close to downtown.

To meet the small expectancy requirement, only the two most often cited reasons ("I am new in the community and needed time to consider housing choices" and "I was not interested in owning at this stage of my life") were tested to see if they were independent of lifestyle. Despite the different ranking across the lifestyle clusters, Pearson Chi-square was not significant at $p < .05$ (χ^2 (3, N = 119) = 4.575, p = .206). Thus, it failed to reject the null hypothesis.

Summary. To explore the relationship between demographic characteristics and lifestyle, chi-square tests of independent samples and one-way ANOVA were used to examine relationships of seven demographic and housing characteristics (age, household type, household size, educational attainment, household income, length of residency in current apartment home, and previous or current homeownership status) to lifestyle. As a result, only age was found to be significantly different across the lifestyle clusters. Thus, the first research hypothesis was partially supported.

Hypothesis 2

H2: There is a relationship between the lifestyles of renters and the likelihood to be a renter.

To test the research hypothesis, the two following null hypotheses were tested:

$H0_{r1}$: There is no difference in the perceived importance of homeownership across lifestyle clusters.

$H0_{r2}$: Lifestyle clusters and future housing plans are independent of each other.

$H0_{r1}$: There is no difference in the perceived importance of homeownership across lifestyle clusters. Because perception of homeownership was measured with a 4-level Likert type scales (not important at all = 1, to very important = 4), it was considered a continuous variable. To test the null hypothesis, means of lifestyle clusters were compared using one-way ANOVA and Tukey's HSD test. It was found that households in the Home Cluster had a significantly higher perception of the importance of homeownership than households in the Community Cluster did (Table 28).

Table 28. One-way ANOVA and Tukey's HSD Comparison: Lifestyle Clusters and Perceived Importance of Homeownership

	Lifestyle cluster			
	Community	Basics	Home	Environment
Perceived importance of homeownership	2.61_a	2.82_{ab}	3.20_b	3.16_{ab}

F (3, 200) = 4.364, p = .005 (p < .01)

Note. Judgments were made on 4-point scale (1 = not important at all, 2 = somewhat important, 3 = important, and 4 = very important). Means that do not share subscripts differ at p < .05 in the Tukey's honestly significant difference comparison.

$H0_{r2}$: Lifestyle clusters and future housing plans are independent of each other. More than 54% of households in each cluster expected to purchase a single-family home or condominium the next time they move and 18% to 37% of households in each cluster projected their next move would be to another rental home. In addition to the future housing plan categories given, five respondents reported that they had already owned or had purchased a home and would move into it when they moved. This category was combined with the existing category "I expect to purchase a home the next time I move" to form a new category, "I will move to a home that I have already owned or expect to purchase the next time I move." For a valid chi-square test, only two categories, "I will move to a home that I have already owned or expected to purchase" and "Most likely, my next move will be to another rental home" were included in the test. Pearson Chi-square was not significant at p < .05 (Table 29). Thus, lifestyle clusters and future housing plans were not found to be independent of each other.

Table 29. Contingency Table: Lifestyle Clusters and Future Housing Plan

Future housing plan	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Move to a home already owned or plan to purchase					
Observed *n*	23	27	51	29	130
[Expected *n*]	[27]	[29]	[49]	[25]	
(Valid %)	(61)	(64)	(73)	(81)	(70)
Most likely move to another rental home					
Observed *n*	15	15	19	7	56
[Expected *n*]	[11]	[13]	[21]	[11]	
(Valid %)	(39)	(36)	(27)	(19)	(30)
Total	38	42	70	36	186

χ^2 (3, N = 186) = 4.449, p = .217

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster.

Summary. Households in the Community Cluster showed the weakest perception of the importance of homeownership while households in the Home Cluster showed the strongest perception which was significantly different. Despite the difference, there was no difference in future housing plans across the lifestyle clusters. Overall, 28% of respondents showed potential to rent another home in the future. Thus the second research hypothesis was partially supported.

Hypothesis 3

H3: There are differences in the preference for multifamily housing and community features among the lifestyle groups.

To test the hypothesis, the following four null hypotheses were tested using chi-square tests for independent samples:

$H0_{p1}$: Lifestyle clusters and the most important apartment home and community considerations in an ideal apartment home are independent of each other.

$H0_{p2}$: Lifestyle clusters and preference for an ideal apartment home location are independent of each other.

$H0_{p3}$: Lifestyle clusters and the most important consideration in choosing an ideal apartment home location are independent of each other.

$H0_{p4}$: Lifestyle clusters and preferences for apartment home and community features are independent of each other.

$H0_{p1}$: Lifestyle clusters and the most important apartment home and community considerations in an ideal apartment home are independent of each other. The most important apartment home consideration in choosing an ideal apartment home were different among the lifestyle clusters. To households in the Community Cluster, size of the apartment home (25%) and apartment home features, including interior design features and high-speed Internet access (20%), were the two most important apartment home considerations, while layout of the apartment homes (33%) and price (27%) were most important to households in the Basics Cluster. Households in the Home Cluster considered layout (25%) and size of the apartment homes (23%) most important and households in the Environment Cluster considered size of the apartment homes (26%) and price (26%) most important.

In contrast to these different rankings of the most important apartment home features among the lifestyle clusters, location was the apartment community consideration most important in choosing an ideal apartment home regardless of the lifestyle clusters. Households in the Community Cluster reported that community features including resident services were the second most important consideration in choosing an ideal apartment home while households in the Basics Cluster reported price and households in the Environment Cluster reported reputation of the apartment community. To households in the Home Cluster, community features, including resident services, reputation of the property management company, and price, all ranked second.

Based on total frequencies, the four most important apartment home considerations (layout of the apartment home, size of the apartment home, price, and apartment home features including interior design features and high-speed Internet access) and the four most important apartment community considerations (location, reputation of the neighborhood, price, and apartment community features including resident services) were compared across the lifestyle clusters using chi-square tests (Table 30 and Table 31). Both Pearson Chi-

squares were not significant at $p < .05$, and the first null hypothesis testing independence of lifestyle clusters and important apartment home and community considerations was not rejected. Despite different rankings of the considerations, there was no statistical relationship found between lifestyle clusters and those considerations.

Table 30. Contingency Table: Lifestyle Clusters and the Most Important Apartment Home Consideration for an Ideal Apartment Home

	Lifestyle cluster				
Consideration	Community	Basics	Home	Environment	Total
Layout of the apartment home					
Observed *n*	4	15	20	8	47
[Expected *n*]	[8]	[11]	[19]	[9]	
(Valid %)	(14)	(38)	(29)	(24)	(28)
Size of the apartment home					
Observed *n*	10	8	18	10	46
[Expected *n*]	[8]	[11]	[19]	[9]	
(Valid %)	(34)	(21)	(26)	(30)	(27)
Price					
Observed *n*	8	4	14	5	31
[Expected *n*]	[5]	[7]	[13]	[6]	
(Valid %)	(28)	(10)	(20)	(15)	(18)
Apartment home features					
Observed *n*	7	12	17	10	46
[Expected *n*]	[8]	[11]	[19]	[9]	
(Valid %)	(24)	(31)	(25)	(30)	(27)
Total	29	39	69	33	170

χ^2 (9, N = 170) = 8.858, p = .450

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster. Total of percents may not be 100 due to rounding.

Table 31. Contingency Table: Lifestyle Clusters and the Most Important Apartment Community Consideration for an Ideal Apartment Home

Consideration	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Location					
Observed *n*	27	26	46	18	117
[Expected *n*]	[25]	[23]	[46]	[22]	
(Valid %)	(73)	(76)	(68)	(55)	(68)
Reputation of the neighborhood					
Observed *n*	5	2	9	4	20
[Expected *n*]	[4]	[4]	[8]	[4]	
(Valid %)	(14)	(6)	(13)	(12)	(12)
Price					
Observed *n*	2	0	4	6	12
[Expected *n*]	[3]	[2]	[5]	[2]	
(Valid %)	(5)	(0)	(6)	(18)	(7)
Apartment community features					
Observed *n*	3	6	9	5	23
[Expected *n*]	[5]	[5]	[9]	[4]	
(Valid %)	(8)	(18)	(13)	(15)	(13)
Total	37	34	68	33	172

χ^2 (9, N = 172) = 12.478, p = .188

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster.

$H0_{p2}$: Lifestyle clusters and preference for an ideal apartment home location are independent of each others. The location preferences for an ideal apartment home was a downtown location for 65% of the households in the Community Cluster, 42% in the Basics Cluster, and 46% in the Home Cluster. Sixty-seven percent of the households in the Environment Cluster preferred a suburban area. Only three respondents preferred a rural area, and four respondents reported preferences for multiple locations, such as downtown/urban area.

Thus, preferences of only downtown, urban areas, and suburban areas were compared across the lifestyle clusters using a chi-square test, and Pearson Chi-square was significant at $p < .001$. That is, location preference and lifestyle were not independent of each other. Significantly more households in the Community Cluster preferred a downtown

location and significantly more households in the Environment Cluster preferred a suburban area than expected frequencies would indicate (Table 32).

Table 32. Contingency Table: Lifestyle Clusters and Preference for an Ideal Apartment Home Location

Preferred location	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Downtown location					
Observed *n*	26	19	36	6	87
[Expected *n*]	[17]	[20]	[35]	[16]	
(Valid %)	(68)	(43)	(46)	(17)	(44)
Urban area					
Observed *n*	9	12	17	4	42
[Expected *n*]	[8]	[9]	[17]	[8]	
(Valid %)	(24)	(27)	(22)	(11)	(21)
Suburban area					
Observed *n*	3	13	25	26	67
[Expected *n*]	[13]	[15]	[27]	[12]	
(Valid %)	(8)	(30)	(32)	(72)	(34)
Total	38	44	78	36	196

χ^2 (6, N = 196) = 37.133, p = .000 (p < .001)

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster. Total of percents may not be 100 due to rounding.

$H0_{p3}$: Lifestyle clusters and the most important consideration in choosing an ideal apartment home location are independent of each other. The two most important considerations in choosing an ideal apartment home location were being "close to work or school (57%)" and "close to downtown (19%)." For a valid chi-square test, only these two categories were compared across the lifestyle clusters. The Pearson Chi-square was significant at p < .01 and the null hypothesis was rejected. It was found that more households than expected in the Community Cluster and the Basics Cluster considered proximity to downtown most important in choosing an ideal apartment home location, while fewer households than expected in the Home Cluster and the Environment Cluster considered proximity to downtown important (Table 33).

Table 33. Contingency Table: Lifestyle Clusters and the Most Important Consideration in Choosing an Ideal Apartment Home Location

Consideration	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Close to work/school					
Observed *n*	16	26	49	25	116
[Expected *n*]	[22]	[28]	[46]	[19]	
(Valid %)	(53)	(68)	(80)	(96)	(75)
Close to downtown					
Observed *n*	14	12	12	1	39
[Expected *n*]	[8]	[10]	[15]	[7]	
(Valid %)	(47)	(32)	(20)	(4)	(25)
Total	30	38	61	26	155

χ^2 (3, N = 155) = 15.449, p = .001 (p < .01)

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each cluster.

$H0_{p4}$: Lifestyle clusters and preferences for apartment home and community features are independent of each other. Most contingency tables for each feature and lifestyle clusters violated the small expected frequency assumption and were not proper for the chi-square tests. Thus, to test the last null hypothesis, the variables for specific features were recoded as dichotomous variables with two levels, "do not prefer," which was a combination of "do not want" and "does not matter," and "prefer," which was a combination of "prefer to have" and "must have."

There was no significant Pearson Chi-square at p < .05 among three features related to in-home amenities and among three storage-related features. That is, preferences of those six features were independent of the lifestyle clusters. Among the comparison of preference for the ten features related to parking and security, Pearson Chi-squares were significant at p < .05 with preferences of five of the features: outdoor parking spaces in front of building, guest parking, gated entrance to community, controlled access to buildings, and gated parking garage (Table 34 and Table 35).

Significantly more households in the Community Cluster did not prefer to have outdoor parking spaces in front of the building than would be expected if the feature preferences and lifestyle clusters were independent of each other. More households in the Home Cluster preferred guest parking, while fewer households than would be expected in

the Basics Cluster preferred this feature. More households in the Home Cluster and fewer households in the Basics Cluster preferred a gated entrance to the community than expected if preference of gated entrance to community was independent of the lifestyle clusters. Significantly more households in the Community Cluster and fewer households in the Basics Cluster preferred controlled access to buildings than would be expected. Also, significantly more households in the Community Cluster and fewer households in the Environment Cluster preferred a gated parking garage than would be expected.

Table 34. Contingency Table: Lifestyle Clusters and Preferences for Parking-related Features

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Outdoor parking spaces in front of building[A]					
Prefer					
Observed *n*	15	24	46	30	115
[Expected *n*]	[23]	[25]	[45]	[22]	
(Valid %)	(38)	(53)	(58)	(77)	(57)
Do not prefer					
Observed *n*	25	21	33	9	88
[Expected *n*]	[17]	[20]	[34]	[17]	
(Valid %)	(63)	(47)	(42)	(23)	(43)
Total	40	45	79	39	203
Guest parking[B]					
Prefer					
Observed *n*	32	29	70	34	165
[Expected *n*]	[33]	[37]	[64]	[32]	
(Valid %)	(80)	(64)	(89)	(87)	(81)
Do not prefer					
Observed *n*	8	16	9	5	38
[Expected *n*]	[7]	[8]	[15]	[7]	
(Valid %)	(20)	(36)	(11)	(13)	(19)
Total	40	45	79	39	203

[A] χ^2 (3, N = 203) = 12.782, p = .005 (p < .01)
[B] χ^2 (3, N = 203) = 12.106, p = .007 (p < .01)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

Table 35. Contingency Table: Lifestyle Clusters and Preferences for Security Features

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Gated entrance to community[A]					
Prefer					
Observed *n*	29	21	57	21	128
[Expected *n*]	[25]	[28]	[50]	[24]	
(Valid %)	(73)	(47)	(71)	(54)	(63)
Do not prefer					
Observed *n*	11	24	23	18	76
[Expected *n*]	[15]	[17]	[30]	[15]	
(Valid %)	(28)	(53)	(29)	(46)	(37)
Total	40	45	80	39	204
Controlled access to building[B]					
Prefer					
Observed *n*	37	31	61	27	156
[Expected *n*]	[31]	[35]	[60]	[30]	
(Valid %)	(93)	(69)	(78)	(69)	(77)
Do not prefer					
Observed *n*	3	14	17	12	46
[Expected *n*]	[9]	[10]	[18]	[9]	
(Valid %)	(8)	(31)	(22)	(31)	(23)
Total	40	45	78	39	202
Gated parking garage[C]					
Prefer					
Observed *n*	32	25	45	18	120
[Expected *n*]	[24]	[27]	[47]	[23]	
(Valid %)	(80)	(56)	(57)	(46)	(59)
Do not prefer					
Observed *n*	8	20	34	21	83
[Expected *n*]	[16]	[18]	[32]	[16]	
(Valid %)	(20)	(44)	(43)	(54)	(41)
Total	40	45	79	39	203

[A] χ^2 (3, N = 204) = 10.402, p = .015 (p < .05)
[B] χ^2 (3, N = 202) = 8.545, p = .036 (p < .05)
[C] χ^2 (3, N = 203) = 10.317, p = .016 (p < .05)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percents of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

Among the preferences for the ten interior design features given, Pearson Chi-squares were significant at $p < .05$ with preferences for seven of the features: raised ceiling, crown moldings, granite countertops, tiled floors, built-in bookshelves, computer alcove or niche, and stainless steel appliances (Table 36). More households in the Home Cluster and fewer households in the Basics Cluster preferred raised ceilings, crown moldings, granite countertops, built-in bookshelves, computer alcove or niche, and stainless steel appliances than would be expected. Also, fewer households in the Basics Cluster preferred tiled floors than expected.

