

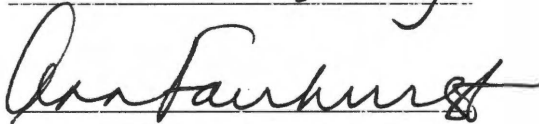
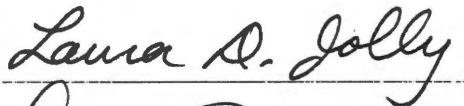
To the Graduate Council:

I am submitting herewith a dissertation written by Carol Lynn S. Nute entitled "Acculturation and Food Retailer Store Type: Determining Hispanic Consumers' Attitudes Toward Store Attributes in the San Antonio Market." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Human Ecology.



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We have read this dissertation
and recommend its acceptance:



Acceptance for the Council:



Vice Chancellor and Dean of
Graduate Studies

Thesis
2005b
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ACCULTURATION AND FOOD RETAILER STORE TYPE:
DETERMINING HISPANIC CONSUMERS' ATTITUDES TOWARD STORE
ATTRIBUTES IN THE SAN ANTONIO MARKET

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Carol Lynn S. Nute
December 2005

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DEDICATION

The Holy Bible tells us to always give thanks to God the Father for everything,
and thus I do so with a humble heart.

This dissertation is dedicated to my Lord and Savior, Jesus Christ,
who provided all I needed for its successful completion.

It is also dedicated to my husband, David R. L. Nute.
David, for always inspiring me with encouraging words, I give you my heartfelt thanks.
Your limitless faith that I could accomplish this was ever-motivating.
Your hugs, kisses and sometimes just listening were always appreciated.
I couldn't have done it without your support.

ACKNOWLEDGMENTS

To my daughters, Mari and Zari, thanks for inspiring me to study Hispanics. For all my other children, Greg, Ashley, King, Joe, Mike, Mandy, and all my grandchildren, you gave me hugs and laughter through the tears, as I struggled being apart from you while completing this work.

For my parents Bill and Betty Schmidt, the best role models a daughter could have, and my siblings Kevin, Colleen, Cathy and Will who thought I was crazy for doing this but graciously listened to all my stories, and encouraged me to “hang in there.”

For my graduate friends, Linda Strouby, Sylvia Smith, and Derek Norton your help and support throughout my final year was a blessing. Call me anytime; I’ll be there for you.

I wish to thank The University of Chicago Press for granting permission to use the Monroe and Gultinan model figure in this dissertation manuscript.

I would like to thank all those who served on my doctoral committee: Dr. Ann Fairhurst, Dr. Laura Jolly, Dr. William Seaver and my chair, Dr. Youn-Kyung Kim.

I am especially indebted to Dr. Seaver for keeping me on track with all the statistical analyses of the data throughout his summer “vacation.”

I am also especially grateful to Dr. Kim who helped with numerous revisions of this manuscript, in addition to teaching me how to be a better researcher in the future.

Thank you, thank you one and all.

ABSTRACT

The purpose of this study was to add to the body of knowledge by determining Hispanic consumers' food retailer store choice. This study tested: (1) how Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation (as measured by the attributes' importance and likelihood the preferred food retailer contains these attributes); (2) how Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation; and (3) how Hispanic consumers' attitudes toward store environmental attributes will differ by the type of primary food retail store shopped.

The survey data was collected during a festival event held in San Antonio, Texas, in April 2005. Of the surveys collected, 260 responses were used for the data analyses. Variety of acculturation was determined by using the Mendoza (1989) Cultural Life Style Inventory scale. Implementing a variety of multivariate methods including fuzzy cluster analysis, nearest neighbor discriminant analysis, MANOVA and Hotellings T2 randomization tests, the results of the study determined that Hispanic consumers' attitudes toward store environmental attributes differed by the two types of stores studied (supermarkets and supercenters).

Food retailers who are interested in Hispanics as either a portion of, or their sole target market will unearth several interesting findings from this study. First, food retailers can learn which store attributes influence Hispanics' attitudes and thus the type of primary food store shopped. Second, Hispanics' different shopping habits and expenditures, as revealed in the study provide useful information for food retailers. Each of these

conclusions contributes to understanding why food retailers should target Hispanics consumers. Therefore, this study included a number of managerial implications as well as ideas for future research.

Additional investigations of the data revealed a number of important findings that food retailers can readily use to gain ideas for their own markets. These findings included how Hispanics ranked store attributes overall as well as by individual variety of acculturation, and how expenditures differed between Hispanics overall and their individual varieties of acculturation.

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CHAPTER 1

INTRODUCTION

In the best-selling book “Why We Buy” Underhill (1999) states that retailers are not opening stores to serve new markets anymore, that retailers are trying to steal someone else’s customers, and that there is a need for an edge as the competition gets heated. Gaining an edge has become especially important to food retailers whose markets have become highly fragmented (Segal & Giacobbe, 1994). When buying groceries, consumers have a plethora of food retail choices including convenience stores, neighborhood grocery stores, supermarkets, superstores and warehouse clubs. Due to the variety of choices consumers have when shopping for grocery items, it is essential to food retailers that obtaining knowledge about their consumers be ongoing. Questions such as ‘Why do consumers shop at a particular food retailer?’ and ‘Why do some individuals of a particular consumer group shop at one food store, while others in the same group select different ones?’ become significant points for understanding the consumer behavior of these fragmented markets. By providing some answers to these important questions, this study will fill a current void in research by developing and empirically testing a food retailer store choice model for Hispanic consumers. This will enable food retailers to successfully create a strategic plan for their company by effectively targeting the fastest growing market segment in the United States—the Hispanic market.

Often, in the process of developing a strategic plan, a retailer will study the characteristics or consumer behaviors of a target market, the location and retail mix of a store including specific store design components, and also their competitive environment (Dunne & Lusch, 2005). Food retailers also know how important it is to keep an eye on

population, social, and economic trends, since they affect the way consumers shop given the growing diversity of today's population and the tightening of consumer spending (Dunne, et. al., 2005). Studying trends often enables a retailer to segment a market into smaller homogenous groups, based on the characteristics of a particular group (Dunne, et. al., 2005). Specifically, market segmentation is defined as the dividing of a heterogeneous consumer population into smaller, more homogeneous groups based on their characteristics (Dunne, et. al., 2005). Retailers, academicians and the government currently implement numerous studies in order to identify who these groups might be. Due to the impact of immigration and the changing demographics of the U.S. population (U.S. Census, 2001), ethnicity has been increasingly studied as a variable that influences consumer behavior (e.g., Hirschman, 1981; Maldonado & Tansuhaj, 2002). The consumer behavior of a specific ethnic group can be determined and targeted since group members often exchange information and experiences with each other (Pires & Stanton, 2000).

Hispanic Demographics

One immigrant ethnic group gaining considerable attention is the burgeoning Hispanic market. Some basic demographic information that should be reviewed by retailers includes Hispanic population size, location and diversity, as well as average income, age and spending power. These figures reflect how marketing to Hispanics could benefit food retailers through increased traffic and sales.

Population Size, Location and Diversity. The U.S. Census (2001) identifies "Hispanics" as consisting of Mexicans, Central and South Americans, Puerto Ricans, Cubans and other Latin Americans. From 1990 to 2000, Census figures show double-digit growth in their population. The 2000 U.S. Census Bureau reports the total Hispanic population

reached about 35 million or 13% of the total population, representing a 58% increase between 1990 and 2000. While a large number of Hispanics are still concentrated in California, New Mexico, Texas, Florida and New York, the population is now located all around the country with every state in the nation containing 2-42% of the various Hispanic groups (U.S. Census, 2001). While Mexicans make up the largest percentage(66%) of the Hispanic market, 15% of this segment originated from Central and South America, 9% from Puerto Rico, 4% from Cuba, and 6% from other Latin countries (Hawkins, Best, & Coney, 2003; U.S. Census, 2001b). Current projections for the 2020 Census show population figures for Hispanics reaching 21% of the total population; that is, one out of every five U.S. residents will be of Hispanic origin (Yorgey, 2000).

Income, Age and Spending Power. The median income of Hispanic-American households was \$32,997 (U.S. Census, 2004). One in six Hispanic families had a mean annual income of over \$50,000 (U.S. Census, 2001). With a median age of 26, many Hispanics are in their prime earning years.

This demographic market shows a tremendous increase in buying power as well. According to the University of Georgia's Selig Center for Economic Growth, the buying power of Hispanics grew 118% from 1990 to 2001 compared to 67.9% growth for non-Hispanics (Joiner, 2003). In addition, U.S. Hispanic buying power is expected to reach \$926.1 billion in 2007, an increase of 315% over 1990's figure (Humphreys, 2002).

This increased buying power is good news to many retailers, especially food retailers, since the Food Marketing Institute reports that supermarkets (including supercenters) are the food retail store of choice among U.S. Hispanics with 85% shopping there at least once a month (Jaketic, 2002). As the most rapidly growing ethnic group in the U.S., these figures are

expected to change and possibly increase as more information is gathered through additional government and industry analyses. With the prospect of increasing annual population growth rates and improved market share, it becomes increasingly evident that food retailers need to develop a competitive strategy to target this ethnic group.

A number of food retailers of various sizes have already begun positioning their stores accordingly. For example, the 7-Eleven Inc. convenience chain, based in Dallas, Texas, offers its Florida residents a Cuban sandwich, which is the number one selling sandwich in its Florida stores. Positioning to Hispanic tastes has also paid off nationally as Latin American food gains in popularity with all market segments. For example, salsa is the number one condiment in America today surpassing ketchup (Del Toro, 2002; Solomon, 2004). This interest in ethnic fare has become important to food retailers as they change the product and service mix of their stores to keep up with the demands of the shopping public and the changing demographics in America.

Hispanic Acculturation

Before they can agree on how to position their product, brand or store, food retailers who are determined to target Hispanics must first understand the Hispanic culture with its vastly different generations each with their respective needs (Gore, 2005). Through various marketing strategies including market segmentation, retailers can build brand identity by positioning their brand to stand apart from the competition in the marketplace (Vakratsas, Demetrios & Ambler, 1999). In reviewing national demographics for every store location in their company, Albertson's supermarket came to realize that Hispanics make up between 2% and 5% of individual store trade areas and have begun to target them with various products like pan dulce (sweet bread) as well as Mexican papayas and mangos (Clark, 2003). While

some experts in the industry are saying that the majority of the nation's Hispanic population is now acculturated, they are still strongly bound by their heritage (Gore, 2005), and therefore exhibit different shopping behaviors.

In order to understand changes in the Hispanic market and therefore reach the Hispanic market, food retailers must understand acculturation which is the phenomena resulting when groups of individuals from different cultures come into continuous contact with one another resulting in changes in the original culture patterns of either or both societies (Berry, 1980). While most Hispanics assimilate or absorb into many areas of the Anglo-American host culture, some actively resist. Therefore, retailers who treat Hispanics as an extension of the Anglo market are making a costly mistake (Herbig & Yelkur, 1997). Assimilation, when an individual adapts the cultural identity of the host society, is one of the four levels or varieties of acculturation defined by John Berry (1980). The remaining three varieties are: separation, individuals who retain their cultural identity; integration, individuals who retain their cultural identity and also adapt some of the customs of the host society; and marginalization, individuals who reject both. Understanding varieties of acculturation would be beneficial to food retailers planning to segment the local Hispanic market.

These different varieties of acculturation also appear to be one reason some Hispanics shop smaller food markets, or bodegas, when looking for items from their home country, while others patronize larger stores that offer better prices (Howell, 1999). By understanding the different varieties of acculturation and by developing marketing strategies that specifically target each one, retailers could position their store, product or brand in such a way as to ensure greater success with the Hispanic consumer. Retailers often create and design their store environment based on research they have gathered with regards to what

their customers want or need. There are various store attributes that a consumer takes into consideration when determining which store to choose when shopping (Solomon, 2004). While price, location and the product assortment offered from a store are some of the important attributes consumers search for when selecting a place to shop (Tigert, 1983), this list of possible attributes for an individual consumer may be extensive and can include both emotional and environmental components as well. While these attributes may exert a consistent influence on store choice, Mitchell and Kiral (1999) note that the list of important attributes changes over time and is dependent upon a shopper's needs and motives as well as overall risks involved.

Store Attributes

A range of store environmental attributes can influence consumer and employee behavior as well as impact the success of a service transaction (Hoffman & Turley, 2002). A service encounter can occur haphazardly, or a marketer can systematically manage it through the effective use of atmospheric variables (Hoffman, et. al., 2002). With regards to an overall strategic marketing plan, stores can effectively use store environmental attributes such as signage, point of purchase displays, store employees, etc. to position themselves in the forefront of a consumer's mind thereby influencing consumer behavior. Many of these store attributes are a way to communicate directly with the Hispanic market through language, cultural symbols or traditions. Thus far, research has failed to provide sufficient information as to whether Hispanic consumers who exhibit different varieties of acculturation may or may not be influenced in their store choice decisions based on some of these environmental attributes.

Attributes are characteristics of an attitude object (Solomon, 2004). Attitudes are formed as a result of personal learning based on experience and can be affected by an individual's cultural environment, including both customs and traditions (Walters, 1974). Attitudes can be complex and often marketers turn to multi-attribute attitude models in an effort to understand them (Solomon, 2004). These models are composed of three elements including attributes, beliefs and importance weights that identify specific beliefs and how they combine to derive a measure of the consumer's overall attitude that can then be used to predict an attitude toward a store, product or brand (Solomon, 2004). Attitudes can be influenced and strengthened by people-based external effects such as friends, teachers, parents and co-workers (Walters, 1974), and media-based external effects such as advertising (Walters, 1974; Solomon, 2004). As these attitude changes come about with the Hispanic consumer, language and communication become significant on several fronts, not just from an external advertising perspective but also internally in how and whether Hispanics respond once within the store environment.

Definitions

Progressive Grocer, in its 71st Annual Report of the Grocery Industry, notes that grocery stores are food retailers with over 12,900 stores nationwide and less than \$2 million in sales volume (www.fmi.org/facts_figs/keyfacts/stores.htm). A supermarket food retailer is defined as a full-line, self-service grocery store generating a sales volume of \$2 million or more annually (www.fmi.org/facts_fig/superfact.htm).

The supermarket description by FMI also encompasses supercenters, which are a different store type. In this study, the term 'food retailer' is used to encompass four store types. The first store type, "supercenter," (1) will include stores carrying food and other

merchandise such as Wal-Mart and SuperTarget. The “supermarket” (2) store type label will be used in this study as it is most familiar to researchers. The “supermarket” store type will include national/regional chains such as Kroger, Food Town and H.E.B. The grocery store type will include smaller “neighborhood” or “local” stores (3) with sales of less than \$2 million. Warehouse clubs (4) such as Costco and Sam’s will count as another store type.

Problem Statement and Objectives

To increase sales and differentiate themselves from the competition, food retailers need to tap into the Hispanic population, the fastest growing segment in terms of both their size and buying power. In order to effectively target this market and thereby expand their customer base, food retailers need to understand what influences the Hispanic shopper’s store choice behavior.

A body of research exists on the Hispanic consumer market, their varieties of acculturation, and the store choice behaviors of the Hispanic shopper. Yet, the Hispanic consumer characteristic of varieties of acculturation, and how the influence of this characteristic on attitudes toward food retailers should be investigated. Despite the proliferation of research on store environmental attributes, the Hispanic shoppers’ attitudes, as measured by the importance and perception of these attributes, and how/whether these attitudes influence food retailer store choice also has not been investigated. Furthermore, the influence of varieties of acculturation in the context of food retailer store choice has not been studied.

The purpose of this study is to add to the body of knowledge by determining Hispanic consumers’ food retailer store choice. This study will test: (1) how Hispanic consumers’ attitudes towards store environmental attributes of the primary food retail store

type shopped will differ by variety of acculturation (as measured by the attributes' importance and likelihood the preferred food retailer contains these attributes); (2) how Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation; and (3) how Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped.

CHAPTER 2

LITERATURE REVIEW

To determine where Hispanic consumers shop for food, this study will propose and test a conceptual food retailer store choice model in the San Antonio market. The model is based on a previously developed store choice model (Monroe & Gultinan, 1975), and will include the Hispanic consumer characteristic of variety of acculturation, attitudes regarding certain store environmental attributes, and food retailer store choice. Importance and perception are key components used to measure attitudes, and this study will develop and implement a multi-attribute attitude model in order to facilitate this measurement. In addition, by defining important terms and reviewing key variables in the framework, a foundation will be laid for understanding why the Hispanic shopper should be an important aspect of a food retailer's strategic plan.

Conceptual Model

There have been a number of models of consumer behavior (e.g., Engel, Kollat, & Blackwell, 1986; Engel, Blackwell & Miniard 1995) and patronage behavior (e.g., Darden & Ashton, 1974; Monroe & Gultinan, 1975) that reveal how consumer attitudes and the stimuli associated with them influence purchases and store choice. These models have been used in a number of additional studies and textbooks to explain how and why a consumer behaves in a particular way in selecting a store (Dunne, et. al., 2005; Eckman, Kotsiopulos, & Bickle, 1997; Solomon, 2004; Sullivan & Savitt, 1997).

Monroe and Gultinan Model

Monroe and Gultinan (1975) investigated what determined store choice among consumers and developed a model to identify the sequence and effects of store choice. In

their model, although basic household/buyer characteristics of consumers were not specifically measured, the component is inclined to be enduring and was included in the model (Figure 1)¹. Longitudinal data were collected from a panel of grocery store shoppers in order to determine consumer feelings regarding the relative importance of particular store attributes. The attributes of “relatively low pricing” and “helpful advertising” were subsequently targeted as those most likely to directly influence information processing and search. Monroe et. al.’s (1975) results pointed out that four components – “general opinions and activities,” “perceptions of store attributes,” “strategies for planning and budgeting,” and finally, “importance of store attributes” were the most important parts in the model. Since the study did not encompass all the model components, nor all possible store attributes, more research in the area of the store choice process was needed.

Years later, Eckman et. al. (1997) used an adapted version of the Monroe and Gultinan model as the conceptual framework in a study examining the patronage behavior of higher income Hispanic versus non-Hispanic consumers. The study measured the perceived importance of 45 store attributes on patronage behavior. There were a few differences between the groups. For instance, store hours, pricing policies, comfort, and selection were all more important to higher income Hispanics, indicating that ethnicity influenced factors related to store choice. Also some similarities, such as customer service, convenience, merchandise offering and advertising were found between the two groups implying that mainstreaming might be appropriate for certain strategies related to shared characteristics of the two groups (Eckman, et. al., 1997).

¹ All figures and tables are located in the Appendix.

A Conceptual Model for Hispanic Consumers' Attitudes

A number of unanswered questions regarding the Eckman et. al., (1977) study prompted this study. Hence, an adapted version of the Monroe and Gultinan (1975) model was developed (Figure 2). For instance, what is it about their acculturation that influences where a Hispanic consumer shops? What about the various store environmental attributes (Hoffman, et. al., 2002) that were not addressed in the Eckman study? Finally, if Hispanics as a group are influenced to shop one store over another, which store type should be investigated? Supermarkets are key players in the field of food retail with over 33,800 supermarkets nationwide and sales totaling \$432.8 billion for 2003 (www.fmi.org/facts_figs/superfact.htm), while grocery stores play an important role in searching for the right food items for some shoppers (Howell, 1999). According to the Bureau of Labor Statistics, Hispanics spend more on groceries than non-Hispanic households (Clark, 2003); therefore, it was determined that studying the food retailer store type would prove worthwhile.

The model (Figure 2) reflects Hispanic consumer characteristics, including varieties of acculturation in place of Monroe and Gultinan's household/buyer characteristics. The Hispanic consumer's attitude towards a food retailer is measured by the importance and perceptions of store environment attributes (or a multi-attribute attitude model). This attitude towards a food retailer may influence their food retailer store choice.

Hispanic Consumer Characteristics

As noted in the food retailer store choice model, Hispanic consumer characteristics include both demographics and varieties of acculturation. Before retailers can determine whether a particular group will choose to shop a certain store, retailers must draw on past experiences and research in an effort to understand a shopper's attitudes and behaviors. As

many retailers scramble to understand this rising Hispanic group, researchers must first begin with the basics, acculturation information.

Acculturation

A number of studies on different ethnic groups including Hispanics, Asians, and Native Americans have been conducted in recent years. Since the Hispanic ethnic group has become such a population phenomenon, many researchers are seeking to understand how to measure the adjustment of this ethnic group into the mainstream society using acculturation scales.

Acculturation Defined. There are almost as many definitions of acculturation as there are studies. According to Berry (1980), the concept of acculturation originated within the discipline of anthropology. Berry refers to Redfield's, Linton's and Herskovits' 1936 definition of the concept of acculturation:

“Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups...under this definition acculturation is to be distinguished from culture change, of which it is but one aspect, and assimilation, which is at times a phase of acculturation. It is also to be differentiated from diffusion, which while occurring in all instances of acculturation, is not only a phenomena which frequently takes place without the occurrence of the types of contact between peoples specified in the definition above, but also constitutes only one aspect of the process of acculturation” (Berry, 1980, p. 9).

While this definition is lengthy and verbatim in Berry's seminal research article, Gentry, Jun and Tansuhaj (1995) abbreviate the definition to "the generic process consisting of all phenomena that result when groups of individuals from different cultures come into continuous first-hand contact and subsequent changes in the original patterns of either or both groups occur" (p. 129). Other researchers have defined acculturation as the process of learning a culture that is different from the one in which a person was raised (Ueltschy & Krampf, 1987; Valencia, 1985). Seitz (1998) defined acculturation simply as the process of acquiring the customs of an alternate society. Acculturation in this study is derived from Hernandez, Cohen and Garcia's (2000) description, and is defined as the behaviors and values of the members of an immigrant culture that may change as a result of contact with a dominant host culture.

Just as acculturation definitions are different, it is important to note that some researchers mingle the various terms of assimilation, acculturation and ethnicity when studying the changes that take place between the host society and other cultures. Further investigation of the literature reflects these terms are not the same. Assimilation is a process of acculturation (Berry, 1980). Ethnic identity is defined as "one's basic group or cultural identity and consists of relatively stable properties" (Maldonado et. al., 2002, p. 415). Major ethnic identity indicators have been identified as language use, self-identification, social interaction, religion, and parent's ethnic identity. It is important to note, "it has been common practice in consumer research that the same set of indicators are used to operationalize both the concepts of acculturation and ethnicity" (Hui, Joy, Kim & Laroche, 1992, p. 467). Maldonado and Tansuhaj (2002) noted that often a strong ethnic influence

remains in an individual. Therefore, factors such as ethnic identity and level of acculturation are important variables to understand and consider when studying the Hispanic market.

Acculturation Measurements. Since Hirschman's (1981) seminal study, which noted that most consumer research either had not focused on ethnic groups or had failed to classify consumers according to perceptions of the ethnic group members, more research has been conducted to classify group members more specifically (e.g. Maldonado, et. al., 2002). Unfortunately, there is no standardized measurement for acculturation. Over the years there have been a number of studies resulting in acculturation scales by variety, category or type (Berry, 1980; Cuellar, Arnold, & Maldonado, 1995; Hernandez, et. al., 2000; Peñaloza, 1994); by level of assimilation (assimilated versus less assimilated) (Korgaonkar, Karson & Lund, 2000) and by level of acculturation (high versus low) (Kara & Kara, 1996; O'Guinn & Faber, 1986). There are bidimensional scales (Marin & Gamba, 1996), scales for Mexican Americans (Cuellar, et. al. 1995; Mendoza, 1989) and even short acculturation scales (Marin, Sabogal and B. Marin, Otero-Sabogal, & Perez-Stable, 1987). These scales include either uni-dimensional or multi-dimensional acculturation measurements.

A dozen years after John Berry's seminal article on varieties of acculturation (Berry, 1980), Hui, Joy, Kim, and Laroche (1992) provided empirical evidence that acculturation is indeed a multidimensional process. They developed six acculturation indicators in order to measure the extent of acculturation of Greek immigrants in Quebec. The measures included language use, self-identification, social interaction, religious beliefs, parents' ethnic identity and upbringing. The structure of a model in a later study by Laroche, Kim, Hui and Tomiuk (1997) also assumed a multidimensional process and incorporated the three acculturation dimensions of media exposure, social interaction and participation, and English language

use, in their study of Italian Canadians residing in Montreal. In addition, they included a measure for the dimension of ethnic identification. They tested whether acculturation was related to the consumption frequencies of convenience foods and found that the three acculturation dimensions, more often than not, were positively related to the consumption of convenience goods (Laroche, et. al., 1997).

While the various measurements may seem confusing at first glance, those mentioned here have proven to be both reliable and valid. Methods used to test the scales have included factor analysis for validity and Cronbach's alpha for reliability. Many of the measurements have a number of common factors such as language and social affiliations. There have been a number of important findings in studying Hispanic consumers using the varieties of acculturation scales.

Hispanic Studies of Acculturation. Using acculturation as a method to identify the Hispanic market can facilitate an understanding of how they think, along with what is important to them at different stages in their adjustment to the host society. A "host" society consists of the traits of the dominant cultural group in a set of people. While many consider the United States to be the "melting pot" society, the dominant cultural group is that of the Anglo-American. Many Hispanics in this country are immigrants. With recent increases in immigration, they are born to first, second and later generation immigrants. Either way, this group brings strong ethnic ties to the Hispanic culture that remain in place as adjustments are made to the dominant society in which they live. Research has shown that dependent upon Hispanics' variety of acculturation, attitudes and beliefs are different.

One of the premier studies on acculturation by Deshpande, Hoyer, and Donthu (1986) found a number of behavioral differences between high (strong Hispanic identifier)

and low (weak Hispanic identifier) levels of acculturation. For example, they found that strong Hispanic identifiers tended to be more brand loyal when it comes to national brands and may view the consumption of high quality national brands as evidence that they have “arrived” in the local economy (Deshpande, et. al., 1986). They also discovered that strong Hispanic identifiers were more likely to rely heavily on their “native” language—Spanish—when searching for information prior to a purchase and when communicating with others (Deshpande, et. al., 1986).

Other academic researchers have made important discoveries as well. A number of researchers have discovered that the existing level of acculturation in current society impacts Hispanic behavior. Studies include the effect acculturation plays with regards to how Hispanics seek information prior to shopping and how they perceive advertising (eg., Holland & Gentry, 1999; Korgaonkar, et. al., 2000; O’Guinn et. al., 1986; Ueltschy, et. al., 1997); which grocery brands they choose (Maldonado & Tansuhaj, 2002) whether Hispanics respond to direct response purchasing (Seitz, 1998); and how Hispanic decision processes are impacted (Kara & Kara, 1996).

Fueled by interest in this important demographic group, the business sector has also begun investigating the important behavioral component of acculturation. For instance, new research led by the Food Marketing Institute, New American Dimensions and ADVO dispels the past notion of brand loyalty and argues that only low acculturated Hispanics display above average brand loyalty (Indvik, 2004). ACNeilson through its Homescan Panel surveys have studied the effects of acculturation and have found that as the Hispanic population acculturates, they shop more often in mainstream channels, spend more in supermarkets, and tend to live in the suburbs (www.retailwire.com/ACN/Tip11.cfm).

