Analysis of fitting room environments: Effects on older clothing shoppers' shopping patronage intention

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Analysis of fitting room environments: Effects on older clothing shoppers’ shopping patronage intention

by

Kyungnam Seo

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Apparel, Merchandising & Design

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Iowa State University
Ames, Iowa
2013
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ABSTRACT

The purpose of this study was to systematically analyze the influence of the fitting room environment on older clothing shoppers’ psychic cost, satisfaction, and patronage intention. The objectives of this study were to determine whether current fitting rooms deliver appropriate services for older consumers, and whether a fitting room environment that accommodates the needs of older consumers better is associated with enhanced shopping satisfaction and consequent patronage intention. In addition, this study created a conceptual model integrating the S-O-R model and person-environment fit theories to provide an understanding of the causal relationship among fitting room accommodation, psychic cost, shopping satisfaction, and patronage intention.

The sample consisted of 72 female participants aged 65 and older from a metropolitan area in Iowa. A field experiment was performed in the fitting rooms of two stimulus stores using identical measurement instruments. All 72 participants first visited a TJ Maxx store (low level of fitting room accommodation), and for second shopping trip, they were randomly divided into two groups of equal size: one group (experimental group) visited a Talbots store and the other group (control group) visited the TJ Maxx store again. Participants completed a short demographic questionnaire, competence level, and store image before the first shopping trip. After trying on selected outfits including pants in the fitting rooms, the participants completed a questionnaire.

A series of principal component analyses with Varimax rotation were performed to discover the dimensionalities of psychic cost, shopping satisfaction, and patronage intention. In addition, confirmatory factor analysis was performed to confirm the two-factor structure.
of psychic cost (physical and social environment psychic costs), and the factor structure of shopping satisfaction and patronage intention.

An independent samples t-test was employed to determine the differences between the experimental group and control group for the following variables: physical environment psychic cost, social environmental psychic cost, shopping satisfaction, and patronage intention. Results indicated that there were significant differences between the two groups of older consumers for each variable. The paired samples t-test was employed to determine the differences between pretest and posttest for both groups. Results revealed that there was a significant mean difference in all variables between pretest and posttest for the experimental group, whereas there was no statistically significant difference between pretest and posttest scores for the control group.

Analysis of covariance was used to determine the effect of level of fitting room accommodation on psychic cost and shopping satisfaction. The level of fitting room accommodation was associated with statistically significant positive effects on both physical and social psychic costs and on shopping satisfaction. Multiple regression analysis was conducted to examine the interaction effect of fitting room accommodation level and individual competence level on psychic cost. Results revealed that lower competency increased each of the both psychic costs associates with the unaccommodating fitting room environment. In addition, regression result showed a positive relationship between satisfaction and older consumers’ patronage intention. Thus, all eight hypotheses were supported.
This study offered implications for retailers, store designers, policy makers, and academia. Several suggestions for future research were discussed.
CHAPTER 1. INTRODUCTION

With trends in lower birth rates and an increase in life expectancy, due to improved health care and changes in lifestyles (Petermans & Van Cleempoel, 2010), the proportion of individuals over the age of 65 has been increasing in the U.S. According to the latest report from the 2010 Census, 13 percent of the population was over the age of 65 in 2010 (“Age and Sex Composition,” 2011). With the baby boom cohort entering retirement, people over age 65 will double to 70 million. This will represent 20 percent of the total population by the year 2030, and older women will far outnumber older men (“Older Americans 2008,” 2008).

The growth of the older population is a significant demographic change, and it has become of particular interest to researchers and marketers. Over the years, marketers have made continuous efforts to capture the older market, focusing on their buying power (Rocha, Hammond, & Hawkins, 2006; Schewe & Balazs, 1979; Timmermann, 2004/2005).

Over the past two decades, the economic situation of those 65 and older has improved significantly compared with the younger population, and accordingly, their purchasing power has been growing (Levy, 2001; “Older Person As,” 2009). Older households have less income than the average household income of all the U.S. However, with age-related benefits and non-cash income, such as the absence of financial and family obligations, Medicaid, Medicare, greater tax exemptions, mortgage-free or subsidized housing, Social Security payments and senior discounts in various services, older adults are financially better off (Gendell, 2008; Moody, 2006; Myers & Lumbers, 2008). Furthermore, older adults have higher savings for retirement and increasing labor force participation in recent decades (Bloom, Canning, & Fink, 2008). Therefore, older adults today, as a group, have
accumulated more wealth than their parents or younger people (Gendell, 2008; Moody, 2006; “Older Persons As,” 2009). This economic prosperity, along with improved health status, has led older adults to participate in diverse leisure and social activities (Carrigan, Szmigin, & Wright, 2004). Accordingly, they demand a wide range of goods and services (Moye & Giddings, 2002; Myers & Lumbers, 2008; Rocha et al., 2006), including increasing demand for apparel (Lee, Hanna, Mok, & Wang 1997; Mumel & Prodnik, 2005; Thomas & Peters, 2009). Indeed, older adults today consume more aggressively than before, and their spending habits are not significantly different from those of their younger cohorts (Moye & Giddings, 2002; Thomas & Peters, 2009; Timmermann, 2005). Because of older adults’ increased buying power, retailers have begun to pay more attention to the special needs of this segment of the population.

In fact, many older women remain keenly interested in their appearance and enjoy shopping for and spending a lot of money on clothing (Birtwistle & Tsim, 2005; Graham, 2007; Joung & Miller, 2007; Kozar, 2005; Myers & Lumbers, 2008; Nam et al., 2007; Thomas & Peters, 2009). To maintain an active lifestyle, clothing becomes more important for older adults, and they have increased needs for new clothes (Campanelli, 1991; Graham, 2007). Past studies identified shopping (Hirschman, 1992) or buying new style of clothes (Andreasen, 1984) as a way of handling stress for older adults. To date, a significant number of studies has supported that older adults are recreational shoppers, who view shopping as a means of socializing with their friends and as a source of pleasure and recreation (Dillard & Feather, 1988; Lumpkin & Greenberg, 1982; Myers & Lumbers, 2008). Therefore, an increase in apparel demands combined with their enjoyment of shopping may be significant.
predictors of extra time spent in the store (Donovan, Rossiter, Marcoolyin, & Nesdale, 1994). It is commonly recognized that traditional brick-and-mortar retail shopping is a dominant shopping method for older adults (Cox, Cox, & Anderson, 2005; Mumel & Prodnik, 2005; Nam et al., 2007; Thomas & Peters, 2009) in spite of the rise of non-store (e.g., Internet) shopping alternatives. To attract older consumers, apparel retailers need to strive to create favorable in-store experiences.

Few studies have examined the impact of existing store environments on older consumers. Whereas the needs and interests related to clothing of this growing segment may be different from other segments, comparatively little research has looked at older consumers’ special needs, particularly as they pertain to the fitting room experience. Older shoppers have fitting and sizing issues that distinguish them from younger shoppers (Dillard & Feather, 1988; Richards, 1981; Shim & Bickle, 1993), and make the fitting room experience extremely important. Typically, clothing stores have viewed the fitting room as a square box with lights where shoppers can go to try on clothes. In fact, the time customers spend in the fitting room is the most critical point in the sales process; fitting room is where customers decide to buy a product, and the actual sale is made (“All Dressed Up,” 2006; Amato-McCoy, 2007; Baumstarck & Park, 2010; “Fitting Designs,” 1999; Grant, 2007; Marjo, 2003/2004; O’Donnell, 2007). Customers who have a positive fitting room experience are 71 percent more likely to buy than those who don’t. And, actual sales on average increase when they are assisted by sales staff in the fitting room (Laney, 2009).

The fitting room experience is absolutely integral to the older consumers’ decision to purchase clothing. So retailers need to pay much closer attention to how fitting rooms are
designed and supported by the sales staff in order to cater to their special requirements. Indeed, the fitting room isn’t just a space where older shoppers go to try on clothes; it is the space where they make the decision to buy. Thus, retailers who cater to this demographic must take more care in how they set up and support fitting rooms in their stores.

**Rationale and Significance of the Study**

Creating a functionally accommodating fitting room environment is very important for older clothing shoppers. In addition, the social dimension of the fitting room experience plays a meaningful role in creating positive shopping outcomes for older shoppers because the fitting room is the place that the sales associate offers advice on style and fit to satisfy the needs and desires of older clothing shoppers. This may contribute to a higher level of perceived service quality and, consequently, to a higher level of perceived shopping satisfaction. Altering the fitting room environment in ways that offer access to older shoppers will become increasingly important for retailers to make a profit with an aging population.

Environment and aging studies have viewed the environment as a potential source of stress on an individual and have examined the impact of environments on older adults’ behavioral outcomes (Kahana, 1982; Lawton & Nahomow, 1973). A significant number of studies address the relationship between physical environments, mostly at home, and older adults (Gitlin, 2003; Hutchings, Olsen, & Moulton, 2008; Karol, 2004; Wahl, Fange, Oswald, Gitlin, & Iwarsson, 2009). However, I have found no research that has examined whether fitting rooms address the functional and social needs of older clothing shoppers. Whereas, the general characteristics of a store may be ideally suited to older shoppers, many retailers have
overlooked their fitting room environments. Based on my pretest study of local stores’ fitting rooms, many physical barriers still exist that may have a deleterious influence on older clothing shoppers. These barriers may influence perceived satisfaction and future patronage intention. Researchers have identified shopping experience costs and examined their influence on consumer patronage intentions (Baker, Parasuraman, Grewal, & Voss, 2002; De Haes, Lievens, & Waterschoot, 2008). As a shopping experience cost, psychic cost added stress or negative affect derived from store environment during shopping (Baker et al., 2002). In line with Baker et al.’s (2002) notion of psychic cost, the present study focused on older shoppers’ negative affective reactions to the fitting room environment.

The fitting room can provide an integral part of the overall store shopping experience that may foster consumer patronage intention and business success of the retailer (“Fitting Designs,” 1999; Marjo, 2003/2004). Fitting rooms must be designed to satisfy the special needs of older shoppers who experience the natural physical changes. Hence, findings from this study will help retailers to design the fitting room environment to match older consumers’ needs and wants. Retailers can then take advantage of emerging opportunities that the older market offers.

Purpose

The purpose of this study is to examine how older consumers perceive present fitting room environments and whether current fitting rooms deliver appropriate services for older consumers. This study will explore whether altering the fitting room environment to accommodate the needs of older shoppers creates shopping satisfaction and consequent patronage intentions. The following are more specific research questions:
1. Do improvements in fitting room design affect older consumers’ psychic cost?

2. Does positioning sales staff in the fitting room area affect older consumers’ psychic cost?

3. Does the physical competence level of the older consumer affect the psychic cost associated with fitting room design?

4. Does their level of psychic cost affect overall satisfaction with the shopping experience?

5. Does satisfaction with the shopping experience lead to patronage intention?

**Definitions for Terms**

For the purpose of the present research, the following terms are defined:

**Accessibility**: the degree to which a service or physical environment is available to people with functional difficulties (Iwarsson & Stahl, 2003).

**Adaptive level**: points where environmental press is average for whatever level of competence resulting in a positive affective response of the person (Lawton, 1980).

**Ambient factor**: an aspect that affects perceptions of and human responses to the environment. Ambient conditions include background characteristics of the environment such as temperature, lighting, noise, music, and scent (Baker, 1987; Bitner, 1992).

**Physical competence**: biological health and sensorimotor functioning (Lawton, 1980). The concept of competence frequently deals with functional issues (Nahemow, 2000).

**Design factor**: functional and aesthetic elements of an environment, such as the layout, architectural features and other physical features of a store (Baker, 1987). For this study, it entails fitting room design.
**Environmental press**: forces in the environment that together with individual needs influence a response (Murray, 1938).

**Environmental intervention**: an adjustment of the environment to facilitate an individual’s ability to perform activities (Gitlin, 2000). For this study, it entails fitting room accommodation.

**Footcandles and Lux**: units that indicate the density of light that falls on a surface. One footcandle is 10.76 lux (“Measuring light intensity,” 1999).

**Older consumers**: for this study, consumers aged 65 and over.

**Person-environment fit**: congruence between individual differences or needs and environmental presses (Kahana, 1982; Lawton & Nahemow, 1973).

**Physical aging**: the underlying time-dependent biological progress of aging, which may involve functional loss (Moody, 2006).

**Psychic cost**: a consumer’s mental stress or emotional labor during the shopping experience (Baker et al., 2002).

**Social aging**: late life transition in social status and roles within a society (Moschis, 1992).

**Social factor**: both sales staffs and customers in a store (Baker, 1987).

**Universal design**: the design of products and environments to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design (“The Center for,” 1997).
CHAPTER 2. REVIEW OF LITERATURE

This chapter will (1) review literature about older consumers’ product/environmental needs and appropriate theories drawn from environmental psychology, (2) present and support a conceptual framework, and (3) develop hypotheses based on store environment research and aging research to illustrate how older clothing shoppers are influenced by fitting room environment dimensions.

**Older Consumers and Product Needs**

**Social Aging and Product Needs**

Social aging impacts a wide range of consumer behaviors (Moschis, 1992; Patterson, 2007). Activity theory (Atchley, 1989) recognizes that individuals gradually develop specific patterns and continuously maintain them through negotiating and redefining their roles as they adapt to aging (Moody, 2006). Continuity theory also proposes that individuals have a strong motivation towards internal and external continuity despite aging. Their patterns of thinking, activities, and social relationships remain consistent over the years (Atchley, 1993). Both activity theory and continuity theory help to explain social dimensions of older adults. Although these two theories only apply to normal aging individuals (Burnett-Wolle & Godbey, 2007), they accurately predict active lifestyle and social patterns of older consumers today.

Overall, the most predictable change in old age is the availability of free time due to the end of child rearing and retirement. Viewing retirement as a time of reinvention, many
older adults participate in travel, volunteer, or engage in sports and other physical activities (Carrigan, Szmigin, & Wright, 2004; Henderson, 1998). According to the Urban Institute’s report (Zedlewski & Schaner, 2006), more than 60 percent of Americans aged 55 and older engage in volunteer activities.

Shopping is a common leisure activity in retirement years, and older adults view apparel shopping as a source of pleasure and recreation (Dillard & Feather, 1988; Joung & Miller, 2007; Lumpkin & Greenberg, 1982; Myers & Lumbers, 2008). Several researchers have documented the positive relationship between the number of leisure activities and clothes buying (Lumpkin, Greenberg, & Goldstucker, 1985; Mumel & Prodnik, 2005; Rubin & Nieswiadomy, 1994). According to an early study by Reynolds and Wells (1977), older adults, who are socially active, tend to be more fashion-conscious than those who are not. Lumpkin et al. (1985) found that socially active older adults also shop for clothes more than do those who are less active. Mumel and Prodnik (2005) asserted that more active and employed people enjoy apparel shopping and spend more. Thomas and Peters’ study (2009) reinforced the notion that older, more socially active women consume apparel items consistent with their self-concept and social identities (Greco, 1986; Joung & Miller, 2006; Mumel & Prodnik, 2005). Clothing for older women plays an important role in maintaining a positive self-image and staying socially active. Older customers are now a larger segment of retail customers and need to be more carefully targeted for the sake of the financial benefit of the retailer and social benefit of the customer.
**Physical Aging and Product Needs**

Physical changes brought on by aging are the most influential factor in older adults’ fashion product consumption. Gravity modifies body shape and posture (Steineckert, 1993). In women, the most prevalent physical changes are broadened hips, enlarged buttocks, thickened waist, rounded upper back, narrower upper front, lowered bust line, and decreased height (Richard, 1981; Shim & Bickle, 1993; Steineckert, 1993; Woodson & Horridge, 1990), all of which make it harder for older women to find clothes that fit well. Many researchers have investigated older consumers’ dissatisfaction with ready-to-wear clothing (Dillard & Feather, 1988; Reich & Otten, 1991; Richard, 1981; Shim & Bickle 1993). The most frequent fitting problems are excessive garment length in the shoulder, skirt, sleeve, and bodice (Richard, 1981) because of height loss due to diminished bone minerals and the atrophy of cartilage in the backbone. This loss happens at a faster rate in women than in men (Robbins & Cotran, 1979). However, older women’s height and body size have not been taken into consideration by apparel firms. Moreover, Schofield, Ashdown, Hethorn, LaBat, and Salusso (2006) identified garment fit and size issues as they are related to body shape variations among older adults. It is a challenge for apparel manufacturers to create an effective sizing system to ensure appropriate fit and features for older clothing shoppers. Advanced technology has introduced automated custom fit. However, individual fit preferences have prevented its wide use by apparel manufacturers (Ashdown & Dunne, 2006).

Aging significantly affects older consumers’ perceptions of product attributes. Functionality determines older consumers’ apparel purchasing decisions (Moschis, 2003;
Rocha et al., 2006). A recent study by Holmlund, Hagman, & Polsa, (2011) demonstrated that older women still want current styles but slightly modified to flatter their aging bodies and hide figure flaws. In a youth-obsessed culture the apparel industry often ignores the older market, resulting in a limited product range and style of clothes to suit older women’s needs (Ashdown & Dunne, 2006). Thus, it is no surprise that older consumers are dissatisfied with the style and fit of ready-to-wear apparel.

Quality, good fit, comfort, design, and ease of care are important for older women, with good fit being most important of all (Holmlund et al., 2011; Howarton & Lee, 2009; Nam et al., 2007; Rocha et al., 2006; Thomas & Peters, 2009). However, because fit is still such a problem for older consumers, they need to try on multiple garments. Trying on garments in the fitting room may be essential for older clothing shoppers to determine fit and size satisfaction.