Table 36. Contingency Table: Lifestyle Clusters and Preferences for Interior Design Features

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Raised ceiling[A]					
Prefer					
Observed *n*	30	26	67	28	151
[Expected *n*]	[30]	[33]	[59]	[29]	
(Valid %)	(75)	(58)	(84)	(72)	(74)
Do not prefer					
Observed *n*	10	19	13	11	53
[Expected *n*]	[10]	[12]	[21]	[10]	
(Valid %)	(25)	(42)	(16)	(28)	(26)
Total	40	45	80	39	204
Crown moldings[B]					
Prefer					
Observed *n*	22	15	54	24	115
[Expected *n*]	[23]	[25]	[45]	[22]	
(Valid %)	(55)	(33)	(68)	(62)	(56)
Do not prefer					
Observed *n*	18	30	26	15	89
[Expected *n*]	[17]	[20]	[35]	[17]	
(Valid %)	(45)	(67)	(33)	(38)	(44)
Total	40	45	80	39	204

[A] χ^2 (3, N = 204) = 10.232, p = .017 ($p < .05$)
[B] χ^2 (3, N = 204) = 14.194, p = .003 ($p < .01$)

Note. Percents are valid percents of observed frequencies within each cluster.

Table 36. Contingency Table: Lifestyle Clusters and Preferences for Interior Design Features (continued)

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Granite countertop[C]					
Prefer					
Observed *n*	22	14	47	21	104
[Expected *n*]	[20]	[23]	[41]	[20]	
(Valid %)	(55)	(31)	(59)	(54)	(51)
Do not prefer					
Observed *n*	18	31	33	18	100
[Expected *n*]	[20]	[22]	[39]	[19]	
(Valid %)	(45)	(69)	(41)	(46)	(49)
Total	40	45	80	39	204
Tiled floors[D]					
Prefer					
Observed *n*	26	18	49	26	119
[Expected *n*]	[23]	[26]	[46]	[23]	
(Valid %)	(65)	(40)	(62)	(67)	(59)
Do not prefer					
Observed *n*	14	27	30	13	84
[Expected *n*]	[17]	[19]	[33]	[16]	
(Valid %)	(35)	(60)	(38)	(33)	(41)
Total	40	45	79	39	203
Built-in bookshelves[E]					
Prefer					
Observed *n*	18	15	52	26	111
[Expected *n*]	[22]	[24]	[44]	[21]	
(Valid %)	(45)	(33)	(65)	(67)	(54)
Do not prefer					
Observed *n*	22	30	28	13	93
[Expected *n*]	[18]	[21]	[36]	[18]	
(Valid %)	(55)	(67)	(35)	(33)	(46)
Total	40	45	80	39	204

[C] χ^2 (3, N = 204) = 9.428, p = .024 (p < .05)
[D] χ^2 (3, N = 203) = 8.522, p = .036 (p < .05)
[E] χ^2 (3, N = 204) = 15.466, p = .001 (p < .01)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

Table 36. Contingency Table: Lifestyle Clusters and Preferences for Interior Design Features (continued)

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Computer alcove/niche[F]					
Prefer					
Observed *n*	18	14	52	21	105
[Expected *n*]	[20]	[23]	[42]	[20]	
(Valid %)	(46)	(32)	(65)	(54)	(52)
Do not prefer					
Observed *n*	21	30	28	18	97
[Expected *n*]	[19]	[21]	[38]	[19]	
(Valid %)	(54)	(68)	(35)	(46)	(48)
Total	39	44	80	39	202
Stainless steel appliances[G]					
Prefer					
Observed *n*	23	16	46	13	98
[Expected *n*]	[19]	[22]	[38]	[19]	
(Valid %)	(58)	(36)	(58)	(33)	(48)
Do not prefer					
Observed *n*	17	29	34	26	106
[Expected *n*]	[21]	[23]	[42]	[20]	
(Valid %)	(43)	(64)	(43)	(67)	(52)
Total	40	45	80	39	204

[F] χ^2 (3, N = 202) = 13.184, p = .004 (p < .01)
[G] χ^2 (3, N = 204) = 10.491, p = .015 (p < .05)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

Among preferences for the 12 features related to exercise and recreation, Pearson Chi-squares were significant at p < .05 with preferences for two of the features: a walking trail and a playground (Table 37). More households in the Home Cluster and fewer households in the Community Cluster preferred a walking trail in their ideal apartment home community, and more households in the Home Cluster and fewer households in the Basics Cluster preferred a playground than expected.

Among preferences of 12 resident service features, Pearson Chi-squares were significant at p < .05 with preferences of three features (Table 38): package and delivery acceptance, plant watering, and a car care center. However, the contingency table of

package and delivery acceptance did not meet the small expectancy assumption. More households in the Home Cluster and fewer households in the Basics Cluster preferred plant watering services, and more households in the Home Cluster and the Environment Cluster and fewer households in the Basics Cluster preferred a car care center than expected.

Table 37. Contingency Table: Lifestyle Clusters and Preferences for Exercise/Recreation Features

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Walking trail[A]					
Prefer					
Observed *n*	14	22	50	21	107
[Expected *n*]	[21]	[24]	[42]	[20]	
(Valid %)	(35)	(49)	(63)	(54)	(52)
Do not prefer					
Observed *n*	26	23	30	18	97
[Expected *n*]	[19]	[21]	[38]	[19]	
(Valid %)	(65)	(51)	(38)	(46)	(48)
Total	40	45	80	39	204
Playground[B]					
Prefer					
Observed *n*	4	2	20	9	35
[Expected *n*]	[7]	[8]	[14]	[7]	
(Valid %)	(10)	(4)	(25)	(23)	(17)
Do not prefer					
Observed *n*	36	43	59	30	168
[Expected *n*]	[33]	[37]	[65]	[32]	
(Valid %)	(90)	(96)	(75)	(77)	(83)
Total	40	45	79	39	203

[A] χ^2 (3, N = 204) = 8.383, p = .039 (p < .05)
[B] χ^2 (3, N = 203) = 11.176, p = .011 (p < .05)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each cluster. Total of percents may not be 100 due to rounding.

Table 38. Contingency Table: Lifestyle Clusters and Preferences for Resident Services

Feature	Lifestyle cluster				Total
	Community	Basics	Home	Environment	
Plant watering[A]					
Prefer					
Observed *n*	6	3	21	5	35
[Expected *n*]	[7]	[8]	[14]	[7]	
(Valid %)	(15)	(7)	(26)	(13)	(17)
Do not prefer					
Observed *n*	35	42	60	34	171
[Expected *n*]	[34]	[37]	[67]	[32]	
(Valid %)	(85)	(93)	(74)	(87)	(83)
Total	41	45	81	39	206
Car care center[B]					
Prefer					
Observed *n*	17	10	44	26	97
[Expected *n*]	[19]	[21]	[38]	[18]	
(Valid %)	(41)	(22)	(54)	(67)	(47)
Do not prefer					
Observed *n*	24	35	37	13	109
[Expected *n*]	[22]	[24]	[43]	[21]	
(Valid %)	(59)	(78)	(46)	(33)	(53)
Total	41	45	81	39	206

[A] χ^2 (3, N = 206) = 8.628, p = .035 (p < .05)
[B] χ^2 (3, N = 206) = 19.389, p = .000 (p < .001)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each cluster.

Summary. Households in the Community Cluster showed a greater preference for downtown locations for an ideal apartment home than households in other lifestyle clusters, and proximity to downtown was found more important for households in the Community Cluster in choosing an ideal apartment home location than for households in other clusters. Lifestyle clusters showed preferences of different apartment home and community features. However, there was no significant difference in most important apartment home and community considerations across the lifestyle groups.

Further Analyses

There were three major research hypotheses tested to identify lifestyle dimensions of multifamily housing residents and their relationship to housing preferences. In addition to the three major research hypotheses, three more research hypotheses were tested to explore more information about the multifamily housing residents and their housing preferences as follows:

H4: Location of current apartment home is related to demographic characteristics and preference for an ideal apartment home location.

H5: Location preference for an ideal apartment home is related to demographic characteristics, perceived importance of homeownership, and housing preferences.

H6: Perceived importance of homeownership is related to demographic characteristics and future housing plans.

Hypothesis 4

H4: Location of current apartment home is related to demographic characteristics and location preference for an ideal apartment home.

To identify the relationships between current apartment home location and demographic characteristics, age, household type, educational attainment, and household income of downtown and non-downtown community households were compared using chi-square tests and household size was compared using an independent sample *t*-test. Age, education and household type were adjusted to meet the small expected frequency assumption. As a result of the tests, it was found that downtown community residents and non-downtown community residents have significantly different educational attainment (Table 39) and household income (Table 40) at $p < .01$. More downtown households had higher education and higher household income than expected, while non-downtown households showed the opposite tendency. Average numbers of household members in downtown and non-downtown communities were compared using an independent sample *t*-test, and it was found that the size of households in non-downtown communities ($M = 1.74$, $SD = .81$) were significantly bigger than the size of households in downtown communities ($M = 1.46$, $SD = .65$) at $p < .01$ ($t\ (202) = -2.721$, $p = .007$).

Table 39. Contingency Table: Current Apartment Home Location and Educational Attainment

Educational attainment	Current location: Downtown	Current location: Non-downtown	Total
Technical school/some college or less			
Observed *n*	5	25	30
[Expected *n*]	[14]	[16]	
(Valid %)	(5)	(23)	(15)
College degree			
Observed *n*	64	63	127
[Expected *n*]	[60]	[67]	
(Valid %)	(67)	(58)	(62)
Graduate degree or higher			
Observed *n*	27	20	47
[Expected *n*]	[22]	[25]	
(Valid %)	(28)	(19)	(23)
Total	96	108	204

χ^2 (2, N = 204) = 13.725, p = .001 (p < .01)

Note. Percents are valid percents of observed frequencies within each of the current locations.

Table 40. Contingency Table: Current Apartment Home Location and Household Income

Household income	Current location: Downtown	Current location: Non-downtown	Total
Less than $35,000			
Observed *n*	7	34	41
[Expected *n*]	[19]	[22]	
(Valid %)	(8)	(32)	(21)
$35,000 to $49,999			
Observed *n*	12	20	32
[Expected *n*]	[15]	[17]	
(Valid %)	(13)	(19)	(16)
$50,000 to $74,999			
Observed *n*	27	25	52
[Expected *n*]	[24]	[28]	
(Valid %)	(30)	(24)	(26)
$75,000 to $99,999			
Observed *n*	18	15	33
[Expected *n*]	[15]	[18]	
(Valid %)	(20)	(14)	(17)
$100,000 to $149,999			
Observed *n*	20	10	30
[Expected *n*]	[14]	[16]	
(Valid %)	(22)	(9)	(15)
$150,000 or more			
Observed *n*	7	2	9
[Expected *n*]	[4]	[5]	
(Valid %)	(8)	(2)	(5)
Total	91	106	197

χ^2 (5, N = 197) = 25.245, p = .000 (p < .001)

Note. Percents are valid percents within each location. Total of percents may not be 100 due to rounding.

To explore the relationship between current apartment home location and preference for an ideal apartment home location, the three most preferred locations (downtown, urban area and suburban area) were compared across current location (downtown and non-downtown). The Pearson Chi-square of current location and location preference was significant at p < .001 (Table 41). More downtown households preferred a downtown location while more non-downtown households preferred an urban or suburban area than would be expected. Thus, Hypothesis 4 was partially supported.

Table 41. Contingency Table: Current Apartment Home Location and Location Preference for an Ideal Apartment Home

Location preference	Current location		Total
	Downtown	Non-downtown	
Downtown location			
Observed *n*	76	11	87
[Expected *n*]	[42]	[45]	
(Valid %)	(81)	(11)	(44)
Urban area			
Observed *n*	13	29	42
[Expected *n*]	[20]	[22]	
(Valid %)	(14)	(28)	(21)
Suburban area			
Observed *n*	5	62	67
[Expected *n*]	[32]	[35]	
(Valid %)	(5)	(61)	(34)
Total	94	102	196

χ^2 (2, N = 196) = 102.996, p = .000 (p < .001)

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each location. Total of percents may not be 100 due to rounding.

Hypothesis 5

H5: Location preference for an ideal apartment home is related to demographic characteristics, perceived importance of homeownership, and housing preferences.

Gender and demographic characteristics with adjusted categories (age, household type, household size, educational attainment and household income) were compared across the three most preferred locations (downtown, urban area, and suburban area). Pearson Chi-square analyses showed significant differences in the location preference with household type (Table 42) and educational attainment (Table 43) at $p < .05$. It was found that more people living alone preferred a downtown location or an urban area, more people living with roommate(s) preferred a downtown location and more couples without children preferred a suburban area for their ideal apartment home than expected if current location and household type were independent of each other. Households with higher education tended to prefer a downtown location for their ideal apartment home. When household size and preferred location (downtown location, urban area, and suburban area) were compared

using one-way ANOVA, it was found that the size of households who preferred a suburban area for their ideal apartment home location was significantly greater than the size of households preferring a downtown location at $p < .01$ (Table 44).