Berry's Acculturation Scale. The seminal work by Berry (1980) involving the study of acculturation has been cited by numerous researchers and has provided a research foundation for many (e.g., Cuellar, et. al., 1995; Hui, et. al., 1992; Korgaonkar, et. al., 2000; Kosic, 2002; Laroche, et. al., 1997; Maldonado et. al., 2002; Peñaloza, 1994). Berry suggested that acculturation involves a three-phase process: contact, conflict, and adaptation. Without contact there would not be acculturation. In other words there would be no reason for an individual to change his behavioral patterns if he never interacted with another individual's or group's culture. Phase two, conflict, occurs in the case of an individual or groups' resistance – by any degree – to change. Cultural values and beliefs are learned from an early age and individuals or groups do not tend to give up valued aspects of their culture. The third phase, adaptation, refers to a variety of ways in which an individual or group will reduce or stabilize conflict. Within the adaptation phase, Berry notes that there are essentially four varieties of acculturation: assimilation, integration, rejection, and deculturation.

In combining these four concepts, Berry noted that two important questions need to be asked of all groups and individuals undergoing acculturation: "Is my cultural identity of value to be retained?" and "Are positive relations with the larger (dominant) society to be sought?" (Berry, 1980, p. 13). From these two questions, and based upon the answers given, Berry created an acculturation scheme that reflected the four varieties (Table 1). For example, if both questions received a "yes" response, the individual was identified as integrated. If both received a "no" response, the individual was identified as deculturated. A mixture of positive and negative responses identified one as rejected, while negative and positive responses identified one as assimilated.

Berry felt there were both positive and negative varieties of acculturation. He noted that both assimilation and integration are positive varieties of acculturation. With assimilation, an individual or group relinquishes their cultural identity and moves into the larger society. However, with integration, the individual or group retains their cultural identity and moves to become an integral part of the larger societal framework (Berry, 1980).

Berry's negative varieties of acculturation are rejection and deculturation. Rejection is the self-imposed withdrawal from the larger society. When society imposes this same step, it is called separation. Deculturation is a striking out against society and may be caused by feelings of alienation, loss of identity, and acculturation stress. In this phase, groups are out of contact with either their own traditional culture or that of the larger society (Berry, 1980). In later research, Berry and his colleagues renamed the negative varieties of rejection and deculturation, and called them separation and marginalization, respectively (Berry, Kim, Minde & Mok, 1987). Table 1 illustrates the varieties of acculturation with the revised names used in this study.

Berry's varieties of acculturation provided the foundation for further studies (e.g., Berry, et. al., 1987; Hernandez, et. al., 2000; Maldonado et. al., 2002; Peñaloza, 1994). Lisa Peñaloza (1994) used Berry's varieties of acculturation as a basis for an ethnographic research study. She determined that the environment in which an individual resides played a key role in addition to demographic variables, language ability, recentness of arrival, and ethnic identity in determining an individual's acculturation. Using these variables, she developed a model of consumer acculturation of Mexican immigrants. In her model, an individual's differences influenced one of two consumer acculturation agents (culture of

origin, culture of immigration. These agents in turn affected the consumer acculturation processes which in turn affected the consumer acculturation outcome (Berry's scale).

In testing Berry's varieties of acculturation, Hernandez, et. al., (2000) suggested that the dichotomous ("yes" and "no") scale used by Berry prevented an estimate of reliability measures. The researchers recommended the use of multiple indicators (e.g., a Likert scale) of the two items ("Hispanics retention of cultural identity" and "Seek positive relationship to American society") (Table 1) to measure the response of the two items.

Mendoza's Acculturation Scale. Richard Mendoza's empirical scale to measure type and degree of acculturation described acculturation as a multidimensional process (Mendoza, 1989). Incorporating the prior research of Mendoza and Martinez (1981), he described four typological patterns of acculturation (Mendoza, 1989). The first pattern, *cultural resistance*, describes the acquisition of alternate cultural norms while maintaining native customs. The second pattern, *cultural shift*, describes a substitution of alternate cultural norms for native customs, while the third pattern, *cultural incorporation*, is an adaptation of customs from both native and alternate cultures. Finally the last pattern, *cultural transmutation*, is an alteration of native and alternate cultural practices that creates a unique subcultural entity (Mendoza, 1989).

Mendoza (1989) also noted that immigrant individuals are generally multifaceted with respect to the various types and dimensions of acculturation, and that it would be advisable to describe acculturating individuals by measures of multifaceted profiles rather than a single acculturative score. Further, acculturation reflects changes in context. For example, while demographic factors are good predictors of group trends, they may not represent the variability among individuals within groups and therefore, "demographic factors should be

restricted to providing support for the validity of instruments that are based on actual indicators of cultural customs” (Mendoza, 1989, p. 374).

Mendoza (1989) also developed a dimensional scale called the Cultural Life Styles Inventory (CLSI) incorporating such items as intrafamilial language use, extrafamilial language use, social affiliation, cultural familiarity, and cultural identification and pride. Mendoza, through various testing on Mexican-Americans, proved that the instrument possessed adequate content and construct validity.

As did Berry’s, Mendoza’s research prompted for further research. Within seven years Mendoza’s CLSI scale was further tested by a group of researchers on 178 Hispanics of varying national origins (Magaña, de la Rocha, Masei, H. Magaña, Fernandez, & Rulnick, 1996). Respondents were recruited from a primary-care clinic. The results, using a variety of test measures, proved the CLSI scale to be both reliable and valid. Furthermore, the researchers investigated whether the theory of acculturation took into account biculturalism, based on the assumption that some individuals may become fluent in both the native and the host cultures. As a result of their investigation, Magaña and his associates coined the term *bidimensional scoring* that is defined as “counting the number of responses in a given direction to create multiple scales” (p. 448). They continued to say that it “avoids the problem of embedding bicultural scores in the middle of the range and provides the advantage that correlates of biculturality *per se* can now be investigated” (p. 448).

Mendoza’s scale was again tested in 1996, using a Puerto Rican population (De Leon & Mendez, 1996). The sample consisted of college students, 203 from Puerto Rico and 199 from the United States. The students were given a packet of materials including instructions and the CLSI scale along with background information. They were interviewed in groups of

20 – 25. A factor analysis, with a varimax rotation, proved the reliability of the 29 CLSI items that were rated on a 5-point Likert scale.

Mendoza's scale of 29-items measures both behavioral and attitudinal dimensions. The 29 items in the CLSI has response options that correspond to three of Berry's four acculturation varieties. Mendoza's work identified four acculturation varieties. Three out of four of Mendoza's varieties correspond directly to Berry's as follows: *cultural resistance* compares to Berry's separation, *cultural shift* compares to Berry's assimilation category; and *cultural incorporation* compares to Berry's integration category. The fourth Mendoza variety alters between ethnic and alternative cultural practices, and is considered eccentric (Magaña, et. al., 1996), whereas Berry's marginalization category rejects both.

Segmenting a Hispanic Market. In order to segment a market into distinct attitudinal behavioral patterns and then determine grocery brand choice, Maldonado and Tansuhaj (2002) used a blending of Berry's taxonomy and Mendoza's Cultural Life Style Inventory (CLSI) scale. First, Maldonado and Tansuhaj (2002) used Berry's taxonomy to segment a Latino market, and applied Mendoza's CLSI scale to empirically test, based on the respondent's variety of acculturation, their grocery brand choice. They noted that Berry's taxonomy provided an important structure for understanding acculturation and that brand choice could be a part of the social adaptation process. They believed that the varieties of assimilation, integration and separation were good indicators of consumption behavior. They too adhered to the process of identifying multidimensional factors in acculturation research (Mendoza, 1989), that incorporated both an attitudinal dimension of ethnic identity and a behavioral dimension of respondents' participation in host and ethnic cultural behavior (the CLSI scale).

Furthermore, Maldonado and Tansuhaj (2002) used the CLSI scale (Mendoza, 1989) to measure varieties of acculturation, naming them using Berry's scale as noted. Maldonado and Tansuhaj measured an individual's acculturation variety by taking the sum of the number of responses in each variety and dividing it by the total number of responses. The highest percentage represented the acculturation variety. For example, there are 29 item responses possible using a 5-point Likert scale, with the upper end of the scale representing the *English/American only* (5) and the lower end representing the *Spanish/Hispanic only* (1) options. Let's assume a respondent answers 11 items with a "5," 3 items with a "4," 6 items with a "3," 5 items with a "2," and 4 items with a "1." These results are then tallied as follows: the number of 5 and 4' answers are added together, in this example $11+3=14$. The resulting score represents the assimilation variety. The score of "3" represents the integration category and stands by itself, in this example representing a total score of "6." Finally, the scores of 2's and 1's are added together, or $5+4=9$, in this example, representing the separation category. Each of these totaled scores is divided by 29, with the resulting highest percentage (or assimilation in this example) representing the variety of acculturation for a specific individual. Implementing a test of Cronbach's alpha and a factor analysis, the CLSI scale was found to be reliable exhibiting a high internal consistency (Mendoza, 1989).

Maldonado and Tansuhaj (2002) tested several hypotheses regarding grocery brand choice as it refers to a particular variety in Berry's (1980) taxonomy. Using a mail survey sent to Latinos living in a U.S. northwestern community, they found that the first step in the analysis was to segment the responses by acculturation variety. Following this, they tested predictions about grocery brand choice within each variety. Maldonado's and Tansuhaj's findings showed that acculturation varieties are useful groupings for studying consumer

behavior concepts in the acculturation process. Findings indicated that respondents in the assimilation variety chose U.S. grocery brands, as opposed to Mexican brands, 73% of the time; compared to 48% and 32% in the integration and separation varieties respectively. Individuals in the marginalized category were not part of the sampling frame of the study.

This study will incorporate the term “host society” as referring to that of the dominant Anglo or White American culture and the term “ethnic society” as that of the Hispanic culture. Also, as depicted in the Maldonado and Tansuhaj (2002) study, a Hispanic individual’s reference group is likely to be from the Anglo American society in Berry’s assimilation variety; from the Hispanic culture in the separation variety; and come equally from the American and Hispanic culture in the integration variety.

Attitudes Toward Food Retailers

The age-old expression “Imitation is the best form of flattery,” is not lost on the food retail industry. Environmental psychologists have known for decades that the store environment is yet another external effect capable of influencing a wide range of behaviors. Food retailers and researchers alike study these behaviors in an effort to find ways to increase the number of shoppers who make purchases, “for the science of shopping is, if it is anything, a highly practical discipline concerned with using research, comparison and analysis to make stores and products more amenable to shoppers” (Underhill, 1999, p. 17).

Hispanic consumers purchasing groceries at a particular food retailer can be influenced by attitudes toward a food retailer (Figure 2). To understand how attitudes can affect the type of food retailer store shopped, an attitude’s definition and its components as well as how it is measured (using a multi-attribute attitude model) should be comprehended. Since store environment attributes are incorporated in the model, this study will provide

pertinent definitions of these various attributes including “atmospherics” and “servicescapes.” While various attributes have been duplicated in many food retail stores, understanding which of these single or combined attributes, as shown in the previous research of Hoffman and Turley (2002), are most significant to Hispanic consumers, who are different in their variety of acculturation, is what this study will attempt to identify.

Attitude Defined

An attitude is defined as the “relatively lasting manner whereby the perceptions and motives of consumers are organized toward certain market objects, events or situations” (Walters, 1974, p. 160). Solomon (2004) defines an attitude as an enduring, general evaluation of people (as well as oneself), objects, advertisements, or issues. Martin Fishbein (1967) developed a behavior theory with regards to the relationship between beliefs about an object and the attitude toward this object. He notes:

“...any belief about an object can be defined in terms of the “probability” or “improbability” that a particular relationship exists between the object of belief (e.g., an attitude object) and any other object, concept, value, or goal. If the object of belief (i.e., the attitude object) is viewed as a “stimulus” and if the object or concept related to the object of belief is viewed as a “response,” a belief statement may be viewed as a stimulus-response association. Thus a belief about an object may be seen as being highly related to the probability that the stimulus elicits the response...” (Fishbein, p. 389).

Psychology in a large way deals with the relationship between stimulus and response, and any stimulus in a psychological theory or experiment constitutes a part of the environment (Mehrabian & Russell, 1974). A belief system is the sum total of an individual’s beliefs about

an object (Fishbein, 1967). In fact, “an individual associates many different concepts with any given attitude object” (Fishbein, p. 390). It is also important to note that once an individual has learned a concept, he may learn a new association towards it (Fishbein, 1967). This new evaluative response then becomes associated with the stimulus concept. How a stimulus will be interpreted may be determined by its relationship with other events, sensations or images (Solomon, 2004). For example, if a food consumer knows that bread is an important source of the nutritional daily requirements for grains but then learns certain breads contain less fat and carbohydrates, they might seek out and change the brand they currently purchase to another one.

Attitude Components. An attitude has three components: affect – the way a consumer feels about an attitude object; behavior – the intentions to do something with regard to an attitude object; and cognition – the beliefs a consumer has about an attitude object (Solomon, 2004). With respect to any object, an individual has a positive, negative, or neutral attitude about it (Fishbein, 1967). Consumer attitudes are known to vary in intensity and often some consumers may even tend toward neutral predisposition toward a product or store (Walters, 1974).

Multi-attribute Attitude Models

Attitudes can be measured using a multi-attribute attitude model. The model’s basic purpose is to yield attitude scores which are significantly related to measures of a consumer’s purchase predisposition (Wilkie & Pessemier, 1973). In their seminal article on the uses and evolution of multi-attribute attitude models, Wilkie and Pessemier (1973) note that a multi-attribute attitude model enhances an understanding of attitudinal structure. There are a number of important components in a multi-attribute model including attributes, importance

and beliefs. The attributes included in a multi-attribute attitude model provide the basic dimensionality of the model (Wilkie & Pessemier, 1973). Importance weights provide for individual respondent differences in stress placed on various attributes (Wilkie & Pessemier, 1973). Beliefs affect the entry of brand-specific judgments and differences into the model and this variable reflects a respondent's perceptions of the association between a particular attribute and a given brand (Wilkie & Pessemier, 1973).

Fishbein's Attitude Model. The Fishbein model known as the most influential multi-attribute model, measures the salient beliefs about an object, the probability that a particular object has an important attribute, along with an evaluation of each of the important attributes (Table 2). Essentially, an overall attitude score is computed by summing the scores on each attribute after weighting each by its relative importance.

A Multi-attribute Attitude Model. The conceptual model for determining Hispanic consumers' attitudes (Figure 2) will determine what store environment attributes impact a Hispanic consumer's decision to choose a particular food retail store. In order to assist in determining this, this study will implement a multi-attribute attitude model (Table 3) based on Fishbein's attitude model as an instrument measuring food retailer store choice.

Psychologists (e.g., Albert Mehrabian) have studied the relationship between a store's environment and a consumer's patronage and purchasing habits. Stores can be readily designed, through their environments, to elicit feelings from their customers of both pleasantness and arousal and create the positive attitudes that will lead to store choice. It is this combination of emotions that makes people most susceptible to influence and thereby increases both customer suggestibility and purchasing (Mehrabian, 1976), which certainly would lead to increased favorable attitudes and sales, which every food retailer wants.

Store Environment

Store design is one strategic component that food retailers often view in an effort to increase favorable attitudes and sales from their customers. Food retailers do this in hopes of influencing consumer behavior in a positive way, and to assure that their store is positioned to be the one their targeted consumers select when shopping for a particular food item. In designing a store and creating an environment that is satisfying to their customers' buying orientation, a food retail store's environment may contain a number of different store environment attributes including atmospherics and servicescapes. Many of these attributes are included in the Hoffman and Turley model (2002), which lists the frontstage portion of what a consumer experiences, or sees up front, while shopping in a particular store.

Some grocery shoppers choose a food retailer due to prices offered, convenience of their location, or both. While price and location are considered important food store attributes, there are a number of other store environment attributes that play an important role in where a consumer chooses to shop. Luomala (2003) noted that retail environments embody meanings and these meanings vary according to the type of retail environment and the type of individual. In 1974, Albert Mehrabian and James Russell developed a behavioral framework that incorporated the environment as an object to which individuals evoked both an emotional and a behavioral response. Their theory proposed that physical or social stimuli in an environment directly affected the emotional state of an individual that then influenced their behavior in their environment. Turley and Chebat (2002) noted that physical or social stimuli in an environment will influence an individual either to explore and stay in a particular environment (approach) or to leave and not return (avoidance). For example, targeting the food consumer shopping for a particular type of bread, a food retailer

could use the environment component of odor, or the smell of fresh baked bread, that this consumer is looking for in order to entice favorable attitudes and sales. In other words, a food retailer can implement a marketing strategy designed to influence a consumer by employing physical stimuli experienced at the point of purchase, thereby creating an influential atmosphere in their exchange environments (Turley & Milliman, 2000).

To market effectively, retail managers need to understand the thought processes used by both consumers and employees during each stage of the consumer decision process (Hoffman & Turley, 2002). Food retailers are reminded that “a person’s attitudes are the best guide to what a person feels and believes” (Walters, 1974, p. 172). It is equally important to realize that the importance of an attitude object such as a product, brand or store may be entirely different for different people. Since individuals come from different backgrounds, they have different beliefs or attitudes about an object such as the physical stimuli contained in a store’s environment. Retailers who are trying to devise strategies that will appeal to different customer segments can find it useful to understand an attitude’s centrality to an individual as well as to others who share similar characteristics (Solomon, 2004). With regards to Hispanics, their attitudes are expected to be different as their variety of acculturation changes.

Atmospherics and Servicescapes

Before a marketer can understand attitudes toward store environment variables, they must first grasp an understanding of the store environment and all that it encompasses. A store environment contains many sets of stimuli at varying levels that influence attitudes. Lewison and DeLozier (1982) define a store’s physical environment as a combination of the tangible elements of appearance reflected in the way land, buildings, equipment, and fixtures

are combined for the convenience and comfort of both customers and retailer. They note that the perceived atmosphere the retailer creates and the store's psychological environment are equally important (Lewison & DeLozier, 1982).

From the study of the store environment over the years, a new term "atmospherics" has evolved. Atmospherics is defined as "the conscious designing of space to create certain effects in buyers. More specifically, "it is the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability" (Kotler, 1974, p. 50). It is the conscious planning of atmospheres that contributes to the buyer's purchasing propensity (Kotler, 1974).

Other researchers have described atmospherics in a similar fashion. Bitner (1992) refers to atmospherics as the physical design and décor elements. Turley and Milliman (2000) refer to atmospherics as "the intentional control and structuring of environmental cues." (p. 193). Years later, Hoffman and Turley (2002) describe atmospherics as "the intentional control and manipulation of environmental cues" (p. 34).

The seminal study by Bitner in 1992 provided a new term for researchers that tied external and internal environmental cues together and is referred to as "servicescapes." Servicescapes provide a visual metaphor for an organization's total offering (Bitner, 1992). Specifically, servicescapes refers to a "framework that describes how the built environment (i.e., the manmade, physical surroundings as opposed to the natural or social environment) affects both consumers and employees in service organizations" (Bitner, 1992, p. 2). More specifically, Bitner added the dimension of the human contact to the cues being researched. Bitner notes that firms want to encourage approach behaviors between employees and

customers and that the nature and quality of this interaction is influenced by the servicescape.

The Hoffman and Turley Model

Using an earlier model that tied both the atmospheric or physical environment with the human component as their theoretical framework, the Hoffman and Turley study (2002) integrated Bitner's servicescapes model to atmospherics. Their study noted "servicescapes or atmospherics have the means of providing the *evidence* that assists consumers in making subjective evaluations of services products" (Hoffman, et. al., 2002, p. 3) and thereby atmospheric variables become an essential part of the encounter and delivery process. The frontstage model containing attributes that are visible to consumers, further breaks down into two main sets of stimuli that can be studied: the animate and inanimate environments (Table 4).

An animate environment consists of the "live" set of stimuli such as contact personnel and other customers. An inanimate environment consists of the static set of stimuli such as general exterior, general interior, layout and design, and point-of-purchase (p.o.p.) and decoration (Hoffman & Turley, 2002). Since this research is focusing on how attitudes of the Hispanic shopper towards different store environment variables can be used to gain a favorable outcome (i.e., patronage and sales), only the frontstage attributes of the Hoffman and Turley model, as they apply to food retailers, will be investigated in this study.

While store environment research has been conducted over the last 40+ years investigating both animate and inanimate variables and a customer's various reaction to them, no research has yet to pull together a mixture of variables as it relates to the Hispanic population, the fastest growing minority in the United States (Census 2000). Since Kotler's

definition of atmospherics in 1973, researchers have shown how both atmospheric and servicescape stimuli combine to influence the behavior of individuals. For example, the extensive study by Turley and Milliman (2000) provided a summary of 60 published studies that showed statistically significant relationships between consumer behavior and the store environment.

A number of researchers have implemented their independent or combined sets of “cues” or variables in order to show retailers how to create environments that will help them achieve their purpose. While many researchers incorporate the same definition for atmospherics or servicescapes, they are not always measured in the same way. Further, some researchers alter their research terminology. For instance, they refer to the particular environmental stimuli as “variables,” “cues,” or “store attributes.” The term “variables” is defined as “manifestations or concrete, measured expressions of these aspects that we can count, categorize, or otherwise assign numerical values to” (Dooley, 2001, p. 60). Cues are defined as “a characteristic or dimension, external to a person, which can be encoded and used to categorize a stimulus object” (Eroglu &Harrell, 1986, p. 351). For the purposes of this study, the term attribute, which is the characteristic of an object (Solomon, 2004), will be used.

Food Retail Store Choice

Changing consumers’ attitudes about their store choice would be an advantage to any food retail store hoping to gain new customers. Food retailers are often so standardized in their merchandise and store layout that shoppers have difficulty distinguishing between them and therefore may not be as particular. There have been a number of studies specifically regarding supermarket or grocery food retail store choice. Smith and Sanchez

(2003) found some shoppers chose a store due to its location or prices offered, while Zarkada-Fraser and Fraser (2002) reflected that shoppers chose a supermarket food retailer based on whether it was foreign or domestically owned. Other patronage research (Darden & Ashton, 1974, 1975; Sullivan et. al., 1997) studied shopping orientations including lifestyles, store attribute preferences and outshopping preferences. Relating current research to food retailers' particular problems is important, especially as these stores hope to alter attitudes and therefore shopping behaviors of a new market segment.

Where Hispanics Shop For Food

The Food Marketing Institute's (FMI) *U.S. Hispanics: Insights Into Grocery Shopping Preferences and Attitudes, 2002*, found that as a group, U.S. Hispanics want fresh, high quality products; Hispanic products; and bilingual store employees, signage and product packaging (Jaketic, 2002). Another study by FMI, *Trends in the United States: Consumer Attitudes and the Supermarket, 2002*, noted that Spanish-Preferred Hispanics shopped at supermarket food retailers 4.4 times per month, while English-Preferred Hispanics shopped there 6.1 times per month (Jaketic, 2002). Both groups also shopped at bakeries and butcher shops. The study found the total average number of trips among all store types for Spanish-Preferred Hispanics was 18.1 per month, for English-Preferred Hispanics was 16.1 per month, and for Non-Hispanic shoppers, it was just 8.8 trips per month—half the number of trips Spanish-Preferred and English-Preferred made (Jaketic, 2002).

Based on the above studies, it is easy to see why the Hispanic market segment continues to increase in importance especially in regard to food retailer choice. As previously mentioned, the economic clout of the Hispanic market is expected to swell to \$926.1 billion by 2007 as Hispanics' buying power grows at a rate almost three times as fast

as that of whites, according to the Selig Center for Economic Growth at The University of Georgia (Humphreys, 2002). Buying power can be defined as the total personal income of residents that is available for spending on goods and services, after taxes (Solis, 2002). The growth of Hispanic buying power is propelled by many factors including their growing population. Hispanic spending habits reflect the differences in their per capita income, wealth, demographics, and culture, compared with those of the average U.S. consumer (Humphreys, 2002). For instance, despite their lower average income levels, Hispanic households spend a greater percentage of their total annual expenditures on groceries (10.7 %) versus that of their non-Hispanic counterparts (7.9 %) (Humphreys). Additional research based on demographic and psychographic data has shown that as their socioeconomic status increased, Hispanics' shopping behaviors became less differentiated from those of non-Hispanics (Eckman, et. al., 1997).

Many food retailers, such as supermarket chains, where Hispanic consumers purchase products at higher than normal proportions, are interested in understanding Hispanic shopping behaviors. As previously mentioned, acculturation varieties appear to be one reason some Hispanics shop smaller food markets, or bodegas, while others patronize larger stores that offer better prices (Howell, 1999). Seeing the overall sales potential, some supermarket food retailers are offering more choices for the Hispanic consumer by opening new store concepts geared towards the Hispanic market while some food retailers are simply introducing or enhancing their ethnic food selections. For example, Albertson's *Super Saver* in California, Marsh Supermarkets *Savin\$ Mercado* located in Indiana, and Publix' *Sabor* in Florida, are all new concepts that have opened recently (Clark, 2003; Toothman, 2005). One supermarket, Safeway, reaches the Hispanic market where they live, in their own language

and is also changing the way they merchandise (Vavra, 2001). Safeway believes that seeing a richer more colorful store and implementing creative displays for holidays are some of the store design components that Hispanics want to see (Vavra, 2001).

These new food retail concepts as well as some of the current store concepts in various markets warrant new investigations of how acculturation plays a role in determining food retailer store choice. To effectively reach a particular market, food retailers should rely more on empirical research in order to gain an understanding of how to target a particular group in relation to its acculturation into the mainstream culture. This understanding may mean positioning the organization to fit the marketplace rather than bending the marketplace to fit the organization (Segal, et. al., 1994). Positioning is when “a brand must differentiate itself, if possible, through tangible product attributes and then communicate that differentiation positively” (Vakratsas et.al., 1999, p. 5).

Some supermarket food retailers are positioning themselves to gain a greater share of the market, often at the expense of smaller or regional grocers, and are teaching others through their successes. Their strategy is a simple one: “food drives frequency, frequency drives sales, and sales drive the bottom line” (Schulz, 2002, p. S2). In order to increase the number of consumer shopping trips, thereby raising sales, the retail category of general merchandisers have copied this idea by placing grocery items in their own stores. Yet, despite the unprecedented growth of these general merchandisers, or supercenters, consumers still make more shopping trips to supermarket food retailers (e.g., Kroger, H.E.B., Albertson’s) than to any other type of retail store by more than a three-to-one ratio over mass merchandisers (Schulz, 2002). This fact, along with the knowledge that Hispanics make more grocery trips per week compared to non-Hispanic shoppers (Jaketich, 2002),

emphasizes the importance for all food retailers to determine what single, or combination of, store environment attributes this target market finds important and how Hispanic consumers' attitudes might be influenced by these attributes when determining their store choice.

An overall understanding of the needs of the Hispanic shopper is a significant factor to food retailers who are constantly trying new ideas including merchandising, signage or even bilingual employees, as a way to increase communication to and sales from their target market (Jaketic, 2002). Food retailers have an opportunity to reach the loyal Hispanic shopper through segmenting their overall market just as Albertson's, Publix and Marsh supermarkets have recently demonstrated.

Research Questions

How will the variety of acculturation (separation, assimilation, integration, and marginalization) of Hispanic shoppers affect their attitudes toward an assortment of store environment attributes? In addition, how will variety of acculturation affect their store choice of food retailer?