**Older Consumers and Environment Needs**

**Social Dimension**

As people age, their social networks diminish due to the loss of friends, family members, and contact with coworkers after retirement (Kang & Ridgway, 1996; Patterson, 2007). Being isolated damages older adults’ well-being and life satisfaction. Social support is important in later life because it is associated with physical and mental well-being (Clark, 2005; Gottlieb, 1978). In older adults, an increase of social support enhances overall physical and mental health, as well as life satisfaction.
Kang and Ridgway (1996) provided important insight into the benefits of market-based social support for vulnerable older consumers. They asserted that interactions with service providers during shopping promote better social integration, and help satisfy older consumers’ social needs. Older consumers place importance on the social aspect of shopping and value staff-customer relationships (Burt & Gabbott, 1995; Moye & Giddings, 2002; Myers & Lumbers, 2008). Lumpkin and Greenberg (1982) suggested that social engagement and recognition from sales assistants are powerful motives for patronizing a store. In product selection, similar-aged staffs also increased patronage intention for older consumers (Schewe, 1985) because similarity may facilitate more open communication, commitment, and satisfaction within the relationship (Smith, 1998). According to Patterson (2007), older consumers derive considerable psychological value from the social interaction in the retail environment when they are recognized as regular patrons. Sales assistants can help older consumers reduce uncertainty, enhance self-esteem, or create a sense of social connection during market transactions, which contributes to older consumers’ well-being and continued patronage behavior (Patterson, 2007). Sales assistants are well suited to help older consumers maintain social connections by building a continuous relationship.

Several studies have also explored the service requirements of older consumers to make their apparel shopping and purchase decisions easier. Older consumers tend to place greater importance on personal assistance than do younger cohorts (Holmlund et al., 2011). Older women require well selected, well trained, and knowledgeable sales assistants because they view sales assistants as an influential source to gather product information and reduce
uncertainties (Birtwistle & Tsim, 2005; Burt & Gabbott, 1995; Moye & Giddings, 2002; Myers & Lumbers, 2008; Thomas & Peters, 2009).

Personal service becomes more important with advancing age because limited functioning in later life may reduce older adults’ self-sufficiency as shoppers (Cox, Cox, & Anderson, 2005). A study by Mumel and Prodnik (2005) found that retirees prefer personal assistance, and sales assistants are the most influential source for getting new ideas and selecting clothing styles. Recently, Holmlund et al. (2011) came to the same conclusion; they found that older women prefer personal service for fit, color, size checks, and overall clothing tips. Birtwistle and Tsim (2005) viewed good service in fitting rooms as sales staff who can bring the right sizes and colors to shoppers, thus increasing customer satisfaction with planned and unplanned purchases.

Sales assistants can provide pertinent and timely advice and service to older shoppers, including making suggestions about styles and fit, and removing clothes left inside by previous shoppers. Yet, retailers’ training programs mostly emphasize front-line employees (Peccei & Rosenthal, 2001). Eckman, Damhorst, and Kadolph (1990) emphasized the importance of training programs for fitting room assistants to help them understand how best to serve clothing shoppers, thus generating more sales and gaining competitive advantage.

**Physical Dimension**

A person has to be reasonably physically fit to shop, so people who are aging might experience more difficulties than their younger counterparts (Fange & Iwarsson, 2003). The environment can impose greater stress on older adults because their abilities are often
adversely affected by the natural physical changes associated with aging (Regnier, 2003). Normal aging is associated with vision and mobility impairment, which may significantly impact the retail experience of older consumers. Therefore, it is increasingly important for retailers that cater to an older demographic to modify the store environment accordingly.

**Vision impairment and environmental needs**

The decline in vision associated with normal aging often begins between ages 40 to 50 with the thickening of cornea or the yellowing of the lens, which scatter light. Also the diminishing of pupil size permits less light into the eyes (Stuen & Faye, 2003; Whitbourne, 1996). Many visually impaired older adults experience the loss of contrast sensitivity (Christensen, 1991). Therefore, an individual’s ability to see objects clearly and to perceive color and depth deteriorates with age. Older adults may encounter more obstacles and barriers in the physical environment (Bakker, 2003; Newton, 2003). Often trips and falls are attributed to these visual impairments and poor lighting (Slay, 2002). Glare off high gloss surfaces is also a problem, because it hinders older adults’ ability to distinguish depth (“Making Stores Accessible,” 1996). Therefore, older adults require two or three times more light than their younger counterparts (Heist, 2002; Stuen & Faye, 2003).

Older consumers tend to be more concerned with product quality and care instruction than younger consumers (Holmlund et al., 2011; Howarton & Lee, 2009; Nam et al., 2007, Rocha et al., 2006). Therefore, they need bright lighting to check quality and/or read labels/tags (Moye & Giddings, 2002). Older consumers frequently report difficulty in reading product labels and receipts, and in evaluating apparel quality and color effectively (Bearden
Hence, poor lighting and small print size, along with vision impairment, may make it difficult for older consumers to complete shopping activities efficiently. As a whole, when designing retail environments for older consumers, lighting, contrast, color, and print size are the main considerations for making their visual retail experience comfortable (“Making Stores Accessible,” 1996). An increase in the overall light levels of an environment by using appropriate bulb wattage, and selecting non glossy surface materials can accommodate the above normal age-related changes in later life (Brunnstrom, Sorensen, & Alsterstad, 2004; Calkins, 2003).

**Mobility impairment and environmental needs**

Decreases in arm-span, flexibility of joints, balance, and coordination, and height loss often prevent older adults reaching task-surface heights (Kirvesoja, Vayrynen, & Haikio, 2000). According to national health statistics reports, difficulty in performing physical activities generally increases with age. Adults aged 55 and over tend to have difficulty performing at least one specific activity, including difficulty walking (25%), difficulty standing for two hours (27.6%), difficulty bending (30.3%), and difficulty reaching or grasping (11%). Arthritis and other musculoskeletal conditions are the most frequently occurring chronic conditions that cause activity limitations in old age (Schoenborn & Heyman, 2009). Thus, age associated limitations may affect a person’s accessibility to many built environments (Carlsson, Iwarsson, & Stahl, 2002; Petermans & Van Cleempoel, 2010). In fact, physical access has been cited as one of the most important factors in aging consumers’ decision to shop at a particular store (“Making Stores Accessible,” 1996). Older
consumers will avoid stores that do not adequately respond to their functional needs and patronize those that do.

As noted above, the physical and social components of a retail environment affect perceptions of the store and shape older consumers’ behavior (Moschis, 1992). Frequently, older consumers’ dissatisfaction with a store is associated with difficulties in using products or services due to social and physiological changes associated with aging. Viewing shopping experience costs (time/effort and psychic cost) as potential determinants of store choice, Baker et al. (2002) examined their influence on store patronage intentions, focusing on negative affect derived from store environments. Psychic cost is a “subset of social costs, representing added stress or losses to quality of life” (Suhone, Tennose, & Henssonow, 2010, p.1). It measures a consumer’s added mental stress or emotional labor during the shopping experience associated with perceived difficulty of use or physical harm, inconvenience, or personal anxiety (Baker et al., 2002; Chintagunta, Chu, & Cebollada, 2009; Devaraj, Ming, & Rajiv, 2002; Ingene, 1984). Consumers perceived greater psychic cost from poorly designed physical stores, and the level of psychic cost experienced by consumers predicted store patronage behavior (Baker et al., 2002). Thus, increased psychic cost from the fitting room environment is expected to lower the older shoppers’ desire to revisit a particular store.

The present study will examine the impact of the store environment (i.e., fitting room) on psychic cost and satisfaction and consequent patronage intentions toward the retailer. The following section provides an overview of the framework used for this study.
Theoretical Framework

The proposed study is based on a Stimulus-Organism-Response (S-O-R) framework and person-environment theories to understand the impact of the environment on an older adult’s behavioral outcomes.

Stimulus-Organism-Response (S-O-R) Model

Environmental influences on behavior have been studied from an environmental psychology perspective. Researchers taking this perspective frequently call on Mehrabian and Russell’s (1974) Stimulus-Organism-Response (S-O-R) model to conceptualize a study. The S-O-R paradigm describes how environmental elements (S) influence an individual’s internal evaluations (O), and the resulting impact on approach-avoidance responses (R) (Figure 2.1).

Figure 2.1. The Mehrabian-Russell S-O-R Model

“Stimuli” refers to elements of a specific environment. “Organism” refers to intermediary (affective and cognitive) reactions. Organism variables frequently represent mediating variables in studies where interventions are designed to change mediating variables. “Response” represents an individual’s behavioral outcomes. Thus, the S-O-R model helps identify fundamental processes underlying human responses that are relevant across behaviors and contexts. According to the S-O-R model, environments that lead to
affective pleasure produce approach behaviors. Approach behaviors represent positive responses to a particular environment, such as willingness to remain in, or revisit a store, whereas avoidance behaviors are negative responses to the environment, such as leaving the store or having no intention to revisit (Spangenberg, Sprott, Grohmann, & Tracy, 2006). Based on the S-O-R model, my research hypothesizes that older clothing shoppers will be influenced by fitting room environmental cues (S), which will in turn affect their internal evaluations (O) and ultimately their patronage intentions (R).

**Person-Environment Theories**

Perceptions about the person-environment fit may be a moderating variable in the above-mentioned S-O-R model. According to the S-O-R model, elements of the environment have an impact on the person, but are moderated by characteristics of the individual (Judge & Larsen, 2001). That is, sensitivity to the environment may differ among consumer groups.

Many theorists view a person and his/her environment as inseparable entities because the interchanges between these two factors are so complicated and mutually causal (Lawton, 1980). They posit that an individual’s sense of well-being and behavior in later life are affected by perceptions of the physical and social environment, and sensitivity to the environment varies widely, depending on an individual’s competence. As people age, they are subject to reductions in competence (Lawton, 1980). Increasingly, person-environment fit becomes an essential theoretical and environmental design tool. The promise of an environmental intervention to accommodate age-related reductions in function is the basis of person-environment theories. Three relevant theories are (1) the ecological model of aging
(Lawton & Nahemow, 1973), (2) the congruence model (Kahana, 1982), and (3) disablement process model (Verbrugge & Jette, 1994), which will be discussed in greater depth later in this chapter. Based on the concept of P-E fit, my research hypothesizes that if older shoppers can easily try on clothing, they will be able to make decisions to buy more easily, as well. Being exposed to physically and socially accommodating fitting room environments, will enhance affective perception about the store, and in result, they will have greater shopping satisfaction and ultimate patronage intention. Once this mediating process is identified, retailers can develop more efficient interventions in fitting room environments.

Positive or negative perceptions of fit with environment could act as a stimulus to activate older consumers’ affective responses and result in different behavioral outcomes. P-E fit might help explain the association between older consumers’ affective pleasure and approach behaviors in S-O-R model by mediating this relation. Thus, based on the S-O-R model and the concept of P-E fit, I will review each of the components of the S-O-R model as they apply to the fitting room environment.

**Conceptual Framework**

**Stimuli: Environmental Components**

Studies in the service marketing have explored the influence of store environment on consumer evaluation and behavioral responses, and categorized the elements of the physical store environment (Baker, 1987; Baker, Stephens, & Hill, 2002; Bitner, 1992). Baker (1987) provided a framework to examine the effects of specific stimuli in the store environment on emotional states. In Baker’s classification of the store environment, *design factors* include
functional and aesthetic elements, such as store layout, architectural, and physical facilities in a store. Social factors include both sales staffs and customers. His classification also includes ambient factors, such as temperature, scent, noise, music, crowding, and lighting. Truly and Millman (2000) revised the preceding classification presented by Berman and Evans (1995), and included human factor into five basic categories: store exteriors, general interiors, layout and design variables, point-of-purchase and decoration variables, and human variables. Human variables include employee characteristics and appearance, crowding, and customer characteristics.

All these variables are conceptualized as environmental stimuli influencing emotional responses in customers, which, in turn, lead to behavioral responses. Numerous studies have examined the impact of specific features of the store environment on consumer behavior such as: music (Baker et al., 2002; Vida, 2008), color (Bellizzi & Hite, 1992), lighting (Areni & Kim 1994; Baumstarck & Park, 2010; Park & Farr, 2007), odor (Chebat & Michon, 2003; Kimberly, 2007; Lam, 2001; Spangenberg, Crowley, & Henderson, 1996; Trivedi, 2006), temperature (Lam, 2001), and crowdedness (Bitner, 1990). Product trial areas are seldom included as an important element of design factors that may influence consumer behavior (Hyllegard, Ogle, & Dunbar, 2006). For older shoppers, the functional role of the environment is important, preferring store attributes congruent with their functional needs. Yet, the impact of a specific design or environment on ultimate users of the facilities is not fully examined. Furthermore, few studies have adapted the S-O-R model to investigate the effects of environmental variables on older consumer evaluation and behavior. Environment and aging theory suggests that both the physical and social environments are required to
facilitate the needs and goals of older adults. To identify and tailor appropriate environmental design elements to the needs of older shoppers and bring a desired outcome, the present study examines the impact of fitting room design and social factors (i.e., presence of and help by sales assistants) on satisfaction and approach responses.

**Design factors: Fitting room features**

Retailers have traditionally overlooked the fitting room, when in fact it is where customers decide to buy a product. It can be the place where the actual sale is made (Amato-McCoy, 2007; “Fitting Designs,” 1999; Grant, 2007; Marjo, 2003/2004; O’Donnell, 2007). Yet, many retailers fail to realize how integral the fitting room is to the overall store shopping experience (“Fitting Designs,” 1999; Marjo, 2003/2004), how it affects shoppers’ perception about the store (Wilson, 2007), and how it affects purchasing decision (“Fitting Designs,” 1999; Marjo, 2003/2004; O’Donnell, 2007). Recently, researchers have begun to study the physical environment of the fitting room. They have looked at lighting (“All Dressed Up,” 2006; Barry, 2007; Baumstarck & Park, 2010; “Fitting Design,” 1999; “Shopper Notice Lighting,” 2007; Wilson, 2003, 2007), room size (“All Dress Up,” 2006; Grant, 2007; Osborn, 2000; Poggi, 2008; Wilson, 2007), mirrors (Amiel, 2007; Osborn, 2000; “Perfect Fit,” 2007), hooks (O’Donnell, 2007; Wilson, 2007), chairs for sitting and setting down belongings (O’Donnell, 2007), door locks (O’Donnell, 2007), call buttons for assistance (Poggi, 2008; Reda, 2000), and cleanliness (Wilson, 2007). Crucial factors will now be discussed:
Lighting

One of the biggest consumer complaints is inadequate lighting (“All Dressed Up,” 2006; Barry, 2007; “Fitting Design,” 1999; “Shopper Notice Lighting,” 2007; Wilson, 2003, 2007). According to the safety requirement for state facilities, the minimum illumination intensity for fitting room is 30 foot-candles (“Illumination,” 1998). However, findings from my preliminary pilot study revealed that illumination was significantly below the recommended levels. Poor lighting has a considerable impact on the appearance of garments and older shoppers’ ability to discern color, care instructions, and price (“Shoppers Notice Lighting,” 2007). Better lighting and more readable labels/tags are required (Moye & Giddings, 2002). A good lighting system increases shoppers’ confidence in their purchase selection, reducing return rates and increasing the amount time and money spent (“Feature /True Lighting,” 2002; Moye & Giddings, 2002).

Along with lighting intensity, the location and type of lighting are keys. In most fitting rooms, lighting sources are located above, which casts unattractive shadows on the shopper’s face (Wilson, 2003). Conversely, frontal lighting allows customer to view the entire front of the garment and make an overall evaluation (“All Dressed Up,” 2006; Wilson, 2003, 2007). Older shoppers need lighting on the sides of mirrors so that they can see themselves clearly from both sides (Heist, 2002). Wall sconces or light around the mirror provide the most flattering look (“All Dressed Up,” 2006; Wilson, 2003). The lighting source also affects the quality of the fitting room experience. Standard fluorescent lighting is not flattering for customers because it does not contain warm tones, and may result in a greenish cast to the skin (Wilson, 2003). Both garments color and skin appearance may be enhanced
by warm tones. Additionally, for older consumers, yellowing lenses of the eye absorb bluish and purplish colors, reducing the distinction between blues, green, and violets (Whitbourne, 1996). Older shoppers may require a light source that intensifies bluish colors, such as cool fluorescent lights that can provide more accurate colors. Incandescent bulbs create a yellow cast and intensify warm (e.g., red) colors (Heist, 2002). Color correcting Metal-Halide bulbs and linear fluorescent sources, which make color clearer and enhance physical attractiveness, work better for both older and younger shoppers (Wilson, 2003).

**Size**

Shoppers complain about the size of fitting rooms and their doorways, and the width of aisles (“Fitting Designs,” 1999; Holmlund et al., 2011; O’Donnell, 2007; Osborn, 2000; Poggi, 2008). The Department of Commerce currently requires that the area of dressing and fitting rooms, including those for the handicapped, are a minimum 72” x 60”. Doorways must be a minimum 32” to ideal 36” wide so that consumers can enter without difficulty (“Americans with Disabilities Act,” 2002). Hallways constructed according to universal design principles must be a minimum width of 36”, and 48” to 54” wide to allow for wheelchairs. My preliminary pilot study indicated that only 50 percent of the stores met the fitting room size requirements, and the width of doorway fell significantly below the requirement. In addition, hallways are often crowded with merchandise, standing hangers, or item check stations. All are major obstacles (Rosendahl, 1992). Kaufman-Scarborough (1999) found that retailers often use handicapped fitting rooms as storage bins or keep them locked. Many retailers limit space for fitting rooms, and do not provide appropriate shelves, hooks,
or chairs to place belongings. A shopper with physical difficulties may not have easy access or sufficient space to obtain a full view of oneself in the mirror.

Shopping is an important means of socialization for older adults (Burt & Gabott, 1995; Myers & Lumbers, 2008), who are often accompanied by friends or relatives. Therefore, fitting rooms need to be large enough to accommodate companions (“All Dressed Up,” 2006; Osborn, 2000). Recently, retailers have begun to enlarge fitting rooms and their surrounding areas (O’Donnell, 2007). Renovated fitting rooms are now nearly twice the size of old fitting rooms (11 by 12 feet), and are furnished with comfortable, residentially styled, upholstered chairs as well as upscale photos or pictures (Poggi, 2008). Implementing all those features in the fitting rooms may be costly, but retailers may benefit by providing fitting rooms that are large enough to accommodate the needs of all shoppers, particularly older shoppers.