Table 42. Contingency Table: Location Preference and Educational Attainment

	Location preference			
Educational attainment	Downtown	Urban area	Suburban area	Total
Technical school/some college or less				
Observed *n*	6	9	12	27
[Expected *n*]	[12]	[6]	[9]	
(Valid %)	(7)	(22)	(18)	(14)
College degree				
Observed *n*	53	28	40	121
[Expected *n*]	[54]	[26]	[41]	
(Valid %)	(61)	(68)	(61)	(62)
Graduate degree or higher				
Observed *n*	28	4	14	46
[Expected *n*]	[21]	[10]	[16]	
(Valid %)	(32)	(10)	(21)	(24)
Total	87	41	66	194

χ^2 (4, N = 194) = 12.313, p = .015 ($p < .05$)

Note. Percents are valid percents within each preferred location.

Table 43. Contingency Table: Location Preference and Household Type

Household type	Location preference: Downtown	Urban area	Suburban area	Total
Self only				
Observed *n*	51	24	24	99
[Expected *n*]	[48]	[19]	[32]	
(Valid %)	(61)	(71)	(43)	(57)
Self + spouse/partner				
Observed *n*	19	5	26	50
[Expected *n*]	[24]	[10]	[16]	
(Valid %)	(23)	(15)	(46)	(29)
Self + roommate(s)				
Observed *n*	14	5	6	25
[Expected *n*]	[12]	[5]	[8]	
(Valid %)	(17)	(15)	(11)	(14)
Total	84	34	56	174

χ^2 (4, N = 174) = 13.630, p = .009 (p < .01)

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each preferred location. Total of percents may not be 100 due to rounding.

Table 44. One-way ANOVA and Tukey's HSD Comparison: Location Preference for Ideal Apartment home and Household Size

	Location preference: Downtown	Urban area	Suburban area
Household size	1.44_a	1.52_{ab}	1.80_b

F (2, 191) = 5.023, p = .007 (p < .01)

Note. Means that do not share subscripts differ at p < .01 in the Tukey's honestly significant difference comparison.

To examine the relationship between the location preference and perceived importance of homeownership, one-way ANOVA was used to test if means of perceived importance of homeownership were different across the three groups with different location preferences. As a result, those two variables did not have a significant relationship at p < .05 (F (2, 191) = 1.830, p = .163). Thus, perceived importance of homeownership was not different across the three groups who preferred a downtown location, an urban area, or a suburban area.

To explore the relationship between the location preference and other housing feature preferences across the three location preference groups were compared using a chi-

square test. Other features include: the four most important apartment home considerations (layout of the apartment home, size of the apartment home, price, and apartment home features including interior design features and high-speed Internet access), the four most important apartment community considerations (location, reputation of the neighborhood, price, and apartment community features including resident services), and the two most important considerations in choosing the ideal home location (close to work or school and close to downtown). Pearson Chi-square for the most important apartment home consideration was 5.116 (6, $N = 164$), $p = .529$, which was not significant at $p < .05$. Therefore, the most important home consideration was found to be independent of location preference. For the most important community consideration, the chi-square test was not valid because the small expected frequency assumption was violated even with possible adjustments of the categories. For the most important consideration in choosing the ideal apartment home location, Pearson Chi-square was significant at $p < .001$ (Table 45). That is, each of the three location preference groups had a different consideration that influenced their location choices. Significantly more respondents who preferred a downtown location reported that proximity to downtown was the most important consideration in their location choice and more respondents who preferred an urban area and a suburban area reported proximity to their work or school as the most important consideration.

Table 45. Contingency Table: Location Preference and the Most Important Consideration in Choosing an Ideal Apartment Home Location

Consideration	Location preference			Total
	Downtown	Urban area	Suburban area	
Close to work/school				
Observed *n*	41	24	48	113
[Expected *n*]	[57]	[20]	[36]	
(Valid %)	(54)	(89)	(100)	(75)
Close to downtown				
Observed *n*	35	3	0	38
[Expected *n*]	[19]	[7]	[12]	
(Valid %)	(46)	(11)	(0)	(25)
Total	76	27	48	151

χ^2 (2, N = 151) = 36.580, p = .000 (p < .001)

Note. Percents are valid percents of observed frequencies of responses included in the analysis within each preferred location.

Among 50 specific apartment home and community features in seven categories, it was assumed that location preferences were more related to preferences of parking, security and exercise or recreation related features. Thus, preferences for six parking features (outdoor parking spaces in front of building, parking garage for the apartment community, attached garage with direct access to their unit, garage/carport detached from unit, guest parking, and reserved parking), four security features (monitored intrusion alarm, gated entrance to community, controlled access to buildings, and gated parking garage), and twelve exercise or recreation-related features (space to exercise in apartment home, fitness center in apartment community, walking trail, tennis court, playground, indoor basketball court, outdoor basketball court, racquetball court, volleyball court, pool, Jacuzzi or hot tub, and outdoor park) were compared using chi-square tests. For valid chi-square tests, the variables were recoded as dichotomous variables (“prefer” and “do not prefer”).

Among the six parking features, Pearson Chi-squares were significant at p < .001 for two features: outdoor parking in front of building and parking garage for the community (Table 46). It was found that more households who preferred an urban area or suburban area preferred to have outdoor parking spaces while more households who preferred a downtown location preferred to have a parking garage for the apartment community. Seventy-four percent of the respondents who preferred a downtown location preferred a

parking garage, while 69% of the respondents who preferred an urban area and 84% of the respondents who preferred a suburban area preferred outdoor parking spaces in front of the building.

Among the four security features, Pearson Chi-squares were significant at $p < .01$ with three features: gated entrance to community, controlled access to buildings, and gated parking garage (Table 47). It was found that more households than expected who preferred a downtown location preferred to have those three security features while fewer households than expected in the other two groups did. Seventy-seven percent to 88% of the respondents who preferred a downtown location preferred to have those security features.

Among the 12 exercise and recreation features, Pearson Chi-squares were significant at $p < .05$ with three features: walking trail, tennis court, and playground (Table 48). It was found that more households who preferred an urban area or a suburban area preferred to have a walking trail and a playground than expected, while fewer households who preferred a downtown location did. Also, more households than expected who preferred a suburban area preferred to have a tennis court while fewer households than expected who preferred a downtown location did.

Table 46. Contingency Table: Location Preference and Preferences for Parking-related Features

Feature	Location preference			Total
	Downtown	Urban area	Suburban area	
Outdoor parking spaces in front of building[A]				
Prefer				
Observed *n*	22	29	56	107
[Expected *n*]	[47]	[23]	[37]	
(Valid %)	(26)	(69)	(84)	(55)
Do not prefer				
Observed *n*	64	13	11	88
[Expected *n*]	[39]	[19]	[30]	
(Valid %)	(74)	(31)	(16)	(45)
Total	86	42	67	195
Parking garage for the apartment community[B]				
Prefer				
Observed *n*	69	22	28	119
[Expected *n*]	[53]	[26]	[40]	
(Valid %)	(80)	(52)	(42)	(61)
Do not prefer				
Observed *n*	17	20	38	75
[Expected *n*]	[33]	[16]	[26]	
(Valid %)	(20)	(48)	(58)	(39)
Total	86	42	66	194

[A] χ^2 (2, N = 195) = 55.506, p = .000 (p < .001)
[B] χ^2 (2, N = 194) = 24.324, p = .000 (p < .001)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percents of observed frequencies within each preferred location.

Table 47. Contingency Table: Location Preference and Preferences for Security Features

Feature	Location preference			Total
	Downtown	Urban area	Suburban area	
Gated entrance to community[A]				
Prefer				
Observed *n*	67	21	36	124
[Expected *n*]	[55]	[27]	[42]	
(Valid %)	(77)	(50)	(54)	(63)
Do not prefer				
Observed *n*	20	21	31	72
[Expected *n*]	[32]	[15]	[25]	
(Valid %)	(23)	(50)	(46)	(37)
Total	87	42	67	196
Controlled access to building[B]				
Prefer				
Observed *n*	76	29	45	150
[Expected *n*]	[66]	[32]	[51]	
(Valid %)	(88)	(69)	(68)	(77)
Do not prefer				
Observed *n*	10	13	21	44
[Expected *n*]	[20]	[10]	[15]	
(Valid %)	(12)	(31)	(32)	(23)
Total	86	42	66	194
Gated parking garage[C]				
Prefer				
Observed *n*	73	20	24	117
[Expected *n*]	[52]	[25]	[40]	
(Valid %)	(85)	(48)	(36)	(60)
Do not prefer				
Observed *n*	13	22	43	78
[Expected *n*]	[34]	[17]	[27]	
(Valid %)	(15)	(52)	(64)	(40)
Total	86	42	67	195

[A] χ^2 (2, N = 196) = 12.874, p = .002 (p < .01)
[B] χ^2 (2, N = 194) = 10.772, p = .005 (p < .01)
[C] χ^2 (2, N = 195) = 41.191, p = .000 (p < .001)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each preferred location.

Table 48. Contingency Table: Location Preference and Preferences for Exercise/Recreation Features

Feature	Location preference			Total
	Downtown	Urban area	Suburban area	
Walking Trail[A]				
Prefer				
Observed *n*	36	25	43	104
[Expected *n*]	[46]	[22]	[36]	
(Valid %)	(41)	(60)	(64)	(53)
Do not prefer				
Observed *n*	51	17	24	92
[Expected *n*]	[41]	[20]	[31]	
(Valid %)	(59)	(40)	(36)	(47)
Total	87	42	67	196
Tennis court[B]				
Prefer				
Observed *n*	20	14	28	62
[Expected *n*]	[28]	[13]	[21]	
(Valid %)	(23)	(33)	(42)	(32)
Do not prefer				
Observed *n*	67	28	39	134
[Expected *n*]	[59]	[29]	[46]	
(Valid %)	(77)	(67)	(58)	(68)
Total	87	42	67	196
Playground[C]				
Prefer				
Observed *n*	8	11	15	34
[Expected *n*]	[15]	[7]	[12]	
(Valid %)	(9)	(26)	(22)	(17)
Do not prefer				
Observed *n*	78	31	52	161
[Expected *n*]	[71]	[35]	[55]	
(Valid %)	(91)	(74)	(78)	(83)
Total	86	42	67	195

[A] χ^2 (2, N = 196) = 8.796, p = .012 (p < .05)
[B] χ^2 (2, N = 196) = 6.259, p = .044 (p < .05)
[C] χ^2 (2, N = 195) = 7.330, p = .026 (p < .05)

Note. Only variables with significant Pearson Chi-square at p < .05 were presented. Percents are valid percent of observed frequencies within each preferred location.

Hypothesis 6

H6: Perceived importance of homeownership is related to demographic characteristics and future housing plans.

To test the relationship between perceived importance of homeownership and demographic characteristics, one-way ANOVA, independent sample *t*-test and bivariate correlation were used to compare group means of perceived importance of homeownership among different demographic groups with adjusted categories: gender (male and female), age (younger than 25, 25 to 34, 35 to 44, and 45 or older), household type (self only, self with spouse or partner, and self with roommate(s)), household size, educational attainments (technical school/some college or less, college degree and graduate degree or higher), and household income (less than $50,000, $50,000 to $74,999 and $75,000 or more). As a result, significant differences in perceived importance of homeownership across age groups were found. Although *F* was significant with age, the equal variance assumption was violated. Welch's method and the Brown-Forsythe method were utilized as a remedy for the equal variance violation, but different results were found from those two alternative methods: significant *F* in Welch's method ($F(3, 62.872) = 2.902$, $p = .042$) but insignificant *F* in Brown-Forsythe method ($F(3, 92.922) = 2.370$, $p = .076$) at $p < .05$. No group difference was found at $p < .05$ with Tukey's HSD comparison. Thus, Tukey's least significant difference (LSD) comparison was applied to define group difference. As a result, respondents between 25 and 34 years of age have significantly higher perceptions of importance of homeownership than the other age groups (Table 49).

Table 49. Welch's Test and Tukey's LSD Comparison: Perceived Importance of Homeownership and Age

	Age			
	Below 25	25 - 34	35 - 44	45+
Perceived importance of homeownership	2.83_a	3.19_b	2.75_a	2.79_a

$F(3, 62.872) = 2.902$, $p = .042$ ($p < .05$)

Note. Judgments were made on 4-point scale (1 = not important at all, 2 = somewhat important, 3 = important, and 4 = very important). Means that do not share subscripts differ at $p < .05$ in the Tukey's least significant difference comparison.

Significant group differences were also found with household income at $p < .05$ and Tukey's HSD comparison showed that households whose income were $75,000 or more perceived homeownership as more important to them than households with income less than $50,000 (Table 50). Pearson correlation between perceived importance of homeownership and household size was .205 and it was significant at $p < .01$. That is, the bigger the household size, the stronger the perceived importance of homeownership.

Table 50. One-way ANOVA and Tukey's HSD Comparison: Perceived Importance of Homeownership and Household Income

	Household income		
	Less than $50,000	$50,000 – $74,999	$75,000 or more
Perceived importance of homeownership	2.86_a	2.92_{ab}	3.26_b

F (2, 193) = 3.723, p = .026 ($p < .05$)

Note. Judgments were made on 4-point scale (1 = not important at all, 2 = somewhat important, 3 = important, and 4 = very important). Means that do not share subscripts differ at $p < .05$ in the Tukey's honestly significant difference comparison.

To examine the relationship between perceived importance of homeownership and future housing plans, the means of perceived importance of homeownership were compared across households who had one of two major types of future housing plans: moving to a home the household already owned or planned to purchase and moving to another rental home. An independent sample *t*-test was utilized for the comparison, and it was found that households who already were homeowners or who planned to be homeowners perceived significantly stronger importance of homeownership than those who planned to remain as renters (Table 51) at $p < .001$.

Table 51. Independent Sample *t*-test: Perceived Importance of Homeownership and Future Housing Plans

	Future housing plans	
	Move to a home already owned or plan to purchase	Move to another rental home
Perceived importance of homeownership	3.32	2.46

t (78.908, N = 186) = 5.508, p = .000 (p < .001)

Note. Judgments were made on 4-point scale (1 = not important at all, 2 = somewhat important, 3 = important, and 4 = very important).

Summary

This chapter provided an overview of respondents including lifestyle and demographic characteristics and their housing preferences. It explored the lifestyle dimensions of multifamily housing residents, and identified influences of lifestyle on housing preferences.

A total of 206 usable responses were collected through two phases of a mail survey. A majority of the respondents were younger than 45 years of age and had at least a college degree. The three major household types were single-person households, couple households, and single-person with roommate households. The main reasons that they had moved to their current apartment home were that they were new in the community and needed time to consider their housing choice or they were not interested in owning a home at this stage in their life.