Hypotheses

Understanding how Hispanic consumers' acculturation variety influences their food retailer store choice would be a helpful marketing tool for food retailers. This study will adopt the methods implemented by Maldonado and Tansuhaj, which incorporated Berry's taxonomy and Mendoza's Cultural Life Styles Inventory as an acculturation measurement tool.

Varieties of Acculturation and Attitudes toward Food Retailers

The findings of previous research suggest that Hispanics exhibiting different varieties of acculturation will reflect diverse attitudes and behaviors. Because each variety of acculturation is based on a measure of multifaceted profiles (Mendoza, 1989), one would expect that a Hispanic individual in the assimilation variety of acculturation has attitudes towards a food retailer's store attributes different from that of a Hispanic individual in a different variety of acculturation. For example, a Hispanic individual who reflects the assimilation variety of acculturation is not expected to portray the same attitudes as a Hispanic in either the integration or separation variety since different varieties of acculturation result from different cultural strengths of identity along with other measures. Since each variety of acculturation represents individuals who reflect diverse characteristics but are similar as a whole, the resulting attitudes regarding which environmental components are important to each acculturation variety are also expected to reflect different measures. Therefore, based on the strength of attitude toward store environment attributes, as measured by the multi-attribute attitude model, it is hypothesized that:

H₁ Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation.

Varieties of Acculturation and Food Retail Store Type Choice

The Maldonado and Tansuhaj's (2002) study found that different acculturated groups of individuals selected either "American" or "Hispanic" store brands. It is assumed that similar results will be found for a Hispanic's food retail store type choice. That is, Hispanics will group together with those who have characteristics similar to themselves and select the same type of food retailer. For example, it is assumed that a Hispanic reflecting an

assimilation variety of acculturation is more likely to choose a type of food retail store normally associated with an “American” culture, such as a supercenter or a supermarket, more often than a Hispanic, neighborhood grocery store which is more likely to be selected by Hispanics identified as *separated*. Hispanic individuals in the *integration* variety are likely to select American or Hispanic neighborhood food retail store types equally. Integrated Hispanics will select a store depending upon which culture they are associating with at the time, and may even shop at both. Thus, it is hypothesized that:

H₂ Hispanic consumers’ primary food retail store type choice is dependent upon variety of acculturation.

Attitudes toward Food Retailers and Food Retail Store Type Choice

It has been shown in past research (Fishbein, 1967) that attitudes are learned and that beliefs about an object (such as one’s environment) are viewed in terms of the stimulus-response associated with it. People from different cultures have different experiences and value structures and their cultural differences may have significant impact on the evaluative component of attitudes (O’Guinn, et. al., 1986). In other words, attributes that people consider to be important in selecting an object (product, brand or store) are different based on beliefs that stem from the culture in which they were raised. Understanding how the Hispanic consumer, based on his or her level of acculturation, communicates the significance of various store environment attributes through his or her primary food retail store type choice is thus far an unanswered question. It is hypothesized that:

H₃ Hispanic consumers’ attitudes towards store environmental attributes will differ by the type of primary food retail store shopped.

CHAPTER 3

METHODOLOGY

The conceptual model (Figure 2) reveals a number of different components that will determine a Hispanic consumer's attitudes toward a food retailer based on their variety of acculturation and their food retail store choice. Each of these components contributes to the empirical testing of the hypotheses (Figure 3). Specifically, the following three hypotheses will be tested: H₁ Hispanic consumers' attitudes toward store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation; H₂ Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation; H₃ Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped.

The Survey Instrument

Based on the studies of Mendoza (1989), and Hoffman and Turley (2002), a survey instrument (Appendix, Figure 7) was developed using Likert scales, the most widely used method of measuring attitudes (Hodge & Gillespie, 2003), and open-ended questions.

The survey contained four parts and included of a total of 85 questions (Appendix, Figure 8). Parts A and B (Table 5) contained store environment questions, Part C contained acculturation questions and a few demographic questions, while Part D contained the remaining demographic questions.

Separate English and Spanish versions of the survey were developed using translation and back translation. The written English version was created first. Following this, a bilingual translator was hired to convert the English survey into a Spanish survey.

Then, another bilingual translator received the Spanish survey and then “back translated” the survey to English without seeing the original English version as a guide.

It was during the translation into the Spanish version that the survey was initially revised to insure clarity of choices. Following the translation into Spanish, the layout of the survey was slightly altered to create a “booklet” type survey that would allow for a respondent to fill out the instrument with greater ease. Two survey booklets were created, one in English and one in Spanish. Two different colors were used for these two versions. The questions were identical, excluding language.

Part A: Importance of Store Environmental Attributes

Questions developed from the list of frontstage attributes as noted in the Hoffman and Turley model (Table 5) were used for both Parts A and B (Appendix, Figure 8). The first set of 21 questions used in Part A pertained to the importance of various attributes when shopping a food retail store. Attribute importance was measured using a 5-point Likert scale (1= not important; 5 = very important). Using an odd numbered scale ensured a neutral point, which is important for attitude measurement. In addition, a column for “Don’t Know/Not Applicable” was included in case a statement did not apply. For example, parking would be “Not Applicable” if the respondent rode a bus.

Part B: Food Store Shopped and Perception of Store Environmental Attributes

Respondents were asked three questions regarding the store shopped most often for groceries. They were: ‘What one store do you shop most frequently for groceries?’ ‘How often each week do you shop at this store?’ and ‘On average, how much do you spend on groceries each week at this store?’ (Appendix, Figure 8). Then they were asked to answer a second set of 21 questions, based on the Hoffman and Turley model (Table 5, column 3)

pertaining to the actual store location where the respondent shopped most frequently and the perception of the extent to which the store the respondent shops has the attributes. These questions pertaining to the perception were identical to those in Part A, excluding the verbal description of the rating scale. Again, 5-point Likert scales were implemented; however, the scale changed from strongly disagree (1) to strongly agree (5). Once again, a column for “Don’t Know/Not Applicable” was included in case a statement did not apply. Finally, three questions related to grocery shopping that were the same as those in the first set except the secondary, instead of the primary food retailer, were listed. If respondents answered they did shop another food retailer when purchasing groceries, they were asked to list the name of the food retailer, how often they shopped at that store each week and the average amount spent on groceries.

Part C: Variety of Acculturation

Respondents were asked a series of 29 questions derived from the Cultural Life Style Inventory scale (Mendoza, 1989), 2 questions on the varieties of acculturation taxonomy (Berry, 1980), and 2 questions regarding national origin and strength of ethnic identity (Appendix, Figure 8). A 5-point Likert scale was used along with an option for “Don’t Know/Not Applicable” for the Cultural Life Style Inventory (CLSI) scale. The first dimensions of the CLSI which dealt with intra- and extra-familial language used the scale of: Spanish only (1); more Spanish than English (2); Spanish and English equally (3); more English than Spanish (4); and English only (5). The remaining dimensions of the CLSI which included culture and ethnicity used the scale of: Hispanic only (1); more Hispanic than American (2); Hispanic and American equally (3); more American than Hispanic (4); American only (5).

To determine Berry's (1980) variety of acculturation taxonomy, two questions were asked using a 5-point rating scale of 1 (strongly disagree) to 5 (strongly agree), with an additional column of "Don't Know/Not Applicable." To determine national origin and strength of ethnic identity, two questions were asked. The question on national origin, by using the same format as that asked in the Census 2000, asked respondents, 'What is your national origin?' and then asked respondents to check either 'Cuban; Mexican, Mexican American, Chicano; Puerto Rican; or other Spanish/Hispanic/ Latino' and finally asked respondents to print the name of the group in a space provided just below the fourth item. The question regarding strength of ethnic identity was rated on a 5-point Likert scale; strongly disagree (1) to strongly agree (5), with an additional column of "Don't Know/Not Applicable."

Part D: Demographic Information

Eleven demographic questions were asked for descriptive analysis purposes (Appendix: Figure 8). Questions included respondents' gender, age, income, education, number of people in household, as well as city and zip code information. In addition, respondents were asked questions pertaining to where they were born, how long they had lived in the U.S., how often they visited their home country and the amount of schooling received in their home country.

Pre-Testing of the Survey

A pre-test of the survey was implemented in an effort to determine if statements needed clarification or revision and, if possible, to reduce the number of questions asked. Surveys were distributed to 74 Hispanic individuals for pre-testing in two cities located in the southeastern United States to obtain both English and Spanish speaking respondents. The

respondents were predominantly personal friends, acquaintances, Hispanic church group members, and the researcher's family members. Two bilingual survey assistants were hired to facilitate survey distribution and completion. The survey assistants were trained on proper surveying techniques, were familiar with the survey and were able to answer questions from the respondents in either English or Spanish. The survey was administered during a three-week period in March 2005. Respondents were screened with two questions: whether they were Hispanic and whether they were the primary grocery shopper in their family. The respondents who qualified were given a choice of either the English or the Spanish version of the survey, which contained the same questions. While the respondents were filling out the survey, the time it took for the survey's completion was noted in order to aid in the planning of the implementation of the main survey scheduled during a later time frame. The time involved to take the survey ranged from 10 to 40 minutes. Following its completion, the survey assistants checked the survey for completion through quick scanning.

Pretest Results

Of the 74 surveys distributed and returned, 44 surveys contained no missing information. Few observations contained "Don't Know/Not Applicable" or neutral type responses to questions. The above noted 44 surveys were used for item analysis and reliability testing. Approximately half the surveys were answered in each language: 24 in English and 20 in Spanish.

Since the sample was non-random, it may have introduced some bias and will limit the external validity of the pretest. However, the pretest was mainly conducted to test the reliability of the instrument using Cronbach's alpha and to determine if there were misleading or confusing questions. Parts A, B and C, which contained Likert scales, were

tested independently for reliability. In addition, an item analysis within each part was implemented in order to possibly diminish the number of survey questions asked while still maintaining high reliability.

The Cronbach's alpha coefficients in the three parts were high (Part A - .865950; Part B - .902820; and Part C - .880763) indicating high reliability for each scale. The item analysis of the Likert scales did not reveal that any of the first 20 questions should be removed.

Based on personal responses and statistical data, the survey instrument was revised to clarify any misleading or confusing questions. The only question that was dropped was the open-ended question (#21) at the end of the list of store characteristics (Parts A and B) where respondents were asked to fill in an "other characteristic." Most often, this question was left blank, or filled out incorrectly. Also, some responses did not apply to store characteristics, but rather to prices and other store attributes. Changes were made to both the English and the Spanish booklets in time for the actual test of the survey in San Antonio, Texas in mid-April 2005.

The Sample and Data Administration

The revised survey instrument was administered during Fiesta[®], an annual 10-day Hispanic festival located in San Antonio, Texas, during April 2005. This annual 10-day festival included museum exhibits, parades, a carnival, strolling musicians and many other events scheduled daily. The festival commission estimated over 3.5 million visitors attended the various events with crowds at the final two parades estimated at 250,000 each.

After discussions with Fiesta[®] commission personnel and various committee members were held, several events were pre-selected for survey implementation, based on

estimated crowds and the likelihood of obtaining responses. These events included the Paseo Del Rio Children's Festival, Fiestas Fantasias-Market Square, Battle of Flowers Parade®, Night in Old San Antonio (NIOA); King William Fair & Parade; and the Fiesta Flambeau Night Parade.

Due to the number of required completed surveys (approximately 300) for adequate survey results, three interviewers were hired in order to assist in the survey collection. Different time frames of various festival events ensured adequate coverage. Two interviewers were bilingual. In addition to asking the required filter questions, all interviewers were trained to answer questions from respondents if an item was unclear.

A multi-step process was used to randomly select respondents at the various events and to ensure that potential candidates were the proper sample. Potential candidates were visually identified as Hispanic, and after the introduction, filter questions were used to screen out inappropriate survey candidates. Filter questions included whether they lived in the U.S., self-identified themselves as Hispanic, and were the household member responsible for selecting the food retailer where groceries were purchased. Then, if this household member was present, he or she was asked to fill out the survey. The survey respondents were found sitting along a parade route, strolling along during an outdoor event, or standing in line during a festival event. Respondents filled out the survey on-site, and were encouraged to complete the survey in exchange for a festival pin. The pins used as incentives were considered collectors' items and were enthusiastically accepted by the survey respondents.

The Paseo Del Rio Children's Festival was held on the first Saturday of the festival. The survey was administered during the hours of 11 AM to 2 PM. This event, designed for children and their families, included live entertainment by children, face painting, story

telling, interactive games, and a moon bounce. The event was held at the River Walk, an open air/outdoor location along the San Antonio River, next to the Rivercenter Mall. A total of 35 surveys were collected.

Fiestas Fantasias-Market Square took place downtown and was sponsored by the San Antonio Parks Foundation. The events included more than 30 food booths and live entertainment from five stages. This event was surveyed during the final Thursday and Saturday of the festival. A total of 25 and 68 surveys respectively, were collected.

The Battle of Flowers Parade was held on the final Friday of the 10-day event and included just over 200 segments consisting of floats, high school and college marching bands, clowns, and equestrian units. The 2.6-mile parade route wound throughout the downtown area of San Antonio. Spectators purchased reserve seating, brought their own seats, or stood along the parade route. The theme of the parade was “Entertainment Live in 2005” and has continued, since its inception in 1891, to honor the heroes of the Alamo and to commemorate the Battle at San Jacinto where Texas won its independence from Mexico. The parade was held in the middle of the day beginning approximately at noon and took over three hours to complete. In honor of the festival, schools and many businesses were closed and therefore this event was well attended. A total of 123 surveys were collected.

A Night in Old San Antonio (NIOA) took place in the historic downtown village of La Villita. Visitors gathered to enjoy more than 240 elaborately decorated food and drink booths and more than a dozen nonstop entertainment stages representing the diverse cultures and customs of the city. This event supported the many programs of the San Antonio Conservation Society. A total of ten surveys were collected.

The King William Fair and Parade event held in the King William historic district included a parade, four stages of musical entertainment, and local artisan craft booths. This event was held the final Saturday of the 10-day event. A total of 26 surveys were collected.

The Fiesta Flambeau Night Parade was held the final Saturday of the 10-day event and celebrated its 58th edition themed “Through the Eyes of a Child.” This parade has been the largest illuminated march in the nation. This parade followed the same 2.6-mile route taken by the Battle of Flowers parade held the day before. Again, spectators purchased reserve seating, brought their own seats, or stood along the parade route. The one hundred eighty parade elements included floats, equestrian groups, clowns, various military and drill teams, and university and high school bands. The parade lasted over three hours. A total of 61 surveys were collected.

The crowds at the various events described above were large, ranging from several hundred to several hundred thousand. Respondents were friendly, enthusiastic and willing to take the survey. Noting that San Antonio is a border town, it was assumed that some potential respondents might be suspicious of our approach and the entire survey process. This was not found to be the case, as very few people refused to answer the survey.

Data Analysis

Due to the multiple components that are part of this research, several preliminary procedures were executed prior to the multivariate analyses. In addition, it was determined whether any assumptions should be made about the data, and which statistical procedures should be implemented (Dooley, 2001).

Preliminary Procedures

Prior to executing any statistical data analysis, a researcher generally initiates preliminary procedures such as screening the data (Johnson, 1998) and determines whether any computations or grouping of the data is required. For purposes of this study, the data were screened for missing or incorrect information regarding the observations. Following the data screening, additional steps were performed in order to better categorize or group responses. First, mathematical results were obtained from the multi-attribute attitude model for determining food retailer choice using the survey information (Appendix, Figure 8, Part A, #1 – 20; Part B, #2 – 21). These results established the attitudes towards food retail stores. Second, a new variable was created that grouped respondents' primary food retail store choice (Appendix, Figure 8, Part B, #1) observations into four categories: warehouse clubs, supercenters, national/regional supermarkets, and neighborhood/Hispanic grocers. In addition, another variable was created that grouped respondent's secondary food retail store choice (Appendix, Figure 8, Part B, #22). Third, both Berry's (Appendix, Figure 8, Part C, #1 & 2) and Mendoza's (Appendix, Figure 8, Part C, #5 – 33) scales for variety of acculturation were tabulated. Then the results obtained were separated into their respective varieties of acculturation (assimilation, integration, separation and marginalization). Finally, the demographic information (Appendix, Figure 8, Part C, #3 – 4; part D, 1 – 11) was tabulated and combined with some of the above information to more clearly describe the Hispanic consumers in our study as well as their food shopping habits and expenditures.

Multivariate Analyses

Following the preliminary procedures, a number of multivariate methods of analyses were implemented due to several data structures and relationships investigated in the data

set. The multivariate methods implemented included principal component analysis, factor analysis, fuzzy cluster analysis, nearest neighbor discriminant analysis, and multivariate analysis of variance (MANOVA). The principal component analysis, factor analysis, fuzzy cluster analysis, nearest neighbor discriminant analysis were employed with the 29 items of Mendoza's Cultural Life Styles Inventory (CLSI) scale to identify and verify the varieties of acculturation into which an observation fell.

Principal Component Analysis versus Factor Analysis. A principal component analysis (PCA) is a tool that can be used to reduce the number of variables into a smaller number of dimensions (linear combinations of original variables), while retaining as much of the information (variation) as possible (Hintze, 2004). A calculation of this uncorrelated set of variables (a linear combination of original variables) is then ordered so that the first few retain the majority of the variation present in all of the original variables (Hintze, 2004).

One way of assessing the construct validity of a measure, such as the Mendoza scale, is by implementing a statistical method known as factor analysis (Dooley, 2001). By implementing a factor analysis (FA), response variables were placed in a subset, with each subset consisting of variables that were more highly related to others within the same subset than to those in other subsets (Johnson, 1998). Factor analysis will assess construct validity; however, it will not lead to data reduction.

PCA, unlike FA, will always yield the same solution from the same data apart from arbitrary differences in the sign (Hintze, 2004, Johnson, 1998). In addition, in PCA no assumptions, such as multivariate normality, are made with regards to the data (Johnson, 1998). However, in FA, assumptions such as the factors are independently and identically distributed with a mean of zero, are made (Hintze, 2004; Johnson, 1998). While the PCA

scores were implemented to reduce the number of variables into a smaller number of factors, the results of the factor analysis were reviewed for interpretation of the data.

Fuzzy Clustering. By implementing a fuzzy cluster analysis, one hopes to obtain some predictability with regards to how many varieties of acculturation can be classified. In other words, does the Mendoza scale accurately predict the number of varieties of acculturation wherein a Hispanic individual may lie? In order to verify which clusters observations belonged to, a Fuzzy Cluster Analysis procedure was implemented. Fuzzy clustering generalizes partition-clustering methods (such as k-means and medoid) by allowing an individual to be partially classified into more than one cluster (Hintze, 2004; Seaver, Triantis, & Reeves, 1999). In regular partition clustering, such as Wards, each individual is a member of only one cluster. For example, if a researcher has K clusters, he or she may want to define a set of variables that represent the probability that object “t” is classified into cluster “k” (Hintze, 2004). Using partition-clustering algorithms, such as Wards, one of these values will be one and the rest will be zero, thus resulting in an individual observation being classified into one and only one cluster. However, in fuzzy clustering, the membership is spread among all the clusters in the sample. When reviewing the results, a researcher can learn whether and how strongly an observation is classified into one or more clusters. While an advantage of fuzzy clustering is that it does not force every object into a specific cluster, fuzzy clustering’s disadvantage is that there is much more information to be interpreted (Hintze, 2004). For instance, equal membership into several clusters may signal that the observation is an outlier or a uniquely different observation, or an observation that may have diverse acculturation profiles, as in this research.

Nearest Neighbor Discriminant Analysis. A nearest neighbor discriminant analysis enables a researcher to predict the population from which an observation is most likely to have come (Johnson, 1998). In other words, it is used to predict what group, or variety of acculturation, an individual comes from (Hintze, 2004). In addition, a nearest neighbor discriminant analysis makes no distributional assumptions of normality. The nearest neighbor discriminant analysis procedure was implemented using SAS software. In addition, a subset of variables, using a stepwise procedure, was found for both the Mendoza and the fuzzy methods to determine if this smaller set of variables could also discriminate as well as or better than the initial 29 employed.

When conducting a nearest neighbor discriminant analysis, a researcher should be able to determine, or estimate, the probabilities of correct classifications of new observations the discriminant rule (or classification scheme) obtained from the analysis employed (Johnson, 1998). Of the initial 29 variables, a jackknife method for the discriminant rule obtained was implemented in order to determine the best discriminators. Jackknife, or cross-validation, estimates are nearly unbiased estimates of the true probabilities of correct and incorrect classifications (Johnson, 1998). Once these groups or varieties were validated, it was possible to determine whether the Mendoza method was statistically supported and whether its process of classifying individuals into a particular variety of acculturation should then be used to further investigate the remaining data.

Hypotheses Testing

Once the varieties of acculturation were determined, the hypotheses were set to test for significance. For this purpose, based on the structure of the data, two different tests were used. Hypotheses one and three employed a MANOVA test; hypothesis two employed

a cross tabulation test. For each of the hypotheses, significance was tested at a .05 probability level.

MANOVA. MANOVA is used to test the differences among various group means on multiple-response variables, by a comparison of vectors of group means (Hintze, 2004; Johnson, 1999). Because the multivariate extension of the F-test is not completely straight (Hintze, 2004), approximations based on the F-distribution will be relied upon.

H₁ Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation. In order to test H₁, MANOVA test for significance between the dependent and independent variables was implemented. For this test, the independent variable was variety of acculturation with three categories (assimilated, integrated, and separated), and the dependent variable was attitude towards food retailers. For this analysis, the null hypothesis, that the means are equal, was tested. Once the MANOVA test was completed, a univariate Analysis of Variance (ANOVA) test was implemented to determine which of the variables and factors were "causing" the significance. The ANOVA tested whether the store attributes had the same mean by comparing how far apart the sample means were with how much variation there was within the samples (Moore, 2004). For univariate cases, the *F* test used in ANOVA has been found to be a powerful, unbiased testing procedure (Johnson, 1998).

H₃ Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped. A MANOVA test was executed to determine if two primary food retail stores (supermarkets versus supercenters) differ in Hispanic consumers' attitudes towards store environmental attributes. For this test, the independent variable was the primary food retail store type, and the dependent variable was

attitude towards food retailers. For this analysis, the null hypothesis, that the means are equal, was tested. The univariate ANOVA test was implemented to determine which of the variables and factors were "causing" the significance.

Cross Tabulation. In addition to the MANOVA test, a cross tabulation was implemented to test for statistical significance between the categorical variables of primary food retail store type and variety of acculturation. The resulting chi square test was investigated to determine if a relationship exists between these two variables (Moore, 2004).

H₂ Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation. A cross tabulation determined if there is statistical significance between the two variables: primary food retail store type and variety of acculturation.

Upon completion of the survey implementation, the various analyses described above were executed. Following this, the analysis results were obtained for further investigation. In addition, any other pertinent information revealed by the study will be discussed as well.

CHAPTER 4

RESULTS

A total of 348 surveys were collected during the festival event. The survey responses were coded and entered into an Excel file. A careful check of the entries was made to ensure the responses were correctly entered. Following data entry, the Excel file was imported into the Number Cruncher Statistical Systems (NCSS) software program, release version 2004, for further statistical analysis.

Data Screening

Prior to the actual data analysis, a screening of the data should take place in order to determine if the data contains missing information, whether there is normality of the variables or whether outliers occur (Johnson, 1998). In addition, the data should be screened for any other unusual or pertinent information that might reveal either abnormalities or latent traits. Following the data screening, the researcher must determine how best to handle observations that contain any of these data issues (Johnson, 1998; Lohr, 2003) and whether any assumptions should be made with regards to the data (Dooley, 2001).

Missing Data

Of the 348 surveys collected, 11 of the responses failed to identify the food retail store shopped. These surveys were dropped from the analysis since it would not be possible to determine where the respondent shopped for groceries and how or whether this affected the accuracy of responses for Part B.

The remaining 337 surveys were further screened, using NCSS software, to evaluate whether they contained the necessary data to calculate a respondents' variety of acculturation, their attitudes towards store attributes and their food retail store choice. Of

the 337 observations remaining, 35 observations contained missing information in Parts A – C. Since the occurrence of missing data appeared to be random, estimates for the missing information were obtained using a multivariate method. Specifically, a multivariate imputation method, the EM algorithm (Little & Rubin, 1987), which assumes multivariate normality, was calculated. These 35 observations were then combined back with the other 302 responses for further analysis.

An item analysis was performed on the 337 surveys to test the reliability of the revised instrument. Parts A (importance of store environmental attributes), B (perception of store environmental attributes) and C (variety of acculturation), were tested independently for reliability. The Cronbach's alphas in the three parts were high (Part A - .857305; Part B - .9028450; and Part C - .871801) again indicating high reliabilities of the scales.

Computations and New Variables

Of the 337 surveys, computational procedures were undertaken to compute the scores of the multi-attribute attitude model and the Mendoza model. Using responses for Parts A and B, the multi-attribute attitude model scores were calculated. Average scores for each of the 20 store environmental attributes were determined following the individual computation of scores.

The primary stores shopped, as named in question B-1, were identified as belonging to one of four groups of stores: supercenter (1), supermarket (2), neighborhood grocer (3), and warehouse club (4). A new variable (S1) was created to identify the store group. During this procedure it was discovered only one respondent shopped a neighborhood market and only one respondent shopped a warehouse club as their primary food store. These observations were not included in the remaining analyses since they would not significantly

contribute to the understanding of Hispanic food shoppers. In addition, a variable (S2) representing the secondary store shopped, using the same store group values (1-4), was also created.

The variety of acculturation for each of the 335 observations was then computed using Mendoza's previously described method (5 and 4 = assimilation; 3 = integration; 2 and 1 = separation). The results revealed 16 "ties." That is, when the Mendoza measurement was computed, two varieties of acculturation had the same resulting score. These ties were either between assimilated and integrated scores, or integrated and separated scores. Since a specific variety of acculturation score could not be obtained, as per the previously noted computational procedures (e.g., Magaña, et. al., 1996), these 16 surveys were eliminated from further analysis. Since the acculturation variables were critical to several hypotheses in the study, these 29 variables underwent further data screening. Also, for analysis purposes, a new variable was created. The "Agroup" variable represented the actual acculturation variety as follows: assimilation (1), integration (2), and separation (3). There were no scores obtained for marginalization.

Overall Demographic Analysis. Upon further examination of the 319 observations, it was noted that some of the responses contained missing demographic information, such as education or income level. These observations were included in the analysis, since the demographic information was not included for hypotheses testing. Of the surveys collected from Hispanic food shoppers, an overall summary of respondent characteristics was revealed. When comparing the survey results, 97% preferred to answer in English and requested the English version, while 3% requested the Spanish version. Eighty-six percent of the respondents were female, while 14% were male. The average age of all respondents

was 41. Seventy two percent of the respondents were from the San Antonio area; and 91% were born in the United States. Those not born in the U.S. were predominantly from Mexico (58%) and have lived in the U.S. for an average of 19 years. Respondents identified their national origin as follows: .01% were *Cuban*; 58% were in the *Mexican, Mexican American, Chicano* category; .02% were *Puerto Rican* and 40% identified themselves as *other Spanish/Hispanic/Latino*. On average, households had five members with three adults and two children residing in them. The highest percentage of respondents (32%) had completed 9 – 12 years of schooling; the second highest percentage (31%) had completed 1 – 2 years of college. In addition, the highest percentage of respondents (21%) had an average total annual household income of \$30,000 - \$44,999; the second highest percentage (18%) had an average total income of \$15,000 - \$29,999.