**Hooks**

Fitting rooms frequently lack hooks (Osborn, 2000; Wilson, 2007). According to Kaufman-Scarborough (1999), heights of hook in the fitting rooms are also an obstacle for people with physical difficulties. In fact, older adults have trouble reaching task-surface heights (Kirvesoja et al., 2000), particularly, when they bring heavy items or winter items with them. For older adults, most wall devices should be 44” to 48” off the floor; however, my preliminary pilot study found that few fitting rooms meet this minimum requirement, and the majority of hooks were mounted relatively high for older shoppers. Multiple hooks at varying heights should be available for older shoppers.
Mirrors

Fitting room mirrors allow customers to decide whether clothing fits properly and is the right style. This entails that mirrors that allow consumers to see how they look from every possible angle are important when trying on clothes (Begole, Matsumoto, Zhang, & Liu, 2008). A sufficient number of mirrors, preferably three-way, and rimmed with light will facilitate more accurate assessment (Brown, 1993; Osborn, 2000; “Perfect Fit,” 2007). In addition, mirrors should be floor length to allow shoppers a complete view of themselves, including their feet (Brown, 1993). Findings from my preliminary pilot study revealed that few fitting rooms provide mirrors that satisfy older shoppers’ needs. Retailers should install mirrors so that shoppers can see themselves better from all angles, and accurately assess their appearance (Brown, 1993). A good fitting room mirror may be an important sales tool to both older and younger shoppers.

Social factor: Presence or absence of sales staff in the fitting room

Social factors are commercially significant environmental factors. Appearance, number, and friendliness of sales staffs were identified as common social cues present in the store environment. Grewal & Sharma (1991) noted that the store employees provide a positive influence on consumer evaluations of the shopping experience. Baker, Levy, & Grewal (1992) examined the relationship between the level of social cues and arousal level among consumers. They found that having more employees present in the store environment led to higher levels of arousal. A subsequent study conducted by Baker, Grewal, and Parasuraman (1994) suggested that the number of sales staffs on the store floor was an
important predictor of the level of service quality. It is likely that presence or absence of sales staff may affect consumers’ perception. More specifically, it is expected that older shoppers who are served by sales staff in the fitting room are likely to have more favorable evaluations of their shopping experience.

**Organism: Older Consumers’ Internal Evaluations**

The store environment is an important factor in a consumer’s evaluation of products and/or services, and the environment stimulates two types of internal reactions, affective and cognitive (Mehrabian & Russell, 1974; Zeithaml, 1988). Affective reactions refer to emotional states. Cognitive reactions refer to a consumer’s perceptions. The two dimensions of affective evaluations, pleasure and arousal, are antecedents of cognition, and these evaluations determine whether a shopper responds to a store environment positively (approach) or negatively (avoidance) (Donovan & Rossiter, 1982; Solomon & Rabolt, 2004). Past research showed that environmental cues of a store influence consumers’ affective evaluations, which mediate between the store environment and consumers’ approach behaviors (Baker et al., 1992; Donovan & Rossiter, 1982; Mehrabian & Russell, 1974).

Retail store environments provide diverse cues on which a consumer forms inferences about the level of service quality, price, and products in that store (Baker et al., 2002). These consumer perceptions, in turn, influence their behavioral responses. For customers to be satisfied, they must perceive that the product and/or environment meet or surpass their desired value (Fiore & Ogle, 2000). However, consumers respond to store environments differently because of their own experience and goals. For example, a certain response from
older consumer group may be entirely different from the younger consumer group. Researchers believed that the store environments interact with a particular shopper segment or target market and affect their specific behavioral responses (Lam, 2001; Truly & Milliman, 2000).

Bitner (1992) postulated that customers also respond to dimensions of their physical environment in physiological ways. Some environmental cues, such as noise, temperature, glare of lighting, and air quality, may cause physical discomfort or pain, which may hinder consumers’ ability to perform shopping activities. Solomon and Rabolt (2004) also addressed the effect of physiological condition on consumers’ internal evaluation. For instance, stress can affect the consumer negatively, but I have found no studies that have investigated the mediating role of stress on consumer behavior in a retail environment.

Baker et al. (2002) included perceived shopping experience cost as the mediator in their study to see how these environmental variables influenced behavioral responses. For the present study, Baker et al.’s (2002) notion of the psychic cost will be used to examine older clothing shoppers’ internal evaluations. In Baker et al.’s study that examined the influence of store environment cues on patronage intentions, consumers perceived greater psychic cost from poorly designed physical stores, and level of psychic cost experienced by consumers predicted store patronage behavior. For example, if fitting rooms act as a barrier, psychic cost increases, which can cause avoidance behavior.

The act of buying clothes involves both social and physical dimensions that can explain the decisions older shoppers make. Frequently the impact of specific design change
for older consumers is not fully understood. Therefore, it is imperative to examine interactions between person and environment as they have potential to impact older adults’ internal evaluations. Environmental and aging studies systematically apply relevant information about human capabilities and limitations in later life to the design of environment. These studies provide numerous frameworks to describe interactions between the ageing individual and the environment, suggesting environmental intervention by simplifying the environments (Gitlin, 2000). By incorporating universal design principles into fitting room design, retailers may provide functionally pleasurable environments, which positively affect value perceptions of older consumers. The following section reviews P-E fit theories that explain interactions between person and environment in later life and environmental interventions.

**Person-environment fit**

Kurt Lewin (1935) first conceptualized the effects of the environment on a person, and most theoretical models on P-E fit have their roots in his mathematical concept $B = f(PE)$, where predicted behavior (B) is a function of the person (P) and the environment characteristics (E). Lawton viewed the state of a person as a set of competencies that mainly deal with functional issues (Lawton & Nahemow, 1973). His early work, formulated as an environmental docility hypothesis, assumed that as an individual’s competence decreases, the impact of environmental factors increases (Lawton & Simon, 1968). Lawton recognized substantial influences of the physical environment on life satisfaction and the well-being of older adults, how older adults connect to their environments, and whether they achieve their personal goals and desires (Regnier, 2003; Scheidt & Windley, 2003; Wahl, Schilling,
Researchers in a wide range of fields, including health care and public policy (Friedli, 2009; Petkoski & Twose, 2003), recognized how the general well-being of individuals or societies is reflected in their overall quality of life. For older adults, the built environment, physical and mental health, and social belonging are key indicators of their quality of life (Surhone et al., 2010). Lawton’s contributions to theoretical development and derivation of intervention principles have led to considerable improvements in older adults’ capabilities and quality of life (Gitlin, 2000; Nahemow, 2000; Scheidt & Windley, 2003). The Ecological Theory of Aging (ETA) provides an invaluable framework to describe this relationship (Nahemow, 2000) (Figure 2.2).

**Figure 2.2. Lawton and Nahemow’s (1973) Ecological Theory of Aging (ETA)**

Viewing stress as one of the factors that the environment imposes on individual, Lawton and Nahemow (1973) believed that this stress has a strong impact on well-being of a person. In the ETA, also known as Competence Environmental Press Model (CEPM), Lawton and Nahemow classified environments on the basis of their behavioral demands,
accounting for individual levels of competence, and identifying multiple layers of the person-environment transaction (Lawton, 1980; Nahemow, 2000; Schwarz, 2003; Weisman & Moore, 2003). Some environments make great behavioral demands on people, while others do not. In fact, perceived control over the environment and independence from risk factors are increasingly important in the context of built environments. Their basic assumption is that when the environmental press matches an individual’s competences or there is a P-E fit, the outcomes are adaptive behavior and positive affect (Lawton, 1980).

The important element of ETA is the adaptation level, which represents some “points where environmental press is average for whatever level of competence the person has” (Lawton, 1980, p.12). In the model, the adaptation level is a range, which may result from a wide variety of combinations of an individual’s competence and environmental press. Within an individual’s adaptation level, he or she perceives the effect of the environment as minimal, is positively motivated to perform, and typically strives for maximum performance at full capacity. However, an increase in environmental press above a certain threshold level strains the individual’s competence, and causes higher stress and maladaptive behavioral outcomes (Lawton, 1980). Typically, highly competent individuals can adapt to a wider range of environmental press in a positive manner; whereas, individuals with lower competence levels can only adapt to a simpler environment with low press (Nahemow, 2000). This theory is relevant to older adults with lower levels of competence because heightened environmental press may be critical to physical functioning and they require environments with appropriately lower press levels to reach their adaptation levels (Nahemow, 2000; Schwarz, 2003). To maximize adaptive behavior and positive affect for older adults, Lawton and
Nahemow (1973) suggested a moderate environmental press brought about by altering the design of the environment. Their focus on environmental press level and adjustment has fostered an increase in home modifications (Danford, 2003; Fange & Iwarsson, 2005; Newman, 2003; Verbrugge & Jette, 1994). Lawton viewed environment modifications as an important way to help older adults reach their adaptation levels.

Kahana’s congruence model (1982) applied Lawton’s competence model to an actual situation by examining a P-E fit. The congruence between environmental characteristics and individual preferences and needs leads to a sense of well-being and function; people are more likely to function better in environments that more fully meet their needs. Stress arises from a mismatch between these two domains (Pynoos & Regnier, 1991). Changing needs or the environment or leaving the environment all serve to increase the fit between an individual’s needs and life situation. The congruence model assesses the physical and social features of an institutional environment, and how effectively these features meet the needs of residents (Buffum, 1988). Congruence is especially important when environmental or individual options are limited. As people age, they may have trouble finding an environment that matches their preferences, due to their reduced income, impaired health, and loss of social roles (Kahana, 1982). Increased stress and other negative outcomes often result. Environments that accommodate the changing needs of older adults will improve P-E fit, and lead to greater functioning and a sense of well-being.

Verbrugge and Jette (1994) provided a framework for understanding the role of the environment on the disablement process. They defined disability as difficulty in performing activities, due to health or physical impairment. Their Disablement Process Model (DPM)
assumed that physical environments play an influential role in exacerbating or reversing disability. A close fit between the environment and the individual may lead to maximum satisfaction, whereas, a gap between the environment and an individual’s needs produces a negative outcome or disability. Their notion of P-E fit indicates that the optimal P-E fit balances competence with environmental circumstances by reducing risk factors and/or enhancing support functions.

**Environmental intervention**

Retail stores have not yet seriously considered the special needs of aging shoppers, either in existing or newly-built stores. Several studies have identified specific needs of older adults who are frequently exposed to various kinds of environmental barriers and risk factors (Baker et al., 2002; Byron, 2009; Yu & Tullio-Pow, 2010). Among reported problems is the need for sitting and resting facilities to accommodate an older individual’s functional limitations and disabilities. Baker et al. (2002) claimed that older women shoppers have difficulties reading signage at a distance, which may reduce accessibility. In general, most public access standards do not take into account research on the needs of older adults (Connell & Sanford, 2001; Gray, Gould, & Bickenbach, 2003). The American Disabilities Act has established objectively measured standards typically for younger consumers in wheelchairs, including minimum building codes to assure accessibility (Gray et al., 2003; Kaufman-Scarborough, 1999). Therefore, many older adults still have difficulties accessing public areas.
Accessible environments can be a part of the solution for maintaining and improving the function of older adults (Carlsson et al., 2002). Accessibility is one of the main in-store difficulties for older consumers (Meneely, Burns, & Strugnell, 2009). Defined as an encounter between individual functioning and the demands of the physical environment, the term accessibility determines an individual’s independence (Iwarsson & Stahl, 2003). However, the degrees of functioning and independence depend on the person. Recent research focuses on the subjective appraisal of the environment by older adults, detailing their particular risk factors and providing them with adaptive strategies (Tanner, Tilse, & de Jonge, 2008). To increase accessibility and thereby minimize disability related outcomes, Verbrugge and Jette (1994) suggested environmental modifications to reduce risks (e.g., by removing environmental barriers) and add supportive devices (e.g., by installing grab bars, lever door). Such interventions have played a significant role in lessening the demands of the physical environment on daily task performance and improving older adults’ functioning, thus minimizing further disablement (Gitlin, Miller, & Boyce, 1999; Wahl et al., 2009 a).

These issues of accessibility and interventions relate to the retail environment. Thus, retailers must understand how retail design performs functionally to accommodate the needs of older consumers.

Recently, architectural designers have emphasized “aging-friendly” features, and have tried to incorporate these features into many built environments (Afacan & Erbug, 2009; Austin, McClelland, Perrault, & Sieppert, 2009; Manheimer, 2009). Increasingly, the concept of universal design has become important to the retail store environment (Myers, Gore, & Liu, 2008; Petermans & Van Cleempoel, 2010; Yu & Tullio-Pow, 2010). Universal design is
“the design of products and environment to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (“The Center for,” 1997). Accessibility is a key function of universal design. Thus, employing universal design features in retail stores could enhance accessibility for older consumers, as well as for people with diminished capacities. Research has demonstrated the benefits of universal design for older adults (Danford, 2003; Demirbilek & Demirkan, 2004). Danford (2003) conducted a field experiment to verify the universality of this design concept for everyone, regardless of his or her difficulties. He recruited three groups of people with different kinds of impairments and one group without impairments. Danford discovered that universal design enhanced the usability of a building for people with visual, hearing, and mobility impairments. This finding is consistent with Peterman and Van Cleempoel’s case study (2010) in which older shoppers and other age groups appreciated when universal design principles were applied to store design to meet their functional needs. Demirbilek and Demirkan (2004) conducted participatory sessions with designers and users aged 65 and older to develop functionally appropriate products for older adults. Researchers were then able to develop requirements, for entrance doors, interior doors, and door handles. They found that older adults preferred universally designed features, regardless of their physical condition.

Retailers must be aware of changes in aging consumers’ functioning and make efforts to enhance accessibility to facilitate older shoppers’ shopping activities (Carlsson et al., 2002; Iwarsson & Stahl, 2003). The marketplace may benefit from adopting universal design features to best serve these aging consumers. Clearly, incorporating universal design features will offer a safe and accessible environment in which older consumers can maintain their
independence and enhance their shopping experiences. From a theoretical standpoint, P-E fit theories posit that adaptive environments, especially ones that incorporate physical and social intervention into fitting room design, will lower the levels of environmental demand, which will allow older consumers to function competently, and decrease their stress levels.

**Response: Approach Behaviors**

The S-O-R framework posits that an individual’s internal reaction affects approach-avoidance behaviors. Approach behaviors represent positive responses to a particular environment, such as the willingness to remain in, or revisit a store. Baker et al. (2002) noted the negative effect of psychic cost on consumer patronage intentions. For older clothing shoppers, psychic cost stemming from fitting room experience may play a mediating role in the determination of satisfaction, which may negatively influence approach responses (i.e., future patronage of the store).

*Satisfaction and patronage intention*

Various models of consumer behavior demonstrate the importance of customer satisfaction. Customer satisfaction is the most appropriate tool for measuring future business performance (Gustafsson, Johnson, & Roos, 2005; Mantyneva, 2002). Hence, businesses that fail to satisfy customer needs are less likely to make a profit, which is critical to their long-term survival (Peyton, Pitts, & Kamery, 2004). Customer focus is a precondition for long-term customer satisfaction, and satisfying customers should guide the development of marketing strategies (Kim, Jung, Suh, & Hwang, 2006; Solomon & Rabolt, 2004). Satisfaction occurs “when consumer expectations are met or exceeded, and the purchased
decision is reinforced,” (Assael, 1998, p.90). Satisfied customers are more likely to be loyal, and have higher future patronage intentions (Mantyneva, 2002; Mitchell & Kiral, 1998; Reichheld & Sasser, 1990). Consumers often use product and service attributes to determine their satisfaction with a store. The physical surroundings may also influence customer satisfaction (Bitner, 1990). Satisfaction and store patronage behavior may vary based on attributes that are perceived as salient to consumers (Lam, 2001). This suggests that older consumers may differ from their younger counterparts with respect to the perceived importance of particular store attributes.

Older consumers and patronage behavior

Older adults, in general, are loyal consumers. They stick with retailers that provide the services they require (Burt & Gabbott, 1995; Moschis, 1992; Thomas & Peters, 2009). Certain valuable themes emerge from the large body of research on patronage behavior of older consumers. They tend to reduce risk; seek accessibility, service, and social engagement; and rely on habit. Moschis (1992, 2003) asserted that patronizing a familiar store is preferable to shopping in an unfamiliar store for older customers. Petermans and Van Cleempoel (2010) documented the effects of the physical environment on patronage behavior. They demonstrated that retail environments that accommodate older consumers’ functional needs promote satisfaction and patronage intention. Holmlund et al. (2011) found that a majority of older women patronize stores because of being familiar with the stores’ clothing, being recognized by sales assistants, better service, and being notified of new arrivals and special promotions. Service-related issues have been found to be significantly associated with older consumers’ patronage (Burt & Gabbott, 1995). Specifically, older consumers’
perceptions of personal relationships with sales assistants, and these assistants’ efforts to help, enhance satisfaction and promote loyalty (Burt & Gabbott, 1995; Grewal & Sharma, 1991). Cole et al. (2008) viewed older consumers’ patronage behavior as a habit-driven behavior because older adults have a tendency to repeat behavior with aging, which enhances patronage behavior.

The physical and social components of a retail environment affect perception of the store, and shape older consumers’ behavior (Moschis, 1992). Frequently, older consumers’ dissatisfaction with a store is associated with difficulties in using product or service due to a physiological decline from aging. Petermans and Van Cleempoel (2010) stated that altering a retail environment based on universal design principles that are geared toward older consumers’ functional and social needs enhances their shopping experience and creates customer loyalty. This body of research suggests that retailers who create a favorable fitting room environment by applying design features that accommodate their older customers’ needs and by positioning efficient sales staff in or near the fitting room may enhance older shoppers’ satisfaction and promote repeat sales. The present research will examine whether the fitting room affects older clothing shoppers’ satisfaction and patronage intentions. Through the integration of the S-O-R model and P-E fit theories, the following conceptual model was created to demonstrate how both frameworks relate to a universally-designed fitting room environment, which, in turn, affects perceptions and ultimately patronage intention (approach behavior) (see Figure 2.3).
Figure 2.3. A conceptual model of the effect of the fitting room environment on older clothing shoppers’ satisfaction and patronage intention.
Hypotheses

Based upon my review of literature, I have formulated the following hypotheses:

H1: The level of physical environment accommodation of the fitting room area will be negatively related to psychic cost.

H2: The level of social environment accommodation of the fitting room area will be negatively related to psychic cost.

H3: There is an interaction effect between level of physical environment accommodation of the fitting room area and individual competence level on psychic cost.

H4: There is an interaction effect between level of social environment accommodation of the fitting room area and individual competence level on psychic cost.

H5: Psychic cost associated with the physical environment of the fitting room area will be negatively related to satisfaction.

H6: Psychic cost associated with the social environment of the fitting room area will be negatively related to satisfaction.