Among the 59 AIO items, 21 interest and opinion items were grouped into four lifestyle factors: Well-being, Social, Spaces, and Envirotech. Based on these lifestyle factors, respondents were grouped into four lifestyle clusters: Community Cluster, Basics Cluster, Home Cluster, and Environment Cluster.

This study was based on an assumption that residents of private multifamily housing were likely to have chosen their current housing based on their lifestyle. The assumption was statistically supported by comparing the distribution of the four lifestyle clusters in their current apartment locations. There were three research hypotheses proposed for the study that explores the relationships of lifestyle to demographic characteristics, to the

likelihood to be a renter, and to housing preferences. To test the hypotheses, null hypotheses were also proposed and tested using statistical analyses including chi-square tests for independent samples, one-way ANOVA, and independent sample *t*-tests. It was found that only age was different across the lifestyle clusters among the demographic characteristics. There was a difference in the perceived importance of homeownership across the lifestyle clusters, but no difference was found in the likelihood to be a renter when they move. However, these lifestyle clusters showed significant differences in housing preferences including location preferences, the most important considerations in location choice for the ideal apartment home, and preferences for the specific features: parking, security, interior design, exercise and recreation facilities, and resident services. Table 52 summarizes tests of the three research hypotheses and null hypotheses of the study.

In addition to the three major research hypotheses, another three research hypotheses were proposed in order to better understand multifamily housing residents and their housing preferences. Tests of the additional research hypothesis are summarized in Table 53.

Table 52. Tests of Assumption and Major Hypotheses

Assumption/Hypothesis	Statistically decision
Assumption: Private multifamily housing residents have chosen their current apartment home based on their lifestyles.	
$H0_{a1}$: Lifestyle clusters and current apartment home location are independent of each other.	Rejected
H1: There are differences in demographic characteristics among the lifestyle groups.	
$H0_{d1}$: Lifestyle clusters and age are independent of each other.	Rejected
$H0_{d2}$: Lifestyle clusters and household type are independent of each other.	Failed to reject
$H0_{d3}$: There is no difference in household size across lifestyle clusters.	Failed to reject
$H0_{d4}$: Lifestyle clusters and educational attainment are independent of each other.	Failed to reject
$H0_{d5}$: Lifestyle clusters and household income are independent of each other.	Failed to reject
$H0_{d6}$: Lifestyle clusters and length of residency in current apartment homes are independent of each other.	Failed to reject
$H0_{d7}$: Lifestyle clusters and previous or current homeownership status are independent of each other.	Failed to reject
$H0_{d8}$: Lifestyle clusters and main reason for moving into one's current apartment home are independent of each other.	Failed to reject
H2: There is a relationship between the lifestyles of renter and the likelihood to be a renter.	
$H0_{r1}$: There is no difference in the perceived importance of homeownership across lifestyle clusters.	Rejected
$H0_{r2}$: Lifestyle clusters and future housing plans are independent of each other.	Failed to reject
H3: There are differences in the preferences for multifamily housing and community features among the lifestyle groups.	
$H0_{p1}$: Lifestyle clusters and the most important apartment home and community considerations in an ideal apartment home are independent of each other.	Failed to reject
$H0_{p2}$: Lifestyle cluster and preferences for an ideal apartment home location are independent of each others.	Rejected
$H0_{p3}$: Lifestyle clusters and the most important consideration in choosing an ideal apartment home location are independent of each other.	Rejected
$H0_{p4}$: Lifestyle clusters and preferences of apartment home and community features are independent of each other.	Rejected some

Table 53. Tests of Additional Hypotheses

Hypothesis	Statistical support
H4: Location of current apartment home is related to demographic characteristics and preference for an ideal apartment home location.	Supported
H5: Location preference for an ideal apartment home is related to demographic characteristics, perceived importance of homeownership, and housing preferences.	Partially supported
H6: Perceived importance of homeownership is related to demographic characteristics and future housing plans.	Supported

CHAPTER 5. DISCUSSION AND IMPLICATIONS

This study was designed to identify the lifestyles of multifamily housing residents and the relationships between their lifestyle and their housing preferences. This chapter provides a summary of the study, the major findings, implications, and suggestions for further study.

Summary of the Study

The purpose of this study was to identify the housing preferences of multifamily housing residents as determined by their lifestyle. There were two research objectives: (1) to determine the lifestyle dimensions of multifamily housing residents; and (2) to examine the relationship between resident's lifestyle and their housing preferences. Three major research hypotheses were proposed to accomplish the research objectives.

The conceptual framework of the study was the model of influences on housing choice (Beamish, Goss, & Emmel, 2001). Because there had been no empirical study to define lifestyle related housing or to relate lifestyle to housing preferences, an instrument was developed for the study based on previous research studies. To measure lifestyle, housing activities, interests, and opinion (AIO) statements were developed based on AIO studies and housing value studies.

A total of 2,150 questionnaires were delivered to residents in nine selected apartment communities (4 downtown and 5 non-downtown communities) in Charlotte, N.C., through two phases of the survey and 211 responses were collected between March 1, 2005, and July 5, 2005. The response rate was about 10%. Among the responses, 206 responses were found usable for further data analyses.

Four lifestyle factors (Well-being factor, Social factor, Spaces factor, and Envirotech factor) were generated through factor analyses of the interest and opinion statements, and respondents were grouped into four lifestyle clusters: Community Cluster, Basics Cluster, Home Cluster, and Environment Cluster. Research hypotheses were tested mainly by comparing the characteristics and housing preferences across these lifestyle

clusters. It was found that these four lifestyle clusters had distinctive demographic and housing characteristics and housing preferences.

Major Findings

The major findings of the study included a general overview of multifamily housing residents and their housing preferences, lifestyle clusters and their relationships to demographic characteristics and housing preferences, and confirmation of the modified model of influences on housing choice which was the conceptual framework of the study. Also, additional findings helped in understanding the relationships between the demographic characteristics and housing preferences. The sample of this study was limited to residents of one, two, three, or four bedroom units in recently-built, high-quality, private rental apartment properties in Charlotte, N.C. Because of this delimitation of the sample, characteristics of the respondents of this study may not reflect characteristics of all multifamily housing residents throughout the nation.

General Findings

It was found that 85% of respondents were less than 45 years of age, 81% had a college degree or higher, 51% lived alone, 62% had a household income of $50,000 or more. Fifty-seven percent of respondents had previously rented a home, and the two major reasons for why they had chosen to move to their current apartment home were: they were new in the community at the time of the survey and needed time to consider housing choices; and they were not interested in owning a home at this stage of their life. More than 60% perceived that homeownership was important to them and reported they would become homeowners in the future. About 28% of respondents indicated a likelihood to be renters again.

When choosing an ideal apartment home, layout and size of the apartment home and price were the most important apartment home considerations, and location of the apartment community was the most important apartment community consideration when choosing an ideal apartment home. Downtown was preferred as an ideal apartment home location by 42% of the respondents followed by suburban area (33%) and urban area (20%).

Only a few respondents preferred a rural area. Respondents reported proximity to work or school as the most important consideration in choosing an ideal apartment home location.

Among the fifty specific apartment home and community features listed, more than 50% of the respondents reported that they would not choose an apartment home without reliable maintenance services, package/delivery acceptance, a walk-in closet, and a washer and dryer in the unit. Because there were only a few households with children, 94% of respondent reported that they did not want to have child care services at the apartment community or that having child care services would not influence their apartment home choice. Also, more than 70% of the respondents did not prefer to have or were not attracted to most community features related to outdoor activities including a playground, a racquetball court, a volleyball court, an indoor or outdoor basketball court, and pet care services.

Lifestyle Clusters and Their Characteristics

The objectives of this study were to define the lifestyle dimensions of multifamily housing residents and to determine the influences of lifestyle on housing preferences. Lifestyle factors were generated from housing interest and opinion items, and respondents could be grouped into four distinctive lifestyle clusters based on the lifestyle factors. The identification of four lifestyle clusters and their characteristics and housing preferences were the most important findings of the study. The four clusters can be summarized as follows.

Community Cluster. The number of households in the Community Cluster comprised 20% of the total sample. Households in this cluster showed the highest mean score on the Social factor among the four lifestyle clusters in the study. This cluster had a higher proportion of respondents whose age was between 35 and 44 than other lifestyle clusters. Respondents less than 35 years of age comprised 61% of the cluster and respondents between 34 to 44 years of age comprised 30% of the total households in the cluster. They had the weakest tendency among the four lifestyle clusters to have conversations with family and friends at their home and the strongest tendency to bring home “take-out” food or have food delivered.

The most distinctive characteristic of the households in the Community Cluster was their strong downtown-orientation. Seventy-eight percent of households in this cluster lived in downtown apartment communities at the time of the survey, and they showed the strongest preferences for a downtown location when choosing their ideal apartment homes (about 65% of households in this cluster preferred downtown location). The proximity to downtown amenities was more important to households in this cluster when choosing their ideal apartment home location than to households in other clusters.

Households in this cluster preferred to have security features such as controlled access to their building and a gated parking garage. On the other hand, they did not prefer to have outdoor parking spaces in front of building, a walking trail, or a car care center. Considering the downtown-orientation, these preferences were understandable. The size of the apartment home, apartment home features including interior design and high-speed Internet access, location of the apartment community, and apartment community features including resident services were the most important considerations in choosing their ideal apartment home.

Households in the Community Cluster also had interesting characteristics related to homeownership. Households in this cluster showed the weakest perception of the importance of homeownership among the four lifestyle clusters. Although there were a higher proportion of respondents who were between 35 and 44 years of age in this cluster, 32% of the respondents reported that they had chosen to rent their apartment home because they were not interested in owning a home at this stage of their life. In addition, 37% of them reported that they were likely to select another rental home in the near future. Also, 15% had chosen to move to their current apartment home because they wanted to be free from maintenance. To combine the characteristics, it could be inferred that households in the Community Cluster may prefer rental housing because of its convenience, including convenient location for amenities and maintenance-free living.

Basics Cluster. The number of households in the Basics Cluster comprised 22% of the total sample. Households in this cluster showed relatively modest mean scores on the four lifestyle factors and the second lowest perception of the importance of homeownership among the four lifestyle clusters. Like households in the Community Cluster, households in

the Basics Cluster showed the weakest tendency to have conversations with family and friends at home. They were evenly distributed in downtown and non-downtown communities at the time of the survey and their location preference showed the same tendency. A comparison of the location preference of this cluster with the other lifestyle clusters indicated that more households in this cluster preferred an urban area. Proximity to work or school is the most important consideration for the households in this cluster, but proximity to downtown amenities also was found to be more important to them than to households in the Home Cluster or the Environment Cluster.

The most distinctive characteristic of households in the Basics Cluster was that they showed the weakest preferences for any apartment home or community features in comparison with the other lifestyle clusters. Guest parking, security features, and many interior design features (including raised ceiling, crown molding, granite countertops, tiled floor, built-in bookshelves, computer alcove or niche, and stainless steel appliances) were not important to this cluster at all. To combine these characteristics with the fact that price was the second most important home and community consideration in choosing an ideal apartment home, households in this cluster might be considered pragmatic and not influenced by lifestyle features in an apartment community.

Home Cluster. The Home Cluster was the largest lifestyle cluster. The number of households in the Home Cluster comprised 39% of the total sample. Fifty-seven percent of households in this cluster lived in non-downtown communities at the time of the survey. Households in this cluster had the highest mean scores on all four lifestyle factors and the strongest perception of the importance of home ownership. They had the greatest tendency to have conversations with family and friends at their home.

The distribution of the households in the Home Cluster mirrored the distribution of the total sample. Forty-three percent lived in downtown communities and 57% lived in non-downtown communities. Before moving into their current apartment home, 68% of them had been renters. Forty-six percent of them preferred a downtown location for their ideal apartment home, and 32% preferred a suburban area. As in other lifestyle clusters, proximity to work or school was the most important consideration in choosing their ideal apartment home location. The two main reasons that households in the Home Cluster had

chosen to move to their current apartment were that they were new in the community and needed time to consider housing choices and that they were not satisfied with their previous housing situation.

Households in the Home Cluster could be characterized by their relatively strong preferences for apartment home and community features. Compared with the other lifestyle clusters, more households in this cluster preferred to have guest parking, a gated community entrance, a walking trail, and a playground, even if it meant paying more. In addition to those features, they showed strong preferences for interior design features including: raised ceilings, crown moldings, granite countertops, built-in bookshelves, computer alcove or niche, and stainless steel appliances. They also had strong preference for resident services including plant watering and a car care center. Considering that they had a strong perception of the importance of homeownership and planned to become homeowners the next time they moved, their apartment homes might be only a temporary home for them. However, they preferred to have many extra features, even if they had to pay more in rent.

Environment Cluster. The number of households in the Environment Cluster comprised 19% of the total sample. Households in this cluster showed the highest mean score on the Envirotech factor among all of the lifestyle clusters and the second highest mean score on the Spaces factor and the Well-being factor. They had the second strongest perception of the importance of homeownership. They had the weakest tendency to purchase “take-out” food or to have food delivered.

Before moving into their current apartment home, 64% of them had been renters. About 76% of the households in the Environment Cluster reported that they had been homeowners or would be homeowners the next time they moved. The three main reasons that households in the Environment Cluster had chosen to move to their current apartment were that they were new in the community and needed time to consider housing choices, that they were not satisfied with their previous housing situation, and that they wanted flexibility to move.

Households in the Environment Cluster could be characterized by their suburban orientation in contrast to the downtown-orientation of households in the Community

Cluster. About 80% of households in the Environment Cluster lived in non-downtown communities at the time of the survey, and 72% preferred a suburban area for their ideal apartment home. Like the other lifestyle clusters, proximity to work or school was the most important consideration in choosing the location of their ideal apartment home. The second most important consideration in their location choice was proximity to shopping, while proximity to downtown was the second most important consideration to households in the other lifestyle clusters. In accordance with their preference for a suburban location, they preferred to have outdoor parking spaces in front of the building. They also wanted to have a car care center in their apartment community even if they had to pay more. On the other hand, they did not prefer to have a gated parking garage (See Table 54 for summary of the four lifestyle clusters and their characteristics).