Univariate Normality and Outliers

Of the remaining 319 observations, the data screening revealed that none of the acculturation variables were univariate normal and the data contained 50 outliers or uniquely different observations. Data containing a univariate normal distribution for every possible set of selected values are said to have a multivariate normal distribution (Johnson, 1998); however, the converse is not true. That is, univariate normality does not guarantee multivariate normality, but multivariate normality does guarantee univariate normality. The data entries were reexamined visually to verify that no recording errors were made. None were found. Robust methods have been found to decrease or completely remove the influence of observations that are outliers (Hintze, 2004), and preliminary data screening hinted at their existence. For instance, the EM algorithm, used in the estimation of the study's missing data, is a robust technique which uses weights that are inversely proportional

to how "outlying" the observation is and modifies the means and covariances weights (Hintze, 2004).

Don't Know/Not Applicable

Upon further screening of the data, it was noted that 59 observations contained one or more "Don't Know/Not Applicable" responses. Of these, 42 surveys had this response category in the acculturation variety measure, and 17 surveys had this response category in the store attribute measure. Past research (Krusnick, et. al., 1998; Lohr, 2003) has shown that further probing of respondents who selected the "Don't Know" option should be undertaken. The same could be applied to "Not Applicable" responses. Since further probing was not available due to the structure of the survey implementation, it is unknown how respondents might have altered their answers. That is, if these particular observations had been answered only using the 5-point Likert scale, the resulting scores might have changed the outcome. For example, on observation #16 there was a total score of 14 for assimilation, 12 for integration and 3 "Don't Know/Not Applicable" responses. Dependent upon how the "Don't Know/Not Applicable" responses would have changed with further respondent probing or even re-wording of some of the questions, respondents' total score reflecting their acculturation variety could have been affected.

Similarly, of the 17 surveys reflecting "Don't Know/Not Applicable" responses to questions on store attributes, it was determined that the resulting scores also could have been affected. For instance, using the reflected score of "9" for the "don't know/not applicable" response would have greatly inflated the scores of the multi-attribute attitude model and could have changed, for example, the response on whether a respondent felt bilingual signage or music was important.

It is worthwhile to note that as the surveys were executed, some additional information emerged through incidental conversations that occurred with survey assistants. For instance, several respondents remarked that parents or grandparents were deceased and therefore the question(s) regarding the language spoken did not apply. In addition, some respondents could not recall whether a store had bilingual signs or not. Thus, in both cases, the respondent selected the response option of “Don’t Know/Not Applicable.” However, not every respondent verbally expressed his or her reasons for selecting the option “Don’t Know/Not Applicable.” Several respondents also remarked that the question regarding language spoken to spouse did not apply to respondents who were single. The same could be said for respondents not having children regarding the questions pertaining to language spoken to children, language taught to children, and names given to children. Had further probing of these 59 respondents been possible, the resulting total score may possibly have changed the outcome of the leading acculturation variety or the attribute score. Due to the inability to know whether the respondent should have answered “Don’t Know” or “Not Applicable” or even whether the respondent, due to a lower education level, was simply more likely to take the less cognizant approach (Krosnick, et. al., 1996), these observations were not included in the overall data analysis (Table 6), but rather were evaluated separately for descriptive purposes.

Variety of Acculturation

Since the variety of acculturation must be determined prior to hypotheses testing, both the Berry and Mendoza scales for determining the variety of acculturation that had previously been calculated were reevaluated using a number of different procedures. These

procedures incorporated various analyses including a chi square analysis, principal component analysis, factor analysis, and fuzzy clustering.

Implementing the Berry variety of acculturation measurement first, the following results were found. Of the 260 respondents, none were identified as assimilated, 91% were identified as integrated, and .01% was identified as separated. In addition, 7% could not be classified since these respondents answered in the neutral category, “neither agree nor disagree,” for one or both questions. Thus, of the observations that were classified, the study sample appears to be represented by three varieties of acculturation, with heavy domination in the integration variety (Table 7),

It is worthwhile to mention that the Berry scale was altered from its original “yes/no” response options to that of a 5-point Likert scale in order to test its reliability and maintain the same scale as the majority of the survey questions. In hindsight, the scale could have been a four-point scale in order to properly determine the “yes/no” categories. This issue was not detected during the pretest survey, as no respondents selected the neutral response of “neither agree nor disagree.”

During the survey implementation, a number of respondents were offended by the two questions (Appendix, Figure 8, Part C, #1 and 2) relating to the Berry scale; while they identified themselves as Hispanic, they felt they were already integrated into the American society, and although they called themselves “Hispanic” they considered themselves “American” first. This may be the reason why such a vast number of respondents (40%) identified their origin as “other Spanish/Hispanic/ Latino” (Appendix, Figure 8, Part C, #3) but did not respond to the additional question for specifically identifying a particular group.

The Mendoza scale revealed that among the 260 respondents, 44% were assimilated, 49% were integrated, and 8% were separated, with no respondents identified in the marginalization variety of acculturation. The Mendoza results reflected three varieties of acculturation with the heaviest domination in the integration variety (Table 7).

Chi Square Analysis

As was reflected in Table 7, there was a noticeable difference between the results of the Berry and Mendoza computations for the variety of acculturation. To test the relationship between the two scales, a chi square analysis was implemented between Berry and Mendoza's scale of measurement. A resulting chi square score of 2.81 ($df=4$, $p=.59$) led to the conclusion that no relationship between the two was found.

Of the 260 observations, there were a number of respondents (7%) who could not be classified into an acculturation variety using the Berry scale due to a neutral response on the 5-point Likert scale. Since the Mendoza scale reflected a greater uniformity of responses using the previous computations (5 and 4 = assimilation; 3 = integration; 2 and 1 = separation), all 260 observations could be implemented. Using all the observations better facilitated this study's investigation of determining the effects of Hispanic consumers' variety of acculturation on food retail store type choice and on attitudes toward food retail stores. Therefore, the Mendoza scale identified varieties of acculturation and were used for further analyses. Given that the varieties of acculturation (assimilation, integration, separation and marginalization) are comparative to Mendoza's CLSI scale, this study will continue to use these terms when referring to the different varieties of acculturation. A series of specific statistical analyses (Figure 4) were conducted to select the variety of acculturation items to be used in this study.

Principal Component Analysis

Regardless of whether a PCA or an FA is performed, the number of components or factors to retain must be determined. Many researchers (e.g., Hintze, 2004; Johnson, 1998) agree that the best PCA method is either Kaiser's (1960) method (using eigenvalues > 1) or Jolliffe's (1972) method (using eigenvalues $> .7$). This method, of the number of eigenvalues to retain, along with scree tests results (Cattell, 1966) is the most effective way to determine the number of factors.

In this study, the PCA resulted in four factor scores containing an eigenvalue above 1.0 and six containing an eigenvalue above .7 (Table 8). However, as the scree plot (Figure 5) of the eigenvalues reflected, there is not much difference in the values past the point of the third factor. Therefore, three factors were retained for purposes of further analysis.

The PCA factor structure/loadings summary (Table 9) was made up of dimensional structures previously identified by Mendoza (1989). Only those PCA factor scores of .40 or higher are included (regardless of their sign). For example, Factor 1 was comprised of all 29 variables representing the dimensions of intra-family language; extra-family language; social affiliation and activities; cultural familiarity and activities; and cultural identification and pride. Factor 2 was comprised of 16 variables representing the same five dimensions, and Factor 3 was comprised of intra-family language. The PCA scores were saved and then analyzed in the fuzzy cluster analysis.

Factor Analysis

Factor analysis is a statistical method useful for assessing the construct validity of the Mendoza varieties of acculturation. A robust estimation was used in order to adjust for any outliers in the data. In addition, the number of factors specified was three, based on the

results from the principal component analysis. A varimax rotation was implemented in order to improve the ability of interpreting the "meaning" of each factor (Hintze, 2004). The results of the rotated factor analysis (Table 10) revealed the underlying influential variables that made up each factor. Only those FA factor scores of .40 or higher are included (regardless of their sign). Factor 1 was made up of five items that are: intra-family language, extra-family language, social affiliation and activities, cultural familiarity and activities, and cultural identification and pride; Factor 2 consisted of the same five items; and Factor 3 consisted of intra-family language use, specifically language used with parents and grandparents. Factors have distinct groupings based on factor loadings, which leads to construct validity.

Fuzzy Clustering

It was important to investigate if the Mendoza scale accurately predicted the number of varieties of acculturation of potential groups. To test this, a fuzzy cluster analysis was implemented. The three factor scores from the robust (unrotated) principal component analysis were used. Again, by using a robust method, the influence of outliers is removed.

As another means to verify the possible number of clusters, the resulting three factor scores were plotted into two different 3D scatter plots (Figures 6 & 7). Based on these visual portrayals of both the Mendoza varieties of acculturation (Figure 6) and the Fuzzy acculturation groups (Figure 7), it appeared there were indeed three clusters present in the survey. In addition, there appeared to be a number of uniquely different scores that might influence where an observation fell with regards to a particular cluster. Using the PCA scores, the fuzzy cluster report (Table 11) revealed the location of the medoid (most centrally location) of the nearest hard cluster configuration.

Upon a close review of the analysis results, the three fuzzy clusters revealed that a number of observations, whose scores fell below .70, might belong to more than one cluster. A sample cross-section of the result (Table 12) illustrates that observation 31 may have belonged to Cluster 1 as well as its identified cluster, Cluster 2. The actual number of observations that were classified into more than one cluster from the data was 36.

Nearest Neighbor Discriminant Analysis

Using the nearest neighbor discriminant analysis procedures in SAS, jackknife scores were obtained for both the fuzzy cluster and Mendoza method. The analysis revealed that 224 out of 260 observations (86.2%) were correctly classified for the fuzzy clustering method (Table 13). The results for the Mendoza clustering method reflected that 206 out of 260 observations (79.2%) were correctly classified. Finally, a stepwise procedure for both the Mendoza and the fuzzy clustering methods was implemented to determine if a smaller set of variables could also discriminate as well as or better than the initial 29 employed. The results for the fuzzy clustering method reduced the number of variables to 14 with a resulting score of 86.5% correctly classified, while the results of the Mendoza clustering method reduced the number of variables to 9 with a resulting score of 86.2% correctly classified (Table 13).

Several steps were taken to determine whether to use (1) the fuzzy cluster or Mendoza method and (2) 29 items or a reduced number of items. First, it was found that, based on 29 items, the fuzzy results of the jackknife gave slightly better results (86.2%) than those of the Mendoza method (79.2%). However, the fuzzy clusters do not represent the same combination of scores (5 and 4 = assimilation; 3 = integration; 2 and 1 = separation). In analyzing the Mendoza jackknife method, it produced a greater percentage of correctly

classified with 9 items (86.2%) than with 29 items (79.2%). While the result of the Mendoza method was stronger with fewer variables, the computations for how the Mendoza scale is calculated should not be altered. In addition, since the data were not based on a nationwide sample, these results cannot be generalized to all populations. That is, the results might change in different demographic markets. Finally, when testing whether there was a relationship between the Mendoza varieties of acculturation and the fuzzy cluster result, a cross tabulation report revealed a chi square value of 147.74, ($df=4$, $p = .0000$) showing there was a strong relationship between the two. For these reasons, 29 items entered in classifying three varieties of acculturation using the Mendoza method.

Demographic Characteristics by Mendoza's Variety of Acculturation

A table revealing the breakdown of the demographic differences of the Hispanics in the survey was created (Table 14). The overall results revealed the respondent's average age was 42, and the total number of people in their household was 4 (3 over 18; 1 under 18). The education level overall was evenly split for 9 – 12 years (33%), and 1-2 years of college (33%) representing the majority of respondents. The single highest income level category was \$30,000 - \$44,999 with 23% of the respondents represented. The percentage of all Hispanics born in the USA was 91%.

The results for the assimilated group revealed the respondent's average age was 42, and the total number of people in their household was 4 (3 over 18; 1 under 18). The education level was nearly evenly split for 9 – 12 years (30%), and 1-2 years of college (31%) representing the majority of respondents. The single highest income level category was \$30,000 - \$44,999 with 24% of the respondents represented. The percentage of assimilated Hispanics born in the USA was 97%.

The results for the integrated group revealed the respondent's average age was 41, and the total number of people in their household was 3 (2 over 18; 1 under 18). The education level overall was nearly evenly split for 9–12 years (34%), and 1-2 years of college (36%) representing the majority of respondents. The single highest income level category was \$30,000 - \$44,999 with 23% of the respondents represented. The percentage overall of Hispanics born in the USA was 91%.

The results revealed that separated Hispanics were the youngest of all varieties (average age was 35) with the largest household size of 4 (3 over 18; 1 under 18). The majority of this demographic group reached an education level of 9–12 years (47%). The single highest income level category was \$15,000 - \$29,999 with 47% of the respondents represented. The percentage of Hispanics born in the USA were 97% for assimilated, 93% for integrated and 40% for separated individuals.

Hypotheses Testing

The testing of hypotheses required implementation of several statistical methods including MANOVA, ANOVA, and cross tabulation, using NCSS software. The significance level was determined at a .05 probability level. In addition to these methods, the data underwent further investigation in order to describe whether interesting patterns could be learned from the survey responses.

Hypothesis 1

H₁ Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation.

In order to determine whether Hispanic consumers' attitudes toward store environmental attributes differ by variety of acculturation, it must be determined whether a

relationship exists between the two variables by testing for statistical significance. Using a significance level of .05, the null hypothesis that there is no relationship between the two variables was tested by implementing a MANOVA test. The results (Table 15) of the test statistics including Wilks' Lambda, Hotelling-Lawley Trace, Pillai's Trace, and Roy's Largest Root revealed probability levels above .05. Therefore, the null hypothesis that no relationship existed between varieties of acculturation and attitudes was accepted. That is, that the three varieties of acculturation, assimilation (1), integration (2) and separation (3) groups being compared were not different in their attitudes towards their primary food retailer. A review of the different means and standard deviations for the 20 attributes (Table 16) revealed that there was not much difference between the three varieties of acculturation groups.

Although the MANOVA results show no difference between the groups, the ANOVA showed that several items appeared to reveal a difference. When reviewing the results of the individual variables (Table 17) or univariate tests for significance, the resulting ANOVA scores revealed three of the variables did obtain probability levels below .05. These were: bilingual signage, knowledgeable employees, and bilingual employees. When reviewing the differences in the means (Table 16) for these three variables, the results for signage showed that separated Hispanics rated it more positively with a mean of 15.95 than either integrated (14.94) or assimilated (12.82) individuals. The results for knowledgeable revealed that integrated Hispanics rated it more positively with a mean of 22.56 than either separated (21.55) or assimilated (20.98) individuals, while the results for bilingual revealed that integrated Hispanics rated it more positively with a mean of 17.60, than either separated (17.15) or assimilated (14.73) individuals.

Hypothesis 2

H₂ Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation.

In order to determine whether Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation, it must be tested whether a relationship exists between the two categorical variables. A cross tabulation report revealed a chi square score of .76 (df = 2, $p = .68$), and led to the acceptance of the null hypothesis that there was no relationship between the two variables (variety of acculturation and primary food retail store type choice). It indicated that the three acculturation groups were not different in the type of primary food retail store shopped.

Hypothesis 3

H₃ Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped.

In order to determine whether Hispanic consumers' attitudes toward store environmental attributes will differ by the type of primary food retail store shopped, it must be tested whether a relationship exists between the two variables. Using a significance level of .05, the null hypothesis that there is no relationship between the two variables was evaluated by implementing a MANOVA test. The results (Table 18) of the test statistics including Wilks' Lambda, Hotelling-Lawley Trace, Pillai's Trace, and Roy's Largest Root revealed probability levels below .05. These results led us to reject the null hypothesis that no relationship existed between these two variables. That is, of the two store types being compared, supercenter (1) and supermarket (2), Hispanic consumers' attitudes toward store environmental attributes were different. A review of the different means and standard

deviations for the 20 attributes (Table 19) revealed there were several differences in attitudes towards store environmental attributes between the two store types.

Upon further review of the results of the individual variables (Table 20) or univariate tests for significance, the resulting ANOVA scores revealed eight attributes did obtain probability levels below .05. These were: easy parking ($p = .0063$); convenient location ($p = .0021$); outside appearance ($p = .0166$); shopping area ($p = .0096$); pleasant interior ($p = .0049$); organized layout ($p = .0272$); friendly employees ($p = .0006$); and knowledgeable employees ($p = .0008$).

When reviewing the differences in the means (Table 19) for each of the eight attributes, the results revealed that supermarket shoppers had more positive attitudes towards all variables than supercenter shoppers. Specifically for each variable the table revealed the following means for supercenter versus supermarket: easy parking (14.92 vs. 18.49); convenient location (18.08 vs. 21.05); outside appearance (15.32 vs. 18.20); shopping area (16.20 vs. 19.06); pleasant interior (17.20 vs. 20.15); organized layout (19.12 vs. 21.31); friendly employees (19.20 vs. 22.32); and knowledgeable employees (18.96 vs. 22.09). In conclusion, the store groups do differ on a number of the variables, resulting in an overall high power and a significant test result (Johnson, 1998).

Additional Hypotheses Tests

Since the MANOVA tests for Hypotheses one and three relied upon multivariate normality of the data, an additional test, the two-sample Hotelling's T² employing a randomization procedure, was executed to confirm that the outcome of the hypotheses was correct. A two-sample Hotelling's T² is the multivariate extension of the common two-group Student's t-test (Hintze, 2004). Randomization tests (provided in NCSS software) do

not rely on the assumptions of equal variances and multivariate normality (Hintze, 2004). Randomization tests compute a test statistic on original data and uses repeated samples, looking at the percent of times they exceed what the original test statistic reported.

Significance was tested at a .05 probability level. When reviewing the results of the unequal variance-covariance randomization test (Table 21) for hypothesis one, the randomization test reflected test scores of $p = .1020$ for variety 1 and 2; $p = .2020$ for variety 1 and 3; and $p = .5130$ for variety 2 and 3, thus accepting the null hypothesis that the group means for all response variables are equal and confirming the results of the MANOVA test for hypothesis one.

When reviewing the results of the unequal variance-covariance randomization test (Table 22) for hypothesis three, the randomization test reflected a test score of $p = .2126$, thus accepting the null hypothesis that the group means for all response variables are equal and disconfirming the results of the MANOVA test for hypothesis three. However, upon further analysis of the individual variables (Table 23), the same variables as in the ANOVA results above (Table 20), also revealed significance levels below .05. Again these variables are: easy parking (.0063), convenient location (.0021), outside appearance (.0166), shopping area (.0096), pleasant interior (.0049), organized layout (.0272), friendly employees (.0006) and knowledgeable employees (.0008). Further tests on the data itself may reveal specifically why this discrepancy occurs between the MANOVA and randomization tests, although it is expected that multicollinearity, lack of multivariate normality, or outliers/uniquely different observations are some of the possible reasons.

Finding a Significant Attribute Subset. Since good results were revealed with some of the individual variables, a McHenry's Select Algorithm method was employed in order to

seek a subset of variables that would provide a maximum value of R-Squared. This algorithm first seeks the best single variable, and then seeks the best pair of variables by keeping the best and removing the worst (Hintze, 2004). This switching process continued with the data set until the algorithm could no longer improve the R-squared value (Hintze, 2004). Various model sizes were entered until an optimal model resulted (Table 24). Each of the models, with various combinations of attribute variables was tested until a maximum set of variables could be found. A subset of 14 variables with a resulting R-squared value = 0.1382, was found. These 14 variables were represented by the following attributes: easy parking, convenient location, outside appearance, pleasant interior, pleasant odors, color scheme, well-lit interior, organized layout, wide aisles, product shelf space, friendly employees, knowledgeable employees, sufficient assistance, and crowded w/shoppers. The Cronbach's alpha for the 14 variables was .8916, indicating high reliabilities of the scales. Since the original set of 20 variables revealed a discrepancy between the MANOVA and randomization tests of significance, the new subset of 14 variables will be used to determine if a better result for both tests can be found.

Retesting Hypothesis Three. To retest hypothesis three, it must be again determined whether Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped. It must be tested whether a relationship exists between the two variables. Again using a significance level of .05, the null hypothesis that there is no relationship between the two variables was evaluated by implementing a MANOVA test. The results (Table 25) of the test statistics including Wilks' Lamda, Hotelling-Lawley Trace, Pillai's Trace, and Roy's Largest Root revealed probability levels below .05. These results led us to reject the null hypothesis that no relationship existed

between these variable groups. That is, that the two store types, supercenter (1) and supermarket (2) groups being compared were different in their attitudes towards their primary food retailer. A review of the different means and standard deviations for the 14 attributes (Table 26) revealed that there were differences in attitudes towards seven store attributes between the two store types. However, these seven attributes are not the same as those previously reported in Table 20.

Upon further review of the results of the individual variables (Table 27) or univariate tests for significance, the resulting ANOVA scores revealed that seven attributes exhibited probability levels below .05. These were: easy parking ($p = .0063$); convenient location ($p = .0021$); outside appearance ($p = .0166$); pleasant interior ($p = .0049$); organized layout ($p = .0272$); friendly employees ($p = .0006$); and knowledgeable employees ($p = .0008$).

When reviewing the differences in the means (Table 26) for each of the seven variables, the results revealed that supermarket shoppers had a more positive attitude towards each variable than supercenter shoppers. Specifically for each variable the table revealed the following means for supercenter versus. supermarket: easy parking (14.92 vs. 18.49); convenient location (18.08 vs. 21.05); outside appearance (15.32 vs. 18.20); pleasant interior (17.20 vs. 20.15); organized layout (19.12 vs. 21.31); friendly employees (19.20 vs. 22.32); and knowledgeable employees (18.96 vs. 22.09). As previously noted, the store groups do differ on a number of the variables, resulting in an overall high power and a significant test result.

When reviewing the results of the unequal variance-covariance randomization test (Table 28) using the selected 14 attributes for hypothesis three, the randomization test reflected a test score of $p = .0434$, thus rejecting the null hypothesis that the group means for

all response variables are equal and confirming the results of the MANOVA test for hypothesis three.

Additional Findings

Additional investigations of the data revealed a number of important findings that food retailers can readily use to gain ideas for their own markets. These findings included how Hispanics ranked store attributes overall as well as by individual variety of acculturation, and how expenditures differed between Hispanics overall and their individual varieties of acculturation.

Overall Store Attribute Rankings. Based on the overall average, following the model calculations, all store attribute responses (from all 20 attributes measured) were tallied by rank (Table 29) with “1” as the most important. The top five overall responses were friendly employees (22.0), knowledgeable employees (21.7), organized layout (21.0), convenient location (20.7) and pleasant odors (20.4). The top responses changed for those consumers who shopped a supercenter. A well-lit interior (20.4) was the most important store attribute followed by pleasant odors (19.3), friendly employees (19.2), organized layout (19.1), and knowledgeable employees (19.0). The top were the same as “overall,” although the averages were different: friendly employees (22.3), knowledgeable employees (22.1), organized layout (21.3), convenient location (21.0) and pleasant odors (20.6). The least important attribute for all three categories was pleasing background music.

Assimilated Hispanics Store Attribute Rankings. Assimilated food shoppers identified many of the same store attributes (Table 30) as most important as those previously noted in the overall category above, although the order is slightly different. Overall, assimilated shoppers identified the top five store attributes as most important: friendly

employees (21.6) were ranked first, followed by knowledgeable employees (21.0), convenient location (20.9), organized layout (20.8) and pleasant odors (20.3). The rank order was the same for supermarket shoppers with different means: friendly employees (21.9) were ranked first, followed by knowledgeable employees (21.5), convenient location (21.2), organized layout (20.9) and pleasant odors (20.4). Those assimilated shoppers who visited supercenters wanted an organized layout (20.0), a well-lit interior (19.7), pleasant odors (19.2), friendly employees (18.8) and convenient location (18.2). Pleasing background music was ranked the least important for both “overall” and supercenter shoppers, while bilingual store signage ranked last for supermarket shoppers.

Integrated Hispanics Store Attribute Rankings. Overall, food shoppers identified as integrated ranked knowledgeable employees (22.6) as most important followed by friendly employees (22.4), organized layout (21.7), sufficient assistance (20.8) and pleasant odors (20.7) (Table 31). For integrated Hispanics who shopped supercenters, the top five store attributes were knowledgeable employees (21.4), well-lit interior (21.1), friendly employees (20.5), wide aisles (19.6), and sufficient assistance (19.5). For integrated food shoppers who shopped supermarkets, the top five store attributes were knowledgeable employees (22.7), friendly employees (22.6), organized layout (22.0), pleasant odors (21.0) and finally, sufficient assistance (21.0). Pleasing background music was the least important for both overall (13.0) and supermarket (12.8). Supercenter shoppers, however, ranked easy parking as least important (12.7).

Separated Hispanics Store Attribute Rankings. Overall, food shoppers identified in the separated acculturation variety (Table 32) ranked knowledgeable employees (21.8), friendly employees (21.7), convenient location (20.8), pleasant odors (20.6) and pleasing

inside environment (20.4) as the most important store attributes. Supercenter shoppers ranked pleasant odors/smell (25.0), convenient store location (21.7), sufficient assistance available from employees (21.7), pleasant interior (20.7) and outside appearance (20.7) as the most important store attributes. Supermarket shoppers found friendly employees (22.9), knowledgeable

Employees (22.4), convenient location (20.7), pleasant interior (20.3) and organized layout (20.1) as the most important store attributes. Pleasing background music was ranked least important for “overall” and supermarket (13.9), while bilingual signage (5.7) was ranked least important for supercenter shoppers.

Overall Shopping Trips and Expenditures. All the Hispanics surveyed in the study shopped their primary food store at least once a month and at most seven days a week. They spent as little as \$5.00 and as much as \$315.00 each week. On average, Hispanics shopped twice a week and spent \$102.56 at their primary store (Table 33). Forty two percent of all Hispanic shoppers in the survey also shopped a second store, spent an additional \$53.89 and shopped there 1.1 times per week. Of the shoppers who selected a supercenter (10%) as their primary food store of choice, Hispanics in the study shopped there 1.8 times per week and spent \$122.00. While 48% did not shop elsewhere, supercenter shoppers who did choose supermarkets (40%) as their secondary food store, shopped there 1.2 times per week and spent an additional \$61.25 per week. The vast majority (90%) of Hispanics shopped supermarkets as their primary food store, shopped twice a week and spent \$100.43. While 59% of supermarket consumers did not shop a secondary store, of those who did, a different supermarket was the leading store of choice (19%) with all Hispanics in the study. Hispanics made 1.1 trips per week to their secondary supermarket and spent an additional \$45.20.

Shoppers who selected a supercenter as their secondary store of choice, shopped there more often (1.3 times per week) and spent more money (\$62.71) than any of those who selected any of the other secondary food store options.