H7: The level of environmental accommodation of the fitting room area will be positively related to shopping satisfaction.

H8: Satisfaction with the shopping will be positively related to patronage intention.
CHAPTER 3. METHOD

This chapter presents the methods for empirically testing the research hypotheses. First, I delineated my research strategy. Next, I described procedures for instrument development related to psychic cost, shopping satisfaction, and patronage intention variables; the pilot study; sampling; the field experiment; and statistical analyses.

Research Design

To investigate human responses to various environments, researchers often employ a laboratory experimental design involving environmental stimuli, such as video-tapes and photo slides (Baker et al., 2002; Wirtz, Mattila, & Tan, 2006). However, these laboratory experiments have been criticized because they rely too heavily on artificial settings and college student research participants, which may limit external validity. Therefore, making inferences from such academic research findings may lead to erroneous or at least unjustified conclusions. Despite these criticisms, laboratory experiments are an effective way to isolate the effects of specific causal variables in a large, tangled web of probabilistically related causes and effects (Touliatos & Compton, 1988). The precision and control of laboratory research increase internal validity. In contrast, researchers also employ field experiments that place respondents in natural settings, such as homes, schools, stores, and nursing homes. A lack of control (internal validity) over the field situation and randomization are major shortcomings of field experiments, however a field experiment enhances external validity.

In research involving older people, user involvement in the research process is essential (Ross et al., 2005). Given my lack of resources to alter the design of fitting rooms
and inability to alter staff behavior in a store, my study employed the randomized field experiment method, using a natural grouping of older participants in real store settings. Specifically, this study adopted a repeated-measures design that consisted of testing the same participant over time under different conditions. Pretest-posttest experimental design with an intervening treatment is a well-known repeated measure design. With this research design, all conditions were the same for both the experimental and control groups with the exception that the experimental group received the intervention (visited a different retailer with a more accommodating fitting room area), whereas the control group returned to the original fitting room. The measurement of change in responses provides a vehicle for assessing the impact of a given intervention. This design is especially susceptible to problems with internal validity because any prior differences between the groups may affect the outcome of the study. Thus, the present study included covariates to assess groups statistically that differ on a pretest. Two covariates, store image and an individual’s competence level, were included for analysis. Each participant in the two groups was measured twice. These data were analyzed using a mixed 2x2 factorial design where the within subjects factor was a repeated factor (time: pre-post) and the between-subjects factor is a classification factor (group: experiment and control). A self-administered survey, following the field experiment treatments, was conducted for data collection with female consumers aged 65 and over.

**Instrument Development**

Based on the literature review, a questionnaire was developed to collect quantitative information about participants’ evaluations of the fitting room experience (psychic cost), satisfaction, patronage intention, perceived store image, competence levels, and consumer
characteristics. Consumer characteristics consist of seven demographic questions: age, economic status, education level, employment status, marital status, and apparel shopping experience.

Psychic Cost

Based on a view of the literature, no scales exist that measure stress from the fitting room environment. Existing measures of psychic cost (Baker et al., 2002) do not relate well to the focus of the present study, thus they were not used. Based on literature that examined fitting rooms in clothing stores and my findings from focus groups, older consumers’ negative reactions to the fitting room environment were identified and used to develop the psychic cost scale. Psychic cost centered around two primary domains: concerns relating to physical and social environments. An initial pool of 18 items was generated to tap these two facets of concerns among older consumers. A self-reported scale for measuring psychic cost was created containing two subscales with 14 items for physical dimensions (physical environment psychic cost) and four items for social dimension of a fitting room (social environment psychic cost). These 18 items were assessed using 5-point Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). Table 3.1 contains the psychic cost items. The higher the score, the more stress and maladaptive behavior, which leads to greater psychic cost.
### Table 3.1. Psychic cost items

When trying clothing on in the fitting room, I felt that:

**Physical environment**
- The height of the hooks in the fitting room was a problem for me
- The number of hooks in the fitting room was a problem for me
- Waiting time to use fitting room was a problem for me
- Seating in the room to sit or placing belongings was a problem for me
- The lighting level was a problem for me when wanting to check price tags, labels, or real color of products
- The lighting to check how I looked in the product was a problem for me
- The width of the doorways was a problem for me
- The obstacles in the doorway were a problem for me
- The grab bars in the fitting room were a problem for me
- The door handle in the fitting room was a problem for me.
- The size of the fitting room was a problem for me.
- The ability to see how I look in mirrors from every angle was a problem for me
- The flooring material in the fitting room was a problem for me
- Temperature of the fitting room was a problem for me

**Social environment**
- The number of sales associates in the fitting room area was a problem for me when needing advice
- The younger age of the sales assistants in the fitting room was a problem for me
- The friendliness of the sales assistants in the fitting room area was a problem for me
- The helpfulness of the sales assistants in the fitting room area was a problem for me
**Satisfaction with the store experience**

A 3-item subscale based on Keaveney and Parthasarathy’s measure (Bruner, Hensel, & James, 2005) tapped the general level of satisfaction with the fitting room experience. In addition, two items from the satisfaction scale developed by Fitzsimons (2000) were adapted to measure satisfaction with the product. Five-point Likert-type scales with the same anchors were used (see Table 3.2). Higher scores represented high levels of satisfaction with the store experience.

**Table 3.2. Satisfaction with store experience items**

- On the whole, I was satisfied with my experience with this store today.
- Overall, my negative experience outweighs/outweighed my positive experience with this store today (R).
- In general, I was happy with the store experience today.
- I was very happy with the products I tried.
- My choice of the products turned out better than I expected.

**Patronage Intention**

Store patronage intention included items that captured the likelihood of both the intention to shop at the store and the desire to recommend the store to others. I adopted three items from Baker et al.’s (2002) patronage intention scale. Each item will again be assessed using the 5-point Likert-type scale (see Table 3.3).
Table 3.3. Patronage intention items

- The likelihood that I would shop in this store is very high.
- I would be willing to buy merchandises at this store.
- I would be willing to recommend this store to my friends.

Store Image

Store image included five items that captured a consumers’ perception of a retail store. These consisted of five items adopted from Grewal, Krishnan, Baker, & Borin’s (1998) store image scale. Each item again used the 5-point Likert-type scale noted above (see table 3.4 for items). Higher scores indicated higher levels of store image, whereas lower scores indicated lower levels of store image.

Table 3.4. Store image items

XX store is;

- a pleasant place to shop.
- offers an attractive shopping experience.
- has a good store image.
- has good overall service.
- carries high quality merchandise.
Competence Level

Health practitioners often use self-reported assessment tools to collect data (Carlsson et al., 2002; Wilson, 2001). The Lawton Instrumental Activities of Daily Living Scale (IADL), which provides information about competency with eight domains, was used to identify older adults’ current functional status (see Table 3.5 for items). For each category, participants circled the level resembling their highest level of functioning. Whereas the Lawton IADL scale can be scored in several ways, the most common method is to rate each item dichotomously (0=less able, 1=more able) (see Appendix B.5 for scoring chart). The summary score can range from 0 (low function, dependent) to 8 (high function, independent). A higher score represented greater ability.

<table>
<thead>
<tr>
<th>Table 3.5. Competence level items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ability to use Telephone</strong></td>
</tr>
<tr>
<td>1. I operate a telephone on my own initiative; looks up and dials numbers.</td>
</tr>
<tr>
<td>2. I dial a few well-known numbers.</td>
</tr>
<tr>
<td>3. I answer telephone, but do not dial.</td>
</tr>
<tr>
<td>4. I do not use telephone at all.</td>
</tr>
<tr>
<td><strong>Shopping</strong></td>
</tr>
<tr>
<td>1. I take care of all my shopping needs independently</td>
</tr>
<tr>
<td>2. I shop independently for small purchases.</td>
</tr>
<tr>
<td>3. I need to be accompanied on any shopping trip.</td>
</tr>
<tr>
<td>4. I am completely unable to shop for myself.</td>
</tr>
<tr>
<td><strong>Food Preparation</strong></td>
</tr>
<tr>
<td>1. I plan, prepare, and serve myself adequate meals independently.</td>
</tr>
<tr>
<td>2. I prepare adequate meals if supplied with ingredients.</td>
</tr>
<tr>
<td>3. I heat and serve prepared meals or prepare meals but do not maintain an adequate diet.</td>
</tr>
<tr>
<td>4. I need to have meals prepared and served.</td>
</tr>
</tbody>
</table>
### Table 3.5. (continued)

#### Housekeeping
1. I maintain house alone with occasion assistance (heavy work)
2. I perform light daily tasks such as dishwashing, bed making
3. I perform light daily tasks, but cannot maintain an acceptable level of cleanliness.
4. I need help with all home maintenance tasks.
5. I do not participate in any housekeeping tasks.

#### Laundry
1. I do personal laundry completely.
2. I launder small items, rinses socks, stockings, etc.
3. All laundry must be done by others.

#### Mode of Transportation
1. I travel independently on public transportation or drive my own car.
2. I arrange my own travel via taxi, but do not otherwise use public transportation.
3. I travel on public transportation when assisted or accompanied by another.
4. I travel limited to taxi or automobile with assistance of another.
5. I do not travel at all.

#### Responsibility for Own Medications
1. I am able to take medication in correct dosages at the correct time.
2. I am able to take medication if someone else prepares them in advance in separate dosages.
3. I am not capable of dispensing my own medication.

#### Ability to Handle Finances
1. I manage financial matters independently (budgets, writes checks, pays rent and bills, goes to bank); collects and keeps track of income.
2. I manage day-to-day purchases, but need help with banking, major purchase, etc.
3. I am incapable of handling money.

---

**Data Collections**

**Pretest Study**

Field experiment design requires purposeful manipulation of one or more independent variables to examine their causal relations with dependent variables (Touliatos & Compton, 1988). Instead of implementing the design manipulations within the same fitting
room space, I selected fitting rooms from two different stores to create an accommodation effect in the physical environmental condition and social dimensions. For this purpose, I conducted a pretest to examine older women’s perceptions of current fitting rooms and their specific concerns in fitting room use (see Appendix A.1, 2). Six older women aged 65 and over were recruited and interviewed in a focus group regarding the specific stores where they shopped for apparel and perceptions of the fitting rooms at these stores.

Five stores were identified. Problems related to accommodating their physical needs were categorized into: resting facilities, freedom from obstacles, and assistive devices (see Appendix A.4). Based on these findings, a careful observation was completed by this researcher to determine how well the fitting rooms of the five stores met the universal design standards and the Department of Commerce regulations related to identified needs. My observations included actual measurements of fitting room dimensions to see whether they met the minimum standards to satisfy older shoppers’ needs. A total of 10 dimensions were measured: resting facilities (inside & outside), obstacles in the hallway, door handles, grab bars, assistance by staff, size (doorway & room), hooks (height and quantity), lighting (location and illumination), mirrors, and floor surface (see Appendix A.3).

For measuring lighting level, a pocket foot candle device was used. To determine room illumination accurately, the foot candle meter was located 30 inch above the floor and 10 inch from the researcher’s body. Foot candle readings were taken 5 times at regular intervals, and the average was computed. These readings were converted to Lux unit, which is a more commonly used unit of illuminance (one foot candle ≈10.764 Lux).
These observations provided a ranking of the fitting rooms from 1 to 5, with 1 corresponding to the fitting room accommodating older shoppers’ changing needs the best. Although the store’s fitting room size, doorway, and hook height did not meet the Department of Commerce and universal design standards, Talbots and Von Maur employed the most universal design elements, and Talbots appeared to do the best job of meeting the needs of older shoppers. T.J. Maxx did not meet the universal design standard and needs of older shoppers (see Appendix A.5 for the results). The most accommodating (high level of intervention) and the least accommodating (low level of intervention) fitting rooms were selected as experimental stimuli to achieve the objective of the present empirical study.

A pilot test was conducted with a separate focus group of four female participants aged 65 and over to determine the format of the questionnaire and whether fitting room attributes to be included in the experimental setting elicited an environmental intervention effect (increased adaptability). The purpose of this pilot study was also to discover problems in wording and directions in the questionnaire. In addition, it was used to estimate the time required to complete the field experiment procedure and the survey questionnaire. The level of intervention and the time required to accomplish this field experiment were appropriate for the age group. The suggestions included an increase in font size, and using bold font for psychic cost items to communicate easily. Modifications were made accordingly.

Sample

A total of 72 women aged 65 and over from a metropolitan area in Iowa participated in the study. Iowa is a Midwestern state with a relatively homogenous rural population (Feinberg, Newman, & Van Steenberg, 2002). Iowa ranks fourth in the country in the
proportion of residents aged 60 and older and second in the proportion of persons aged 85 and older. In 2012, people aged 65 and over accounted for 14.9 percent of the total population in Iowa, higher than the national average (12 percent). People aged 65 and older will constitute 22.4 percent of the total population of Iowans in the year 2030 (“Older Iowan: 2012,” 2012). Therefore, this population offered a large pool of people from which to draw my sample. I recruited participants from a variety of settings and organizations, including independent living facilities, churches, regional recreation centers, and senior social groups (see Appendix B.1).

Prior to contacting participants, I obtained permission from the Human Subjects Review Committee (HSRC) at Iowa State University (see Appendix C). I contacted the administrators, activities directors, and church ministers of their facilities over the telephone and through email. I recruited participants through flyers, newsletter articles, and personal invitations from the administrators, activities directors, church ministers, and this investigator (see Appendix B.2).

People who spend most of the day in a bed/chair were excluded because this study measured participants’ evaluations of fitting rooms during shopping tasks. In addition, to avoid the potential impact on their responses, those who were patrons of and had made a purchase from any of the stores under investigation in the past three months were excluded. Each candidate was asked to state her preferred shopping method. Based on screening, 72 store shoppers aged 65 and over were selected for the study and each one received a cover letter describing the purpose, risks, and potential implications of the study. Before collecting
data, I introduced the study and asked each participant to complete a consent form (see Appendix B.3).

**Procedure**

All participants were asked to complete the short demographic and clothing shopping experience questionnaire. To filter out a possible confounding variable, before exposure to the store environment, participants also completed measures their general perceptions of various stores’ images including the two stores used for the treatments. This information was used as a covariate to control for differences in the impact of existing store image. The participants’ competence level was measured to test for the interaction of individual competence level and accommodation level of fitting room on the dependent variables. Following this, I conducted the field experiment at the two stores over a seven-week period from July 30th to September 14th 2012, mainly on Monday through Friday from 10:00 AM until 12:00 PM (noon). During this period, Talbots store had an annual big sale.

The experiment was performed twice using identical measurement instruments. The order in which treatment is administered may affect responses. For present study, order effect may not matter because participants were familiar with both stores. First, all 72 participants were exposed to the lower accommodating fitting room (TJ Maxx: low level of intervention) and data were gathered related to the dependent variables (psychic cost, satisfaction, patronage intention). Second, for the purpose of intervention implementation and evaluation, participants were randomly divided into two groups of equal size: one group that received the intervention (experimental group) and one group that did not (control group). The experimental group was exposed to Talbots (i.e., high level of intervention), and the control
group was exposed to TJ Maxx (i.e., low level of intervention) a second time. All participants completed the questions related to the dependent variables a second time after exposure to the treatment.

Data were collected from study participants in a group setting (approximately 5-6 participants in each group). Shopping trips were held mostly in the early morning when stores were not crowded. The participants were instructed to shop for three to four outfits including pants for about 10 to 15 minutes and then to try those items on in the fitting rooms. While conducting the field experiment, the participants were allowed to purchase items they tried on. The number of participants who purchased at each store was recorded.

Afterwards, the participants were asked to complete the survey in the food court. Both first and second surveys were done at the same food court. This field experiment took approximately one to one and a half hours per group. All participants received a $20 gift card (Hy-Vee grocery store) as a reward for their involvement in the study.
CHAPTER 4: RESULTS

This chapter presents findings of preliminary analyses and hypotheses testing. Descriptive statistics were used to describe characteristics of the sample. Principal component analysis and confirmatory factor analysis were performed on the following constructs containing multi-items: psychic cost, satisfaction, and patronage intention. An independent samples $t$-test and a paired samples $t$-test were conducted before testing hypotheses. A paired samples $t$-test examined differences in the mean scores between pretest and posttest values for the following variables: physical and social psychic costs, satisfaction, and patronage intention. Additionally, an independent samples $t$-test was performed to examine differences in the mean scores between the experimental and control groups.

The Statistical Package for the Social Sciences (SPSS) software was employed to conduct statistical analyses. Hypotheses testing statistics included Analysis of Covariance (ANCOVA), and regression analyses. Simple and multiple regression analyses analyzed the effects of the two psychic cost variables on older shoppers’ satisfaction and patronage intention, and analyze the interaction effect between level of environmental accommodation and individual competence level on physical and social environmental psychic costs. A $p < .05$ was used to assess statistical significance.

**Participant Characteristics**

A total of 72 older women aged 65 and over completed the shopping task and the questionnaire. Table 4.1 shows the overall demographic characteristics of the participants. Their mean age was 75; the range was from 65 to 90 years old. Thirty-five participants
(48.6%) were married; 28 participants (38.9%) were widowed; eight participants (11.1%) were divorced, and the remaining one participant (1.4%) was single.