Table 54. Summary: Characteristics of Lifestyle Clusters

	Lifestyle Cluster			
	Community	Basics	Home	Environment
Lifestyle factors	- Strongest perception of Social factor - Weakest perception of Spaces factor	- Relatively modest perception of all lifestyle factors	- Strong perception of all lifestyle factors	- Strongest perception of Envirotech factor - Weakest perception of Social factor
Activities				
▪ Have conversation at home	- Weakest tendency	- Second weakest tendency	- Strongest tendency	- Strong tendency
▪ Bring home "take-out" food or have food delivered	- Strongest tendency			- Weakest tendency
Importance of homeownership	- Weakest perception	- Second weakest perception	- Strongest perception	- Strong perception
Location orientation	- Strong downtown-orientation	- No strong orientation	- No strong orientation	- Strong non-downtown/ suburban-orientation
Feature preferences				
▪ Prefer	- Security features - Parking garage - Walking trail		- Guest parking - Interior design features - Walking trail - Playground - Resident services	- Outdoor parking spaces in front of buildings - Car care center
▪ Do not prefer	- Outdoor parking spaces in front of buildings	- Guest parking - Security features - Interior design features - Playground - Resident services		

Comparison of Lifestyle Clusters

Two sets of the lifestyle clusters seem to have opposite characteristics. Households in the Community Cluster and households in the Environment Cluster can be compared in terms of their location orientation. Households in the Community Cluster had a strong downtown-orientation, while households in the Environment Cluster had a strong non-downtown- or suburban-orientation. This location orientation is consistent with the lifestyle characteristics of households in the clusters. Households in the Community Cluster had the highest mean score on the Social factor and preferred vibrant and active downtown areas, while households in the Environment Cluster had relatively high mean scores on the Envirotech factor, Spaces factor, and Well-being factor and preferred a non-downtown or suburban location that is more exposed to the natural environment but is not too far from urban amenities. The suburban-orientation of households in the Environment Cluster is consistent with the fact that the cluster had the highest mean score on Envirotech factor and Spaces factor. Because of the location orientation, they have three contrasting housing preferences. Households in the Community Cluster preferred a gated parking garage while households in the Environment Cluster preferred outdoor parking spaces in front of the building and a car care center on site. The contrast of these two lifestyle clusters also could be supported from additional findings of the study. Location preference was significantly related to current apartment home location and feature preferences. Furthermore, households in the Community Cluster had the highest mean score on the Social factor, while households in the Environment Cluster had the highest mean scores on the Envirotech factor and the Spaces factor and the lowest score on the Social factor.

Households in the Basics Cluster and households in the Home Cluster were contrasted because of their feature preferences. Most of the interior design features, guest parking, and a gated entrance to the community were not important to households in the Basics Cluster while households in the Home Cluster preferred to have these features even if they have to pay more. Also, households in the Home Cluster had the highest scores of the four lifestyle factors while households in the Basics Cluster showed the lowest scores. Households in the Home Cluster showed the strongest tendency to have conversations with family and friends at home, while households in the Basics Cluster showed the weakest.

Therefore, it could be inferred that to households in the Home Cluster, their home environment, including their rental apartment home, might be more likely to be a place where households can express themselves (Marcus, 1997) and develop their identity and social relationships (Aragonés, 2002) than to households in other lifestyle clusters.

Model of Influences on Housing Choice

This study used the modified model of influences on housing choice (Figure 2) as a conceptual framework. In this study, lifestyle was determined by clustering respondents based on their housing AIOs and three research hypotheses were proposed to test the research model. The first research hypothesis of this study tested the relationships between lifestyle clusters and their demographic characteristics (age, household type and household size), social class (education and income), the second hypothesis tested the relationships between the lifestyle clusters and the likelihood to continue being a renter (perceived importance of homeownership and future housing plans), and the third hypothesis tested the relationships between the lifestyle clusters and their housing preferences (important apartment home and community consideration, location preference, and preferences for specific apartment home and community features).

Results from the data analyses showed that, among 52 valid housing AIO items used in the study, only 21 interest and opinion items were included in the final lifestyle clustering. Among 15 final activity items, only two items were found to be significantly different across the lifestyle clusters. Among the five demographic and social class characteristics proposed, only age had a significant influence on lifestyle. Also, lifestyle was found to have a significant influence on housing preferences including tenure, location, and feature preferences. Thus, the modified model of influences on housing choice was partially supported by the findings of this study (Figure 8).

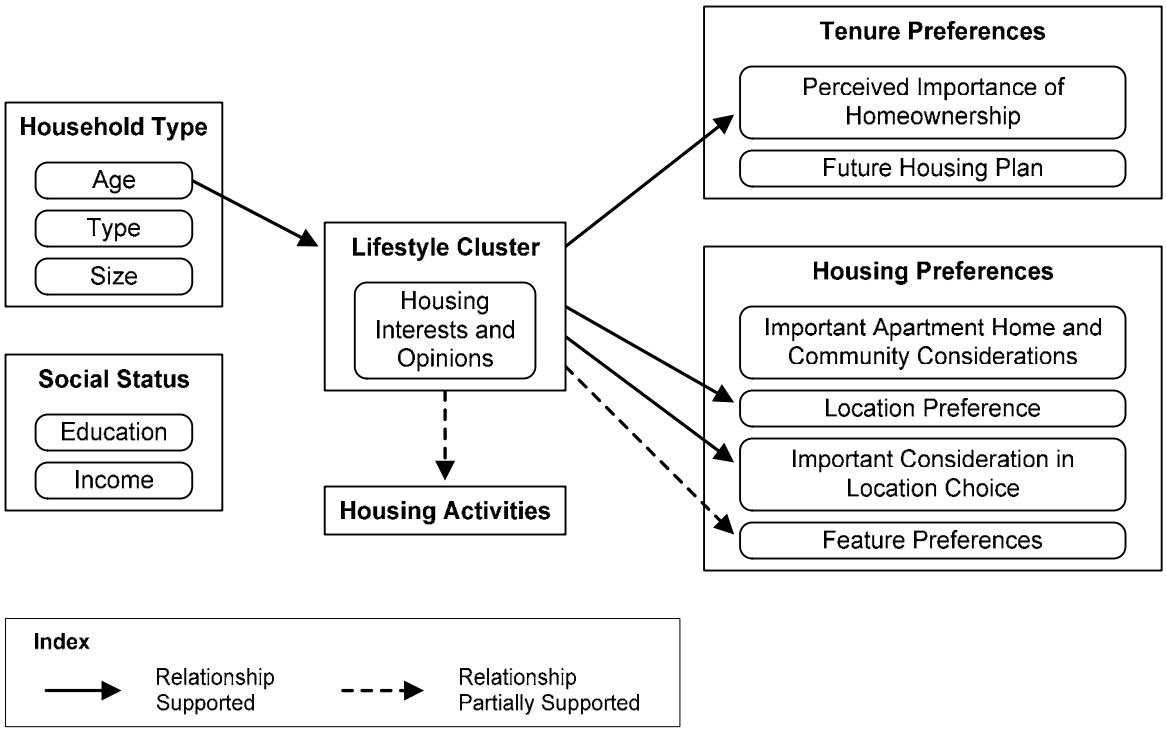

Figure 8. Confirmation of the Model of Influences on Housing Choice

The respondents of this study were characterized as young, single-person or couple households with college degrees or higher and with high incomes. Although the relationships of respondents' household type, size, income, and education to their lifestyles were not supported in this study, it is not appropriate to conclude that those characteristics do not have an influence on lifestyle considering the narrow scope of the study respondents in terms of their demographic characteristics.

Additional Findings

In addition to the major findings, more findings identified relationships between demographic characteristics and housing preferences. First of all, the location preference for an ideal apartment home was dependent on current apartment community location. Households living in downtown communities preferred a downtown location and households living in non-downtown communities preferred an urban or suburban area. It strengthened the assumption that the respondents of this study had chosen their current apartment home location based on their lifestyles and location preferences. Because of this

reason, comparisons across current apartment home locations (downtown and non-downtown) showed a similar tendency. The preference for an ideal apartment location was related to demographic characteristics. Households with smaller household size, higher education, and more household income had a stronger downtown-orientation for both their current location and their preferred location. Household type also was found to be related to location preferences for an ideal apartment home. More couple-only households preferred a suburban area, while more households living alone preferred a downtown location or urban area than expected when location preferences were independent of household type.

The perceived importance of homeownership was found to be related to age, household type, and household income. Larger sized and higher income households showed a stronger perceived importance of homeownership and respondents whose ages were between 25 and 34 showed the strongest perception. Also, perceived importance of homeownership was found to be related to future housing plans. The stronger the perceived importance of homeownership the household had, the stronger the tendency to be homeowners when they move (See Table 55 and Table 56 for summary of the additional findings).

Table 55. Summary: Comparisons by Current Apartment Home Location (Hypothesis 4)

	Current location	
	Downtown	Non-downtown
Education	- More had college degree or higher	- More had less than college degree
Household income	- More households with $35,000 or more	- More households with less than $35,000
Location preference	- Downtown location	- Urban or suburban area

Table 56. Summary: Comparisons by Location Preference (Hypothesis 5)

	Location preference		
	Downtown	Urban area	Suburban area
Education	- More had graduate degree or higher	- More had college degree or less	- More had less than college degree
Household type	- More single-person households	- More single-person households	- More couple households
Household size	- Smallest		- Largest
Most important consideration in location choice	- More considered proximity to downtown	- Proximity to work/ school	- Proximity to work/ school
Feature preference	- Parking garage - Security features	- Outdoor parking spaces in front of buildings - Walking trail - Playground	- Outdoor parking spaces in front of buildings - Walking trail - Tennis court - Playground

Implications

There were some apartment home and community features preferred by respondents regardless of their lifestyles, and some features were not important to any of the lifestyle clusters. However, preferences for some features were dependent on lifestyles. Some of the features need to be considered in the development and planning stage of the apartment community and other features are important in terms of management and operations.

Design Implications

More than 70% of the respondents preferred to have washers and dryers, walk-in closets, linen closets, balconies or patios, raised ceilings, high-speed Internet access, guest parking, and controlled access to the building. Thus, these features need to be considered for inclusion in new apartment home developments to meet prospective residents' preferences. More than 50% of the respondents reported that they would not choose an apartment home without a walk-in closet and a washer and dryer in the unit.

On the other hand, there were some features that were not important to respondents: a playground, a racquetball court, a volleyball court, an indoor or outdoor basketball court, a garage or carport detached from the unit, and a conference room. Thus, these features

could be eliminated in future multifamily housing communities designed for similar lifestyle groups and the development dollars could be shifted to features that were more desirable.

It was found that respondents who preferred downtown locations for their ideal apartment home preferred parking garages and most of the security features, including a gated entrance to the community, controlled access to buildings, and a gated parking garage. Respondents who preferred suburban areas preferred to have outdoor parking spaces in front of their buildings and walking trails. Therefore, it is recommended that those features be included in future apartment community developments according to location.

Comparisons of feature preferences across the four lifestyle clusters showed that households in each lifestyle cluster had unique housing preferences for interior design features and for the car care center. Although households in lifestyle clusters showed different location preferences for their ideal apartment home, both downtown and suburban locations represented all four lifestyle clusters with different preferences for certain features. It is recommended that developers include several interior design features as options to enhance residents' satisfaction for these different lifestyles. These features include crown molding, granite countertop, built-in bookshelves, a computer alcove, and stainless steel appliances.

Managerial Implications

Many resident services need to be considered in the operation and management of apartment communities. Among these services, reliable maintenance service, package and delivery acceptance, and newspaper and mail hold services were preferred by more than 70% of the respondents regardless of their lifestyles. Specifically, reliable maintenance services were found to be critical in an apartment home choice. More than 50% of the respondents reported that they would not choose an apartment home without good maintenance service. Thus, it is very important to provide exceptional maintenance in order to have a successful operation.

On the other hand, more than 70% of the respondents did not need or were not attracted by child care services and plant watering services. However, since there were very few respondent households with one or more children, it may not be appropriate to

recommend elimination of on-site child care and other child-related services unless management knows the demographics of the target market does not include children.

Also, information regarding different lifestyle characteristics and housing preferences across lifestyle clusters can be useful in developing marketing plans for current and future apartment properties. For example, households in the Community Cluster showed the strongest social values and the strongest tendency to purchase “take-out” food or to have food delivered. Considering that households in the Community Cluster showed the strongest downtown-orientation, security, convenience, and social life would be the most important foci in the marketing strategy for downtown properties. Also, in developing marketing strategies for apartment properties with lots of luxury interior design features, targeting residents with the Home Cluster characteristics could result in higher occupancy. Considering that households in the Home Cluster showed the strongest tendency to have conversations with family and friends at home and that these households were found to be more attracted by guest parking and interior design features than other lifestyle clusters, it would be more effective to emphasize themes of family/friend connections, social prestige, and self-expression when marketing to this group.

Limitations and Suggestions

This study has limitations in generalizability of the study findings and in lifestyle measurement. Suggestions for future research were made based on findings and the limitations of the study.

Limitations

This study has limitations in generalizability because of its sampling frame. This study explored lifestyle and its influence on the housing preferences of multifamily housing residents. To achieve the research purpose, this study focused only on residents of apartment communities that were recently built and had relatively high rent-per-square foot in the Charlotte, North Carolina metropolitan area. Recently-built, high-quality apartment communities were selected because those apartment communities were considered to have more apartment home and community features reflecting lifestyle choices that would be most appropriate for the study. Charlotte, N.C., was selected as the research site because it

was one of the most accessible metropolitan areas available to the researcher that had recently built high-quality apartment communities in adequate numbers. Because of these factors, it is not appropriate to generalize the findings to all multifamily housing renters throughout the United States. However, the household types and the age of the study respondents reflect similar demographic characteristics of multifamily housing residents reported by the National Association of Home Builders [NAHB] (2004): respondents were represented by young single-person or couple households without children.

The low response rate of the study is another problem in the generalization of the study findings. A total of 2,150 questionnaires were delivered to target units, and 211 responses were collected. The response rate was 10%. Smith (1995) compared three major data collection types of tourism studies: personal interviews, telephone surveys, and mail-back surveys. Smith indicated that mail-back surveys were likely to have the lowest response (as low as 10% depending on content and design of the questionnaire). With a 10% of response rate, the sample might not accurately reflect the population.