Assimilated Hispanics Shopping Trips and Expenditures. Hispanics identified as assimilated in the study shopped 1.9 times per week and spent \$99.80 at their primary store (Table 34). Forty two percent of all assimilated shoppers also shopped a second food store, shopped there on average once a week and spent an additional, \$62.42. Those assimilated Hispanics (9%) whose primary food store was a supercenter shopped there an average of 1.6 times per week and spent \$125.00. Supercenter shoppers' secondary store choice was a supermarket with 30% selecting it as their food store. Supercenter consumers spent an additional \$43.13 at a supermarket, shopping there 1.2 times per week. The vast majority (90%) of assimilated Hispanics shopped supermarkets as their primary food store 1.9 times and spent \$97.28 per week. While 60% of assimilated supermarket shoppers did not shop a secondary store, of those who did, supermarkets were the leading store of choice (19%). Supermarket consumers shopped on average once per week at a different supermarket and spent an additional \$54.55.

Integrated Hispanics Shopping Trips and Expenditures. Hispanics identified as integrated shopped their primary food store 2.1 times per week and spent \$105.86 (Table 35). While only 38% shopped a second food store, of those who did they shopped an average of 1.3 times per week and spent an additional \$49.79. Survey results revealed 10% of integrated shoppers selected a supercenter as their primary food store. These stores were shopped an average of 1.9 times per week with \$125.77 being spent. For supercenter shoppers, their only secondary choice was a supermarket with 50% choosing to shop there.

Supercenter shoppers made an average of 1.4 trips per week to a supermarket and spent \$70.00. The remaining 90% of integrated shoppers selected a supermarket as their primary food store. These shoppers spent \$103.51 per week while making an average of 2.2 trips per week. Integrated supermarket shoppers' second food store of choice was a supercenter with 1.5 trips per week resulting in an average \$53.57 being spent.

Separated Hispanics Shopping Trips and Expenditures. Hispanics identified as separated spent an average of \$93.89 while making 1.8 trips per week to their primary food store (Table 36). An overwhelming 70% of this group of shoppers also visited a secondary food retailer and spent an additional \$44.38 making .9 trips per week. Fifteen percent of separated shoppers chose a supercenter as their primary food store and spent \$88.33 while making an average 1.5 trips per week. Supercenter consumers shopping a second store (66%) were evenly split between shopping a supermarket (33%), where they spent \$70.00 on average and made .3 trips per week, and shopping a warehouse club (33%), where they spent \$80.00 and made one trip per week. The majority of separated Hispanics consumers (85%) selected a supermarket as their primary store of choice and spent \$95.00 while making 1.8 trips per week. Supermarket consumers shopping a secondary store chose a different supermarket as their store of choice and spent an additional \$33.75 while making .8 trips per week.

“Don’t Know/Not Applicable” Data Evaluation

When a data screening report was obtained, using NCSS software, the 59 observations revealed that only one of the acculturation variables were univariate normal (language of the music listened to). There were no outliers.

Of the 59 respondents, 85% were female. The average total household consisted of 3 people, with 2 over the age of 18 and 1 under 18. The average education was 1-2 years of college and the average income for the households in this segment of the survey was \$45,000 - \$59,999.

On average, these 59 respondents shopped 1.9 times per week and spent \$100.26 at their primary store (Table 37). Forty one percent of these respondents also shopped a second store once a week and spent an average of \$35.34. The shoppers, who selected a supercenter (15%) as their primary food store of choice, shopped 1.5 times per week and spent \$103.06. While 78% did not shop elsewhere, of those supercenter shoppers who did, supermarkets were their only store of choice, with .8 additional trips per week made and \$13.75 spent. The majority of these respondents (83%) shopped a supermarket as their primary food store, shopped there twice a week and spent \$97.56. While 57% of supermarket consumers did not shop a second store, of those who did either a supercenter (20%) or a different supermarket (20%) was selected most often. Those supercenter consumers shopping at a supercenter shopped an additional 1.2 times per week and spent \$38.75, while those supermarket consumers who shopped at a different supermarket made .8 trips per week and spent \$36.50.

Summary

The results of this study revealed that of the three hypotheses tested, only hypothesis three was rejected.. Specifically, hypothesis one that “Hispanic consumers’ attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation” was not shown to be significant. Hypothesis two that “H₂ Hispanic consumers’ primary food retail store type choice is dependent upon variety of acculturation.”

was also not shown to be significant. While hypothesis three that “Hispanic consumers’ attitudes towards store environmental attributes will differ by the type of primary food retail store shopped.” was shown to be significant. In addition, , for this study of Hispanic consumers in the San Antonio, Texas market, the food retailer store choice model was not supported. Furthermore, the data revealed a number of important findings. These findings, as discussed in the following chapter, have significant managerial implications for food retailers in other markets, especially those interested in targeting Hispanic consumers.

CHAPTER 5

CONCLUSIONS, MANAGERIAL IMPLICATIONS AND FUTURE RESEARCH

This study tested a conceptual model determining Hispanic consumers' attitudes toward store attributes, based on variety of acculturation and food retail store types in the San Antonio, Texas market. The hypotheses tested were: H₁ Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store type shopped will differ by variety of acculturation; H₂ Hispanic consumers' primary food retail store type choice is dependent upon variety of acculturation; and H₃ Hispanic consumers' attitudes towards store environmental attributes will differ by the type of primary food retail store shopped. The results revealed that hypotheses one and two were accepted when testing their respective null hypotheses. Conversely, hypothesis three's test of its null hypothesis was rejected, which means that Hispanics' attitudes toward store environmental attributes differed by the type of primary food retail store shopped..

This chapter will focus on several components including conclusions, managerial implications, limitations of the study and future research. The conclusion section of this chapter focuses on the study's results and provides information about what was learned regarding Hispanic consumers. Whether operating in new or existing markets, the managerial implications section provides some insightful strategies for food retailers to implement as a means to better equip their stores or company to serve the ever-growing Hispanic market. Furthermore, this study, despite its limitations, reveals numerous insights for further research.

Conclusions

The results revealed that hypotheses one and two were accepted while hypothesis three was rejected, when testing the respective null hypothesis of each. The test results of hypothesis one revealed that significant differences were not found (Table 16) among assimilated, integrated and separated Hispanics varieties of acculturation in their means of attitudes toward food retailers, as measured by various store environment attributes. That is, that the different varieties of acculturation (assimilated, integrated and separated) that Hispanic consumers exhibited did not influence Hispanics' attitudes towards the various store attributes.

The test results of hypothesis two revealed significant differences were not found between each of the varieties of acculturation and the primary food retail store type shopped. That is, the type of primary food retail store shopped did not differ by variety of acculturation (assimilated, integrated and separated) that Hispanic consumers exhibited.

The test results of hypothesis three did reveal significant differences between the two primary food retail store types chosen (specifically, supermarkets and supercenters were tested) chosen in Hispanic consumers' attitudes toward food retailers, as measured by various store environment attributes. That is, Hispanics' attitudes towards the various store attributes differed by type of primary food retail store shopped.

From the results, food retailers can learn which store types Hispanics shopped in the San Antonio market and which attributes influenced Hispanics' attitudes toward the respective retail store. Both the results from hypothesis three and the additional findings from the study revealed interesting and important information about Hispanic consumers

not previously known. By reviewing these results, food retailers can draw inferences for possible use in their own markets as to the behavior of Hispanic consumers.

Major Findings

As the results indicated (H_3), Hispanic consumers' attitudes towards store environmental attributes differed by the type of primary food retail store shopped. The two store types tested were supercenters and supermarkets. The 20 attributes tested were: easy parking, convenient location, outside appearance, shopping area, pleasant interior, background music, pleasant odors, color scheme, well-lit interior, organized layout, wide aisles, product shelf space, attractive signs, bilingual signage, attractive décor, friendly employees, knowledgeable employees, bilingual employees, sufficient assistance, and crowded w/shoppers. Of these 20, 7 attributes (easy parking, convenient location, outside appearance, pleasant interior, organized layout, friendly employees, and knowledgeable employees), based on ANOVA, or univariate test, provided significant differences between supercenters and supermarkets (Table 27).

The means of the seven attributes (Table 29) were higher for supermarket shoppers than for supercenter shoppers, revealing that Hispanics who shop a supermarket as their primary food retail store have a more positive attitude towards each of these seven store attributes than Hispanics who shopped a supercenter. These attitudes were based on a formula where attitudes are equivalent to importance times perception (belief) (Table 3). Specifically, the means for supercenter versus supermarket were as follows: easy parking (14.9 vs. 18.5); convenient location (18.1 vs. 21.0); outside appearance (15.3 vs. 18.2); pleasant interior (17.2 vs. 20.2); organized layout (19.1 vs. 21.3); friendly employees (19.2 vs. 22.3); and knowledgeable employees (19.0 vs. 22.1).

Additional Findings

Food retailers who are interested in Hispanics as either a portion of, or their sole target market will unearth a number of additional interesting findings from this study. First, Hispanics exhibiting different varieties of acculturation had different attitudes, although not significant through hypothesis testing, about the various store attributes. Second, Hispanics' different shopping habits and expenditures, as revealed in the study, provide useful information for food retailers. Third, the data revealed several store attributes that Hispanics had the most positive attitudes toward when the mean results were ranked (Table 29). Each of these findings contributes to understanding why food retailers should target Hispanic consumers.

Acculturation and Attitudes. Although the study did not find that Hispanic consumers' attitudes towards store environmental attributes of the primary food retail store shopped differed by their variety of acculturation (Hypothesis 1 was not rejected), the data from the study (Tables 30 – 32) did reveal that Hispanics exhibiting these different acculturation varieties did vary in some attitudes regarding food retailers. For instance, assimilated shoppers (Table 30) had the most positive attitudes toward friendly employees ($m = 21.6$), knowledgeable employees ($m = 21.0$), convenient location ($m = 20.9$), organized layout ($m = 20.8$) and pleasant odors ($m = 20.3$), while integrated shoppers (Table 31) had more positive attitudes toward knowledgeable employees ($m = 22.6$), friendly employees ($m = 22.4$), organized layout ($m = 21.7$), sufficient assistance ($m = 20.8$), and pleasant odors ($m = 20.7$). Separated shoppers (Table 32) had more positive attitudes toward knowledgeable employees ($m = 21.8$), friendly employees ($m = 21.7$), convenient location ($m = 20.8$), pleasant odors ($m = 20.6$), and pleasant interior ($m = 20.4$).

Shopping Habits and Expenditures. Although the study did not find that Hispanic consumers' variety of acculturation led to their primary food retail store type choice (Hypothesis 2 was not significant), the results did reveal interesting information regarding shopping trips and expenditures for Hispanics overall, as well as those differing by acculturation variety (Tables 33 – 36). Hispanics shopped twice a week and spent \$102.56 at their primary food retail store (Table 33). A number of Hispanic shoppers (42%) in the survey also shopped a secondary store 1.1 times per week and spent an additional \$53.89. Of the shoppers who selected a supercenter (10%) as their primary food store of choice, Hispanics shopped there 1.8 times per week and spent \$122.00. Hispanic shoppers who shopped supercenters as their primary food store chose supermarkets most often (40%) as their secondary food store, shopped 1.2 times per week and spent an additional \$61.25 per week. The vast majority (90%) of Hispanics shopped supermarkets as their primary food store twice a week and spent \$100.43. Hispanics who shopped supermarkets as their primary food store also made 1.1 trips per week to a different secondary supermarket and spent an additional \$45.20. Hispanic shoppers, who selected a supercenter as their secondary store of choice, shopped there more often (1.3 times per week) and spent more money (\$62.71) than any of those who selected any of the other secondary food store options.

Also, assimilated and integrated Hispanics who selected a supercenter as their primary food store spent more per week, \$125.00 and \$125.77, respectively, than did Hispanics identified as separated who spent just \$88.33. When reviewing various single or combined food store shopped across varieties of acculturation, integrated shoppers, in general, spent more and shopped more often. For example, integrated shoppers whose primary store was a supercenter and secondary store was a supermarket spent a combined

\$195.77, compared to assimilated shoppers who spent \$168.13 and separated shoppers who spent \$158.33.

Another interesting finding is related to the separated Hispanic shopper (Tables 34 – 36). Separated Hispanics were more likely to shop a supercenter store (15%) than either the assimilated or integrated Hispanic shopper (10%). While this study is not about how Hispanic individuals change over time, this finding may suggest that supercenters are losing business to supermarkets as separated individuals become more acculturated. In all varieties, those shoppers who selected a supercenter as a secondary food store spent at least 30% more than those who shopped at a supermarket as a secondary store.

The higher means in supermarkets may explain why 90% of Hispanics shop a supermarket (Table 33) as their primary food retailer compared to 10% who shop a supercenter. In addition, Hispanics shopping a supermarket as their primary food retailer type also choose a different supermarket as their secondary store choice over supercenters. Even Hispanics who shop a supercenter as their primary food retailer type shop a supermarket as their secondary store choice over other options. The fact that so many Hispanics are choosing to shop a secondary retailer implies they are not having all their needs met at their primary food store choice.

Attribute Rankings. When the mean data were reorganized and tallied by rank (Table 29) with “1” as the most important, the results revealed the store attributes that Hispanics had the most positive attitude towards, whether their primary choice for food shopping was a supercenter or a supermarket. The top five ranked attributes for a supercenter were a well-lit interior ($m = 20.4$), pleasant odors ($m = 19.3$), friendly employees ($m = 19.2$), organized layout ($m = 19.1$) and knowledgeable employees ($m = 19.0$); while the top five ranked

attributes for a supermarket were friendly employees ($m = 22.3$), knowledgeable employees ($m = 22.1$), organized layout ($m = 21.3$), convenient location ($m = 21.0$), and pleasant odors ($m = 20.6$). Of these top five attributes selected by supercenter and supermarket shoppers, the dimensions (Table 4) of contact personnel, layout and design, general interior and general exterior were represented, while the dimensions of other customers and point-of-purchase and decoration were not.

Equally interesting was that both bilingual employees and bilingual signage ranked near the bottom of each list (16th and 19th place for supercenter and supermarket, respectively). This appears to contradict what is often read in the news (e.g., Cardona, 2005, Kinsella, 2003, Toothman, 2005), that food retailers are adding both of these store attributes in an effort to reach out to the Hispanic market. Perhaps this low ranking is due to the location where the survey took place (San Antonio is 59% Hispanic). That is, that the food retailers in the San Antonio market are already offering both the product assortment and familiar brands recognizable to the Hispanic shopper. This low ranking may also be attributed to some consumers shopping by sight and not relying on either signage or employees for help when looking for a particular item; rather, these Hispanic consumers may choose to travel each aisle until their product is found.

When reviewing the individual rankings of attitudes, it is important to note that of the 20 store attributes investigated, 19 were ranked higher by Hispanics who chose supermarkets as their primary food retail store. The only attribute where a supercenter hedges a slightly higher rank is the well-lit interior attribute ($m = 20.4$ and 20.1 for supercenter and supermarket, respectively).

Customer needs as well as the characteristics of competition and the competitive structure within selected markets should be an ongoing review for all food retailers (Segal, et. al., 1994). The findings of this study can help those interested in obtaining a share of the Hispanic market to generate ideas for implementation in their own markets. As grocery sales dollars are at stake, maintaining a stronghold over the competition will require food retailers to implement both aggressive and possibly different market strategies.

Managerial Implications

Both the results from hypothesis three, along with the additional findings from this study, provide supporting evidence as to changes food retailers can initiate at their stores in order to more effectively target Hispanic consumers. This study revealed that Hispanics have more positive attitudes toward supermarkets than supercenters based on different store environmental attributes. Specifically, this study focused on 20 different store environmental attributes and examined how or whether these attributes provided additional insights into Hispanic shopping behavior in the San Antonio, Texas market. By narrowing the attribute list to the seven most significant ones (Table 27), managers can investigate how these store attributes can further promote positive attitudes and increase shopping at their own store.

Major Findings

Often stores are looking for opportunities to capture a larger share of a particular market. While there are many similarities with regards to different food retailers' merchandise and store operations, it is worthwhile to note there are some differences between the store types, and both supercenters and supermarkets can learn from the results of this research. After further investigating specific components of certain store attributes,

supercenter/supermarket managers can examine their own current store attributes and determine their store's weaknesses. In addition to investigating their own stores, managers, by visiting other stores in their market can perform a competitive analysis in order to determine whether their competition does or does not feature top attributes and whether a niche exists that can be exploited. In addition, new Hispanic-oriented food retail stores such as Publix's *Sabor* can be visited. In doing so, managers can gather ideas on how to best correct their own store's weaknesses. For example, the results of this study revealed that supermarkets need to continue to maintain a better performance in each of the most important attribute areas in order to remain competitive. Supercenters, on the other hand, need to improve their strategies to better compete with supermarkets.

Based on McHenry's Algorithm, MANOVA and ANOVA test results, it was discovered from the outcome (Table 27) of hypothesis three that Hispanic consumers had more positive attitudes towards supermarkets than supercenters in terms of seven attributes (easy parking, convenient location, outside appearance, pleasant interior, organized layout, friendly employees, and knowledgeable employees).

Regarding these seven attributes, food retail managers should further investigate, through the use of a short survey or focus group, what specific components make up each attribute. For instance, does "easy parking" mean available parking spaces in front of the store, wider parking spaces, better access to the parking lot itself or more parking spaces available overall? Does "convenient location" mean convenient to work, home, or a bus stop? Does "organized layout" mean products should be organized by breakfast, lunch and dinner items, by like-minded items (cold medicine and tissues), or by some other method? By using a focus group of current or potential Hispanic consumers, or some other means of

research, managers could specifically examine what individual items make up each store attribute and then, with this list of attributes in hand, further investigate their own stores. However, it is important to note that individual items that make up the attribute for different store types may be different. For example, some supermarkets have storefront windows that may be included in the “pleasant outside appearance” itemized list regarding this particular attribute, whereas supercenters, such as Wal-Mart, may not mention windows as part of the store’s itemized components under the same attribute heading.

Armed with this list, managers could determine whether changes to an existing store should be made to be more competitive in the Hispanic market and which top store attributes would be a more worthwhile investment when targeting Hispanics. Again, supercenter managers especially should look to their own stores to determine where improvements can be made, especially since the results revealed that supercenters had a lower mean score in 95% of the attributes listed.

Friendly and Knowledgeable Employees. The high means (Table 29) for friendly employees and knowledgeable employees for supercenters (19.2 and 19.0, respectively) and supermarkets (22.3 and 22.1, respectively) indicate these attributes play an important role in determining where Hispanics shop for food. Stores should ensure each of these important attributes exist by carefully evaluating current and future employees. Finding the right employee requires special attention to hiring practices, including good interviewing skills and reference checks of potential candidates.

Regardless of an employees’ job description, managers are reminded that they should hold special information or training sessions for employees as part of the hiring process. Whether an employee is in management, or is a stock clerk, each comes in contact with the

customer, thus proper and continuous training is important. Sometimes employees need to be reminded that they should be friendly, helpful and sensitive to the needs of all cultures, especially those the store is currently targeting. Furthermore, store managers wishing to target the Hispanic shopper should also train employees as to cultural differences found in this demographic group. Then, these knowledgeable employees could better assist Hispanic customers in finding the brands they need, or even suggesting alternative or related items. By being able to identify with the needs of the Hispanic shopper, friendly and knowledgeable employees can make a “connection” to their customer. For example, the idea of connecting food and family together (Vavra, 2001) is one strategy stores can implement as a way to make the entire shopping experience more pleasurable. This idea may be the reason behind why the attributes of friendly and knowledgeable employees were so important to a number of Hispanics and why food retailers should take great care in hiring and training the right employees in order to meet these needs.

One way managers can measure how well employees are friendly and knowledgeable is by hiring secret shoppers to help management evaluate their contact personnel. Secret shoppers are trained shoppers who take careful notes regarding the service they receive from store employees and then relay this information to management.

Wherever possible, food retailers can ensure that the image their store projects in any advertising focuses on some of the key store attributes revealed in this study. For instance, there are many examples where an attitude change can be brought about by changes in the environment, changes in a product about which one has a belief, or even changes in one's perception about a product or store through advertising or communications (Walters, 1974). Therefore, food retailers (i.e., supermarkets) who wish to enhance the positive attitudes or

food retailers (i.e., supercenters) who wish to change the negative attitudes currently held by Hispanic shoppers, need to implement good promotional strategies in order to obtain the needed change in behavior.

Since Hispanic attitudes were more positive towards supermarkets, supercenter managers need to develop a strategy that will increase the positive awareness of their supercenter. The use of promotional advertising featuring friendly and knowledgeable contact employees that enhances a Hispanic consumer's attitude regarding these store attributes is one way. For instance, Wal-Mart is well known for featuring "greeters" at each of their stores, and supercenters creating an ad featuring a friendly/knowledgeable employee (possibly other than the "greeting" store front location) providing assistance to a Hispanic customer will help influence a positive perception regarding these attributes.

While supermarket stores may not have "greeters" they do have "baggers" and supermarket managers can use these contact employees to their advantage by ensuring the last thing a Hispanic customer sees are the smiling faces of these employees. By continuing to offer assistance to customers as they leave the store, supermarket managers can continue to remain competitive.

Organized Layout. Organized layout is another important attribute to food shoppers in both supercenters ($m = 19.1$) and supermarkets ($m = 21.3$). Hispanic consumers obviously want to be able to quickly find what they need for various meals, without feeling they are looking for a "needle in a haystack." Store managers can feature popular "Hispanic" products on the "end-caps" of grocery aisles, making them readily visible to shoppers. Generally speaking, food retailers may feel they perform well at this particular task as stores are often set up in a similar manner. However, if the Hispanic consumer feels this attribute

is important, as this study reveals, it is worth a second look to decide specifically which items come to mind when a Hispanic determines if a store layout is organized and specifically if a manager finds whether this is the case in their own store.

Organized layout to some Hispanics may mean the store is organized the way meals are cooked. For instance, one survey respondent commented that they would like to see rice and beans on the same aisle, the way they are prepared in meals. Supercenters, due to better space availability, have an opportunity to improve in this area as they are better able to place complimentary items together in multiple sections of the store, such as placing bananas in the cereal aisle (where bananas are frequently used) as well as in the produce aisle and at check-out counters as a “quick snack” item. Supermarkets, on the other hand, due to their smaller store size, can continue to offer easier product accessibility. Hispanic consumers are less likely to feel overwhelmed since they won’t have to cross over a large general merchandise section to get to the personal hygiene products.

Convenient Location. Supermarkets ($m = 21.0$) received a more favorable mean score than supercenters ($m = 18.1$) which may imply that supermarkets are closer to home (and further investigation will reveal this) or simply that supermarkets have more store locations. While both supermarkets and supercenters tend to carefully evaluate sites for new store locations, additional studies should take place in order to reevaluate how demographics have changed over time and how this affects current store locations.

Supercenters may be able to overcome the lower positive attitude scores, with regards to their Hispanic consumers, by increasing supplementary retail venues within their stores. Most supercenters currently feature additional “store within a store” venues such as hair/nail salons, eyewear, cellular phones, etc. Based on Hispanic shoppers’ preferences,

supercenter managers can create even more opportunities for one-stop shopping by offering additional components such as banking, money transfers or bill payment services within their store, thus making the supercenter more convenient overall to this important demographic group.

Supermarkets with their smaller space requirements can continue to move into new developments with greater ease. In addition, as older retail stores close or are consolidated, supermarkets can move into existing locations.

Pleasant Interiors and Outside Appearance. Pleasant interior was more important to Hispanics who shopped a supermarket ($m = 20.2$) than those who shopped a supercenter ($m = 17.2$). In addition, outside appearance was more important as Hispanics who shopped a supermarket ($m = 18.2$) had a more positive attitude about this attribute than Hispanics who shopped a supercenter ($m = 15.3$). Store managers can influence Hispanic consumers' positive attitudes toward each of these attributes by concentrating on each component or item by observing how their individual store, both inside and out, addresses each one. For instance, if cleanliness appears as an item that makes the outside environment and the interior described as pleasant, then the store should be clean, from the floors to the windows, to the interior ceiling. Signage that appears outdated, peeling paint or potholes in the parking lot are not pleasant invitations to shop a food store and these problems, if they appear, should be remedied.

Supercenters such as Wal-Mart own the land where their stores are located and have greater flexibility with regards to making both interior and exterior changes to their stores. Supercenters have an opportunity to improve Hispanic consumers' attitudes as many of these store types are stand-alone properties that hire full time employees to operate both

inside and outside maintenance. This allows changes or enhancements to be made in a timely manner at a supercenter. In addition, by owning their own property, supercenters have greater flexibility with regards to enhancing or altering the outside appearance of their stores with more attractive landscaping and familiar plants and trees.

Supermarkets, with their smaller size stores, can present a more pleasant “at home” atmosphere within their stores. While supercenters tend to appear more generic in their interiors, as a sort of “one size fits all” atmosphere, supermarkets can more readily customize their interiors based on the demographic composition of the neighborhoods surrounding their store. That is, by implementing the specific components mentioned that make an interior more pleasant to their Hispanic shopper.

Easy Parking. Finally, easy parking should be addressed by store managers. Hispanic shoppers again had a more positive attitude regarding supermarkets ($m = 18.5$) than supercenters ($m = 14.9$). While this may be due to the size of supercenters and their resulting spread out parking areas, further investigation will reveal specifically which components Hispanic shoppers think of when measuring this attribute. While parking at various stores may not be easily controlled due to shopping center management constraints or other zoning issues, managers of both supercenters and supermarkets can make an effort to control where their employees park. If employees are taking the front parking spaces, customers will have to walk further, and thus the positive perception with regards to this attribute is lost.

Supercenters, due to ownership of their property, have an opportunity to improve in this area since they may have greater control over various parking lot components (e.g., spaces available, traffic flow). On the other hand, supermarkets are more likely to lease their

space, and may not be to alter their parking lot. However, supermarkets can ease the parking aggravation by offering friendly customer assistance (e.g., baggers) and take Hispanic customers' purchases out to the car, as well as hold umbrellas on rainy days.

Additional Findings

At first glance at this study's results, supermarket managers may feel that, with 90% of San Antonio's respondents selecting supermarkets as the primary store shopped, their store may be leading locally in the market share among Hispanics. The review of means of store attributes also reveals that San Antonio's supermarkets are leading over supercenters with regards to Hispanic consumers' positive attitudes. These findings may cause them to overlook what the results also reveal, that is, a good percentage of food dollars are leaving one supermarket retailer for another supermarket, as well as other types of food retailers. For instance, while supermarkets have an overall larger share of Hispanics who shop their stores (Table 33), Hispanics shopping other food retailers, such as supercenters and warehouse clubs, are spending more dollars per week, which makes up some of this vast difference.

Wal-Mart continues to grow in many markets opening their traditional supercenters and now also opening smaller neighborhood grocery stores. In addition, in recent years Target has also entered the grocery market. As the competition begins to eat away at the supermarket share of the billion-dollar grocery market (Monroe, 2005), supermarket food retailers would be wise to do whatever is necessary to reduce lost revenues at their own stores. Supercenters and other food retail type stores, where Hispanics shop less frequently (Table 33), should look for, and then take advantage of, opportunities not currently utilized by supermarkets.