Table 4.1. Demographic characteristics of the participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (N = 72)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Single</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>• Married</td>
<td>35</td>
<td>48.6</td>
</tr>
<tr>
<td>• Divorced</td>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td>• Widow</td>
<td>28</td>
<td>38.9</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Middle school</td>
<td>3</td>
<td>4.2</td>
</tr>
<tr>
<td>• High school</td>
<td>23</td>
<td>31.9</td>
</tr>
<tr>
<td>• Vocational school</td>
<td>6</td>
<td>8.3</td>
</tr>
<tr>
<td>• College</td>
<td>29</td>
<td>40.3</td>
</tr>
<tr>
<td>• Graduate or professional school</td>
<td>10</td>
<td>13.9</td>
</tr>
<tr>
<td>• Other</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Full time</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>• Part time</td>
<td>5</td>
<td>6.9</td>
</tr>
<tr>
<td>• Other (retired)</td>
<td>67</td>
<td>93.1</td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I do not have enough money to take care of my basic expenses</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>• I am only able to take care of my basic expenses</td>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td>• I have sufficient funds to buy something for me and leisure activities</td>
<td>30</td>
<td>41.7</td>
</tr>
<tr>
<td>• I think I am well off to provide for all my needs and leisure activities</td>
<td>32</td>
<td>44.4</td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• by myself</td>
<td>44</td>
<td>61.1</td>
</tr>
<tr>
<td>• with children</td>
<td>7</td>
<td>9.7</td>
</tr>
<tr>
<td>• with spouse</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>• with friends</td>
<td>16</td>
<td>22.2</td>
</tr>
<tr>
<td>• other</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td>Purchase frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• none</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>• one item</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td>• 2-4</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>• 5-7 items</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>• 8-10 items</td>
<td>6</td>
<td>8.3</td>
</tr>
</tbody>
</table>
Most had a college education (40.3%), followed by a high school education (31.9%). About 13.9% of the participants held graduate degrees, whereas 8.3% of the participants finished vocational school and 4.3% of the participants finished middle school. The majority of the participants were retired (93.1%); only 6.9% of the participants worked part time. Most participants perceived themselves to be financially stable (41.7%) or better off (44.4%), whereas 11.1% of the participants reported limited income and only 2.8% of the participants had insufficient financial resources. The majority of the participants went shopping for apparel by themselves (61.1%), while 22.2% went with friends, 9.7% went with their children, and 1.4% went with their spouses. Around 97% of participants purchased clothing during the last 12 months. Results were: 33.3% purchased more than 10 items; 25% purchased 5-7 items; 25% purchased 2-4 items; 8.3% purchased 8-10 items; 5.6% purchased one item, and 2.8% purchased none.

During the date collection period, six participants purchased apparel items from TJ Maxx, and 21 participants purchased apparel items from Talbots. The overall mean (based on 5-point scales) for the store image was 4.66 (SD = .64) for Von Maur, 4.30 (SD = 1.15) for Talbots, 3.54 (SD = .77) for Younkers, 3.29 (SD = .67) for Stein Mart, and 2.85 (SD = .94) for TJ Maxx. With respect to the rank of store image, Von Maur was the highest, and TJ Maxx was the lowest. The means and standard deviations of store image are presented in Table 4.2.
Table 4.2. Store image

<table>
<thead>
<tr>
<th>Stores</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younkers</td>
<td>3.54</td>
<td>.77</td>
</tr>
<tr>
<td>TJ Maxx</td>
<td>2.85</td>
<td>.94</td>
</tr>
<tr>
<td>Steinmart</td>
<td>3.29</td>
<td>.67</td>
</tr>
<tr>
<td>Von Maur</td>
<td>4.66</td>
<td>.64</td>
</tr>
<tr>
<td>Talbots</td>
<td>4.30</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Data Analysis

Factor Analyses

Factor analysis, a multivariate statistical technique, was used for the identification of a small number of factors that explain the correlations among the set of interrelated variables. In this study, two types of factor analyses were employed; principal component analysis (PCA) and confirmatory factor analysis (CFA).

The Kaiser-Meyer-Olkin (KMO) measurement of sampling adequacy and the Bartlett’s Test of Sphericity assessed the suitability of the respondent data for PCA. A KMO value closer to 1 is desired; 0.60 is considered acceptable, suggesting appropriateness in proceeding with a factor analysis (Kaiser, 1970). The results suggested that the KMO was well above the recommended acceptable level of 0.60 as the obtained value was 0.80. Bartlett's test of sphericity is another indicator of the strength of the relationship among variables, and acceptable when it is significant at $p < .05$ (George & Mallery, 2009). The calculated $p$ value was < .001. Therefore, it was considered appropriate to continue with the
factor analysis on the following research constructs assessed with multiple items: psychic cost; satisfaction; and patronage intention.

My primary goal was to have the smallest number of possible factors and for each item to load on only one latent factor. Principal components analysis with orthogonal (Varimax) rotation was used for extraction of factors. The Varimax method attempts to minimize the number of indicators that have a high loading on each factor. The first factor extracted is the one that accounts for the maximum variance in the dataset. The second component, independent of the first, will be the one that explains the largest possible share of the remaining variance and so on, without the components being correlated with each other. Stevens (1992) suggested using a cut-off of 0.40 for interpretative purposes. MacCallum et al. (1999, 2001) advocated that all items in a factor model should have communalities of over 0.60 to justify performing a factor analysis with small sample sizes.

**Principal component analysis of psychic cost**

In the present study, principal component analysis with a Varimax rotation was performed on the scores of the 18-items and the eigenvalues greater than 1.0 determined the number of factors to retain. Items were retained with loadings greater than .60 on the relevant factor and less than .40 on other factors (MacCallum et al. 1999, 2001; Stevens, 1992). The factor structure derived from the analysis confirmed the presence of two domains within psychic cost, as conceptualized by the investigator. Of the 18 items, nine were dropped from subsequent analyses because they had very low communalities, loaded greater than .40 on multiple factors, or did not have a factor loading of at least .40 on any factor. This resulted in
only nine items for inclusion of statistical modeling of psychic cost, which accounted for a total of 66.70% of the variance.

Results of the factor loadings, eigenvalues, and explained variances are summarized in Table 4.3. The first factor, labeled “Physical Environment Psychic Cost”, consisted of five items, and accounted for 35.40% of the variance. This factor contained the items capturing concerns about the following physical environment elements: Lighting to check how they looked in the product; lighting level to check price tags, labels, or real color of products; width of the doorways; the type of door handle; and the flooring material. They had loadings of 0.85, 0.80, 0.79, 0.76, and 0.67, respectively on PEPC. The second factor contained four items that reflect concerns about social interaction with sales assistants in the fitting room. It was labeled “Social Environment Psychic Cost”, and it accounted for 31.30% of the variance. SEPC contained four items: The friendliness, helpfulness, younger age, and the number of sales assistants in the fitting room area. They had loadings of 0.83, 0.81, 0.80, and 0.77, respectively. Results of principle component analysis of psychic cost are presented in Table 4.3.

**Principal component analysis of satisfaction and patronage intention**

The goal of the factor analysis of satisfaction and patronage intention was to establish the discriminant validity of measures to test whether these two measurements that were believed to be unrelated were, in fact, unrelated. In this study, the KMO measure was 0.85 that is well above the recommended acceptable level of 0.60. In addition, the Bartlett test of sphericity was highly significant ($p < 0.001$). As a result of factor analysis, two factors were
identified. The factor analysis of satisfaction and patronage intention scale is presented in Table 4.4.

### Table 4.3. PCA results of psychic cost

<table>
<thead>
<tr>
<th>Psychic cost items</th>
<th>Factor loading</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The lighting to check how I looked in the product was a problem for me</td>
<td>.85</td>
<td>.23</td>
</tr>
<tr>
<td>• The lighting level was a problem for me when wanting to check price tags, labels, or real color of products</td>
<td>.80</td>
<td>.26</td>
</tr>
<tr>
<td>• The width of doorways was a problem for me</td>
<td>.79</td>
<td>.20</td>
</tr>
<tr>
<td>• The door handle was a problem for me</td>
<td>.76</td>
<td>.26</td>
</tr>
<tr>
<td>• The flooring material in the fitting room was a problem for me</td>
<td>.67</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Social environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The friendliness of the sales assistants in the fitting room area was a problem for me</td>
<td>.21</td>
<td>.83</td>
</tr>
<tr>
<td>• The helpfulness of the sales assistants in the fitting room area was a problem for me</td>
<td>.21</td>
<td>.81</td>
</tr>
<tr>
<td>• The younger age of the sales assistants in the fitting room area was a problem for me</td>
<td>.25</td>
<td>.80</td>
</tr>
<tr>
<td>• The number of sales assistants in the fitting room area was a problem for me</td>
<td>.14</td>
<td>.77</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Eigenvalue</strong></th>
<th><strong>Variance explained (%)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>4.94</td>
<td>35.40</td>
</tr>
<tr>
<td>1.53</td>
<td>31.30</td>
</tr>
</tbody>
</table>

Extraction method: Principal component analysis with Varimax rotation and Kaiser normalization
Table 4.4. PCA results of satisfaction and patronage intention

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor loading Patronage intention</th>
<th>Factor loading Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Overall, my negative experience outweighs/outweighed my positive experience with this store today</td>
<td>.03</td>
<td>.84</td>
</tr>
<tr>
<td>- In general, I was happy with the store experience today</td>
<td>.39</td>
<td>.72</td>
</tr>
<tr>
<td>- I was very happy with the products I tried</td>
<td>.39</td>
<td>.65</td>
</tr>
<tr>
<td>- On the whole, I was satisfied with my experience with this store today</td>
<td>.32</td>
<td>.61</td>
</tr>
<tr>
<td><strong>Patronage intention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The likelihood that I would shop in this store is very high</td>
<td>.90</td>
<td>.10</td>
</tr>
<tr>
<td>- I would be willing to buy merchandises at this store</td>
<td>.82</td>
<td>.27</td>
</tr>
<tr>
<td>- I would be willing to recommend this store to my friends</td>
<td>.81</td>
<td>.37</td>
</tr>
<tr>
<td><strong>Eigenvalue</strong></td>
<td>3.76</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>Variance explained (%)</strong></td>
<td>36.89</td>
<td>31.85</td>
</tr>
</tbody>
</table>

Extraction method: Principal component analysis; Rotation method; Varimax with Kaiser normalization

All 3 items from Baker et al. (2002) loaded on one factor for “Patronage Intention”.

Each of these items had a factor loading of 0.80 or higher (0.90, 0.82, 0.81, respectively).

The factor accounted for 36.89% of the variance. “Satisfaction” started as five items; three environmental satisfactions items from Keaveney and Parthasarathy’s measure (Bruner, Hensel, & James, 2005) and two product satisfaction items (Fitzsimons, 2000). The item ‘my
choice of the products turned out better than I expected’ was dropped from the factor, because it loaded greater than 0.40 on both factors. Therefore, the resulting factor structure of satisfaction did not confirm the presence of two domains (i.e., environment satisfaction and product satisfaction) as conceptualized by the investigator. The four remaining “Satisfaction” items had loadings of 0.84, 0.72, 0.65, and 0.61, respectively, and the factor accounted for 31.85% of the variance.

**Confirmatory factor analysis**

The purpose of the confirmatory factor analysis (CFA) was to confirm the two-factor structure of psychic cost comprised of physical and social environments as independent factors of psychic cost. First, I confirmed the two-factor structure of psychic cost. Next, I evaluated goodness of fit using the goodness-of-fit index (GFI), the Tucker–Lewis Index (TLI), the root mean square residual (RMR), and the root mean square error of approximation (RMSEA). For the GFI and the TLI, values greater than 0.95 constitute a good fit, and values above 0.90 constitute an acceptable fit to the data (Bentler & Bonett, 1980; Hu & Bentler, 1999). A RMSEA close to 0.05 or below suggests a good fit to the data; values up to 0.08 indicate a reasonable error of approximation (MacCallum, Browne, & Sugawara, 1996). A RMR between 0.00 and 0.05 indicates a good fit and between 0.05 and 0.10 an acceptable fit to the data (Hu & Bentler, 1999). The CFA models were graphically specified using AMOS software, version 16.0, with the ovals representing latent variables, rectangular boxes representing observed variables, and circles representing the error factors. Model testing then examined a two-factor structure where all observable variables were associated with the two latent variables, PEPC and SEPC.
Figure 4.1 is a schematic representation of the assumed factor structure of the psychic cost in which each individual item is expected to load significantly on one factor. Based on the results of principal component analysis, it was assumed that the five items would load significantly on one latent factor (PEPC) and the remaining four items would load significantly on the other latent factor (SEPC).

Note: item1 = The lighting level was a problem for me when wanting to check price tags, labels, or real color of products light check, item2 = The lighting to check how I looked in the product was a problem for me, item3 = The width of doorways was a problem for me, item4 = The door handle was a problem for me, item5 = The flooring material in the fitting room was a problem for me, item6 = The friendliness of the sales assistants in the fitting room was a problem for me, item7 = The helpfulness of the sales assistants in the fitting room area was a problem for me, item8 = The younger age of the sales assistants in the fitting room was a problem for me, item9 = The number of sales associates in the fitting room area was a problem for me when needing advice

Figure 4.1. Confirmatory factor analysis of psychic cost

Initial CFAs indicated that one item did not load significantly for this sample. Item 5 on the original scale, “the flooring material in the fitting room was a problem for me”, had a loading less than .50. Thus, I employed the two-factor model with 8 items. Table 4.5 reports the standardized factor loadings and t-values for the 8 items that made up the final psychic cost scale. All remaining individual items loaded significantly ($p < .001$) on the hypothesized
latent factor of PEPC and SEPC. In addition, based upon GFI, TLI, RMSEA, and RMR, a two factor 8-item construct was determined to be the best overall fit for the psychic cost (Chi-square = 27.946, df = 18, p = .063; GFI = .916; TLI = .948; RMSEA = .088; RMR = .073). Therefore, the present study decomposed psychic cost into two dimensions: (1) PEPC containing four items and (2) SEPC consisting of four items.

Table 4.5. CFA results of psychic cost

<table>
<thead>
<tr>
<th>Construct and items</th>
<th>Standardized factor loadings</th>
<th>t-value</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEPC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The lighting level was a problem for me when wanting to check price tags, labels, or real color of products</td>
<td>.93</td>
<td></td>
<td>.58</td>
</tr>
<tr>
<td>• The lighting to check how I looked in the product was a problem for me</td>
<td>.88</td>
<td>10.54</td>
<td></td>
</tr>
<tr>
<td>• The width of doorways was a problem for me</td>
<td>.71</td>
<td>7.29</td>
<td></td>
</tr>
<tr>
<td>• The door handle was a problem for me</td>
<td>.64</td>
<td>6.19</td>
<td></td>
</tr>
<tr>
<td><strong>SEPC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The friendliness of the sales assistants in the fitting room was a problem for me</td>
<td>.81</td>
<td></td>
<td>.53</td>
</tr>
<tr>
<td>• The helpfulness of the sales assistants in the fitting room area was a problem for me</td>
<td>.80</td>
<td>6.87</td>
<td></td>
</tr>
<tr>
<td>• The younger age of the sales assistants in the fitting room was a problem for me</td>
<td>.78</td>
<td>6.77</td>
<td></td>
</tr>
<tr>
<td>• The number of sales associates in the fitting room area was a problem for me when needing advice</td>
<td>.68</td>
<td>5.73</td>
<td></td>
</tr>
</tbody>
</table>

Note: Squared correlation between PEPC and SEPC = .29
Typically, measurement models are evaluated on three key criteria: (1) the reliability of the constructs, (2) the discriminant validity of the constructs, and (3) the size and significance of the path coefficients (Hulland, 1999). The reliability criterion is referred to as communality or, in the case of the standardized results that I have reported, average variance extracted (AVE) (Fornell & Larcker, 1981). Table 4.5 reports the AVE for each construct. For all constructs in the model, AVE exceeds the reliability criterion (i.e., .50). Discriminant validity of the constructs was supported as the AVE measures for two constructs exceeded their squared correlations (.29) (Fornell & Larcker, 1981).

Figure 4.2 is a schematic representation of the assumed factor structure of the dependent variables, satisfaction with shopping and patronage intention.

Figure 4.2. Confirmatory factor analysis of satisfaction and patronage intention

Note: Item1 = On the whole, I was satisfied with my experience with this store today, item2 = In general, I was happy with the store experience today, item3 = I was very happy with the products I tried, item4 = My choice of the products turned out better than I expected, item5 = The likelihood that I would shop in this store very high, item6 = I would be willing to buy merchandises at this store, item7 = I would be willing to recommend this store to my friends
Table 4.6 reports the standardized factor loadings and $t$-values for the seven items that make up the satisfaction with shopping and patronage intention measures. All individual items loaded significantly ($p < .001$) on either the shopping satisfaction and patronage intention factors. In addition, based upon GFI, TLI, RMSEA, and RMR statistics, a two factor 7-item construct was determined to be the best overall fit for the dependent variable ($Chi$-square = 12.78, $df$ = 13, $p = .465$; GFI = .954; TLI = .999; RMSEA = .001; RMR = .032).

Table 4.6 provides the four items for satisfaction with shopping and three items for patronage intention and the AVE for each construct. AVE for each construct exceeded the reliability criterion of .50. Discriminant validity of these two measures was confirmed; AVE for the two constructs exceeded their squared correlations (.49) (Fornell & Larcker 1981).

**Table 4.6. CFA results of satisfaction and patronage intention**

<table>
<thead>
<tr>
<th>Construct and items</th>
<th>Standardized factor loadings</th>
<th>$t$-value</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shopping satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• On the whole, I was satisfied with my experience with this store today</td>
<td>.60</td>
<td></td>
<td>.58</td>
</tr>
<tr>
<td>• In general, I was happy with the store experience today</td>
<td>.75</td>
<td>4.41</td>
<td></td>
</tr>
<tr>
<td>• I was very happy with the products I tried</td>
<td>.79</td>
<td>4.54</td>
<td></td>
</tr>
<tr>
<td>• My choice of the products turned out better than I expected</td>
<td>.70</td>
<td>4.27</td>
<td></td>
</tr>
<tr>
<td><strong>Patronage Intention</strong></td>
<td></td>
<td></td>
<td>.73</td>
</tr>
<tr>
<td>• The likelihood that I would shop in this store very high</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• I would be willing to buy merchandises at this store</td>
<td>.79</td>
<td>7.25</td>
<td></td>
</tr>
<tr>
<td>• I would be willing to recommend this store to my friends</td>
<td>.88</td>
<td>8.09</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Squared correlation between shopping satisfaction and patronage intention = .49*
Internal Consistency

A Cronbach’s alpha coefficient of 0.70 is the minimum level for determining satisfactory internal consistency (Cortina, 1993). A high alpha value suggests strong reliability among multiple items for an underlying construct. The 4-item PEPC variable had a Cronbach’s alpha of 0.87, and the 4-item SEPC variable had a Cronbach’s alpha of 0.85. Cronbach’s alpha values of 0.78 and 0.87 were found for the 4-item satisfaction variable and 3-item patronage intention variable, respectively. The internal consistency estimates of the store image were as follows: Younkers (5 items; $\alpha = .934$), TJ Maxx (5 items; $\alpha = .95$), Stein Mart (5 items; $\alpha = .91$), Von Maur (5 items, $\alpha = .96$), Talbots (5 items, $\alpha = .89$). These Cronbach’s alpha estimates indicated high internal-consistency reliability for each construct.