Dillman (2000) suggested five ways to obtain a high response rate in survey design: (1) respondent-friendly questionnaire; (2) up to five timely contacts to the questionnaire recipients; (3) return envelopes with first-class stamps; (4) personalized correspondences; and (5) token prepaid financial incentives. Based on Dillman's suggestions, this study had some weaknesses in achieving a high response rate. Most of all, a return envelope included in the survey packet was a business reply envelope instead of the ones with real first-class stamps. The financial incentives were not sent together with the questionnaire. Instead, respondents could choose to have a chance to win a random drawing of a $50 gift certificate in each apartment community. Dillman also suggested using first-class stamps to make major contacts including questionnaire mailing, but this study used both first-class stamps and bulk-permits to send out the survey. Surprisingly, the response rate of the communities whose residents received the survey with bulk-permits (12%) surpassed that of communities whose residents received the survey with first-class stamps (8%). However, the comparison may not be proper because location of the communities was not controlled: residents in all four downtown communities received the bulk-permitted survey while

residents in only one out of the five non-downtown communities received bulk-permitted surveys. Thus, it is not appropriate to conclude that it was influenced by mailing methods.

The length of the questionnaire and the fact that the study was conducted at a state other than Virginia may also have influenced the low response rate. The questionnaire used for the study was 8-pages long and contained 59 housing AIO statement, 50 apartment home and community features, and many other questions. If it had been a shorter questionnaire, more residents might have participated. Also, if the study was conducted in Virginia, where the research institution is located, it may have been much easier to attract people to respond the survey.

To identify non-response bias, many researchers try to compare demographic characteristics or the response style of respondents and those of non-respondents by conducting a follow-up survey to people who did not respond to the main survey (StatPac Inc., n.d.). For the survey distribution of the study, mailing addresses of occupied units that met the sampling criteria of this study were collected from property managers. With respect for their residents' privacy, resident names were not provided or used in the mailing. Also, this study did not use any code to identify individual respondents. For these reasons, it was impossible to identify non-respondents and to conduct a follow-up survey with them.

Other limitations of the study are related to data analyses procedures. The most widely used lifestyle measurement, the activities, interests and opinions (AIO) rating statements, was adopted and housing AIO statements were developed based on concepts of AIOs and housing values. Respondents were expected to be grouped according to the housing AIOs. Activity-related items, however, were excluded during the factor analysis procedure and lifestyle factors and clusters were generated based only on interest and opinion items including the housing value items. As a result, only 21 interest and opinion items out of a total of 52 valid AIO items were grouped into four lifestyle factors. The low inter-item reliability within each lifestyle factor could be another limitation of the study.

One of the reasons that activity variables were excluded from the data analyses procedures was because the items tended to be grouped only with similar activity variables such as dining- or entertainment-related variables. Thus, it is suggested that only one or two

variables representing similar activities be included in the further study utilizing the housing AIOs.

Suggestions

This study had limitations in generalizing its findings because of its sampling frame and a low response rate. Moreover, some weaknesses of the instrument were found during the data analyses procedures. Despite these limitations, the procedure and findings of the study are important because this study was the first empirical study exploring the lifestyle of multifamily housing renters and its relationship to housing preferences.

Housing AIO statements were developed for the study as a measurement of lifestyle related to housing and were found to be reasonable and effective in profiling lifestyle clusters and in relating the lifestyle characteristics to the preferences for specific apartment home and community features. Therefore, it is suggested that the housing AIO statements be tested with more diverse groups of households in diverse locations and to refine the statements for a better measurement of lifestyle.

As an application of the study, comparisons of lifestyle and housing preferences across different types of households are suggested. Cross-market comparisons of lifestyle profiles and housing preferences would be beneficial both in design and development of new housing products and in the development of marketing strategies that are sensitive to the market. Because lower-income multifamily housing residents choose their housing based not on lifestyle but on financial, lifestyle comparison of the lower- and higher-income multifamily housing residents may not provide useful information for multifamily housing industry. However, comparisons of housing feature preferences between those two groups would provide better information for inclusion or exclusion of specific features in new lower-cost or higher-quality multifamily housing developments. The instrument can be useful not only to compare preferences of certain housing features but also to compare various housing behaviors and perceptions in relation to lifestyles. Most of all, it would be helpful to compare the lifestyle of homeowners and that of renters to understand the tenure norm in the United States from a different perspective, that of lifestyle.

Summary

Based on the findings of the study, design and managerial implications were derived. Those implications include inclusion or exclusion of specific apartment home and community features, provision of certain resident services, and marketing strategies sensitive to lifestyle concepts. Some limitations and significance of the study were identified. It was suggested that further research studies with more diverse groups in diverse markets be conducted using the housing AIO statements that were developed for this study in order to better understand influences of lifestyles on housing behaviors and perceptions.

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APPENDIX A: HUMAN SUBJECT APPROVAL LETTER

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Institutional Review Board

Dr. David M. Moore
IRB (Human Subjects) Chair
Assistant Vice Provost for Research Compliance
CVM Phase II - Duckpond Dr., Blacksburg, VA 24061-0442
Office: 540/231-4991; FAX: 540/231-6033
e-mail: moored@vt.edu

November 20, 2003

MEMORANDUM

TO: Julia O. Beamish Apparel, Housing & Resource Mgt 0410
Hyun-Jeong Lee HIDM 0410

FROM: David M. Moore

SUBJECT: IRB EXEMPTION APPROVAL – " Lifestyles and Housing Preferences" – IRB # 03-573

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of November 20, 2003.

Cc: File

APPENDIX B: PROPERTY MANAGER COVER LETTER

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Department of Apparel, Housing, and Resource Management

College of Liberal Arts and Human Sciences
101 Wallace Hall (0410), Blacksburg, Virginia 24061-0410
(540) 231-4784, Fax: (540) 231-3250

Dear property management professional:

Recently, you received an e-mail from Ken Szymanski asking you to assist in collecting data for our research study that explores the lifestyles and housing preferences of multifamily housing residents. The results of this study will provide a better understanding of multifamily housing residents and useful information for future multifamily housing development. We need your help in distributing the survey to your residents.

The enclosed questionnaire and participant cover letter are for your review. The questionnaire was developed on the basis of housing theory and existing studies related to lifestyle measurement and housing values. This survey has been pre-tested and will take approximately 10-15 minutes to complete.

Your community has been selected because it is a new community in Charlotte. Charlotte is a large metropolitan area close to Virginia Tech and newer apartment communities are often designed to appeal to residents' lifestyles. Specifically, your apartment community was selected based on criteria including location, year built, and average rent-per-square-foot of two bedroom units.

For our study to be statistically valid, we need to distribute a total of 2,000 copies of the survey. We expect a 25% response rate which will provide the 500 responses needed. We need to distribute the questionnaire to all occupied units in the participating communities. As Mr. Szymanski mentioned in his previous e-mail, the distribution method is quite flexible.

The survey will be anonymous. For each community we will offer an incentive of a gift card which will be given to a participant selected by a random drawing. If the participant wants to be included in the random drawing, they will need to provide contact information, but this will not be recorded or used once the drawing is held. Once the study is completed, the combined findings of the survey will be shared with each participating apartment community, and you can share these general findings with your residents if you wish.

We hope that you will agree for residents in your community to receive this survey packet and participate in this study. Thank you in advance for your assistance. Questions about the research can be addressed to Dr. Rosemary Goss at rgoss@vt.edu or 540-231-4784.

Sincerely,

Rosemary Goss, Ph.D. Residential Property Management Advisory Board Professor	Julia Beamish, Ph.D. Professor of Housing	Hyun-Jeong Lee Ph.D. candidate in Housing

APPENDIX C: SAMPLE RESIDENT COVER LETTER

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Department of Apparel, Housing, and Resource Management

Lifestyle and Housing Preference Study
101 Wallace Hall (0410), Blacksburg, Virginia 24061
(540) 231-8881, Fax: (540) 231-3250

Dear (apartment name here) resident:

We use the term "lifestyle" every day to describe the way we live. Our lifestyle is the basis for our decision-making about many activities and purchases. It is a popular concept used in research to explain consumers' behaviors. While lifestyle research has been conducted on several types of purchases, it has not been applied to consumer's housing decisions. The results from this study will provide apartment developers a better understanding of apartment residents and their lifestyle needs. In addition, general findings will be useful for managers as they make changes and improvements in services and amenities.

You are one of a few residents who have been selected to participate in a survey on lifestyle and the housing decisions of apartment residents. This study is being conducted by the housing program at Virginia Tech. Only residents in a limited number of apartment communities in the Charlotte area are being asked to participate in this survey, so your response is very important.

The enclosed survey should take about 10-15 minutes to complete. You will be asked about your activities, attitudes toward apartments, expectations and preferences for an ideal apartment, and some background information about you and your housing.

The survey is completely confidential. There is an alphabet code "(apartment code here)" on the questionnaire that identifies your apartment community. It does not identify you and your individual answers will not be shared with apartment management. When you complete the questionnaire, place it in the attached postage pre-paid envelope and mail it directly to Virginia Tech by March 15, 2005, if possible.

To encourage your participation, a random drawing among the respondents from your apartment community will be held for a $50 gift card from either Target or Nordstrom. To be eligible, you must include your initials and contact information on the last page of the questionnaire. This will be used only for the drawing and will not affect the confidentiality of your responses.

Your participation in the survey will be greatly appreciated. If you have any questions, please contact Dr. Julia Beamish at jbeamish@vt.edu or 540-231-8881.

Sincerely,

Julia O. Beamish, Ph.D. Professor of Housing	Rosemary Goss, Ph.D. Residential Property Management Advisory Board Professor	Hyun-Jeong Lee Ph.D. candidate in Housing

APPENDIX D: SURVEY QUESTIONNAIRE

Lifestyle and Housing Preference of Apartment Residents

This questionnaire is designed to help us gather information about lifestyle and housing preference of apartment residents and is conducted by the housing program at Virginia Tech. Your answers will not be shared with anyone. However, if you are interested in being included in a random drawing for a $50 gift card from Target or Nordstrom, please provide us your contact information on the last page of this questionnaire.

Please complete the survey and send it back directly to the researchers in the enclosed pre-paid envelope. Please feel free to contact us for any question about this questionnaire: Dr. Julia Beamish at jbeamish@vt.edu or 540-231-8881.

Lifestyle and Housing Preference Study
101 Wallace Hall (0410)
Virginia Tech
Blacksburg, VA 24061

PART I. LIFESTYLES

1. The following statements address the activities that you perform in your current apartment home. To what extent do you agree or disagree with the following statements about the activities in your apartment home?

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
1) At home,							
I often work or study.	N/A	1	2	3	4	5	6
I spend a lot of time watching TV.	N/A	1	2	3	4	5	6
I watch video/DVD movies frequently.	N/A	1	2	3	4	5	6
I often have conversations with family and friends.	N/A	1	2	3	4	5	6
I often surf the Internet. ..	N/A	1	2	3	4	5	6
2) I cook my evening meal almost everyday.	N/A	1	2	3	4	5	6
3) I often cook for fun.	N/A	1	2	3	4	5	6
4) Most evenings, I dine out.	N/A	1	2	3	4	5	6
5) Most evenings, I buy take-out food or have food delivered.	N/A	1	2	3	4	5	6

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
6) I go grocery shopping more than twice a week.	N/A	1	2	3	4	5	6
7) I often take a bath in my tub.	N/A	1	2	3	4	5	6
8) I usually drive to work/school.	N/A	1	2	3	4	5	6
9) I usually exercise several times a week.	N/A	1	2	3	4	5	6
10) I spend lots of time outdoors.	N/A	1	2	3	4	5	6
11) I often have overnight guests.	N/A	1	2	3	4	5	6
12) I often entertain others in my home.	N/A	1	2	3	4	5	6
13) I often entertain others at my apartment community center.	N/A	1	2	3	4	5	6

2. Now, the following statements address attitudes people might have about their home. ***Please note that the attitudes do not necessarily correspond with your current housing situation.*** To what extent you agree or disagree with the following statements about your attitudes about home?

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
1) My home should be equipped with energy-efficient appliances.	N/A	1	2	3	4	5	6
2) I want to have good relationships with my neighbors.	N/A	1	2	3	4	5	6
3) An apartment is convenient because it is maintenance-free living.	N/A	1	2	3	4	5	6
4) I want a home where I can rest and relax.	N/A	1	2	3	4	5	6
5) I like to spend my leisure time away from home.	N/A	1	2	3	4	5	6
6) My home is only a place to sleep and get dressed.	N/A	1	2	3	4	5	6
7) I want to participate in events sponsored by my apartment community.	N/A	1	2	3	4	5	6
8) I want to live in a home which is pleasant for me to look at.	N/A	1	2	3	4	5	6
9) I want every room in my home to have good air quality.	N/A	1	2	3	4	5	6
10) Renting my apartment is a good economic choice.	N/A	1	2	3	4	5	6
11) I want my apartment community to encourage environmentally friendly behaviors (e.g. recycling center).	N/A	1	2	3	4	5	6
12) I want a home where my family can spend time together.	N/A	1	2	3	4	5	6

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
13) I want a home that is easy to keep clean.	N/A	1	2	3	4	5	6
14) I want my apartment to be a part of the larger community.	N/A	1	2	3	4	5	6
15) I want a home where I feel safe from falls and other accidents.	N/A	1	2	3	4	5	6
16) I think my home has a lot to do with my friends' opinion of me.	N/A	1	2	3	4	5	6
17) I want a home that contributes to my sense of well-being.	N/A	1	2	3	4	5	6
18) My apartment home provides a place to live until I can buy a single-family home.	N/A	1	2	3	4	5	6
19) I would rather make repairs around my home than to have someone else make them.	N/A	1	2	3	4	5	6
20) I want a home where I can rearrange my furniture.	N/A	1	2	3	4	5	6
21) I want an apartment community located so that it is easy for friends and relatives to visit.	N/A	1	2	3	4	5	6
22) I want an apartment home located in a natural setting.	N/A	1	2	3	4	5	6
23) Keeping a house clean is important for the health of the occupants.	N/A	1	2	3	4	5	6
24) My apartment community should have the latest technologies.	N/A	1	2	3	4	5	6

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
25) I want a place in my home where I am free from interruption by other household members.	N/A	1	2	3	4	5	6
26) Recreation is more important than household chores.	N/A	1	2	3	4	5	6
27) I want an apartment home located in a vibrant, active downtown.	N/A	1	2	3	4	5	6
28) A beautifully decorated home adds much to the joy of living.	N/A	1	2	3	4	5	6
29) I want my home to have up-to-date features.	N/A	1	2	3	4	5	6
30) I want a home where I feel secure.	N/A	1	2	3	4	5	6
31) I want a home which will help me in my social contacts.	N/A	1	2	3	4	5	6
32) I think the location of my home has a lot to do with my health.	N/A	1	2	3	4	5	6
33) I want a home where children's needs are considered.	N/A	1	2	3	4	5	6

	Strongly disagree						Strongly agree
	N/A	(1)					(6)
34) I want a home where I can have plenty of room for recreation activities.	N/A	1	2	3	4	5	6
35) Having a beautifully landscaped outdoor space adds much to the joy of living.	N/A	1	2	3	4	5	6
36) My home should have energy-efficient features (e.g. triple-paned window).	N/A	1	2	3	4	5	6
37) I want an apartment home in a convenient location.	N/A	1	2	3	4	5	6
38) I think owning a house leaves too little money for other things.	N/A	1	2	3	4	5	6
39) I get bored when I stay in my home.	N/A	1	2	3	4	5	6
40) I think a child should leave home as soon as he/she can support him/herself.	N/A	1	2	3	4	5	6
41) I want a home where I am not interrupted by neighbors.	N/A	1	2	3	4	5	6
42) I want an apartment home that is just as nice as my friends'.	N/A	1	2	3	4	5	6

PART II. HOUSING EXPECTATIONS AND PREFERENCES

This part will ask you about your expectations and preferences for your ideal apartment home. Please answer the following questions about your expectations and preferences.