While not featured on the list of seven attributes that were significant in hypothesis three, another attribute that received high mean scores for both supercenters (19.3) and supermarkets (20.6) was pleasant odors. While past research (e.g., Mulhern & Williams, 1995) has suggested that food retailers alter their retail mix by carrying more ethnic-oriented store brands as an additional incentive for consumers to shop one store over another, many food retailers are already doing this. While freshly baked bread is often the first thing that may come to mind, when thinking about pleasant smells and groceries, ethnic foods such as freshly baked guava pastries, may be more in tune with what Hispanics are looking for, and additional research regarding the individual components that make up this store attribute will help determine this. Managers should keep in mind that not every customer is going to smell whatever is baking if the bakery is located at the back of the store and therefore alternative methods such as food cooking stations located in various parts of the store could be initiated during peak hours/days. As research warrants it, ethnic foods such as fried plantains, frijoles con jamon (beans with ham) may be on the menu in order to peak the interest of the Hispanic shopper.

Even though this study did not reveal significant results for Hypothesis two, “Hispanic consumers’ primary food retail store type choice is dependent upon their variety of acculturation,” the data did reveal information that there were some differences in behavior between Hispanics exhibiting different varieties of acculturation. Food retailers whose own demographic market reveals a strong base of Hispanic consumers may wish to identify which variety of acculturation best represents their own customers.

While the results of this study cannot be generalized to markets other than San Antonio, managers wishing to further explore the varieties of acculturation of their own

customer base could develop a questionnaire for use in their own market, especially if their market is Mexican American and similar to that of San Antonio. Using the results of this study, which indicated that Mendoza's original 29 questions could be reduced to 9 (Table 13), retailers could begin their own investigations to determine if these variables could be used to determine with an 86.2% accuracy rate, a Hispanic's variety of acculturation.

The questions used for measuring variety of acculturation could possibly be added to a store's preferred customer application for new customers, or mailed to current customers who have Spanish surnames. Preferred customer cards, generally used by supermarkets for offering discounts and check cashing privileges to customers, as well as a means to track shopping expenditures and products purchased, can be used to obtain a wealth of information about Hispanic shoppers through various data mining techniques. The responses obtained from the questionnaire could be used to further identify customers in the store's database by their variety of acculturation.

Then, similar to this study, supermarket managers could specifically survey their own Hispanic customers in an effort to determine if shopping expenditures and money spent per week were different. In addition, managers could target specific groups of Hispanics and measure the different response rates to various promotional campaigns. They could also determine if a promotional image campaign resulted in increased expenditures for Hispanic shoppers overall or differed by variety of acculturation.

Limitations

This study is not without its limitations. For example, the results cannot be generalized to the entire population and the study may contain some sample and data collection bias.

Generalizing Results

As previously mentioned, the results of this study including the reduction of the Mendoza scale and the top ranked store attributes cannot be generalized to all markets. Without further testing to determine which components of Mendoza's scale could be reduced, say to Puerto Ricans, Cubans or even rural Mexican Americans, food retailers should use caution when implementing these results in their own market. Similarly, Hispanics in other markets may not rate store attributes similarly. Therefore, food retailers should conduct studies in their own markets using these results as a guideline.

Sample and Data Collection Bias

By limiting the results of the study to those surveys that were fully completed, some potential bias may have been introduced into the sample estimates (Lohr, 2003). In addition, the loss of the 59 surveys due to the "don't know/not applicable" response options may also have introduced some survey error. As with much of the research conducted today, adequate software is needed to analyze complex data sets, minimize the loss of observations, and enhance data interpretation.

Although this survey was cost effective when compared to other methods and there was an overwhelming positive response, the lack of randomness of this survey may have introduced some potential bias in data collection. That is, the survey was taken during a particular festival event held in one city as opposed to a nationwide sample. In addition, the categories of variety of acculturation and store type may not have been represented fairly (only 20 of the 260 observations were represented by separated Hispanics and only 25 of the 235 observations were represented by supercenters) and therefore, sample bias may have occurred with regards to these two categories.

While there are numerous culturally themed festivals held throughout the nation that would allow researchers to directly target specific groups, there is a lack of information on how to target individuals at these events to ensure a random sample. As with other popular survey methods, such as mail and telephone, researchers could consider increasing the number of festivals for data collection to minimize limitations. Finally, since this survey was not implemented as an exit interview at various food retailer locations, how well a shopper remembered their actual purchasing habits and their primary food store attributes might have limited the accuracy of this study's results. Researchers who wish to obtain more information regarding Hispanics in the future should use caution against generalizing results as well as avoiding potential hazards of sample and data collection bias.

Future Research

Future research of Hispanics will continue to enable retailers to more successfully develop strategic plans that management could implement to reach this fast-growing population. This future research could encompass revisions of the questionnaire measuring variety of acculturation, allow for further probing as to why Hispanics shop at secondary food retailers, increase the sample size in order to obtain more "balanced" representation of the categories, determine what can be learned from regional and national food retailers who have recently begun to (re)position their stores by targeting Hispanics, and determine how store attribute rankings change for other retailers (e.g., clothing stores, shoe stores) or other ethnic groups.

Questionnaire Revisions

While neither the original Mendoza (1989) research nor any of the subsequent tests (e.g., Maldonado, et. al., 2002) of the Cultural Life Styles Inventory (CLSI) scale, addresses

the use of a “don’t know/not applicable” response option, this study revealed that using the questions in their original form required this optional response. It is believed that excluding this response option would have resulted in far more missing data, especially since this study revealed there were some conflicts with regards to the 29 questions currently asked such as deceased parents, etc. Therefore, future research should adopt some rewording of the questionnaire or allow for further probing of respondents, should this option be selected.

As was previously mentioned, a number of respondents selected the neutral option of “3” as their response to the Berry acculturation scale questions. Therefore, adopting a 4-point Likert scale for future measurements of the Berry scale is necessary to more accurately reflect a “yes/no” response option.

Additional Respondent Probing

As the study revealed, supermarkets are the primary store of choice (Table 33) for Hispanics when shopping for food. Yet, it also revealed that, 41% of those who shop a supermarket are not having all their needs met and are shopping a secondary food retailer, spending almost an additional one-third of their weekly budget at another food retailer when they do so. The question food retailers should ask is why? Is it the product, the price or some other factor that leads Hispanics to leave one food retailer and shop another during the same week? This question is worth investigating as the answer may provide lucrative results along with a prudent strategy for implementation.

The idea behind “birds of a feather flock together” is that members of the same cluster tend to respond in similar way, often as the result of some underlying factor (Lohr, 2003). In other words, members of a particular cluster tend to be more similar than those selected at random from the entire population (Lohr, 2003). However, there is expected to

be some overlap of the variables as respondents move from one acculturation variety to another, similar to that exhibited (Table 12) in the fuzzy cluster output. It would be interesting to discover just which of these characteristics cause this “fuzziness” to occur.

Further probing of other Hispanic respondents in the future, or even those of other ethnic groups, and testing which variables of Mendoza’s 29-item scale could be eliminated would facilitate shorter questionnaires with “as good” results. In addition, studies that allow researchers to investigate which traits or dimensions an individual currently exhibits and how they may alter with time, causing one to move from one variety of acculturation to another, would further enhance our knowledge of various immigrant cultures.

Larger Sample Sizes

In order for both the variety of acculturation and store type categories to be represented fairly, a larger sample size is needed. A more evenly distributed response for variety of acculturation might be obtained by interviewing Hispanic grocery shoppers in different residential areas. Within these areas, interviews conducted as an intercept survey at each store type, might provide a more representative sample.

Hispanic Food Retailers

In an effort to learn how well food retail stores who specifically are targeting Hispanics are doing, future research could include comparative analyses of these stores and other food retailers. Differences in retail mix, advertising, and store attributes are some of the components that could be investigated in an effort to identify lessons food retailers can learn and which mistakes they can avoid.

Store Attribute Importance

Future research should investigate whether these same 20 store attributes, as measured in this study for food retailers, hold the same level of significance for other retailer types. As noted previously, retailers could then determine why their own stores are not meeting the needs of the Hispanic consumer and how they can implement changes in order to do so. In addition to other retail stores, future research could also target other groups of individuals, such as African Americans or Asians and perform a comparative analysis to determine how groups differ with regards to attitudes towards these particular store attributes.

Summary

This study has revealed a number of interesting behaviors and traits of Hispanic consumers and has attempted to highlight the significance of these findings by offering food retailers insights and practical managerial implications that can be implemented in their stores. Hispanic behaviors including their attitudes toward certain store attributes, their food retailer preferences, along with their food retailer shopping expenditures revealed motivating reasons why food retailers should target this particular consumer group. In addition, demographic traits such as their population growth and expected expenditures have helped to quantify why the Hispanic culture is worth further investigation and study.

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APPENDIX

Table 1: Varieties of Acculturation

Varieties of Acculturation	Hispanic Retention of Cultural Identity?	Seek Positive Relationship to American Society?
Assimilation	No	Yes
Integration	Yes	Yes
Separation	Yes	No
Marginalization	No	No

Table 2: Fishbein's Attitude Model

Formula Symbol	Symbol Meaning
i	attribute
j	brand
k	consumer
I	importance weight given attribute i by consumer k
β	consumer k's belief regarding the extent to which brand j possesses attribute i
A	A particular consumer's (k's) attitude score for brand j
Fishbein's Formula: $A_{ijk} = \sum \beta_{ijk} I_{ik}$	

Table 3: A Multi-attribute Model: Attitudes Toward Food Retailers

Formula Symbol	Symbol Meaning
i	attribute
s	store
k	consumer
I	importance weight given attribute i by consumer k
P	consumer k's belief regarding the extent to which store s possesses attribute i
A	a particular consumer's (k's) attitude score for store s
$A_{is} = \sum P_{isk} I_{ik}$	

Table 4: The Frontstage Model (Hoffman & Turley, 2002)

Animate Environment	Inanimate Environment
<i>Contact personnel</i> Employee characteristics Number of employees Appearance of provider Gender of service provider	<i>General exterior:</i> Parking and location Exterior store design Exterior windows Macroenvironment or shopping district
<i>Other customers</i> Crowding	<i>General interior:</i> Interior environment as a whole Music Ambient odors Colors Lighting
	<i>Layout and design</i> Layout knowledge Use of power aisles
	<i>P-O-P & Decoration</i> Shelf space Product displays In-store signage In-arena signage Decorative style

Table 5: The Frontstage Model and the Survey

Hoffman & Turley Model	Corresponding Survey Question	
	Part A	Part B
Inanimate Environment		
<i>General exterior:</i> Parking and location	<i>General Outside:</i> 1. Easy parking	2.
Exterior store design	2. Convenient store location	3.
Exterior windows	3. Pleasing exterior appearance (not used)	4.
Macroenvironment or shopping district	4. Pleasing shopping area around store	5.
<i>General interior:</i> Interior environment as a whole	<i>General Inside:</i> 5. Pleasing interior environment	6.
Music	6. Pleasing background music	7.
Ambient odors	7. Pleasant odors/smell	8.
Colors	8. Pleasant color scheme	9.
Lighting	9. Well-lit interior	10.
<i>Layout and design</i> Layout knowledge	<i>Layout & Design:</i> 10. Organized store layout	11.
Use of power aisles	11. Wide aisles	12.
<i>P-O-P & Decoration</i> Shelf space	<i>Point of Purchase & Decoration:</i> 12. Adequate shelf space for products (not used)	13.
Product displays	13. Attractive store signage	14.
In-store signage	14. Bilingual store signage	15.
In-arena signage	(not used)	
Decorative style	15. Attractive decorative style	16.
Animate Environment		
<i>Contact personnel</i> Employee characteristics	<i>Contact Personnel:</i> 16. Friendly employees	17.
	17. Knowledgeable employees	18.
	18. Bilingual employees	19.
Number of employees	19. Sufficient assistance available from employees	20.
Appearance of provider	(not used)	
Gender of service provider	(not used)	
<i>Other customers</i> Crowding	<i>Other Customers:</i> 20. Not crowded with other shoppers in store	21.

Table 6: Summary of Total Surveys Used for Overall Data Analysis

Total Number of Surveys	Number of Surveys Removed	Revised Total	Reason
348	11	337	Missing store information
337	2	335	Small sample size (n=1) for certain food retailer types
335	16	319	Contained “ties” in Mendoza measurement
319	59	260	Responses of “Don’t Know/Not Applicable” that might have altered the outcome

Table 7: Variety of Acculturation for 260 Observations

Variety of Acculturation	Berry Scale	Mendoza Scale
Assimilation	0%	44%
Integration	91%	48%
Separation	1%	8%

Table 8: PCA Results: Eigenvalues for 260 Observations

Eigenvalues		Individual Percent	Cumulative Percent
No.	Eigenvalue		
1	14.32733	49.40	49.40
2	4.446227	15.33	64.74
3	1.328642	4.58	69.32
4	1.062043	3.66	72.98
5	0.886214	3.06	76.04
6	0.784690	2.71	78.74
7	0.636835	2.20	80.94
8	0.532298	1.84	82.77
9	0.488678	1.69	84.46
10	0.438353	1.51	85.97
11	0.391352	1.35	87.32
12	0.361872	1.25	88.57
13	0.339414	1.17	89.74
14	0.335016	1.16	90.89
15	0.302755	1.04	91.94
16	0.285704	0.99	92.92
17	0.247828	0.85	93.78
18	0.244311	0.84	94.62
19	0.232637	0.80	95.42
20	0.212732	0.73	96.15
21	0.191800	0.66	96.82
22	0.164744	0.57	97.38
23	0.151605	0.52	97.91
24	0.135279	0.47	98.37
25	0.117921	0.41	98.78
26	0.110936	0.38	99.16
27	0.098591	0.34	99.50
28	0.091316	0.31	99.82
29	0.052879	0.18	100.00

Table 9: PCA Factor Loadings Summary: Mendoza Scale

Factor 1		Factor 2		Factor 3	
Variables	Loadings	Variables	Loadings	Variables	Loadings
Culture most comfortable with	-0.831563	Language used w/siblings	0.494088	Language spoken w/grand-parents	-0.554471
Culture most familiar with	-0.773127	Language of TV watched	-0.461657	Language spoken w/father	-0.548306
Ethnicity of people you want acceptance from	-0.763834	Language used w/spouse	-0.459984	Language spoken w/mother	-0.521140
Ethnicity of friends	-0.758392	Language used w/children	-0.454144		
Culture most proud of	-0.738932	Language used in prayer	-0.451688		
Language used w/siblings	-0.736444	Language used w/friends	-0.447935		
Language of radio listened to	-0.736310	Ethnic foods eaten	0.447091		
Language of jokes familiar with	-0.730978	Ethnicity of people at social functions	0.445375		
Language of music listened to	-0.730421	Ethnicity of marriage partner	0.436908		
Language used w/spouse	-0.727729	Ethnicity of dates	0.434751		
Language used in prayer	-0.727413	Ethnicity of people you want acceptance from	0.432362		
Ethnicity of people at social functions	-0.726546	Ethnic background of indiv. admired most	0.423422		
Language used w/friends	-0.721972	Ethnicity of friends	0.422925		
Language of TV watched	-0.715886	Ethnic composition of community most want to live in	0.420151		
Culture w/most positive impact	-0.711138	Language of jokes familiar with	-0.412800		
Ethnic holidays observed	-0.707713	Language spoken w/mother	-0.410977		
Language used w/children	-0.706906				
Ethnicity of dates	-0.697211				

Table 9: Continued.

Factor 1		Factor 2		Factor 3	
Variables	Loadings	Variables	Loadings	Variables	Loadings
Ethnic composition of community most want to live in	-0.693852				
Language teach/have taught children	-0.690372				
Ethnic background of indiv. admired most	-0.676185				
Ethnic foods eaten	-0.655935				
Language spoken w/father	-0.655107				
Language spoken w/mother	-0.654576				
Ethnicity of marriage partner	-0.639727				
Language spoken w/grand-parents	-0.585626				
Language used when reading print	-0.564100				
Culture criticize most	-0.542087				

Table 10: Factor Analysis Structure Summary after Varimax Rotation: Mendoza Scale

Factor 1		Factor 2		Factor 3	
Variables	Loadings	Variables	Loadings	Variables	Loadings
Ethnicity of people you want acceptance from	-0.841546	Language of TV watched	-0.842069	Language spoken w/ father	-0.791921
Ethnicity of friends	-0.831195	Language of jokes familiar with	-0.813344	Language spoken w/ mother	-0.772359
Ethnicity of people at social functions	-0.820918	Language used in prayer	-0.786965	Language spoken w/ grandparents	-0.568395
Ethnicity of dates	-0.784627	Language used w/friends	-0.786404		
Ethnic composition of community most want to live in	-0.775073	Language used w/spouse	-0.782142		
Culture most comfortable with	-0.771989	Language used w/siblings	-0.777676		
Ethnic background of indiv. admired most	-0.759033	Language of music listened to	-0.765082		
Ethnic foods eaten	-0.758869	Language of radio listened to	-0.755815		
Culture most proud of	-0.753026	Language used w/children	-0.755626		
Ethnicity of marriage partner	-0.737365	Language teach/have taught children	-0.675049		
Culture most familiar with	-0.726895	Language used when reading print	-0.67247		
Ethnic names used for children	-0.720766	Language spoken w/mother	-0.508786		
Ethnic holidays observed	-0.715531	Language spoken w/father	-0.482809		
Culture w/most positive impact	-0.714626				
Culture criticized most	-0.501216				

Table 11: Fuzzy Cluster Medoids Section

Variable	Cluster1	Cluster2	Cluster3
Factor1	3.0491910	-4.611571	-0.3824265
Factor2	0.5769297	1.190495	-2.3128540
Factor3	0.1184767	3.726162E-02	-0.5142558
Row	46	7	131

Table 12: Sample of Fuzzy Cluster Output

Observation Number	Cluster Number	Cluster 1	Cluster 2	Cluster 3
31	2	0.360150686	0.431587746	0.208261568
32	3	0.006558944	0.009503639	0.983937418
33	3	0.307255311	0.032326171	0.660418518
34	3	0.286564370	0.022519798	0.690915832
35	3	0.077965256	0.014352968	0.907681775
36	3	0.010468496	0.037022124	0.952509379

Table 13: Discriminant Analysis Jackknife and Stepwise Results

Cluster/ Method	% Correctly Classified	Variables
Fuzzy Cluster	224/260 or 86.2%	All 29
	225/260 or 86.5%	Culture most comfortable with; Ethnic background of individual admired most; Language of music listened to; Language used in prayer; Ethnic holidays observed; Ethnicity of people attend social functions with; Ethnic names used for children; Culture most proud of; Language of TV programs watched; Language used w/friends; Language used w/mother; Language used w/parents; Culture criticized most; Ethnic composition of community most want to live in
Mendoza Method	206/260 or 79.2%	All 29
	224/260 or 86.2%	Language used in prayer; Culture most comfortable with; Language of music listened to; Language used w/father; Language used w/friends; Language of familiar jokes; Ethnic holidays observed; Ethnic foods eaten; Culture most familiar with

Table 14: Demographic Differences

Demographic Variable	Variety of Acculturation			Hispanics Overall
	<i>Assimilated</i>	<i>Integrated</i>	<i>Separated</i>	
Total in each group (%)	44	48	8	100
Gender (f/m by count)	103/11	104/22	17/3	225/35
Age (average)	43	41	35	42
Household Total (average) (over 18/under 18)	3 (2/1)	3 (2/1)	4(3/1)	4(3/1)
Education Level (%)				
Elementary – 6	2	2	0	2
7 – 8	0	1	0	0
9 – 12	30	34	47	33
1 – 2 years of college	31	36	32	33
3 – 4 years of college	13	10	0	11
College graduate and higher	24	18	21	21
Income (%)				
less than \$15,000	7	7	5	7
\$15,000 - \$29,999	13	18	47	18
\$30,000 - \$44,999	24	23	21	23
\$45,000 - \$59,999	14	16	11	15
\$60, 000 - \$74,999	10	14	5	12
\$75, 000 - \$89,999	14	8	0	10
\$90,000 - \$104,999	10	8	5	9
\$105,000 - \$119,999	3	1	0	2
over \$120,000	5	5	5	5
Born in USA (%)	97	93	40	91

Table 15: MANOVA Tests for Hypothesis 1

Term(DF) Test Statistic A(2):AGroup	Test Value	DF1	DF2	F- Ratio	Prob Level	<(0.05)
Wilks' Lambda	0.821843	40	476	1.23	0.166801	Accept
Hotelling-Lawley Trace	0.206491	40	474	1.22	0.169786	Accept
Pillai's Trace	0.186611	40	478	1.23	0.163869	Accept
Roy's Largest Root	0.122562	20	239	1.46	0.094791	Accept

Table 16: Means and Standard Deviations for Hypothesis 1

Attribute/Variety	Mean	Standard Deviation
Easy Parking		
All	18.27467	
Assimilated	18.54386	0.6094351
Integrated	17.73016	0.5796884
Separated	18.55000	1.4550060
Convenient Location		
All	20.84805	
Assimilated	20.93860	0.6094351
Integrated	20.55556	0.5796884
Separated	21.05000	1.4550060
Outside Appearance		
All	18.16377	
Assimilated	17.67544	0.6094351
Integrated	18.01587	0.5796884
Separated	18.80000	1.4550060
Shopping Area		
All	18.49659	
Assimilated	18.85088	0.6094351
Integrated	18.88889	0.5796884
Separated	17.75000	1.4550060
Pleasant Interior		
All	19.82129	
Assimilated	19.41228	0.6094351
Integrated	20.30159	0.5796884
Separated	19.75000	1.4550060
Music		
All	13.25007	
Assimilated	19.41228	0.6094351
Integrated	20.30159	0.5796884
Separated	19.75000	1.4550060

Table 16: Continued.

Attribute/Variety	Mean	Standard Deviation
Pleasant Odors		
All	20.34916	
Assimilated	20.30702	0.6094351
Integrated	20.69048	0.5796884
Separated	20.05000	1.4550060
Color Scheme		
All	16.27197	
Assimilated	15.34210	0.6094351
Integrated	16.02381	0.5796884
Separated	17.45000	1.4550060
Well-lit Interior		
All	19.92178	
Assimilated	19.88597	0.6094351
Integrated	20.57936	0.5796884
Separated	19.30000	1.4550060
Organized Layout		
All	20.55971	
Assimilated	20.78070	0.6094351
Integrated	21.69841	0.5796884
Separated	19.20000	1.4550060
Wide Aisles		
All	19.70486	
Assimilated	19.89474	0.6094351
Integrated	20.26984	0.5796884
Separated	18.95000	1.4550060
Product Shelf Space		
All	19.47256	
Assimilated	18.87719	0.6094351
Integrated	19.69048	0.5796884
Separated	19.85000	1.4550060

Table 16: Continued.

Attribute/Variety	Mean	Standard Deviation
Attractive Signs		
All	17.69206	
Assimilated	16.83333	0.6094351
Integrated	17.14286	0.5796884
Separated	19.10000	1.4550060
Bilingual Signage		
All	14.56743	
Assimilated	12.81579	0.6094351
Integrated	14.93651	0.5796884
Separated	15.95000	1.4550060
Attractive Décor		
All	15.74218	
Assimilated	15.40351	0.6094351
Integrated	15.87302	0.5796884
Separated	15.95000	1.4550060
Friendly Employees		
All	21.90310	
Assimilated	21.62281	0.6094351
Integrated	22.43651	0.5796884
Separated	21.65000	1.4550060
Knowledgeable Employees		
All	21.69600	
Assimilated	20.98246	0.6094351
Integrated	22.55556	0.5796884
Separated	21.55000	1.4550060
Bilingual Employees		
All	16.49110	
Assimilated	14.72807	0.6094351
Integrated	17.59524	0.5796884
Separated	17.15000	1.4550060

Table 16: Continued.

Attribute/Variety	Mean	Standard Deviation
Sufficient Assistance		
All	19.71433	
Assimilated	19.35965	0.6094351
Integrated	20.83333	0.5796884
Separated	18.95000	1.4550060
Crowded w/Shoppers		
All	16.47295	
Assimilated	16.62281	0.6094351
Integrated	16.74603	0.5796884
Separated	16.05000	1.4550060

Table 17: ANOVA Tests for Hypothesis 1

Term(DF) Test Statistic A(2):AGroup	Test Value	DF1	DF2	F-Ratio	Prob Level	<(0.05)
Easy Parking	21.546951	2	257	0.55	0.577934	Accept
Convenient Location	5.292049	2	257	0.25	0.780917	Accept
Outside Appearance	11.726028	2	257	0.35	0.702135	Accept
Shopping Area	11.639552	2	257	0.42	0.658973	Accept
Pleasant Interior	23.820678	2	257	0.95	0.389783	Accept
Background Music	14.752445	2	257	0.38	0.685305	Accept
Pleasant Odors	6.339291	2	257	0.22	0.799788	Accept
Color Scheme	42.175998	2	257	1.16	0.315640	Accept
Well-lit Interior	22.718823	2	257	0.86	0.423799	Accept
Organized Layout	64.469464	2	257	2.92	0.055587	Accept
Wide Aisles	16.241957	2	257	0.62	0.536363	Accept
Product Shelf Space	22.543440	2	257	0.93	0.394231	Accept
Attractive Signs	43.736355	2	257	1.35	0.260274	Accept
Bilingual Signage	172.282410	2	257	3.30	0.038327	Reject
Attractive Décor Style	7.427344	2	257	0.20	0.821362	Accept
Friendly Employees	21.290540	2	257	1.13	0.325393	Accept
Knowledgeable Employees	74.669681	2	257	3.78	0.024089	Reject
Bilingual Employee	253.759418	2	257	4.91	0.008094	Reject
Sufficient Assistance	77.915115	2	257	2.82	0.061450	Accept
Crowded w/Shoppers	4.205833	2	257	0.10	0.905476	Accept

Table 18: MANOVA Tests Section for Hypothesis 3

Term(DF) Test Statistic A(2):S1Type	Test Value	DF1	DF2	F-Rati	Prob Level	<(0.05)
Wilks' Lambda	0.860138	20	239	1.94	0.010658	Reject
Hotelling-Lawley Trace	0.162605	20	239	1.94	0.010658	Reject
Pillai's Trace	0.139862	20	239	1.94	0.010658	Reject
Roy's Largest Root	0.162605	20	239	1.94	0.010658	Reject

Table 19: Means and Standard Deviations for Hypothesis 3

Attribute/Variety	Mean	Standard Deviation
Easy Parking		
All	16.70681	
Supercenter	14.92000	1.2987840
Supermarket	18.49362	0.4236165
Convenient Location		
All	19.56340	
Supercenter	18.08000	1.2987840
Supermarket	21.04681	0.4236165
Outside Appearance		
All	16.76213	
Supercenter	15.32000	1.2987840
Supermarket	18.20426	0.4236165
Shopping Area		
All	17.62979	
Supercenter	16.20000	1.2987840
Supermarket	19.05957	0.4236165
Pleasant Interior		
All	18.67660	
Supercenter	17.20000	1.2987840
Supermarket	20.15319	0.4236165
Background Music		
All	12.67915	
Supercenter	12.32000	1.2987840
Supermarket	13.03830	0.4236165
Pleasant Odors		
All	19.94000	
Supercenter	19.28000	1.2987840
Supermarket	20.60000	0.4236165
Color Scheme		
All	14.96128	
Supercenter	13.88000	1.2987840
Supermarket	16.04255	0.4236165

Table 19: Continued.