Independent Samples t-test

Psychic cost, shopping satisfaction, and patronage intention were assessed using an independent samples t-test to compare the mean scores of two groups. For this test, differences between pretest and posttest scores on given variables were dependent variables. A hypothesis was supported when the means of the two groups in a dependent variable are significantly different at the critical value of significance ($p < 0.05$). Overall, the experimental groups compared to the control group showed higher mean scores in all variables (Table 4.7). The Levene’s Test examined equal variance for the t-test between two groups. If the Levene’s test is significant ($< .05$), the two variances are significantly different, whereas the two variances are not significantly different when the Levene’s test is not significant ($> .05$). For each of the four variables, the Levene’s test value was greater.
than .05; that is, the two variances were approximately equal and equal variance tests can be used. Table 4.8 shows the results of the independent samples t-tests including Levene’s equal variance test, mean differences, standard deviations, and statistical significance. Results of t-test showed significant differences between the two groups of older consumers in PEPC ($t = 8.41, p < .001$), SEPC ($t = 8.44, p < .001$), satisfaction ($t = -8.14, p < .001$), and patronage intention ($t = -7.75, p < .001$). 95% confidence levels are shown in table 4.8.

Table 4.7. Descriptive statistics for two groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEPC</td>
<td>Experimental group</td>
<td>36</td>
<td>2.14</td>
<td>.95</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>36</td>
<td>.27</td>
<td>.93</td>
<td>.16</td>
</tr>
<tr>
<td>SEPC</td>
<td>Experiment group</td>
<td>36</td>
<td>2.44</td>
<td>1.10</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>36</td>
<td>.34</td>
<td>1.02</td>
<td>.17</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Experimental group</td>
<td>36</td>
<td>-2.12</td>
<td>1.03</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>36</td>
<td>-.32</td>
<td>.83</td>
<td>.14</td>
</tr>
<tr>
<td>Patronage Intention</td>
<td>Experimental group</td>
<td>36</td>
<td>-2.13</td>
<td>1.04</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>36</td>
<td>-.29</td>
<td>.98</td>
<td>.16</td>
</tr>
</tbody>
</table>

Table 4.8. Independent samples t-test results

<table>
<thead>
<tr>
<th></th>
<th>Levene’s equal variance test</th>
<th>t-test for equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Significance</td>
</tr>
<tr>
<td>PEPC</td>
<td>1.88</td>
<td>.17</td>
</tr>
<tr>
<td>SEPC</td>
<td>.93</td>
<td>.34</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>1.90</td>
<td>.17</td>
</tr>
<tr>
<td>Patronage intention</td>
<td>.98</td>
<td>.33</td>
</tr>
</tbody>
</table>
Paired Samples t-test

Psychic cost, shopping satisfaction, and patronage intention were assessed using the paired samples t-test to compare the differences between pretest and posttest values for experimental and control groups. A hypothesis was supported when there was a significant difference between pretest and posttest mean scores at the critical value of significance ($p < 0.05$).

**Paired samples t-test for the experimental group**

Table 4.9 shows the results of the paired samples t-test including means, standard deviations, statistical significance, and confidence intervals for the experimental group. Posttest scores showed improvements in all variables. The posttest mean for PEPC for the experimental group indicated that these older consumers had a statistically significant decrease in PEPC; $t (35) = 15.65, p < .001$. Similarly, there was a statistically significant $[t (35) = 13.45, p < .001]$ decrease in the SEPC post mean.

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
<th>Difference</th>
<th></th>
<th>95% CI</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>in Mean</td>
<td>t</td>
<td>df</td>
<td>p</td>
<td>LL</td>
<td>UL</td>
<td></td>
</tr>
<tr>
<td>PEPC</td>
<td>3.52</td>
<td>.83</td>
<td>1.30</td>
<td>.38</td>
<td>2.23</td>
<td>15.65</td>
<td>35</td>
<td>.000</td>
<td>1.94</td>
<td>2.52</td>
<td></td>
</tr>
<tr>
<td>SEPC</td>
<td>3.92</td>
<td>.85</td>
<td>1.48</td>
<td>.70</td>
<td>2.44</td>
<td>13.45</td>
<td>35</td>
<td>.000</td>
<td>2.08</td>
<td>2.81</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.31</td>
<td>.78</td>
<td>4.43</td>
<td>.60</td>
<td>-2.12</td>
<td>-12.72</td>
<td>35</td>
<td>.000</td>
<td>-2.46</td>
<td>-1.78</td>
<td></td>
</tr>
<tr>
<td>Patronage intention</td>
<td>2.40</td>
<td>.95</td>
<td>4.53</td>
<td>.58</td>
<td>-2.13</td>
<td>-12.33</td>
<td>35</td>
<td>.000</td>
<td>-2.48</td>
<td>-1.78</td>
<td></td>
</tr>
</tbody>
</table>
The posttest mean for satisfaction for the experimental group was significantly higher than for the group’s pretest mean. The t-statistic \( t(35) = -12.72, p < .001 \) showed that for these older consumers their shopping satisfaction significantly increased.

The paired samples t-test results for patronage intention showed that there was a statistically significant difference between pretest and posttest values; \( t(35) = -12.33, p < .001 \). Overall, when older consumers visited stores with highly accommodating fitting rooms, both shopping satisfaction and patronage intention increased.

**Paired samples t-test for the control group**

Table 4.10 shows the results of the paired samples t-test including means, standard deviations, statistical significance, and confidence intervals for the control group. There was no statistically significant difference in subjects’ psychic cost, shopping satisfaction, and patronage intention between pretest and posttest scores.

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>Difference in Mean</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>LL</th>
<th>UL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEPC</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.80</td>
<td>.825</td>
<td>3.52</td>
<td>1.06</td>
<td></td>
<td></td>
<td>.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.75</td>
<td>35</td>
<td>.089</td>
<td>-.04</td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.69</td>
<td>1.01</td>
<td>3.35</td>
<td>1.14</td>
<td></td>
<td></td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.99</td>
<td>35</td>
<td>.054</td>
<td>-.01</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.40</td>
<td>.49</td>
<td>2.65</td>
<td>.86</td>
<td></td>
<td></td>
<td>-.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1.71</td>
<td>35</td>
<td>.096</td>
<td>-.55</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patronage Intention</td>
<td>2.20</td>
<td>.65</td>
<td>2.49</td>
<td>1.06</td>
<td></td>
<td></td>
<td>-.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1.76</td>
<td>35</td>
<td>.087</td>
<td>-.62</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10. Paired samples t-test results for the control group
The paired samples $t$-test results for PEPC showed that there was no significant difference between pretest and posttest values; $t (35) = 1.75, p > .05$. In addition, there was no significant difference between pretest and posttest values for SEPC; $t (35) = -1.99, p > .05$. Similarly, $t$-test results indicated that there were no significant differences between pretest and posttest in satisfaction [$t (35) = -1.71, p > .05$], or patronage intention [$t (35) = -1.76, p > .05$]. Thus, none of the pretest-posttest variables for the control group showed a significant difference.
Hypotheses Testing

**H1: The level of physical environment accommodation of the fitting room area will be negatively related to psychic cost.**

Analysis of Covariance (ANCOVA) examined the effect of accommodation level on PEPC, controlling for individual competence level and store image (H1). Results indicate that the change in the mean value of PEPC in the experimental group was greater than the changes in the control group ($M_{experimental\ group} = 2.13$ and $M_{control\ group} = .28$). See Table 4.11 for the respective means, standard deviations and confidence intervals. As shown in Table 4.12, the results of ANCOVA revealed that the impact of fitting room accommodation on PEPC was statistically significant at the .001 level with $F(1, 67) = 70.40$ ($\eta^2 = .51$).

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>$LL$</td>
</tr>
<tr>
<td>Experimental</td>
<td>2.13</td>
<td>.15</td>
<td>1.83</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>.28</td>
<td>.15</td>
<td>-.03</td>
</tr>
</tbody>
</table>

In the experimental group, psychic cost from the physical environment in the posttest appeared to be significantly lower compared to the pretest; there was no significant difference in PEPC between pretest and posttest in the control group. Therefore, older consumers who experienced more highly accommodating fitting rooms in the posttest had a lower psychic cost associated with the physical environment. Thus, H1 was supported.
Table 4.12. ANCOVA analysis results for PEPC

<table>
<thead>
<tr>
<th>Source</th>
<th>TypeIII SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Significance</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>58.43</td>
<td>1</td>
<td>58.43</td>
<td>70.40</td>
<td>.000</td>
<td>.51</td>
</tr>
<tr>
<td>TJ Maxx Store Image</td>
<td>.01</td>
<td>1</td>
<td>.01</td>
<td>.01</td>
<td>.907</td>
<td>.00</td>
</tr>
<tr>
<td>Talbots Store Image</td>
<td>2.07</td>
<td>1</td>
<td>2.07</td>
<td>2.49</td>
<td>.119</td>
<td>.04</td>
</tr>
<tr>
<td>Competence level</td>
<td>3.46</td>
<td>1</td>
<td>3.46</td>
<td>4.17</td>
<td>.045</td>
<td>.06</td>
</tr>
<tr>
<td>Error</td>
<td>55.61</td>
<td>67</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>229.44</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>124.80</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dependent Variable = PEPC, $R^2$ = .55 (Adjusted $R^2$ = .53)

**H2: The level of social environment accommodation of the fitting room area will be negatively related to psychic cost.**

Analysis of Covariance (ANCOVA) examined whether there were differences between groups on SEPC, controlling for competence level and store image. Table 4.13 summarizes results including means, standard deviations, and confidence intervals. Descriptive statistics showed that changes of SEPC in the experimental group were greater than the changes in the control group ($M_{\text{experimental group}} = 2.44$ and $M_{\text{control group}} = .34$).

ANCOVA also found that the effect of the level of the fitting room accommodation on SEPC was significant [$F (1, 67) = 83.35, p < .000, \eta^2 = .55$] (see Table 4.14). In addition, of covariates, store image was not significant. However, the competence level was significantly related to the SEPC, $F (1, 67) = 8.44, p < .005$. Older consumers who experienced highly accommodated fitting rooms had a lower SEPC. Thus, hypothesis 2 was supported.
Table 4.13. Descriptive statistics for SEPC

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Experimental group</td>
<td>2.44</td>
<td>1.09</td>
<td>2.15</td>
</tr>
<tr>
<td>Control group</td>
<td>.34</td>
<td>1.03</td>
<td>-.04</td>
</tr>
</tbody>
</table>

Table 4.14. ANCOVA results for SEPC

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>81.20</td>
<td>1</td>
<td>82.20</td>
<td>83.35</td>
<td>.000</td>
<td>.55</td>
</tr>
<tr>
<td>TJMaxx Store image</td>
<td>1.08</td>
<td>1</td>
<td>1.08</td>
<td>1.10</td>
<td>.297</td>
<td>.02</td>
</tr>
<tr>
<td>Talbots Store image</td>
<td>.20</td>
<td>1</td>
<td>.20</td>
<td>.20</td>
<td>.655</td>
<td>.00</td>
</tr>
<tr>
<td>competence</td>
<td>8.22</td>
<td>1</td>
<td>8.22</td>
<td>8.44</td>
<td>.005</td>
<td>.11</td>
</tr>
<tr>
<td>Error</td>
<td>65.27</td>
<td>67</td>
<td>.97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>297.69</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>158.10</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dependent Variable = Social Environment , $R^2$ Squared = .59 (Adjusted $R^2$ Squared = .56)

**H3**: There is an interaction effect between level of physical environmental accommodation and individual competence level on psychic cost.

Multiple regression analysis tested hypothesis 3, which predicted the interaction effect of competence level and environmental accommodation level on PEPC of older consumers. One way to better understand the group and competence interaction is examining whether the slope for competency is significantly different in the two groups. Separate multiple regressions were conducted for each group and the slopes for the competency were compared.
Although I focused on one moderating effect of the competence level, all of the covariates were entered in a single step. As shown in Table 4.15, controlling for store image, for the experimental group, there was no significant effect of competence level on the PEPC \([F (3, 32) = .95, p > .05]\), accounting for only 0.4% of the variance.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.12</td>
<td>.95</td>
<td>-.130</td>
</tr>
<tr>
<td>Talbots Image</td>
<td>.18</td>
<td>.28</td>
<td>-.04</td>
</tr>
<tr>
<td>TJMaxx Image</td>
<td>-.01</td>
<td>-.01</td>
<td>-.36</td>
</tr>
<tr>
<td>Competence</td>
<td>.03</td>
<td>.04</td>
<td>-.25</td>
</tr>
</tbody>
</table>

Note: Dependent Variable: difference of PEPC; R-Squared = .08, Adjusted R-Squared = .004; F-value = .95, p = .429

Competence level may not matter to older consumers in a highly accommodating fitting room environment. Conversely, as shown Table 4.16, the overall regression model for the control group was statistically significant \([F (3, 32) = 4.96, p < .05]\), and explained 25.3% of the variance for PEPC. The slope for competency was different in the two groups and showed the interaction effect. Of the three variables, competence level \((\beta = -.65; t = -3.61; p < .05)\) emerged as the strongest predictor. The results of regression analysis revealed that individual competence level was a significant moderator in this study, and therefore, hypothesis 3 was supported. Thus, the effect of environmental accommodation on psychic cost was moderated by competence level of the respondents. That is, older consumers who
were less competent were more likely to experience stress in fitting rooms that were not physically accommodating.

**Table 4.16. Multiple regression results for the effect of covariates on PEPC for the control group**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Standard Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.46</td>
<td>1.27</td>
<td>-2.73</td>
</tr>
<tr>
<td>Talbots</td>
<td>-.10</td>
<td>.22</td>
<td>-0.07</td>
</tr>
<tr>
<td>TJMaxx competence</td>
<td>.17</td>
<td>.18</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>-.47</td>
<td>.13</td>
<td>-.65</td>
</tr>
</tbody>
</table>

Note: Dependent Variable: difference of PEPC; R-Squared = .32, Adjusted R-Squared = .25; F-value = 4.96, p = .006

**H4: There is an interaction effect between level of social environment accommodation of the fitting room area and individual competence level on psychic cost.**

Multiple regression analysis was also used to test hypothesis 4, which predicted the interaction of competence level and environmental accommodation level on SEPC. As shown in Table 4.17, the overall regression model predicting SEPC for experimental group was not significant, \[ F (3, 32) = 2.25, p > .05 \], it accounted for 10% of the variance in SEPC. Similar to the results from the PEPC analysis, competence level may not impact older consumers in highly accommodating fitting rooms. Conversely, as shown Table 4.18, the overall regression model for the control group was significant \[ F (3, 32) = 3.05, p < .05 \] and explained 14.9% of the variance for SEPC. Of the three variables, difference in competence level (\( \beta = -.53; t = -2.76; p < .05 \)) emerged as the strongest predictor. The results of the regression analysis revealed that individual competence level was a significant moderator in
predicting SEPC. Therefore, hypothesis 4 was supported. That is, older consumers who were less competent were more likely to experience stress in a fitting room environment when it did not accommodated social needs.

Table 4.17. Multiple regression results for the effect of covariates on SEPC for the experimental group

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Standard Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>5.046</td>
<td>1.288</td>
<td>3.919</td>
</tr>
<tr>
<td>Talbots</td>
<td>.052</td>
<td>.117</td>
<td>.072</td>
</tr>
<tr>
<td>TJMaxx</td>
<td>-.311</td>
<td>.190</td>
<td>-.264</td>
</tr>
<tr>
<td>competence</td>
<td>-.267</td>
<td>.151</td>
<td>-.287</td>
</tr>
</tbody>
</table>

Note: Dependent Variable: difference of SEPC; R-Squared = .17, Adjusted R-Squared = .10; F-value = 2.25, p = .101

Table 4.18. Multiple regression results for the effect of covariates on SEPC for the control group

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>Standard Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.12</td>
<td>1.49</td>
<td>2.09</td>
</tr>
<tr>
<td>Talbots</td>
<td>-.05</td>
<td>.26</td>
<td>-.03</td>
</tr>
<tr>
<td>TJMaxx</td>
<td>.13</td>
<td>.21</td>
<td>.11</td>
</tr>
<tr>
<td>competence</td>
<td>-.42</td>
<td>.15</td>
<td>-.53</td>
</tr>
</tbody>
</table>

Note: Dependent Variable: difference of SEPC; R-Squared = .22, Adjusted R-Squared = .15; F-value = 3.05, p = .043

H5: Psychic cost associated with the physical environment will be negatively related to satisfaction.
H6: Psychic cost associated with the social environment will be negatively related to
Satisfaction.

Multiple regression analysis was used to test hypotheses 5 and 6, which predicted the
shopping satisfaction of older clothing shoppers. For H5 and H6, as shown in Table 4.19, the
overall regression model estimating older consumers’ shopping satisfaction was significant \[F
(2, 69) = 90.63, p < .001\], accounting for 72\% of the variance in shopping satisfaction. As the
treatment decreased the level of PEPS and SEPC, older consumers appeared to be more
satisfied with the shopping experience. Therefore, the statistical results support hypotheses
H5 and H6. Of the two types of psychic cost, PEPC (\(\beta = -.62; t = -5.64; p < .05\)) emerged as a
stronger predictor than SEPC (\(\beta = -.26; t = -2.37; p < .05\)). The results of the multiple
regression analysis suggest that the experiences related to the physical environment played a
more important role than did the social environment in older consumers’ shopping
satisfaction.

Table 4.19. Multiple regression results for the effect of psychic cost on satisfaction

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>(R^2)</th>
<th>Adj. (R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>86.73</td>
<td>2</td>
<td>43.36</td>
<td>90.63</td>
<td>.000</td>
<td>.724</td>
<td>.716</td>
</tr>
<tr>
<td>Residuals</td>
<td>33.02</td>
<td>69</td>
<td>.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>119.74</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>(b)</th>
<th>(\beta)</th>
<th>(t)</th>
<th>(p)</th>
<th>95%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Intercept</td>
<td>-.12</td>
<td>-1.46</td>
<td>.150</td>
<td></td>
<td>-.39</td>
</tr>
<tr>
<td>PEPC</td>
<td>-.61</td>
<td>-.62</td>
<td>-5.64</td>
<td>.000</td>
<td>-.83</td>
</tr>
<tr>
<td>SEPC</td>
<td>-.23</td>
<td>-.26</td>
<td>-2.37</td>
<td>.021</td>
<td>-.42</td>
</tr>
</tbody>
</table>
**H7: The level of environmental accommodation of the fitting room area will be positively related to shopping satisfaction.**

Analysis of covariance (ANCOVA) examined whether there were differences between groups on satisfaction, when controlling for competence level and store image. Table 4.20 summarizes the results including means, standard deviations, and confidence intervals. The changes in satisfaction for the experimental group were greater than those for the control group ($M_{\text{experimental group}} = -2.13$ and $M_{\text{control group}} = -0.30$).