1. In choosing your ideal apartment home, which of the following apartment home features is the most important? (Circle only one.)

   1) Layout of the apartment home
   2) Size of the apartment home
   3) View from the apartment home
   4) Apartment home features including interior design features and high-speed Internet access.
   5) Price
   6) Other. Please specify:_____

2. In choosing your ideal apartment home, which of the following apartment community features is the most important? (Circle only one.)

   1) Location of apartment community
   2) Apartment community features including resident services
   3) Reputation of the apartment community
   4) Reputation of the neighborhood
   5) Reputation of the management company
   6) Price
   7) Other. Please specify:_____

3. In choosing your ideal apartment home, where do prefer to live?

   1) Downtown
   2) Urban area
   3) Suburban area
   4) Rural area

4. In choosing your ideal apartment home, which of the following is the most important factor in choosing a location? (Circle only one.)

   1) Close to your work/school
   2) In a good school district
   3) Close to downtown
   4) Close to shopping
   5) Close to public transportation
   6) Close to major highway
   7) Close to restaurants
   8) Close to parks
   9) In a historic neighborhood
   10) Other. Please specify: _____

5. In choosing your ideal apartment home, please indicate your preferences for each feature based on the following categories.

Do Not Want: You do not want to have the feature.
Does Not Matter: The feature would not influence your apartment home choice.
Prefer to Have: You prefer to have the features **even if it increases your rent**.
Must Have: You would not choose an apartment home without the feature.

	Do Not Want (1)	Does Not Matter (2) ▼	Prefer to Have (3) ▼	Must Have (4) ▼
Amenities				
Washer/dryer in unit	1	2	3	4
Balcony or patio	1	2	3	4
High-speed Internet access	1	2	3	4
Storage				
Walk-in closet	1	2	3	4
Linen closet	1	2	3	4
Separate storage unit	1	2	3	4
Parking				
Outdoor parking spaces in front of building	1	2	3	4
Parking garage for the apartment community	1	2	3	4
Attached garage with direct access to my unit	1	2	3	4
Garage/carports detached from unit	1	2	3	4
Guest parking	1	2	3	4
Reserved parking	1	2	3	4
Security				
Monitored intrusion alarm	1	2	3	4
Gated entrance to community	1	2	3	4
Controlled access to buildings	1	2	3	4
Gated parking garage	1	2	3	4

	Do Not Want (1)	Does Not Matter (2) ▼	Prefer to Have (3) ▼	Must Have (4) ▼
Interior Design Features				
Raised ceiling (e.g. 9-foot ceiling)	1	2	3	4
Crown moldings	1	2	3	4
Granite countertop	1	2	3	4
Tiled floors	1	2	3	4
Hardwood floors	1	2	3	4
Built-in bookshelves	1	2	3	4
Computer alcove/niche	1	2	3	4
Separate tub and shower	1	2	3	4
Stainless steel appliances	1	2	3	4
Separate cooktop and oven	1	2	3	4
Exercise/Recreation				
Space to exercise in my apartment home	1	2	3	4
Fitness center in my apartment community	1	2	3	4
Walking trail	1	2	3	4
Tennis court	1	2	3	4
Playground	1	2	3	4
Indoor basketball court	1	2	3	4
Outdoor basketball court	1	2	3	4
Racquetball court	1	2	3	4
Volleyball court	1	2	3	4
Pool	1	2	3	4
Jacuzzi or hot tub	1	2	3	4
Outdoor park (green space)	1	2	3	4

5. In choosing your ideal apartment home, please indicate your preferences for each feature based on the following categories (Continued).

Do Not Want: You do not want to have the feature.
Does Not Matter: The feature would not influence your apartment home choice.
Prefer to Have: You prefer to have the features **even if it increases your rent**.
Must Have: You would not choose an apartment home without the feature.

	Do Not Want (1)	Does Not Matter (2) ▼	Prefer to Have (3) ▼	Must Have (4) ▼
Resident Services				
Resident community room.....	1	2	3	4
Business center.....	1	2	3	4
Reliable maintenance service.	1	2	3	4
Conference room.....	1	2	3	4
Package/delivery acceptance.....	1	2	3	4
Newspapers and mail hold.....	1	2	3	4

	Do Not Want (1)	Does Not Matter (2) ▼	Prefer to Have (3) ▼	Must Have (4) ▼
Child care services.....	1	2	3	4
Pet allowance.....	1	2	3	4
Pet care services.....	1	2	3	4
Plant watering.....	1	2	3	4
Car care center.....	1	2	3	4
Recycling center.....	1	2	3	4

What other features are important to you? Please specify and rate.

	Prefer to Have (3) ▼	Must Have (4) ▼
_____	3	4
_____	3	4
_____	3	4
_____	3	4

PART III. GENERAL INFORMATION

This part will ask you about you and your current housing.

1. How long have you lived in your current apartment home?
   1) Less than a year
   2) 1-2 years
   3) 3-4 years
   4) 5 or more years

2. Have you previously or do you currently own a home?
   1) Yes, I previously owned a home.
   2) Yes, I currently own a home.
   3) No, I previously rented another rental apartment home.
   4) No, I previously rented another single-family home.
   5) No, this is my first rental apartment home.

3. What was the main reason you chose to rent your current apartment home?
   1) I own a house, but needed an apartment for convenience.
   2) I was dissatisfied with my previous housing situation.
   3) I needed a larger or more luxurious apartment.
   4) I needed a smaller or less expensive apartment.
   5) I am new in the community and needed time to consider housing choices.
   6) I could not afford mortgage payments or down payment.
   7) I was not interested in owning at this stage of my life.
   8) My family status had changed or would change soon.
   9) I wanted to save money for other purposes.
   10) I wanted to be able to move easily.
   11) I wanted to be free from maintenance works.
   12) Other. Please explain: _____

4. How important is it to be a homeowner?
   1) Not important at all
   2) Somewhat important
   3) Important
   4) Very important

5. Which of the following reflects your future housing plans?
   1) I expect to purchase a home the next time I move.
   2) Most likely, my next move will be to another rental home or apartment.
   3) I have no plans to move within the next three years.
   4) Other. Please explain: _____

6. How much is your household income?

1) Less than $35,000
2) $35,000 to $49,999
3) $50,000 to $74,999
4) $75,000 to $99,999
5) $100,000 to $149,999
6) $150,000 or more

7. How many people live in your current apartment home including you? _____ people

In addition to yourself who else lives in your household? Circle all that applies.

1) Spouse/Partner
2) Children age 5 and under. How many? _____
3) Children age 6 to 18. How many? _____
4) Children over the age of 18. How many? _____
5) Parent(s). How many? _____
6) Other relatives. How many? _____
7) Roommate(s). How many? _____

8. Are you:

1) Male
2) Female

9. How old are you?

1) Less than 18 years
2) 18 to 24 years
3) 25 to 34 years
4) 35 to 44 years
5) 45 to 54 years
6) 55 to 64 years
7) 65 years or older

10. Which best describes your educational attainment?

1) Less than high school diploma
2) High school diploma
3) Technical school/some college
4) College degree
5) Graduate degree or higher

***** Thank you very much for your feedback! *****

If you are interested in being included in random drawing of a gift card, please tell us your contact information.

Initials _____ _____ _____ Phone Number (_____) _____

APPENDIX E: SURVEY POSTER

Complete a survey and win a $50 Gift Card!!

How can I win the gift card?

By completing the "Lifestyle and Housing Preference" survey that was mailed to you from Virginia Tech and returning it to the researchers using postage pre-paid envelope attached. A random drawing will be held among the participants from your apartment community for a $50 gift card from your choice of Target or Nordstrom. Don't forget to give us **your contact information** so that we can reach you if you win!

What if I did not receive the questionnaire?

If you are a resident of a 1, 2, 3 or 4 bedroom apartment unit that is not a townhome or corporate apartment, but did not receive the survey by March 11, please contact us at **540-231-8881** or **hylee2@vt.edu**.

How long will it take to complete the survey?

About 10-15 minutes. Questions are easy to answer.

How many people will win a gift card?

One household in your community will win a gift card. The winner can select a card from either Target or Nordstrom.

How do I know whether I won or not?

The drawing will be held at the end of June and the winner will be contacted by phone.

Question?

Please contact us at (540) 231-8881 or hylee2@vt.edu.

APPENDIX F: REMINDER POSTCARD

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Lifestyle and Housing Preference Study
101 Wallace Hall (0410)
Blacksburg, Virginia 24061

March 11, 2005

Last week a questionnaire "Lifestyle and Housing Preference of Apartment Residents" was mailed to you.

Please accept our sincere gratitude if you already completed and returned it to us. If not, please do so today so that you can be included in a random drawing of a $50 gift certificate which will be held on March 31, 2005. Only residents in a limited number of apartment communities in the Charlotte area are being asked to participate in the survey, so your response is very important.

If you did not receive the questionnaire or it was misplaced, please call us right now, (540-231-8881) and we will mail another copy to you today.

Sincerely,

Julia O. Beamish, Ph.D.	Rosemary Goss, Ph.D.	Hyun-Jeong Lee
Professor of Housing	RPM Advisory Board Professor	Ph.D. candidate in Housing

APPENDIX G: DESCRIPTIVE STATISTICS

Table G1. Descriptive Statistics: Housing Activities

Activities	*N*	$\bar{X}$	SD
1) At home,			
I often work or study.	203	3.73	1.79
I spend a lot of time watching TV.	206	3.84	1.61
I watch video/DVD movies frequently.	206	3.38	1.48
I often have conversations with family and friends.	204	4.57	1.35
I often surf the Internet.	195	4.09	1.64
2) I cook my evening meal almost everyday.	206	3.49	1.59
3) I often cook fro fun.	206	3.08	1.60
4) Most evenings, I dine out.	203	2.58	1.41
5) Most evenings, I buy takeout food or have food delivered.	206	2.34	1.36
6) I go grocery shopping more than twice a week	206	2.58	1.83
7) I often take a bath in my tub.	206	2.34	1.70
8) I usually drive to work/school.	197	4.64	2.10
9) I usually exercise several times a week.	206	3.90	1.75
10) I spend lots of time outdoors.	206	3.27	1.29
11) I often have overnight guests.	206	2.60	1.59
12) I often entertain others in my home.	206	2.93	1.41
13) I often entertain others at my apartment community center.	206	1.52	0.99

Table G2. Descriptive Statistics: Housing Interests and Opinions

Interests and Opinions	*N*	$\bar{X}$	SD
1) My home should be equipped with energy-efficient appliances.	206	5.32	1.07
2) I want to have good relationships with my neighbors.	206	4.86	1.18
3) An apartment is convenient because it is maintenance-free living.	206	5.15	1.01
4) I want a home where I can rest and relax.	206	5.74	0.51
5) I like to spend my leisure time away from home.	206	3.27	1.07
6) My home is only a place to sleep and get dressed.	206	2.00	1.36
7) I want to participate in events sponsored by my apartment community.	206	3.29	1.48
8) I want to live in a home which is pleasant for me to look at.	206	5.50	0.81
9) I want every room in my home to have good air quality.	206	5.64	0.65
10) Renting my apartment is a good economic choice.	206	3.04	1.66
11) I want my apartment community to encourage environmentally friendly behaviors (e.g. recycling center).	206	4.94	1.28
12) I want a home where my family can spend time together.	185	4.93	1.26
13) I want a home that is easy to keep clean.	206	5.53	0.65
14) I want my apartment to be a part of the larger community.	206	4.05	1.44
15) I want a home where I feel safe from falls and other accidents.	206	4.98	1.43
16) I think my home has a lot to do with my friends' opinion of me.	205	3.11	1.65
17) I want a home that contributes to my sense of well-being.	204	4.89	1.13
18) My apartment home provides a place to live until I can buy a single-family home.	206	4.71	1.65
19) I would rather make repairs around my home than to have someone else make them.	205	2.62	1.70
20) I want a home where I can rearrange my furniture.	206	4.77	1.29
21) I want an apartment community located so that it is easy for friends and relatives to visit.	205	5.13	1.10
22) I want an apartment home located in a natural setting.	205	4.07	1.52
23) Keeping a house clean is important for the health of the occupants.	206	5.32	0.97
24) My apartment community should have the latest technologies.	206	4.97	1.13
25) I want a place in my home where I am free from interruption by other household members.	186	4.62	1.32

Table G2. Descriptive Statistics: Housing Interests and Opinions (continued)

Interests and opinions	*N*	$\bar{X}$	SD
26) Recreation is more important than household chores.	206	3.80	1.34
27) I want an apartment home located in a vibrant, active downtown.	206	4.07	1.77
28) A beautifully decorated home adds much to the joy of living.	206	4.96	1.03
29) I want my home to have up-to-date features.	205	5.25	0.90
30) I want a home where I feel secure.	206	5.76	0.55
31) I want a home which will help me in my social contacts.	206	4.08	1.48
32) I think the location of my home has a lot to do with my health.	206	3.75	1.53
33) I want a home where children's needs are considered.	145	3.59	1.79
34) I want a home where I can have plenty of room for recreation activities.	205	4.09	1.27
35) Having a beautifully landscaped outdoor space adds much to the joy of living.	206	4.73	1.20
36) My home should have energy-efficient features (e.g. triple-paned window).	206	5.18	1.09
37) I want an apartment home in a convenient location.	206	5.51	0.68
38) I think owning a house leaves too little money for other things.	206	2.18	1.40
39) I get bored when I stay in my home.	206	2.62	1.45
40) I think a child should leave home as soon as he/she can support him/herself.	194	3.42	1.63
41) I want a home where I am not interrupted by neighbors.	206	4.41	1.37
42) I want an apartment home that is just as nice as my friends'.	197	4.09	1.58

Table G3. Frequencies: Most Important Apartment Home Consideration in an Ideal Apartment Home

Apartment home consideration	*n*	(Valid %)
Layout of the apartment home	47	(23)
Size of the apartment home	46	(23)
Price	46	(23)
Apartment home features including interior design features and high-speed Internet access	31	(15)
View from the apartment home	11	(5)
Other	23	(11)
Total	204	(100)

Table G4. Frequencies: Most Important Apartment Community Consideration in an Ideal Apartment Home

Apartment community consideration	*n*	(Valid %)
Location	117	(57)
Reputation of the neighborhood	23	(11)
Price	22	(11)
Community features including resident services	20	(10)
Reputation of the apartment community	12	(6)
Reputation of the management company	4	(2)
Other	6	(3)
Total	204	(100)

Table G5. Frequencies: Preference for an Ideal Apartment Home Location

Location preference	*n*	(Valid %)
Downtown	87	(43)
Suburban area	67	(33)
Urban area	42	(21)
Rural area	3	(2)
Other	4	(2)
Total	203	(100)

Note. Total of percents is not 100 due to rounding.