Attribute/Variety	Mean	Standard Deviation
Well-lit Interior		
All	20.29447	
Supercenter	20.44000	1.2987840
Supermarket	20.14894	0.4236165
Organized Layout		
All	20.21745	
Supercenter	19.12000	1.2987840
Supermarket	21.31489	0.4236165
Wide Aisles		
All	19.46596	
Supercenter	18.80000	1.2987840
Supermarket	20.13191	0.4236165
Product Shelf Space		
All	18.53021	
Supercenter	17.52000	1.2987840
Supermarket	19.54043	0.4236165
Attractive Signs		
All	16.33660	
Supercenter	15.32000	1.2987840
Supermarket	17.35319	0.4236165
Bilingual Signage		
All	13.63575	
Supercenter	13.08000	1.2987840
Supermarket	14.19149	0.4236165
Attractive Décor		
All	14.94340	
Supercenter	14.04000	1.2987840
Supermarket	15.84681	0.4236165
Friendly Employees		
All	20.75957	
Supercenter	19.20000	1.2987840
Supermarket	22.31915	0.4236165

Table 19: Continued.

Attribute/Variety	Mean	Standard Deviation
Knowledgeable Employees		
All	20.52468	
Supercenter	18.96000	1.2987840
Supermarket	22.08936	0.4236165
Bilingual Employees		
All	15.45319	
Supercenter	14.40000	1.2987840
Supermarket	16.50638	0.4236165
Sufficient Assistance		
All	19.38000	
Supercenter	18.56000	1.2987840
Supermarket	20.20000	0.4236165
Crowded w/Shoppers		
All	16.37106	
Supercenter	16.04000	1.2987840
Supermarket	16.70213	0.4236165

Table 20: ANOVA Tests Section for Hypothesis 3

Term(DF) Test Statistic A(2):S1Type	Test Value	DF1	DF2	F-Ratio	Prob Level	<(0.05)
Easy Parking	288.569574	1	258	7.57	0.006349	Reject
Convenient Location	198.890278	1	258	9.67	0.002083	Reject
Outside Appearance	187.975794	1	258	5.81	0.016625	Reject
Shopping Area	184.772504	1	258	6.81	0.009589	Reject
Pleasant Interior	197.068740	1	258	8.04	0.004940	Reject
Background Music	11.658527	1	258	0.30	0.584539	Accept
Pleasant Odors	39.371538	1	258	1.40	0.237936	Accept
Color Scheme	105.673993	1	258	2.92	0.088678	Accept
Well-lit Interior	1.914304	1	258	0.07	0.788093	Accept
Organized Layout	108.858282	1	258	4.94	0.027163	Reject
Wide Aisels	40.085516	1	258	1.55	0.214423	Accept
Product Shelf Space	92.240196	1	258	3.87	0.050325	Accept
Attractive Signs	93.409509	1	258	2.90	0.089609	Accept
Bilingual Signage	27.915483	1	258	0.52	0.469402	Accept
Attractive Décor Style	73.766432	1	258	1.98	0.161059	Accept
Friendly Employees	219.840016	1	258	12.13	0.000582	Reject
Knowledgeable Employees	221.281980	1	258	11.41	0.000844	Reject
Bilingual Employees	100.255728	1	258	1.89	0.170535	Accept
Sufficient Assistance	60.774615	1	258	2.18	0.141121	Accept
Crowded w/Shoppers	9.906448	1	258	0.23	0.628317	Accept

Table 21: Hotelling's T2 Test Section for Hypothesis 1

Covariance Assumption	T2	DF1	DF2	Parametric Test Prob Level	Randomization Test Prob Level
Variety 1 & 2					
Equal	32.187	20	238.0	0.0898	0.1020
Unequal	32.029	20	230.6	0.0945	0.1020
Variety 1 & 3					
Equal	26.197	20	132.0	0.3385	0.3310
Unequal	62.410	20	27.1	0.5813	0.2020
Variety 2 & 3					
Equal	21.056	20	144.0	0.5705	0.5585
Unequal	45.842	20	25.3	0.8432	0.5130
The randomization test results are based on 2000 Monte Carlo samples.					

Table 22: Hotelling's T2 Test Section for Hypothesis 3

Covariance Assumption	T2	DF1	DF2	Parametric Test Prob Level	Randomization Test Prob Level
Store 1 & 2					
Equal	41.952	20	258.0	0.0107	0.0140
Unequal	63.435	20	28.2	0.5034	0.2126
The randomization test results are based on 5000 Monte Carlo samples.					

Table 23: Hotelling's T2 Student's T-Test Section for Hypothesis 3

Variable	T2 or Student's T 	Parametric Test Prob Level	Randomization Test Prob Level
All (T2)	41.952	0.0107	0.0140
Easy Parking	2.752	0.0063	0.0080
Convenient Location	3.110	0.0021	0.0020
Outside Appearance	2.411	0.0166	0.0140
Shopping Area	2.610	0.0096	0.0080
Pleasant Interior	2.835	0.0049	0.0050
Background Music	0.547	0.5845	0.5835
Pleasant Odors	1.183	0.2379	0.2665
Color Scheme	1.709	0.0887	0.0910
Well-lit Interior	0.269	0.7881	0.7945
Organized Layout	2.222	0.0272	0.0260
Wide Aisels	1.245	0.2144	0.2035
Product Shelf Space	1.966	0.0503	0.0520
Attractive Signs	1.704	0.0896	0.1000
Bilingual Signage	0.725	0.4694	0.4490
Attractive Décor Style	1.406	0.1611	0.1655
Friendly Employees	3.483	0.0006	0.0025
Knowledgeable Employees	3.378	0.0008	0.0030
Bilingual Employees	1.374	0.1705	0.1715
Sufficient Assistance	1.476	0.1411	0.1395
Crowded w/Shoppers	0.485	0.6283	0.6410
The randomization test results are based on 5000 Monte Carlo samples.			

Table 24: McHenry Selection Results

Model Size	R-Squared	R-Squared Change	Coded Variables
1	0.044912	0.044912	P
2	0.065203	0.020291	BP
3	0.080385	0.015182	BIP
4	0.095442	0.015057	BEIP
5	0.104426	0.008984	BEIJP
6	0.111423	0.006996	BEIJPT
7	0.120532	0.009109	BEHIJPT
8	0.125768	0.005237	ABEHIJPT
9	0.128042	0.002274	ABEHIJPST
10	0.130858	0.002816	ABEHIJPQST
11	0.133488	0.002630	ABCEHIJPQST
12	0.134943	0.001455	ABCEHIJLPQST
13	0.136762	0.001818	ABCEHIJKLPQST
14	0.138161	0.001400	ABCEGHIIJKLPQST
15	0.138717	0.000556	ABCEGHIIJKLPQRST

Table 25: MANOVA Tests Section for Hypothesis 3, 14 Attributes

Term(DF) Test Statistic A(2):S1Type	Test Value	DF1	DF2	F-Rati	Prob Level	<(0.05)
Wilks' Lambda	0.861839	14	245	2.81	0.000663	Reject
Hotelling-Lawley Trace	0.160310	14	245	2.81	0.000663	Reject
Pillai's Trace	0.138161	14	245	2.81	0.000663	Reject
Roy's Largest Root	0.160310	14	245	2.81	0.000663	Reject

Table 26: Means and Standard Deviations for Hypothesis 3, 14 Attributes

Attribute/Variety	Mean	Standard Deviation
Easy Parking		
All	16.70681	
Supercenter	14.92000	1.2987840
Supermarket	18.49362	0.4236165
Convenient Location		
All	19.56340	
Supercenter	18.08000	1.2987840
Supermarket	21.04681	0.4236165
Outside Appearance		
All	16.76213	
Supercenter	15.32000	1.2987840
Supermarket	18.20426	0.4236165
Pleasant Interior		
All	18.67660	
Supercenter	17.20000	1.2987840
Supermarket	20.15319	0.4236165
Pleasant Odors		
All	19.94000	
Supercenter	19.28000	1.2987840
Supermarket	20.60000	0.4236165
Color Scheme		
All	14.96128	
Supercenter	13.88000	1.2987840
Supermarket	16.04255	0.4236165
Well-lit Interior		
All	20.29447	
Supercenter	20.44000	1.2987840
Supermarket	20.14894	0.4236165
Organized Layout		
All	20.21745	
Supercenter	19.12000	1.2987840
Supermarket	21.31489	0.4236165

Table 26: Continued.

Attribute/Variety	Mean	Standard Deviation
Wide Aisles		
All	19.46596	
Supercenter	18.80000	1.2987840
Supermarket	20.13191	0.4236165
Product Shelf Space		
All	18.53021	
Supercenter	17.52000	1.2987840
Supermarket	19.54043	0.4236165
Friendly Employees		
All	20.75957	
Supercenter	19.20000	1.2987840
Supermarket	22.31915	0.4236165
Knowledgeable Employees		
All	20.52468	
Supercenter	18.96000	1.2987840
Supermarket	22.08936	0.4236165
Sufficient Assistance		
All	19.38000	
Supercenter	18.56000	1.2987840
Supermarket	20.20000	0.4236165
Crowded w/Shoppers		
All	16.37106	
Supercenter	16.04000	1.2987840
Supermarket	16.70213	0.4236165

Table 27: ANOVA Tests Section for Hypothesis 3, 14 Attributes

Term(DF) Test Statistic A(2):S1Type	Test Value	DF1	DF2	F-Ratio	Prob. Level	<(0.05)
Easy Parking	288.569574	1	258	7.57	0.006349	Reject
Convenient Location	198.890278	1	258	9.67	0.002083	Reject
Outside Appearance	187.975794	1	258	5.81	0.016625	Reject
Pleasant Interior	197.068740	1	258	8.04	0.004940	Reject
Pleasant Odors	39.371538	1	258	1.40	0.237936	Accept
Color Scheme	105.673993	1	258	2.92	0.088678	Accept
Well-lit Interior	1.914304	1	258	0.07	0.788093	Accept
Organized Layout	108.858282	1	258	4.94	0.027163	Reject
Wide Aisels	40.085516	1	258	1.55	0.214423	Accept
Product Shelf Space	92.240196	1	258	3.87	0.050325	Accept
Friendly Employees	219.840016	1	258	12.13	0.000582	Reject
Knowledgeable Employees	221.281980	1	258	11.41	0.000844	Reject
Sufficient Assistance	60.774615	1	258	2.18	0.141121	Accept
Crowded w/Shoppers	9.906448	1	258	0.23	0.628317	Accept

Table 28: Hotelling's T2 Test Section for Hypothesis 3, 14 Attributes

Covariance Assumption	T2	DF1	DF2	Parametric Test Prob Level	Randomization Test Prob Level
Store 1 & 2					
Equal	41.360	14	258.0	0.0007	0.0012
Unequal	54.017	14	28.2	0.0846	0.0434
The randomization test results are based on 5000 Monte Carlo samples.					

Table 29: Store Attribute Rankings and Means: Overall

Store Attribute	Rank(Mean)		
	<i>Overall</i>	<i>Supercenter</i>	<i>Supermarket</i>
Easy Parking	12(18.1)	15(14.9)	12(18.5)
Convenient Location	4(20.7)	8(18.1)	4(21.0)
Outside Appearance	13(17.9)	13(15.3)	13(18.2)
Shopping Area	11(18.7)	11(16.2)	11(19.1)
Pleasant Interior	9(19.8)	10(17.2)	7(20.2)
Background Music	20(13.0)	20(12.3)	20(13.0)
Pleasant Odors	5(20.4)	2(19.3)	5(20.6)
Color Scheme	17(15.8)	18(13.9)	17(16.0)
Well-lit Interior	6(20.1)	1(20.4)	8(20.1)
Organized Layout	3(21.0)	4(19.1)	3(21.3)
Wide Aisles	8(19.9)	6(18.8)	9(20.1)
Product Shelf Space	10(19.3)	9(17.5)	10(19.5)
Attractive Signs	14(17.1)	14(15.3)	14(17.4)
Bilingual Signage	19(14.0)	19(13.1)	19(14.2)
Attractive Décor Style	18(15.6)	17(14.0)	18(15.8)
Friendly Employees	1(22.0)	3(19.2)	1(22.3)
Knowledgeable Employees	2(21.7)	5(19.0)	2(22.1)
Bilingual Employees	16(16.3)	16(14.4)	16(16.5)
Sufficient Assistance	7(20.0)	7(18.6)	6(20.2)
Crowded w/Shoppers	15(16.6)	12(16.0)	15(16.7)

Table 30: Store Attribute Rank and Means: Assimilated Hispanics

Store Attribute	Rank(Mean)		
	<i>Overall</i>	<i>Supercenter</i>	<i>Supermarket</i>
Easy Parking	12(18.5)	11(16.1)	12(18.8)
Convenient Location	3(20.9)	5(18.2)	3(21.2)
Outside Appearance	13(17.7)	16(14.0)	13(18.0)
Shopping Area	11(18.9)	13(15.0)	10(19.2)
Pleasant Interior	8(19.4)	12(15.8)	8(19.8)
Background Music	20(12.7)	20(8.7)	19(13.1)
Pleasant Odors	5(20.3)	3(19.2)	5(20.4)
Color Scheme	17(15.3)	19(11.1)	17(15.8)
Well-lit Interior	7(19.9)	2(19.7)	7(19.9)
Organized Layout	4(20.8)	1(20.0)	4(20.9)
Wide Aisels	6(19.9)	7(17.8)	6(20.1)
Product Shelf Space	10(18.9)	8(17.1)	11(19.0)
Attractive Signs	14(16.8)	14(14.3)	14(17.1)
Bilingual Signage	19(12.8)	15(14.1)	20(12.7)
Attractive Décor Style	16(15.4)	18(11.8)	16(15.8)
Friendly Employees	1(21.6)	4(18.8)	1(21.9)
Knowledgeable Employees	2(21.0)	10(16.1)	2(21.5)
Bilingual Employees	18(14.7)	17(13.5)	18(14.8)
Sufficient Assistance	9(19.4)	10(16.5)	9(19.6)
Crowded w/Shoppers	15(16.6)	9(16.6)	15(16.6)

Table 31: Store Attribute Rankings and Means: Integrated Hispanics

Store Attribute	Rank(Mean)		
	<i>Overall</i>	<i>Supercenter</i>	<i>Supermarket</i>
Easy Parking	13(17.7)	20(12.7)	13(18.3)
Convenient Location	7(20.6)	10(17.1)	6(20.9)
Outside Appearance	12(18.0)	15(15.1)	12(18.3)
Shopping Area	11(18.9)	12(16.2)	11(19.2)
Pleasant Interior	8(20.3)	8(17.5)	7(20.6)
Background Music	20(13.0)	18(14.9)	20(12.8)
Pleasant Odors	5(20.7)	7(17.9)	4(21.0)
Color Scheme	17(16.0)	16(15.0)	17(16.1)
Well-lit Interior	6(20.6)	2(21.1)	8(20.5)
Organized Layout	3(21.7)	6(19.3)	3(22.0)
Wide Aisels	9(20.3)	4(19.6)	9(20.3)
Product Shelf Space	10(19.7)	9(17.2)	10(20.0)
Attractive Signs	15(17.1)	13(15.9)	15(17.3)
Bilingual Signage	19(14.9)	19(14.1)	19(15.0)
Attractive Décor Style	18(15.9)	11(17.1)	18(15.7)
Friendly Employees	2(22.4)	3(20.5)	2(22.6)
Knowledgeable Employees	1(22.6)	1(21.4)	1(22.7)
Bilingual Employees	14(17.6)	14(15.8)	14(17.8)
Sufficient Assistance	4(20.8)	5(19.5)	5(21.0)
Crowded w/Shoppers	16(16.7)	17(14.9)	16(16.9)

Table 32: Store Attribute Rankings and Means: Separated Hispanics

Store Attribute	Rank(Mean)		
	<i>Overall</i>	<i>Supercenter</i>	<i>Supermarket</i>
Easy Parking	13(18.2)	9(20.0)	14(17.9)
Convenient Location	3(20.8)	2(21.7)	3(20.7)
Outside Appearance	12(19.0)	5(20.7)	12(18.7)
Shopping Area	14(18.1)	8(20.3)	15(17.6)
Pleasant Interior	5(20.4)	4(20.7)	4(20.3)
Background Music	20(13.9)	17(14.0)	20(13.9)
Pleasant Odors	4(20.6)	1(25.0)	7(19.8)
Color Scheme	15(17.7)	12(18.7)	16(17.6)
Well-lit Interior	10(19.3)	7(20.3)	10(19.1)
Organized Layout	8(19.4)	15(15.7)	5(20.1)
Wide Aisels	7(19.5)	10(19.0)	9(19.6)
Product Shelf Space	6(20.1)	6(20.3)	6(20.0)
Attractive Signs	11(19.3)	14(16.3)	8(19.8)
Bilingual Signage	19(15.5)	20(5.7)	18(17.3)
Attractive Décor Style	17(16.2)	19(9.3)	17(17.4)
Friendly Employees	2(21.7)	16(15.3)	1(22.9)
Knowledgeable Employees	1(21.8)	11(18.7)	2(22.4)
Bilingual Employees	16(17.4)	18(11.7)	13(18.5)
Sufficient Assistance	9(19.3)	3(21.7)	11(18.9)
Crowded w/Shoppers	18(16.1)	13(18.7)	19(15.6)

Table 33: Shopping Trips and Expenditures: Overall

Food Retailer Type	Hispanics - Overall		
	<i>% Who Shop</i>	<i>Trips/Week</i>	<i>\$/Week</i>
<i>Primary Store</i>			
Supercenter	10%	1.8	\$122.00
<i>Secondary Store</i>			
Supercenter	0%	n/a	n/a
Supermarket	40%	1.2	\$61.25
Neighborhood grocer	8%	1.0	\$42.50
Warehouse club	4%	1.0	\$80.00
No second store	48%	n/a	n/a
<i>Primary Store</i>			
Supermarket	90%	2.0	\$100.43
<i>Secondary Store</i>			
Supercenter	17%	1.3	\$62.71
Supermarket	19%	1.1	\$45.20
Neighborhood grocer	1%	1.3	\$46.67
Warehouse club	3%	0.9	\$60.00
No second store	59%	n/a	n/a
<i>Overall Totals</i>			
Total Primary Store	100%	2.0	\$102.56
Total Secondary Store	42%	1.1	\$53.89

Table 34: Shopping Trips and Expenditures: Assimilated Hispanics

Food Retailer Type	Assimilated Hispanics		
	<i>% Who Shop</i>	<i>Trips/Week</i>	<i>\$/Week</i>
<i>Primary Store</i>			
Supercenter	9%	1.6	\$125.00
<i>Secondary Store</i>			
Supercenter	0%	n/a	n/a
Supermarket	30%	1.2	\$43.13
Neighborhood grocer	20%	1.0	\$35.00
Warehouse club	0%	n/a	n/a
No second store	50%	n/a	n/a
<i>Primary Store</i>			
Supermarket	90%	1.9	\$97.28
<i>Secondary Store</i>			
Supercenter	15%	1.0	\$76.91
Supermarket	19%	1.0	\$54.55
Neighborhood grocer	0%	n/a	n/a
Warehouse club	4%	1.9	\$70.00
No second store	60%	n/a	n/a
<i>Overall Totals</i>			
Total Primary Store	100%	1.9	\$99.80
Total Secondary Store	42%	1.0	\$62.42

Table 35: Shopping Trips and Expenditures: Integrated Hispanics

Food Retailer Type	Integrated Hispanics		
	% Who Shop	Trips/Week	\$/Week
<i>Primary Store</i>			
Supercenter	10%	1.9	\$125.77
<i>Secondary Store</i>			
Supercenter	0%	n/a	n/a
Supermarket	50%	1.4	\$70.00
Neighborhood grocer	0%	n/a	n/a
Warehouse club	0%	n/a	n/a
No second store	50%	n/a	n/a
<i>Primary Store</i>			
Supermarket	90%	2.2	\$103.51
<i>Secondary Store</i>			
Supercenter	18%	1.5	\$53.57
Supermarket	14%	1.2	\$37.81
Neighborhood grocer	1%	1.0	\$50.00
Warehouse club	3%	1.0	\$46.67
No second store	63%	n/a	n/a
<i>Overall Totals</i>			
Total Primary Store	100%	2.1	\$105.86
Total Secondary Store	38%	1.3	\$49.79

Table 36: Shopping Trips and Expenditures: Separated Hispanics

Food Retailer Type	Separated Hispanics		
	<i>% Who Shop</i>	<i>Trips/Week</i>	<i>\$/Week</i>
<i>Primary Store</i>			
Supercenter	15%	1.5	\$88.33
<i>Secondary Store</i>			
Supercenter	0%	n/a	n/a
Supermarket	33%	0.3	\$70.00
Neighborhood grocer	0%	n/a	n/a
Warehouse club	33%	1.0	\$80.00
No second store	33%	n/a	n/a
<i>Primary Store</i>			
Supermarket	85%	1.8	\$95.00
<i>Secondary Store</i>			
Supercenter	13%	1.0	\$45.00
Supermarket	44%	0.8	\$33.75
Neighborhood grocer	13%	1.5	\$45.00
Warehouse club	0%	n/a	n/a
No second store	31%	n/a	n/a
<i>Overall Totals</i>			
Total Primary Store	100%	1.8	\$93.89
Total Secondary Store	70%	0.9	\$44.38

Table 37: Shopping Trips and Expenditures: “Don’t Know/Not Applicable”

Food Retailer Type	Hispanics - Overall		
	<i>% Who Shop</i>	<i>Trips/Week</i>	<i>\$/Week</i>
<i>Primary Store</i>			
Supercenter	15%	1.5	\$103.06
<i>Secondary Store</i>			
Supercenter	0%	n/a	n/a
Supermarket	22%	.8	\$13.75
Neighborhood grocer	0%	n/a	n/a
Warehouse club	0%	n/a	n/a
No second store	78%	n/a	n/a
<i>Primary Store</i>			
Supermarket	83%	2.0	\$97.56
<i>Secondary Store</i>			
Supercenter	20%	1.2	\$38.75
Supermarket	20%	.8	\$36.50
Neighborhood grocer	2%	1.0	\$25.00
Warehouse club	0%	n/a	\$60.00
No second store	57%	n/a	n/a
<i>Overall Totals</i>			
Total Primary Store	100%	1.9	\$100.26
Total Secondary Store	41%	1.0	\$35.34

Table 38: Overall Store Attribute Rank and Scores by Variety of Acculturation

Store Attribute	Assimilation Overall	Integration Overall	Separation Overall
Easy Parking	12(18.5)	13(17.7)	13(18.2)
Convenient Location	3(20.9)	7(20.6)	3(20.8)
Outside Appearance	13(17.7)	12(18.0)	12(19.0)
Shopping Area	11(18.9)	11(18.9)	14(18.1)
Pleasant Interior	8(19.4)	8(20.3)	5(20.4)
Background Music	20(12.7)	20(13.0)	20(13.9)
Pleasant Odors	5(20.3)	5(20.7)	4(20.6)
Color Scheme	17(15.3)	17(16.0)	15(17.7)
Well-lit Interior	7(19.9)	6(20.6)	10(19.3)
Organized Layout	4(20.8)	3(21.7)	8(19.4)
Wide Aisles	6(19.9)	9(20.3)	7(19.5)
Product Shelf Space	10(18.9)	10(19.7)	6(20.1)
Attractive Signs	14(16.8)	15(17.1)	11(19.3)
Bilingual Signage	19(12.8)	19(14.9)	19(15.5)
Attractive Décor Style	16(15.4)	18(15.9)	17(16.2)
Friendly Employees	1(21.6)	2(22.4)	2(21.7)
Knowledgeable Employees	2(21.0)	1(22.6)	1(21.8)
Bilingual Employees	18(14.7)	14(17.6)	16(17.4)
Sufficient Assistance	9(19.4)	4(20.8)	9(19.3)
Crowded w/Shoppers	15(16.6)	16(16.7)	18(16.1)

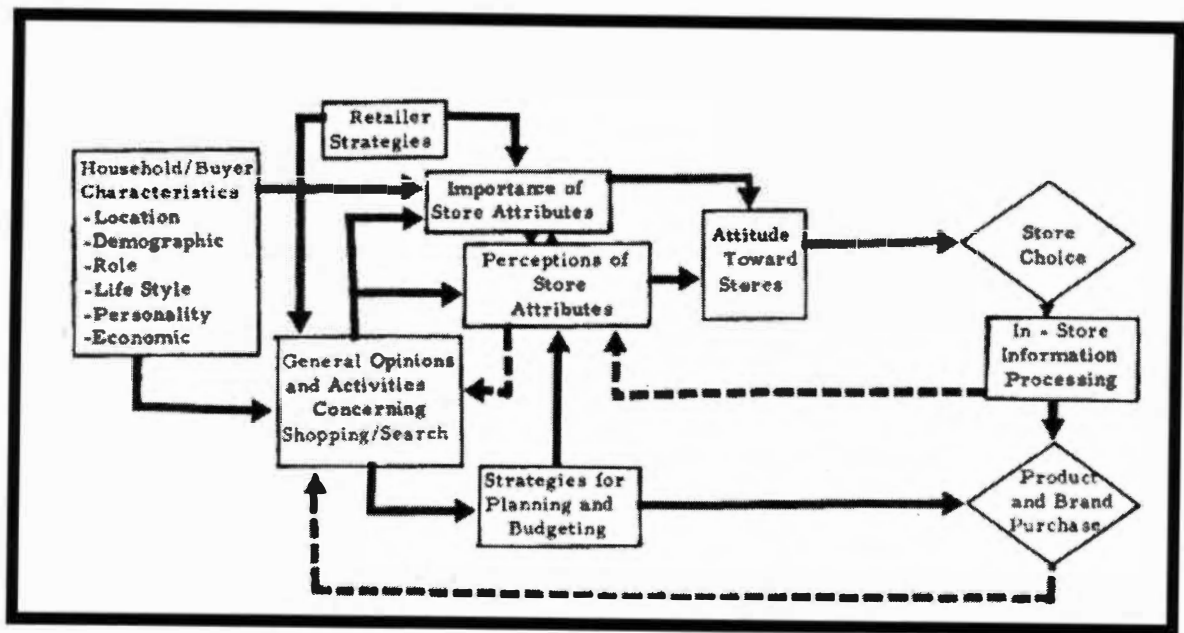


Figure 1. Monroe & Guitinan Store Choice Model

Source: Monroe, K., & Guitinan, J. (1975). A path-analytic exploration of retail patronage influences, *Journal of Consumer Research*, 2 (June), pp. 19 – 28.