**Table 4.20. Descriptive statistics for satisfaction with store experience**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Experimental</td>
<td>-2.13</td>
<td>.16</td>
<td>-2.45</td>
</tr>
<tr>
<td>Control</td>
<td>-0.30</td>
<td>.16</td>
<td>-0.62</td>
</tr>
</tbody>
</table>

**Table 4.21. ANCOVA results for satisfaction**

<table>
<thead>
<tr>
<th>Source</th>
<th>TypeIII SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>56.75</td>
<td>1</td>
<td>56.75</td>
<td>66.70</td>
<td>.000</td>
<td>.50</td>
</tr>
<tr>
<td>TJ Maxx Store Image</td>
<td>.35</td>
<td>1</td>
<td>.35</td>
<td>.41</td>
<td>.523</td>
<td>.01</td>
</tr>
<tr>
<td>Talbots Store Image</td>
<td>.62</td>
<td>1</td>
<td>.62</td>
<td>.72</td>
<td>.398</td>
<td>.01</td>
</tr>
<tr>
<td>Competence</td>
<td>2.36</td>
<td>1</td>
<td>2.36</td>
<td>2.77</td>
<td>.100</td>
<td>.04</td>
</tr>
<tr>
<td>Error</td>
<td>57.01</td>
<td>67</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>226.69</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>119.74</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dependent Variable = satisfaction, $R^2$ = .52 (Adjusted $R^2$ = .50)
As shown in Table 4.21, ANCOVA revealed a statistically significant effect of environmental accommodation level on satisfaction \( F(1, 67) = 66.70, p < .05, \eta^2 = .50 \), supporting hypothesis 7.

**H8: Satisfaction with the shopping will be positively related to patronage intention.**

For hypothesis H8, the simple regression model predicting the effect of satisfaction on patronage intention for older consumers was significant \( F(1, 70) = 310.84, p < .05 \), and accounted for 82% of the variance in patronage intention (see Table 4.22). A 95% confidence interval for the slope was [.84, 1.06]. As shopping satisfaction increased, older consumers showed higher patronage intention. Therefore, hypothesis H8 was supported.

**Table 4.22. Simple regression results for the effect of satisfaction on patronage intention**

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>R²</th>
<th>Adj. R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>108.00</td>
<td>1</td>
<td>108.00</td>
<td>310.84</td>
<td>.000</td>
<td>.82</td>
<td>.81</td>
</tr>
<tr>
<td>Residuals</td>
<td>24.32</td>
<td>70</td>
<td>.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>132.32</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>b</th>
<th>β</th>
<th>t value</th>
<th>p</th>
<th>95% CI</th>
<th>LL</th>
<th>UL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-.05</td>
<td>-.53</td>
<td>.596</td>
<td></td>
<td>-.24</td>
<td>.14</td>
<td></td>
</tr>
<tr>
<td>satisfaction</td>
<td>.95</td>
<td>.90</td>
<td>17.63</td>
<td>.000</td>
<td>.84</td>
<td>1.06</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 5. CONCLUSIONS

This study tested the S-O-R model in the prediction of patronage intention based on fitting room experience among older clothing shoppers. The conceptual framework for this research included concepts of environmental accommodation, competence, psychic cost, satisfaction, and patronage intention. This chapter summarizes and discusses study findings. In the last section, implications, limitations, and future research studies are delineated.

Summary and Discussion

With the ongoing declines in fertility and longer life spans, population aging is expected to be among the most prominent demographic trends in the United States. This pattern is projected to continue over the next few decades, and marketers have increasingly recognized the importance of addressing needs and desires of older consumers. However, a large number of businesses still hold stereotypical views of older consumers, mainly that they have fewer needs, lower purchasing power, and inactive lifestyles (Leinweber, 2001; Sherman, Schiffman, & Mathur, 2001). Therefore, they often fail to embrace the active lifestyles and buying power of many older adults today (Leinweber, 2001). In fact, the older adult market is attractive in terms of its growing size and buying power, which requires a new way of looking at older consumers.

To date, a significant number of studies has supported that older women are still interested in appearance and dress, enjoy shopping for clothes, and spend a lot on apparel (Birtwistle & Tsim, 2005; Graham, 2007; Joung & Miller, 2007; Kozar, 2005; Myers & Lumbers, 2008; Nam et al., 2007; Thomas & Peters, 2009). Yet, the apparel industry has
made limited efforts to reach this group. Fitting and size issues were common concerns for
older women due to individual body changes (Dillard & Feather, 1988; Richards, 1981; Shim
& Bickle, 1993). Therefore, older shoppers need to try garments on in fitting rooms to test
how well they fit. However, the use of the fitting room was one of the major obstacles in
stores for older consumers (Birtwistle & Tsim, 2005; Moye & Giddings, 2002).
Comparatively little research has looked at older consumers’ special needs, particularly as
they pertain to the fitting room experience. Increasing attention has been paid to the study of
aging adults in relation to their environments. Gerontological insights are particularly useful
to explain multi dimensions of the aging process and may help retailers to better address
older consumers’ needs and wants in the fitting room environment.

The S-O-R paradigm describes how environmental elements lead to certain cognitive
and affective responses, and these internal evaluations, in turn, affect approach or avoidance
responses. The main goal of this study was to determine whether the fitting room
environment affected older consumers’ evaluations and how these evaluations shaped older
consumers’ responses toward the retail experience, in this case patronage intention.

Based on the S-O-R model combined with P-E fit theories from gerontology, causal
relationships among fitting room accommodation, psychic cost, shopping satisfaction, and
patronage intention were hypothesized. The hypotheses addressed 1) the relationship
between accommodations in physical design of the fitting room and older consumers’ stress
level (i.e., psychic cost); 2) the relationship between sales staff assistance in the fitting room
and older consumers’ stress level (i.e., psychic cost); 3) the relationship between older
consumers’ competence level and psychic cost associated with fitting room accommodations;
4) the relationship between older consumers’ psychic cost and overall satisfaction with the shopping experience; and 5) to determine the effect of shopping satisfaction on patronage intention.

This study reviewed extant literature regarding S-O-R model, P-E fit theories, older consumers’ product/environmental needs, and current fitting room environments. A survey questionnaire was developed based on the existing literature and the results from pilot study and fitting room observations. Older female consumers aged 65 and over were invited to participate in this study. Data were collected via a field experiment from a sample living in the Des Moines area in Iowa. The sample consisted of 72 female older consumers aged 65 and older.

Two phases of data analysis were conducted: preliminary analysis and analyses of the proposed hypotheses. Preliminary analysis of research data consisted of descriptive analysis, principal component analysis, confirmatory factor analysis, and internal reliability assessment of research variables using Cronbach’s alpha coefficients. A series of principal component analyses with a Varimax rotation were performed on the following constructs containing multi-items: psychic cost, satisfaction, and patronage intention. The factor analysis of psychic cost suggested two factors: Physical environment psychic cost (PEPC) and social environment psychic cost (SEPC). Analyses of the proposed hypotheses included the independent samples t-test, the paired samples t-test ANCOVA, and regression analysis.

For both the experimental and control groups, the paired samples t-test examined the differences between pretest and posttest for the following variables: psychic cost, shopping satisfaction, patronage intention. For the experimental group, the findings of the paired
samples $t$-test indicated that there was a significant mean difference in PEPC, SEPC, satisfaction, and patronage intention between pretest and posttest. For the control group, the findings showed that there was no statistically significant difference in PEPC, SEPC, satisfaction, and patronage intention between pretest and posttest. Overall, these results suggest that an accommodating fitting room environment has a profound effect on the shopping experience of older consumers.

Independent samples $t$-test compared the mean scores of the experimental group and control group for the following variables: psychic cost, shopping satisfaction, and patronage intention. The findings showed that there were significant differences between the two groups of older consumers for each variable.

For hypotheses H1 and H2, ANCOVA analyzed the effect of fitting room accommodation level on physical environment and social environment psychic costs, respectively, controlling for the individual competence level and store image. Fitting room accommodations were statistically significant in the prediction of both costs. When the physical and social environments of the fitting room were more accommodating, older consumers’ perceived psychic cost significantly decreased. When the fitting room resulted in lower stress levels, older consumers appeared to adapt well. The present study supports P-E fit assumptions that adaptive behavior and positive affect are outcomes of environmental press that matches an individuals’ competence level. This suggests P-E fit should be considered when designing the fitting room, both physically and in staffing, for older consumers. The findings of the present study largely confirm previous research that views stress as one of the factors that the environment imposes on the individual and this stress has
a strong impact on behavioral outcomes of ageing individuals (Gitlin, 2000; Kahana, 1982; Lawton & Nahemow, 1973; Verbrugge & Jette, 1994).

Multiple regression analyses examined the interaction effect of environmental accommodation level and individual competence level on physical environment (H3) and social environment psychic costs (H4). Results showed that level of environmental accommodation interacted with competence level of older consumers in affecting physical and social psychic costs associated with the fitting room environment. Lower competency increased the physical and social environment psychic costs associates with the unaccommodating fitting room environment. These results aligned with past gerontology literature on the role of the environment for ageing individuals. In particular, Lawton and Nahemow (1973) explored a link between the environment and competence-related outcome in their ETA model, identifying multiple layers of the person-environment transaction. In the ETA model, highly competent ageing individuals are well able to shape their physical environment, whereas, less competent individuals require environments that offer lower stress levels to suit their adaption levels. Past research on the shopping behavior of older consumers also supported that the social environment is equally important to older consumers because limited functioning in later life may reduce older consumers’ self-sufficiency as shopper (Cox, Cox, & Anderson, 2005; Mumel & Prodnik, 2005; Petermans & Van Cleempoel, 2010). Thus, the role of the environment is more apparent when considered in conjunction with the individual’s competence level.

Results of multiple regression analyses also supported the hypothesized relationships between physical environment psychic cost and shopping satisfaction (H5) and social
environment psychic cost and shopping satisfaction (H6). Results suggested that older consumers’ psychic cost was negatively associated with shopping satisfaction. The store’s social environment may be of importance to older customers, but the physical environment appeared to affect older consumers’ satisfaction more than the social environment. This finding supports the benefits of using a field experiment for studies involving older consumers. It suggests that actually taking these consumers out to the marketplace may help identify their special needs and wants.

As previous research (Carlsson et al., 2002; Gitlin 2000; Nahemow, 2000; Verbrugge & Jette, 1994; Wahl et al., 2009 a) has supported, environments that accommodate the changing needs of older adults will improve P-E fit and lead to greater functioning and a sense of well-being. A close fit between the environment and the individual may lead to maximum satisfaction.

Hypothesis H7 predicted a positive relationship between environmental accommodation level and shopping satisfaction while controlling for individual competence level and store image. ANCOVA showed that level of fitting room accommodation significantly predicted shopping satisfaction for older consumers. This result is consistent with environmental gerontology studies (Hutchings et al., 2008; Tanner et al., 2008), which emphasized the importance of the designed environment in maintaining an older adults’ independent functioning and enhancing his/her quality of life and satisfaction. That is, the importance of P-E fit through environmental adjustment may be a key factor in promoting older consumers’ satisfaction. Findings from Myers and Lumbers (2006) revealed that older
consumers highly value social interaction. In the present study, however, the physical environment appeared to be more important in predicting older consumers’ satisfaction.

Regression results supported H8, which proposed a positive relationship between satisfaction and older consumers’ patronage intention. As satisfaction with the shopping environment increased, older consumers showed higher patronage intention.

In summary, this research showed that incorporating variables from retail environment studies and aging studies into an S-O-R model provide an understanding of the transaction between older adults and the environment. Perceived control over the environment and independence from risk factors are increasingly important for older people in later life (Lawton & Nahemow, 1973; Verbrugge & Jette, 1994). Retail environments that accommodate the changing needs of older adults appeared to improve the P-E fit, which decreased stress and increased satisfaction and patronage intentions. Thus, the current study supports the S-O-R model and P-E fit theories. The empirical evidence of the present study confirms that the fitting room environment is an important variable in shaping shopping behavior of older individuals. In addition, both physical and social aspects of the fitting room environment help shape older clothing shoppers’ satisfaction and patronage intention. Incorporating Universal Design features into a fitting room will help older consumers function better when shopping, which is not only a functional but also hedonic experience for many older consumers (Petermans & Van Cleempoel, 2010).
Implication

Three major implications for retailers, store designers, policy makers, and academia, resulted from the present study.

First, the results of the present study provide several implications for practitioners. Older consumers’ shopping satisfaction was influenced by environmental factors. Understanding these factors will allow better design of retail store environments that suit the needs of older consumers in order to improve their shopping satisfaction. If fitting rooms are renovated to help older clothing shoppers perform independently, consumer satisfaction and patronage intention may increase. If social elements of fitting room are enhanced, it will be easier for older clothing shoppers to find apparel that fits well, and satisfaction with the store may increase. Thus, this study sheds light on the service expectations for older customers in apparel retail settings. Retailers must provide serviceable and accessible fitting room environments to lower older consumers’ psychic cost and increase satisfaction, thus ensuring patronage and perhaps even repeat sales. As discussed in Chapter 2, fitting rooms are where the purchase decision is finalized, and where the actual sale is made (Amato-McCoy, 2007; “Fitting Designs,” 1999; Marjo, 2003/2004; O’Donnell, 2007).

Store designers should build fitting rooms that minimize the difficulties older consumers often encounter. The following guidelines, based on the findings of the present study, should be implemented if catering to older customers. First of all, a good lighting system will be required to increase shoppers’ confidence in their purchase selection by allowing them to clearly read price tags, labels, or colors. Second retailers need to enlarge fitting rooms and their surrounding areas because shoppers complain about the inadequate
size of fitting rooms, their doorways, and the width of aisles, which aligns with past research (i.e., “Fitting Designs,” 1999; Holmlund et al., 2011; O’Donnell, 2007; Osborn, 2000; Poggi, 2008). Third, multiple hooks at varying heights should be available for older clothing shoppers. Fourth, retailers should install mirrors with lighting so that older clothing shoppers can see themselves better from all angles, and accurately assess their appearance, as supported by past research (i.e., Brown, 1993). Clearly, incorporating universal design feature will offer a safe and adaptive fitting room environment in which older clothing shoppers can maintain their independence and enhance their shopping experience.

As Vergrugee and Jette (1994) suggested, environmental modifications that reduce risks (e.g., removing obstacles near the fitting room area) and add supportive devices (e.g., installing grab bars, lever door, seating bench) will play a significant role in lessening the demands of the physical environment on task performance and to improve older adults’ functioning.

Similarly, retailers should pay attention to sales assistance in the fitting room. Store managers must develop effective communication strategies to retain older consumers and build a strong relationship with them. Previous studies (i.e., Birthwistle & Tsim, 2005; Burt & Gabbott, 1995; Holmlund et al., 2011; Moye & Giddings, 2002; Mumel & Prodnik, 2005; Myers & Lumbers, 2008; Thomas & Peter, 2009) have noted that sales assistants are useful sources of clothing performance information. Retailers must take the initiative in training sales assistants to deal with the special needs of older consumers and positioning them in the fitting room area. Although the present study focuses on the fitting room environment, it also has implications for the design of the overall retail store or service outlet.
Second, this study has implications for policy makers in governmental agencies. Establishing design standards that take into account the functioning of older consumers in public buildings is supported by the present findings that older consumers experienced both physical and social psychic costs associated with fitting room environments and these costs were related to dissatisfaction. The American Disabilities Act (ADA) has been established, but it provides objectively measured standards originally for younger people with physical difficulties. Thus, enforcement of standards that provides maximum building codes in ways that offer access to a broader range of individuals may be necessary.

Finally, this study is significant to academic research in the area, specifically because it demonstrates that S-O-R model and P-E fit theories work well in the current model and could be successfully applied to a wide range of older consumer behaviors. This study appears to be the first to empirically examine the effect of the accommodation level of the fitting room on psychic cost, satisfaction, and patronage intention. To date, research with regard to the environment and aging has been limited to observation, case study, and mostly performed in institutional settings or home residences (Hutchings, Olsen, & Moulton, 2008; Tanner, Tilse, & de Jonge, 2008; Wahl et al., 2009b). The field experiment in a store setting expands the evidence on how environment affects older consumer by showing how actual fitting room experience affects older consumers’ behavior.

In addition, the present research developed an instrument for measuring psychic cost creased by the fitting room environment. The instrument proved to be useful in testing the impact of the fitting room environment on physical and social psychic costs and their impact on consumer behavior variables.
Limitation and Future Study

There are several limitations to this study. The first relates to sampling. Due to the convenience sampling method, the results of this study cannot be generalized to the entire population of older U.S. female consumers. Older male consumers may not be affected as are older female consumers by the accommodation level of fitting rooms, because men may not face the same level of fit problems or depend as much on fitting rooms as do women. Although there was a higher level of participant involvement in the study, the method of soliciting participation was a concern at the onset of this project. Lower socioeconomic consumers, those with disabilities, and those who needed transportation may not be included in this study. To increase generalizability, future studies of the effect of fitting room environments on older consumers’ psychic cost, satisfaction, and patronage should encompass a broader range of consumer characteristics (i.e., ethnicity, education level, economic status). For example, Moody (2006) indicated that social class has a lifelong influence on health status. Therefore, adequate representation of lower socioeconomic level older consumers would be an important addition to future studies. Older consumers in future studies should be more racially and ethnically diverse to reflect the changing demographics of older adults (53% non-Hispanic White in 2050, versus 72% non-Hispanic White in 2000) (Federal Interagency Forum on Aging-Related Statistics (FIFARS, 2000). The sample of the present study was predominantly White because it was drawn from Iowa where White population accounted for 91.3% of the total population. In 2010, Iowa was ranked fifth in the percentage of White population (“Iowa Census Statistics,” 2010). Socioeconomic, racial, and
ethnic groups may differ in their pattern of shopping needs as they age (Moody, 2006). Thus, including income and ethnic differences may lead to different results.