Table G6. Frequencies: Most Important Consideration in Choosing an Ideal Apartment Home Location

Consideration in location choice	*n*	(Valid %)
Close to work/school	116	(57)
Close to downtown	39	(19)
Close to shopping	9	(4)
Close to major highway	8	(4)
In a good school district	6	(3)
Close to public transportation	3	(2)
Close to restaurants	5	(2)
Close to parks	2	(1)
In a historic neighborhood	2	(1)
Other	14	(7)
Total	204	(100)

Table G7. Frequencies: Preferences of Ideal Apartment Home and Community Features

	Preference				
	Do not want	Does not matter	Prefer to have	Must have	Total
Features	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*N* (%)
In-Home Amenities					
Washer/dryer in unit	4 (4)	33 (16)	63 (31)	104 (51)	204 (100)
Balcony or patio	0 (0)	27 (13)	97 (48)	78 (39)	202 (100)
High-speed Internet access	1 (1)	52 (26)	85 (42)	64 (32)	202 (100)
Storage					
Walk-in closet	0 (0)	21 (10)	76 (37)	107 (53)	204 (100)
Linen closet	1 (1)	57 (28)	97 (48)	46 (23)	201 (100)
Separate storage unit	8 (4)	68 (34)	101 (50)	26 (13)	203 (100)
Parking					
Outdoor parking spaces in front of building	23 (11)	65 (32)	51 (25)	64 (32)	203 (100)
Parking garage for the apartment community	12 (6)	68 (34)	86 (43)	36 (18)	202 (100)
Attached garage with direct access to my unit	10 (5)	91 (45)	84 (41)	18 (9)	203 (100)
Garage/carports detached from unit	37 (18)	126 (62)	37 (18)	2 (1)	202 (100)
Guest parking	2 (1)	36 (18)	82 (40)	83 (41)	203 (100)
Reserved parking	21 (10)	112 (55)	54 (27)	15 (7)	202 (100)
Security					
Monitored intrusion alarm	5 (3)	75 (37)	102 (50)	21 (10)	203 (100)
Gated entrance to community	12 (6)	64 (31)	96 (47)	32 (16)	204 (100)
Controlled access to buildings	6 (3)	40 (20)	99 (49)	57 (28)	202 (100)
Gated parking garage	13 (6)	70 (35)	81 (40)	39 (19)	203 (100)

Note. Percents are valid percents within each feature. Total of percent may not be 100 due to rounding.

Table G7. Frequencies: Preferences of Ideal Apartment Home and Community Features (continued)

	Preference				
	Do not want	Does not matter	Prefer to have	Must have	Total
Features	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*N* (%)
Interior Design Features					
Raised ceiling	2 (1)	51 (25)	127 (62)	24 (12)	204 (100)
Crown moldings	2 (1)	87 (43)	106 (52)	9 (4)	204 (100)
Granite countertop	3 (2)	97 (48)	99 (49)	5 (3)	204 (100)
Tiled floors	2 (1)	82 (40)	109 (54)	10 (5)	203 (100)
Hardwood floors	4 (2)	79 (39)	113 (56)	6 (3)	202 (100)
Built-in bookshelves	8 (4)	85 (42)	99 (49)	12 (6)	204 (100)
Computer alcove/niche	12 (6)	85 (42)	89 (44)	16 (8)	202 (100)
Separate tub and shower	18 (9)	99 (49)	74 (36)	13 (6)	204 (100)
Stainless steel appliances	4 (2)	102 (50)	91 (45)	7 (3)	204 (100)
Separate cooktop and oven	18 (9)	121 (60)	50 (25)	14 (7)	203 (100)
Exercise/Recreation					
Space to exercise in my apartment home	5 (3)	81 (40)	85 (42)	32 (16)	203 (100)
Fitness center in my apartment community	1 (1)	27 (13)	105 (52)	71 (35)	204 (100)
Walking trail	7 (3)	90 (44)	103 (51)	4 (2)	204 (100)
Tennis court	18 (9)	122 (60)	58 (28)	6 (3)	204 (100)
Playground	41 (20)	127 (63)	31 (15)	4 (2)	203 (100)
Indoor basketball court	35 (17)	126 (62)	41 (20)	2 (1)	204 (100)
Outdoor basketball court	32 (16)	126 (62)	43 (21)	3 (2)	204 (100)
Racquetball court	34 (17)	134 (66)	35 (17)	1 (1)	204 (100)
Volleyball court	31 (15)	134 (66)	36 (18)	3 (2)	204 (100)
Pool	0 (0)	23 (11)	89 (44)	92 (45)	204 (100)
Jacuzzi or hot tub	10 (5)	60 (29)	115 (56)	19 (9)	204 (100)
Outdoor park (green space)	1 (1)	54 (27)	122 (60)	27 (13)	204 (100)

Note. Percents are valid percents within each feature. Total of percent may not be 100 due to rounding.

Table G7. Frequencies: Preferences of Ideal Apartment Home and Community Features (continued)

	Preference				
	Do not want	Does not matter	Prefer to have	Must have	Total
Features	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*N* (%)
Resident Services					
Resident community room	2 (1)	101 (49)	84 (41)	19 (9)	206 (100)
Business center	6 (3)	89 (43)	94 (46)	17 (8)	206 (100)
Reliable maintenance service	0 (0)	4 (2)	49 (24)	153 (74)	206 (100)
Conference room	11 (5)	154 (75)	36 (18)	5 (2)	206 (100)
Package/delivery acceptance	0 (0)	9 (4)	76 (37)	121 (59)	206 (100)
Newspapers and mail hold	1 (1)	5 (27)	86 (42)	64 (31)	206 (100)
Child care services	58 (28)	135 (66)	12 (6)	1 (1)	206 (100)
Pet allowance	31 (15)	75 (37)	48 (23)	51 (25)	205 (100)
Pet care services	47 (23)	106 (52)	43 (21)	10 (5)	206 (100)
Plant watering	39 (19)	132 (64)	28 (14)	7 (3)	206 (100)
Car care center	16 (8)	93 (45)	80 (39)	17 (8)	206 (100)
Recycling center	4 (2)	59 (29)	106 (52)	36 (18)	205 (100)

Note. Percents are valid percents within each feature. Total of percent may not be 100 due to rounding.

APPENDIX H: VITA

Curriculum Vitae **Hyun-Jeong Lee**

Education

Ph.D. in Housing	2005	Department of Apparel, Housing, and Resource Management **Virginia Polytechnic Institute and State University**, Blacksburg, VA - Research Focus: Housing satisfaction, housing preferences, housing expectation, lifestyles, and multifamily housing - Dissertation: *Influence of lifestyle on housing preferences of multifamily housing residents*
Ph.D. student	2001	Department of Architectural Engineering **Kyungpook National University**, Daegu, Republic of Korea - Research Focus: Residential space analysis, urban design, and urban redevelopment
Master of Engineering	2000	Department of Architectural Engineering **Kyungpook National University**, Daegu, Republic of Korea - Research Focus: User participatory design methods, housing satisfaction, suburban housing, urban design, and urban redevelopment - Thesis: *A case study on the idyllic housing design with user participation*
Bachelor of Engineering	1998	Department of Architectural Engineering **Kyungpook National University**, Daegu, Republic of Korea - Study Focus: Architectural Design

Academic Experiences

2001 – 2005 *Graduate Assistant*, Virginia Polytechnic Institute and State University

- Undergraduate teaching assistant
  - Residential Property Management I & II
  - Managing and Marketing Housing for Later Life
  - Family Housing (Taught classes)
    - Lifecycle and lifestyle in home design
    - Housing alternatives
- Graduate teaching assistant
  - Theories in Research in Apparel, Housing, and Resource Management
- Research assistant
  - *Best Practices for Assisted Living Facilities in Rural Virginia*
  - *Energy Use Among Low and Moderate Income Virginia Households*
  - *Explore Dream Kitchen Workshop Survey*

Academic Experiences (continued)

2001 *Lecturer*, Kyungpook National University, Republic of Korea
- Taught on-line class management tools

2000 *Teaching Assistant*, Kyungpook National University, Republic of Korea
- On-line class assistant
  - Site Planning and Urban Design

1998 – 2000 *Graduate Assistant*, Kyungpook National University, Republic of Korea
- Undergraduate textbook editing
  - Site Planning and Urban Design
  - Human and Housing Culture
- Graduate textbook editing
  - Urban Housing
  - Advanced Site Planning I & II
  - Environment Design Research I & II

Publications

Lee, H., & Parrott, K. (2004). Cultural background and housing satisfaction. *Housing and Society*, *31*, 145-158.

Lee, H., Park, S., & Ha, J. (2000, November). A basic study on the development of a logical tool for analyzing spatial organization of housing. *Proceeding of Korean Housing Symposium*, *11*, 97-102.

Lee, H., Park, S., Kim, G., & Ha, J. (1999, October). A case study on the idyllic housing design with user participation and post-occupational alteration. *Proceeding of Conference of the Architectural Institute of Korea*, *19*(2), 139-144.

Presentations

Lee, H., Beamish, J. O., Goss, R. C. (2005, October). *Who are lifestyle renters?* Presentation at Virginia Association of Family and Consumer Sciences Blue Ridge Regional Meeting, Roanoke, VA.

Lee, H., Goss, R. C., & Beamish, J. O. (2005, October). *Housing values of students in off-campus multifamily housing communities*. Presentation at Housing Education and Research Association Annual Conference, Denver, CO.

Lee, H., Beamish, J. O., & Goss, R. C. (2005, March). *Gender differences in housing values of Virginia Tech students*. Presentation at the 21st Annual Research Symposium of Virginia Polytechnic Institute and State University, Blacksburg, VA.

Lee, H., Beamish, J. O., & Goss, R. C. (2004, November). *Influence of lifestyle on housing preference of multifamily housing residents*. Presentation at Virginia Association of Family and Consumer Sciences Blue Ridge Region Meeting, Roanoke, VA.

Presentations (continued)

Goss, R. C., Jackiw, A., Lee, H., & Mitchell, K. (2004, October). *Role of multifamily housing on improving quality of life in urban neighborhood*. Symposium at Housing Education and Research Association Annual Conference, Chicago, IL.

Lee, H., Huh, J., & Park, K. (2004, March). *Virginia Tech students' satisfaction with on-campus housing*. Presentation at the 20th Annual Research Symposium of Virginia Polytechnic Institute and State University, Blacksburg, VA.

Lee, H. (2003, March). *Cultural background and housing satisfaction*. Presentation at the 19th Annual Research Symposium of Virginia Polytechnic Institute and State University, Blacksburg, VA.

Research Projects

2000 – 2001 *Development of Daegu metropolitan city townscape master plan.* Commissioned by the Daegu Metropolitan City Government, Republic of Korea.

2000 – 2001 *Puksung2 district redevelopment.* Commissioned by the Joong-gu Office, Daegu, Republic of Korea.

1998 *Reconstruction of C-middle school with user participatory design method.* Commissioned by the Seobu Office of Education, Daegu, Republic of Korea.

Awards

2005 *Apparel, Housing, and Resource Management Outstanding Graduate Student Award.* Department of Apparel, Housing, and Resource Management, Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *Kappa Omicron Nu Omicron Beta Zeta Scholar Award*. Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *1st place in Social Sciences and Humanities*, 19th Annual Research Symposium. Virginia Polytechnic Institute and State University, Blacksburg, VA.

Scholarships

2005 *Indoor Air Quality Scholarship.* Housing Education and Research Association, Denver, CO.

2005 *Savannah S. Day Graduate Housing Scholarship*. Department of Apparel, Housing, and Resource Management, Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *Graduate Travel Fund*, Graduate Student Assembly, Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *Housing Education and Research Association Student Scholarship*, Housing Education and Research Association, Chicago, IL.

2004 *Graduate Research Development Program Thesis/Dissertation Fund*. Graduate Student Assembly, Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *James D. Moran Memorial Thesis/Dissertation Award*. College of Liberal Arts and Human Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA.

2004 *Savannah S. Day Graduate Housing Scholarship*. Department of Apparel, Housing, and Resource Management, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Professional Certificate

1997 *1st Class Architectural Engineer*, National Technical Qualification, Republic of Korea

Professional Affiliations

2004 – present Member, American Association of Family and Consumer Sciences

2003 – present Member, Kappa Omicron Nu, National Honor Society

2003 – present Member, Housing Education and Research Association

2000 – present Member, The Korean Housing Association

1999 – present Member, Architectural Institute of Korea

Computer Skills

- Design and Graphic Related
  - AutoCAD
  - Adobe Photoshop
- Presentation and Documentation Related
  - Microsoft Powerpoint (Certified User Specialist)
  - Microsoft Word
  - Adobe Acrobat Reader/Writer
- Statistics Related
  - SPSS
  - LISREL
  - Microsoft Excel

Service

- Virginia Polytechnic Institute and State University

2005 - Present	*Peer Advising Committee*, Graduate Council of Apparel, Housing, and Resource Management, Virginia Tech
2005 - Present	*Event Planner*, Korean Student Association at Virginia Tech
2004 – 2005	*Event Planner*, Korean Student Association at Virginia Tech
2004	*Department Delegate*, Graduate Student Assembly at Virginia Tech

- Kyungpook National University, Republic of Korea

1999 – 2001	*Treasurer of graduate students*, "Archimaniac," Architectural design group at Kyungpook National University