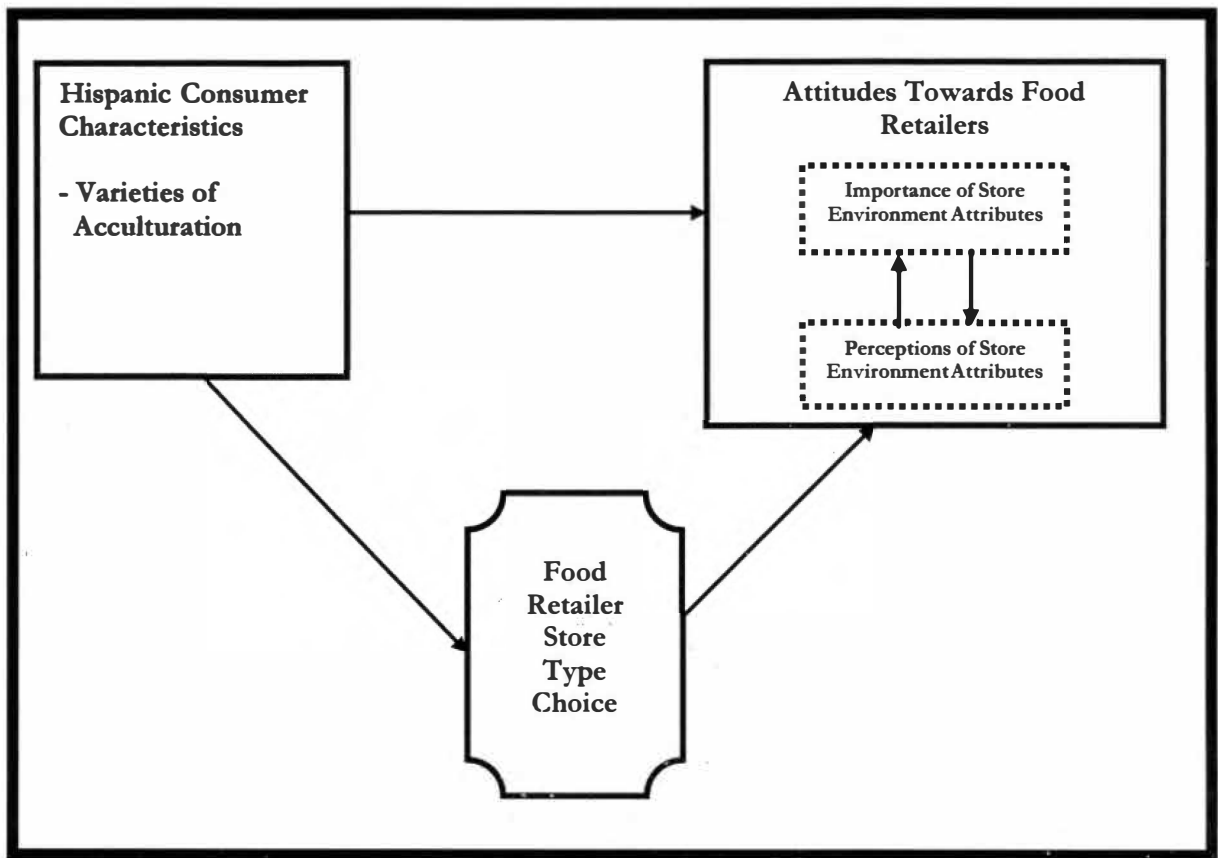


Figure 2. A Conceptual Model for Hispanic Consumers' Attitudes

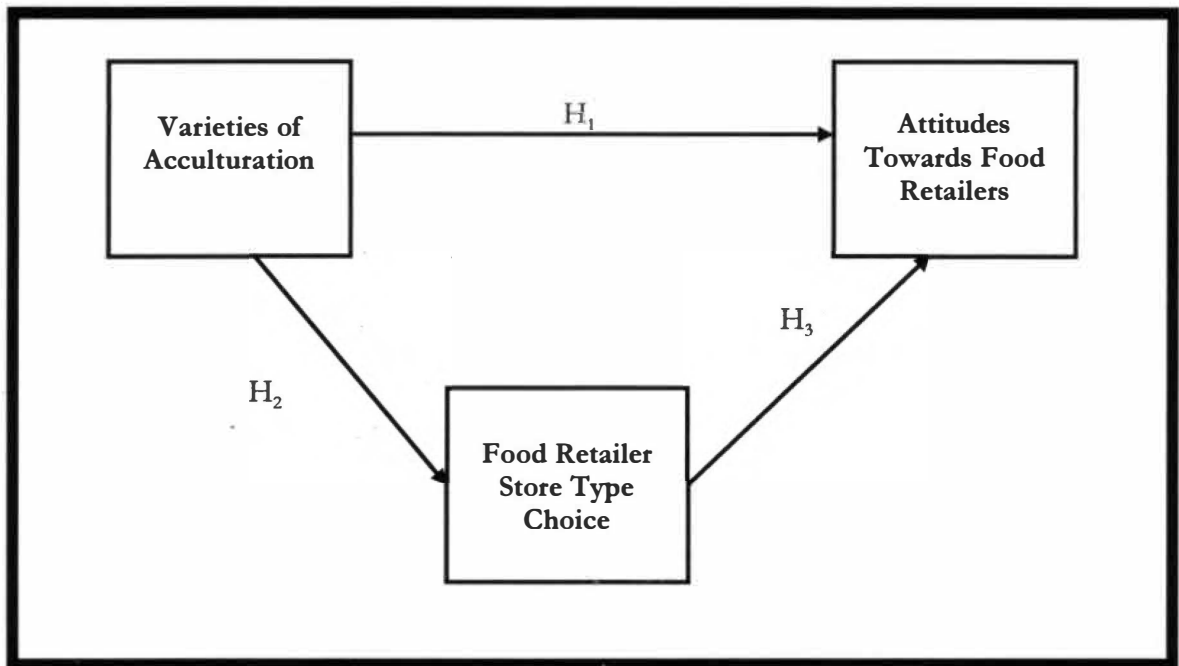


Figure 3. Proposed Hypotheses

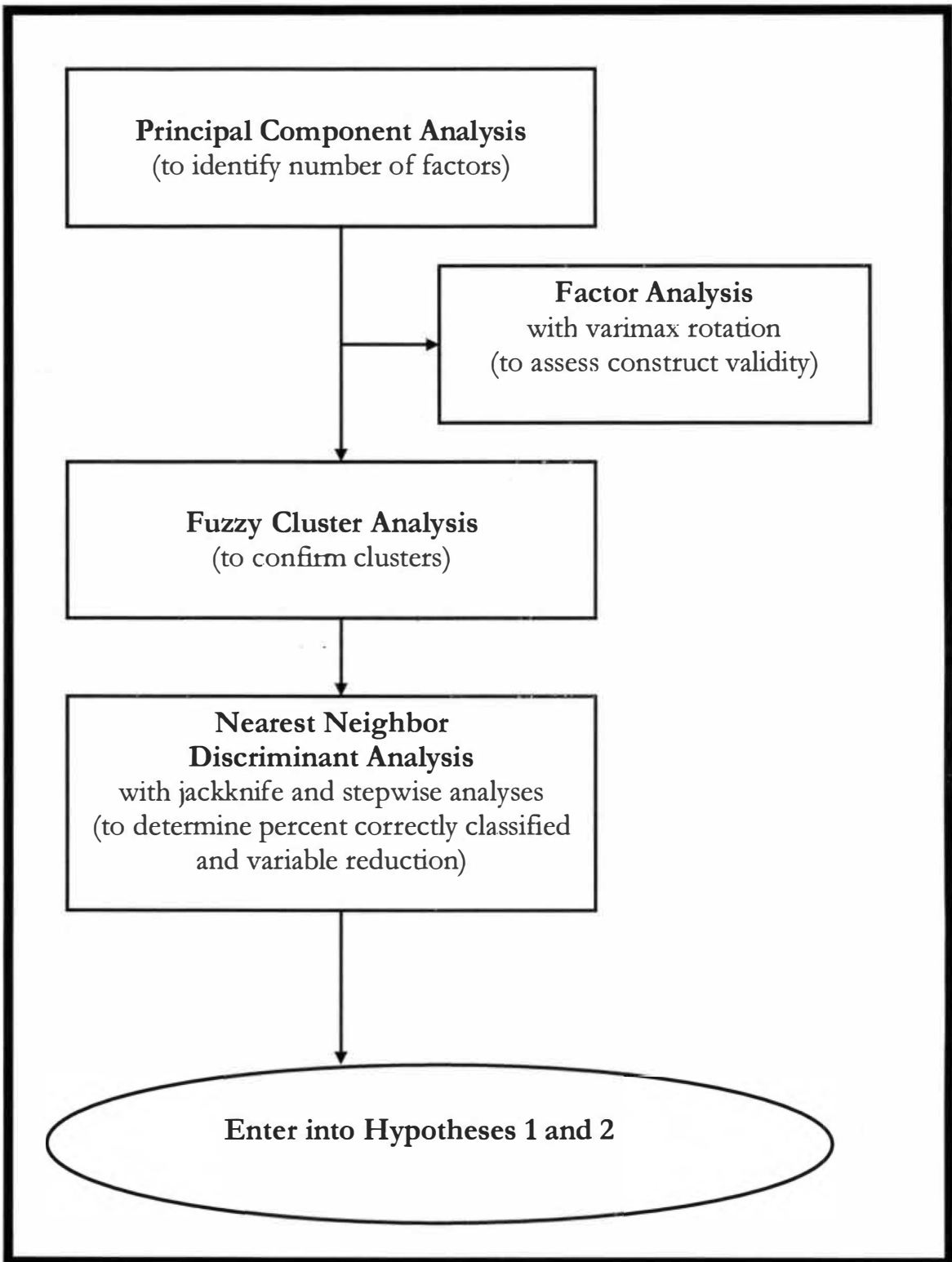


Figure 4. Procedures Followed for Variety of Acculturation Measure

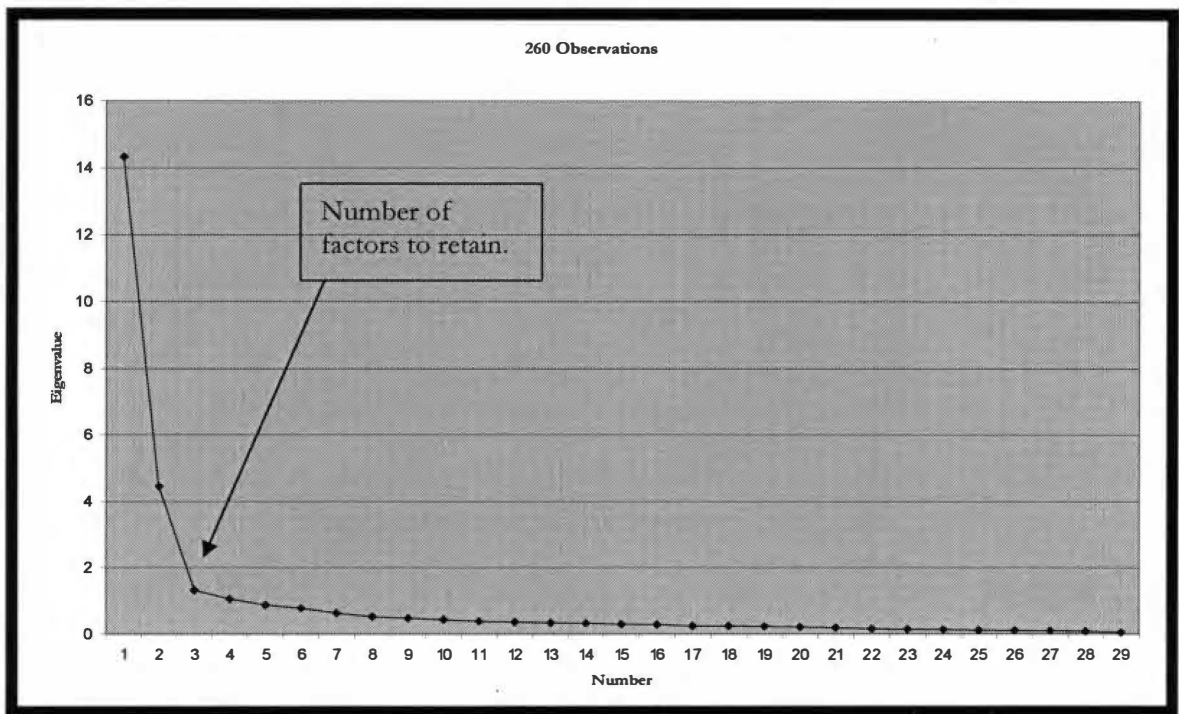


Figure 5. Scree Plot of Eigenvalues

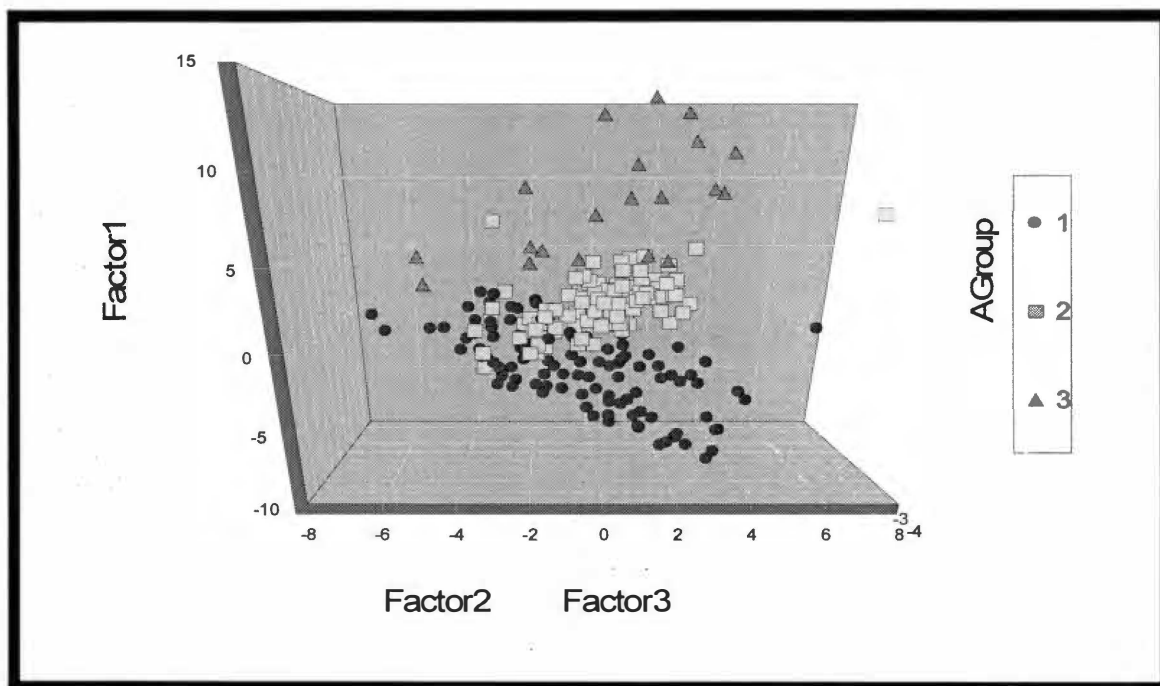


Figure 6. Scatter Plot #1 (Mendoza)

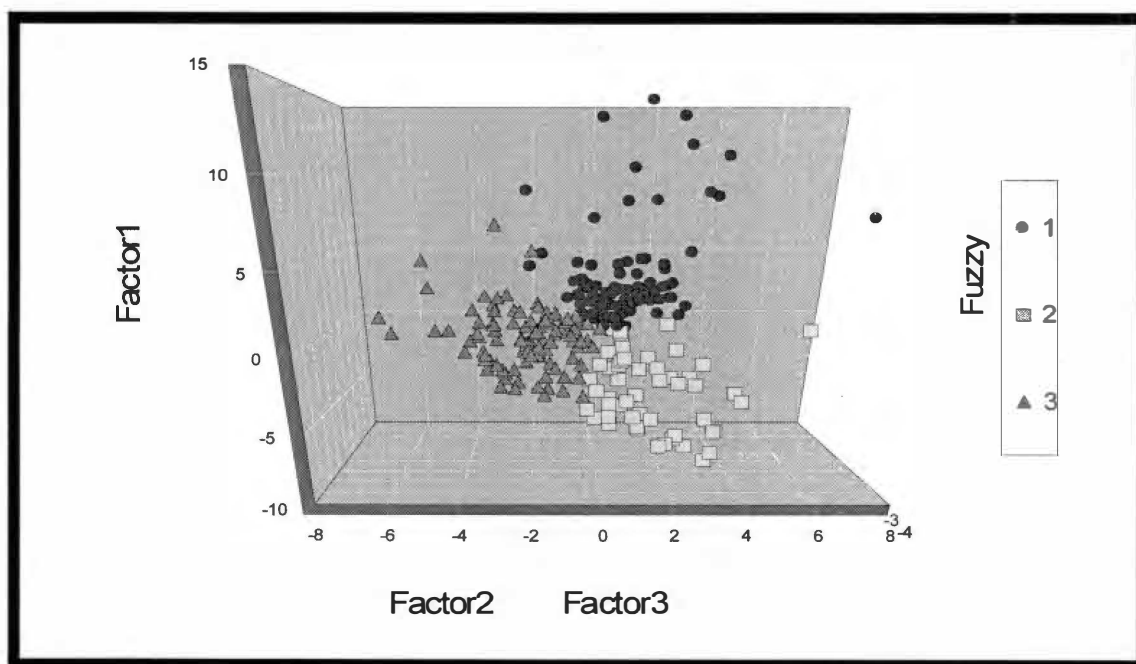


Figure 7. Scatter Plot #2 (Fuzzy)

Figure 8. The Survey.

University of Tennessee

Consumer Survey

PART A: Please indicate how important each store characteristic is to you when shopping for groceries, regardless of the store shopped, where 5 means “very important” and 1 means “not very important.” Please circle your answer.

Store Characteristic:	Very Important	Important	Neither important nor unimportant	Not Important	Not Very Important	Don't Know/ Not Applicable
1. Easy parking	5	4	3	2	1	9
2. Convenient store location	5	4	3	2	1	9
3. Pleasing outside appearance	5	4	3	2	1	9
4. Pleasing shopping area around store	5	4	3	2	1	9
5. Pleasing inside environment	5	4	3	2	1	9

6. Pleasing background music	5	4	3	2	1	9
7. Pleasant odors/smell	5	4	3	2	1	9
8. Pleasant color scheme	5	4	3	2	1	9
9. Well-lit interior	5	4	3	2	1	9
10. Organized store layout	5	4	3	2	1	9

11. Wide aisles	5	4	3	2	1	9
12. Adequate shelf space for products	5	4	3	2	1	9
13. Attractive store signage	5	4	3	2	1	9
14. Bilingual store signage	5	4	3	2	1	9
15. Attractive decorative style	5	4	3	2	1	9

16. Friendly employees	5	4	3	2	1	9
17. Knowledgeable employees	5	4	3	2	1	9
18. Bilingual employees	5	4	3	2	1	9
19. Sufficient assistance available from employees	5	4	3	2	1	9
20. Not crowded with other shoppers in store	5	4	3	2	1	9

PART B: Please fill in the blank with the appropriate response.

1. What one store do you shop most frequently for groceries?

b. How often each week do you shop at this store? _____

c. On average, how much do you spend on groceries each week at this store?

Please indicate to what extent you agree or disagree that **the above named store** (where you shop most frequently for groceries) has the following characteristics, where 5 means "strongly agree" and 1 means "strongly disagree." Please circle your answer.

Store characteristic:	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Don't Know/ Not Applicable
2. Easy parking	5	4	3	2	1	9
3. Convenient store location	5	4	3	2	1	9
4. Pleasing outside appearance	5	4	3	2	1	9
5. Pleasing shopping area around store	5	4	3	2	1	9

6. Pleasing inside environment	5	4	3	2	1	9
7. Pleasing background music	5	4	3	2	1	9
8. Pleasant odors/ smell	5	4	3	2	1	9
9. Pleasant color scheme	5	4	3	2	1	9
10. Well-lit interior	5	4	3	2	1	9
11. Organized store layout	5	4	3	2	1	9

12. Wide aisles	5	4	3	2	1	9
13. Adequate shelf space for products	5	4	3	2	1	9
14. Attractive store signage	5	4	3	2	1	9
15. Bilingual store signage	5	4	3	2	1	9
16. Attractive decorative style	5	4	3	2	1	9

17. Friendly employees	5	4	3	2	1	9
18. Knowledgeable employees	5	4	3	2	1	9
19. Bilingual employees	5	4	3	2	1	9
20. Sufficient assistance available from employees	5	4	3	2	1	9
21. Not crowded with other shoppers in store	5	4	3	2	1	9

Part B continued: Please fill in the blank with the appropriate response.

22. Do you shop another food retailer when purchasing groceries? (check one)
 ___ No → (skip to PART C)
 ___ Yes →
 (If Yes) b. Please list their name here: _____
 (If Yes) c. How often do you shop at this store each week? _____
 (If Yes) d. On average, how much do you spend on groceries each week at this store? _____

Part C: Please indicate to what extent do you agree or disagree with each of the following statements, where 5 means "strongly agree" and 1 means "strongly disagree." Please circle your answer.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Don't Know/ Not Applicable
1. Should Hispanics become an integral part of American society?	5	4	3	2	1	9
2. Is the Hispanic culture worth preserving?	5	4	3	2	1	9
3. What is your national origin? (check one) ___ Cuban ___ Mexican, Mexican American, Chicano ___ Puerto Rican ___ Other Spanish/Hispanic/Latino (Print group in blank space below)						
Part C continued: Please indicate to what extent you agree with the following statement:	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Don't Know/ Not Applicable
4. I identify with my national origin.	5	4	3	2	1	9

Part C continued: Please indicate which language(s) you use in each situation described below, where 5 means "English only" and 1 means "Spanish only." Please circle your answer.

	English Only	More English than Spanish	English and Spanish Equally	More Spanish than English	Spanish Only	Don't Know/ Not Applicable
What language do you use when speaking:						
5. with your grandparents?	5	4	3	2	1	9
6. with your father?	5	4	3	2	1	9
7. with your mother?	5	4	3	2	1	9
8. with your brothers and sisters?	5	4	3	2	1	9
9. with your spouse?	5	4	3	2	1	9
10. with your children?	5	4	3	2	1	9
11. in prayer?	5	4	3	2	1	9
12. with your friends?	5	4	3	2	1	9
What is the language of:						
13. the newspapers and magazines you read?	5	4	3	2	1	9
14. the music you listen to?	5	4	3	2	1	9
15. the radio stations you listen to?	5	4	3	2	1	9
16. the television programs you watch?	5	4	3	2	1	9
17. the jokes you are familiar with?	5	4	3	2	1	9
18. What language(s) would you teach/have taught your children?	5	4	3	2	1	9

Part C continued: Please indicate which of the choices best applies to your personal situation, where 5 means "American only" and 1 means "Hispanic only." Please circle your answer.

	American Only	More American than Hispanic	American and Hispanic Equally	More Hispanic than American	Hispanic Only	Don't Know/ Not Applicable
What culture:						
19.do you feel most familiar with?	5	4	3	2	1	9
20.do you feel most comfortable with?	5	4	3	2	1	9
21.do you feel most proud of?	5	4	3	2	1	9
22.do you criticize the most?	5	4	3	2	1	9
23.do you feel has had the most positive impact on your life?	5	4	3	2	1	9
What is the ethnicity of:						
24.your friendship ties?	5	4	3	2	1	9
25.your dates?	5	4	3	2	1	9
26.people with whom you attend social functions?	5	4	3	2	1	9
27.people you want most to be accepted by?	5	4	3	2	1	9
28.your marriage partner preferences?	5	4	3	2	1	9
29.What ethnic holidays do you observe?	5	4	3	2	1	9
30.What ethnic foods do you eat?	5	4	3	2	1	9
31.What is the ethnic background of individual(s) you admire the most?	5	4	3	2	1	9
32.What is the ethnic composition of the community you would most want to live in?	5	4	3	2	1	9
33.What ethnic names would you use for your children?	5	4	3	2	1	9

PART D: The following sets of questions are designed only for the purpose of statistical analysis. As with all other responses, they'll be kept in strict confidentiality under all circumstances. Only aggregated data, such as means, will be used in our study. Please fill in the blank with the appropriate response.

1. Are you? (check one) _____ Male _____ Female
2. What is your age as of your last birthday? _____
3. What is the name of the city where you live? _____
4. What is the zip code where you live? _____
5. How many people currently live in your household?
_____ (18 or older) _____ (under 18)
6. What is the last grade you completed in school: (check the one that applies)
____ Elementary – 6
____ 7 – 8
____ 9 – 12
____ 1 – 2 years of college
____ 3 – 4 years of college
____ College graduate and higher
7. What is the total annual income of your household? (check the one that applies)
____ less than \$15,000
____ \$15,000 - \$29,999
____ \$30,000 - \$44,999
____ \$45,000 - \$59,999
____ \$60,000 - \$74,999
____ \$75,000 - \$89,999
____ \$90,000 - \$104,999
____ \$105,000 - \$119,999
____ over \$120,000
8. In what country were you born? _____
If born in a country, other than the United States:
 9. How long have you lived in the United States? _____
 10. How often do you return to visit the home country where you were born?

 11. How many years of schooling did you receive in your home country?

*Thank you for participating in our survey.
We appreciate your time and effort!*

VITA

Carol Lynn S. Nute was born in Tampa, Florida on September 3, 1959. She attended the University of Florida, where she received her Bachelor of Science degree in Business Administration with a major in Marketing in 1983. She received her Master of Arts in Teaching from the University of South Carolina in 2000, and her Doctor of Philosophy (Human Ecology) with a focus on Retail and Consumer Sciences at the University of Tennessee.

Her work experience includes an extensive background in retail, marketing and teaching. Her retail experience includes management positions at Maas Brothers (now Burdines), Body Shop and Gap. She was a marketing director for Mercer Mall, a regional center in Bluefield, WV. While a member of the International Council of Shopping Centers, Carol Lynn obtained her Certified Marketing Director certification. From there she became a regional marketing director for power centers for New Market Management in their West Chester, PA office, primarily serving the northeastern United States.

Following this, Carol Lynn started her own company, Retail Results, which she operated for five years before going back to school to earn her master's degree. While operating Retail Results, Carol Lynn continued to market shopping centers in South Carolina, North Carolina and Florida, as well as consulted with a number of local retailers. In addition, she operated a sister company, The Retail Press where she wrote, created and designed a customized quarterly newsletter for regional malls which featured local events and industry news. In 1995, she self-published a book, *Common Sense to Retailing*, and has sold

over 2000 copies. Also, as a continued involved member of the International Council of Shopping Centers, Carol Lynn obtained her Senior Certified Marketing Director status.

Upon obtaining her master's degree in December 2000, Carol Lynn taught business/marketing classes at a local high school. In addition to teaching at the high school level, Carol Lynn also taught part time at both Midlands Technical College and Central Carolina Community College.

Carol Lynn initially pursued her doctorate degree at the University of Tennessee part time while teaching in the Columbia, South Carolina area. Then, in the fall of 2004, Carol Lynn moved to the Knoxville area to attend school full time. While at the University of Tennessee, Carol Lynn also taught courses and advised undergraduate students. She became a member of both Kappa Omicron Nu Honor Society and the Association of Marketing Theory & Practice. She also continues to be a member of the International Council of Shopping Centers. While attending the university, Carol Lynn presented a joint paper titled "An Exploratory Study of Internet and Print Communication Strategies: Targeting the Hispanic Market" which was later published in the Association of Marketing Theory & Practice proceedings, in April 2004.

Upon receiving her doctorate degree, Carol Lynn plans to continue teaching in the Columbia, South Carolina area.

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