I combined anyone over 65 year into a single group, but this may fail to distinguish differences in shopping interests, health, or mobility that may exist in various age groups of older consumers. Future studies should address this in order to gain a better understanding of older consumers’ apparel shopping behaviors. These studies should consider dividing older consumers into 3 categories as Moody (2006) noted, such as the young-old (aged 65 to 74), the old-old (aged 75 to 84), the oldest-old (aged 85 and over). The participants likely enjoyed store shopping and were able to visit the stimulus stores by themselves, which showed that they were more active and perhaps of a higher economic group than the average older adults. Thus, a more systematic and probability sampling would be necessary in order to ensure reliability and validity of the data and findings.

Second, data were collected from participants in a group setting. This group setting may have impacted the respondents if they socialized with each other in the process. Their socializing may have enhanced their perceptions of the store or satisfaction and patronage intentions toward the retailer. In addition, as it was very time-intensive for the respondents due to the length and nature of the field study, respondents may have become tired before completing the shopping trip and survey, which may have inhibited them from filling out the survey carefully, thus affecting the quality of the data.

Third, this study employed a quantitative method. Future studies may involve running the same experiment in stores using a qualitative research method. As noted by Lawton, the study of the multiple layering of the person-environment transaction in later life can be better
understood through qualitative data collection and analysis. He acknowledged qualitative observations and interviews were most appropriate for environmental research. A longitudinal study could also give further insight into whether older consumers change their shopping methods. A follow-up could repeat the present study but employ a longitudinal method to track the changes in physiological and socioeconomic status of older adults and assess the effect of those changes on the demand for store design and product/service enhancements over time.

Fourth, the present study formulated a psychic cost scale based upon previous studies that examined fitting room environments and findings from the pilot study. Future studies could test the reliability of the scale with other samples. Although the measurement of psychic cost reflected consumers’ mental stress or labor during the shopping experience, it may not represent all dimensions of added stress related to fitting room use or overall shopping experience. For instance, cognitive stress may be associated with the shopping experience resulting from having to decide between too many product options (Schartz, 2004).

Fifth, manipulation of the stimulus stores was limited. Field experimental design requires purposive manipulation of one or more independent variables to examine their causal relations with dependent variables (Touliatos & Compton, 1988). When manipulating the high level of accommodation, I selected fitting rooms from two different stores, instead of manipulating the accommodation in the same store. Moreover, these two stores may not fully represent the different levels of fitting room accommodation. Accordingly, this study may not be free from possible confounding variables such as product assortment, general
store environment, and price. Recently, one of TJ Maxx fitting rooms has changed to better accommodate customers. Thus, future studies may try to work with stores that are changing their fitting rooms to test the impact of the change on the store’s customers.

Sixth, this study only investigated the effect of the fitting room environment on older consumers’ patronage intention. Future studies could replicate the present study but test whether patronage intentions toward clothing stores lead to actual purchases. Thus, actual purchase could be added into the current S-O-R model as an additional response. Concomitantly, studies of fitting room environments could be conducted to examine the relationship between the fitting room experience and older consumers’ apparel return rates. This research would study how trying on apparel items prior to purchase affects the return rate of apparel under different fitting room conditions. In the competitive retail world, returns are one of the major inconveniences in the retail environment for both customers and retailers. For retailers, a higher incidence of returns may drag down their profits over time, thus resulting in higher prices passed on to consumers (Anderson Hansen, & Simester, 2009). Thus, improving the fitting room experience may help retailers implement strategies to reduce returns.

Seventh, future studies should examine whether upgrading functionality of fitting rooms result in increased sales that cover the cost of the renovation. In closing, fitting rooms should not be a neglected aspect of the retail experience, but more research is needed to fully determine their impact on older consumers and success of retailers.
APPENDIX A: PILOT STUDY

Purpose of study and recruitment information

Pretest survey questionnaire

Fitting room measurement form

Results of the pretest study

Fitting room observation
1. Purpose of study

The purpose of this study was to investigate the perceptions and thoughts about fitting room environments among older clothing shoppers.

Recruitment information

- Karen Acre Nursing home: 2 female participants aged 65 and over
- Wesley life Retirement Community: 2 female participants aged 65 and over
- Des Moines Golf Club Women’s 18 hall league: 2 female participants aged 65 and over
2. Pretest Survey Questionnaire

**Section 1**

**Please provide the following general information**

1.  __Female  __Male

2.  __Year of birth

3.  What is your marital status?  __Single  __Married  __Divorced  __Widow

4.  Indicate your highest level of education completed  
   __Middle school  __High school  __Vocational school  __College  
   __Graduate or professional (e.g., Law or medical) school  __Other

5.  **Occupation**

   If you currently work outside the home, do you work?  __Full time  __Part-time  __Other

6.  What is your yearly income (before taxes)?

   Under $5,000  __$5,000 to $9,999  __$10,000 to $14,999
   __$15,000 to $24,999  __$25,000 to $34,999  __$35,000 to $49,999
   __$50,000 to $74,999  __$75,000 to $99,999  __$100,000 to $149,999
   __$150,000 to $199,999  __Over $100,000

7.  When I shop for clothing and shoes, I frequently shop (You may check more than one)  

   __by myself  __with children  __with spouse  __with friends  __other

8.  How many clothing items or pairs of shoes have you bought for yourself during the past 12 months?  

   __None  __One item  __2-4 items  __5-7 items  __8-10 items  __More than 10 items
9. How many clothing items or pairs of shoes have you bought for someone else during the past 12 months?

__None
__One item
__2-4 items
__5-7 items
__8-10 items
__More than 10 items

10. Do you have specific stores in which you like to shop for clothing and shoes? __Yes
    __No

If yes, which stores are they? ________________

11. Please indicate the number that best describes your health status (1=very bad, 7=very good)

<table>
<thead>
<tr>
<th></th>
<th>Very bad</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Hearing</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Tactile senses</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Strength and dexterity</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

Section 2

Please indicate the number that best describes you (1=never, 7=always)

12. I am willing to try new fashion ideas.  

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

13. When I buy apparels, I have problems with the fit.  

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

14. When I buy apparels, I try items on in the fitting room.  

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

15. I am satisfied with the fitting room of stores I usually shop for apparels.  

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

16. I like to check the labels for product
I want (or like) assistance when I try items on in the fitting room.

Section 3

**Please read the following questions and write out your answer.**

18. What kind of activities are you involved in? And how often?

19. How do you perceive present fitting room environment?

20. What are common problems when you use fitting room?

21. Any other comment about fitting room?

Thank you very much for your participation!
3. Fitting room measurement form

XXX Store: ________________________  #_______

**Measurement list**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Universal design and ADA standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Getting into</strong></td>
<td></td>
</tr>
<tr>
<td>Resting facilities for self or accompanying people</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Entrance: Doorway</td>
<td>Wide doorway, 36” preferred</td>
</tr>
<tr>
<td></td>
<td>32” minimum on accessible level</td>
</tr>
<tr>
<td>Visible obstacles in halls and pathway</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Lighting level for hallway</td>
<td>Extra wide 43”</td>
</tr>
<tr>
<td>Easy to work lock</td>
<td>Lever handled lock: __yes __no</td>
</tr>
<tr>
<td><strong>Inside the fitting room</strong></td>
<td></td>
</tr>
<tr>
<td>Dimension</td>
<td>Minimum size 60”x 72”</td>
</tr>
<tr>
<td>Resting facilities</td>
<td>__Bench __Arm Chair __chair</td>
</tr>
<tr>
<td></td>
<td>others</td>
</tr>
<tr>
<td>Hooks</td>
<td>__ #</td>
</tr>
<tr>
<td></td>
<td>Height:________</td>
</tr>
<tr>
<td></td>
<td>Hooks should be mounded 35” to 48” above the floor</td>
</tr>
<tr>
<td>Grab bar</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Lighting</td>
<td>Illumination: _____ lux</td>
</tr>
<tr>
<td></td>
<td>Location: Minimum 200 lux</td>
</tr>
<tr>
<td></td>
<td>Older people need 2-3 times more</td>
</tr>
<tr>
<td>Floor</td>
<td>__Carpet __Vinyl: Glaring __yes __no</td>
</tr>
<tr>
<td></td>
<td>Carpet edge should be smooth or unexposed</td>
</tr>
<tr>
<td></td>
<td>No glaring</td>
</tr>
<tr>
<td>Assisted by sales assistant</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Press button for assistance</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Mirror</td>
<td>__ #</td>
</tr>
<tr>
<td></td>
<td>Lighted edge: __yes __no</td>
</tr>
<tr>
<td></td>
<td>3 way mirror: __yes __no</td>
</tr>
<tr>
<td>Cleanness</td>
<td>Very bad</td>
</tr>
<tr>
<td></td>
<td>Very good</td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>Music</td>
<td>__yes __no</td>
</tr>
<tr>
<td>Extra facilities</td>
<td></td>
</tr>
</tbody>
</table>
4. Results of the pretest study

**Frequency distribution of the complaints related to fitting room use.**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical need related</strong></td>
<td></td>
</tr>
<tr>
<td>Obstacles in the way</td>
<td>2</td>
</tr>
<tr>
<td>No chair (for sitting, for belongings), need bench and comfortable chairs.</td>
<td>4</td>
</tr>
<tr>
<td>Not enough hooks</td>
<td>3</td>
</tr>
<tr>
<td>Hooks are located too high</td>
<td>2</td>
</tr>
<tr>
<td>Need grab bars</td>
<td>2</td>
</tr>
<tr>
<td>Need enough hooks</td>
<td>2</td>
</tr>
<tr>
<td>Not enough space</td>
<td>2</td>
</tr>
<tr>
<td>Poor lighting</td>
<td>3</td>
</tr>
<tr>
<td>Need lever handle</td>
<td>2</td>
</tr>
<tr>
<td>Need carpeted floor</td>
<td>2</td>
</tr>
<tr>
<td><strong>Performance related</strong></td>
<td></td>
</tr>
<tr>
<td>Enough mirrors</td>
<td>1</td>
</tr>
<tr>
<td>Need 3 way mirror</td>
<td>3</td>
</tr>
<tr>
<td>Need podium to see fit well(inside and outside the room)</td>
<td>1</td>
</tr>
<tr>
<td>Need pumps (various sizes) to check whole appearance well</td>
<td>1</td>
</tr>
<tr>
<td><strong>Atmospheric need related</strong></td>
<td></td>
</tr>
<tr>
<td>No need to be too much luxurious but homey feeling</td>
<td>2</td>
</tr>
<tr>
<td>Need music</td>
<td>1</td>
</tr>
<tr>
<td>Good smell</td>
<td>1</td>
</tr>
<tr>
<td>No clothing left inside</td>
<td>1</td>
</tr>
<tr>
<td>Need to be clean(floor)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Store assistant related</strong></td>
<td></td>
</tr>
<tr>
<td>Need assistant for size advice, bringing out unnecessary items</td>
<td>2</td>
</tr>
<tr>
<td>Need assistant in similar age and body type</td>
<td>1</td>
</tr>
<tr>
<td><strong>Amenity related</strong></td>
<td></td>
</tr>
<tr>
<td>Need water fountain</td>
<td>1</td>
</tr>
</tbody>
</table>
5. Fitting room observation

<table>
<thead>
<tr>
<th></th>
<th>Talbots</th>
<th>Von Mour</th>
<th>Younkers</th>
<th>Stein Mart</th>
<th>T.J. Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resting facilities</td>
<td>Inside v</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>outside v</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstacles free</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lever handle</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grab bar</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant staff</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Doorway 30</td>
<td>28</td>
<td>26</td>
<td>29</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Room 50x65</td>
<td>60x60</td>
<td>47x56</td>
<td>41x46</td>
<td>46x49</td>
</tr>
<tr>
<td>Hook</td>
<td>Height 62</td>
<td>66</td>
<td>65</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Quantity Multi (regular, rack, movable standing hooks)</td>
<td>2</td>
<td>1, rack</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Lighting</td>
<td>Location Ceiling, light rimmed mirror</td>
<td>Ceiling &amp; sconce</td>
<td>Ceiling</td>
<td>Ceiling</td>
<td>ceiling</td>
</tr>
<tr>
<td></td>
<td>Illumination Meet requirement</td>
<td>Meet requirement</td>
<td>Meet requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirror</td>
<td>Lighted mirror v</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 way mirror v</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>Carpeted floor</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the list where v = “yes”, and numbers are actual measurement.
APPENDIX B: INSTRUCTIONS AND QUESTIONNAIRE FOR MAIN STUDY

Locations where participants were recruited

Recruitment documents

Consent form for participation

Questionnaire

Competence level scoring chart
1. Locations where participants were recruited

- Corinthian Gardens Apartments Senior Housing
- West Des Moines Community Center
- Southside Senior center
- McAuley Terrace Apartments Senior Housing
- Mercy Wellness Center Aquarobic club
- YMCA of Greater Des Moines
- Johnston Bridge club
- West Des Moines Bridge Club
- Philanthropic Educational Organization (PEO)
- Des Moines Golf and Tennis club
- Crossroad Church
- Corner stone community Church
- St. John United Methodist Church
- Hope Church
- Ashworth Baptist Church West Des Moines
2. Recruitment documents

**TELEPHONE SCRIPT**

P = Potential administrator, activities director, church minister; I = Researcher

I - May I please speak to [administrators, activities directors, church minister]?

P - Hello, [name of potential administrators, activities directors, church minister] speaking. How may I help you?

I - My name is Kyungnam Seo (Lina) and I am a Ph.D student in the Apparel, Events, and Hospitality Management Department at the Iowa State University. I am currently conducting research on “Analysis of fitting room environments: Effects on older clothing shoppers’ patronage intention”. As part of my dissertation research, I am conducting field study with older consumers to discover their perspectives on current fitting room environments and whether current fitting room deliver appropriate services for older consumers.

Is this a convenient time to give you further information about the field study?

P - No, could you call back later (agree on a more convenient time to call person back).

OR

P - Yes, could you provide me with some more information regarding this study you will be conducting?

I – Okay,

· I will be undertaking field study starting in June 25, 2012.
· The field study would last about one to one and half hours, and would be arranged for a time convenient to participants’ schedule.
· Participants will visit apparel stores two times (two week interval) to try on clothes and will provide some feedback regarding their shopping experiences.
· Involvement in this field study is entirely voluntary and there are no known or anticipated risks to participation in this study.
· The questions are quite general.
· The participants may decline to answer any of the survey questions they do not wish to answer and may terminate the survey at any time.
· All information they provide will be considered confidential.
· The data collected will be kept in a secure location.
· If you have any questions regarding this study, or would like additional information to assist you in reaching participants, please feel free to contact my supervisor, Dr. Ann Marie Fiore at 515-294-4567, or amfiore@iastate.edu.
I would like to assure you that this study has been reviewed and received ethics clearance through the Human Subjects Review Committee at Iowa State University.

After all of the data have been analyzed, you will receive an executive summary of the research results.

With your permission, I would like to email/mail/fax you an information letter which has all of these details along with contact names and numbers on it to help assist you in recruiting participants from your [facility, club, church].

P - No thank you.

OR

P - Sure (get contact information from potential administrators, activities directors, church ministers i.e., mailing address/fax number).

I - Thank you very much for your time. I will send you a letter to the participants, flyer, newsletter article, and signup sheet. Once again, if you have any questions or concerns please do not hesitate to contact me at my number 515-779-4399.

P - Good-bye.

I - Good-bye.
E-mail script

Dear (potential administrator, activity director, minister).

My name is Kyungnam Seo (Lina) and I am a Ph.D student in the Apparel, Events, and Hospitality Management Department at the Iowa State University. I am currently conducting research on “Analysis of fitting room environments: Effects on older clothing shoppers’ patronage intention”. As part of my dissertation research, I will conduct field study with older consumers to discover their perspectives on current fitting room environments and whether current fitting room deliver appropriate services for older consumers.

This study has been reviewed and received ethics clearance through the Human Subjects Review Committee at Iowa State University.

The purpose of this letter is to ask whether you would be willing to pass along the enclosed information to your (residents, club or church members) who would like to volunteer to participate in this research study.

Thank you for your time and consideration.

Sincerely,

Kyungnam Seo

Include enclosure(s) as applicable:

Recruitment materials, e.g. flyers, consent form, newsletter article, a letter to the participants.
RESEARCH PARTICIPANTS NEEDED

The Department of Apparel, Events & Hospitality Management at the Iowa State University, is looking for women aged 65 and over who would like to volunteer to participate in a dissertation study on shopping behavior of older adults.

The lead Researcher, Kyungnam Seo (Ph. D. student) says “The goal of this study is to investigate how older consumers perceive current fitting room environments and whether current fitting room deliver appropriate services for older consumers.”

The study will consist of two 1-1.5 hour sessions involving apparel shopping, trying on clothes in the fitting room, and filling out the questionnaire. Those who participate will receive $20 gift certificate after finishing two sessions.

To participate you must be:

1. Age 65 and older
2. Ability to perform daily living independently
3. No current patron of Talbots and TJ Maxx stores.
4. At least three month has passed since last visiting Talbots and TJ Maxx stores.
5. Prefer store shopping

To sign up for this study, please contact the lead researcher, Kyungnam Seo (Lina) either by phone at 515-779-4399, or by email at kyungnam@iastate.edu
Do you like apparel shopping?

You are invited to participate in a field study to help Iowa State University Ph.D student Kyungnam Seo (Lina) learn more about your apparel shopping experiences!

Who should participate?
- Women age 65 and over
- Able to perform daily living independently
- No current patron of Talbots and TJ Maxx stores
- At least three month has passed since last visiting Talbots and TJ Maxx stores.

What Is Involved?
- Two shopping trips to the stores (at least two weeks interval)
- Fill out the survey questionnaire
- A $20 incentive in the form of a gift card

When Will We Meet?
- Date mainly on Monday through Friday from 10:00AM~12:00PM(noon)
- Select your available date for first shopping trip. Date of second shopping trip will be arranged by the researcher

Why Participate?
- Enjoy shopping trip
- To gain a better understanding of the older consumers to redesign retailer environment.

How Do I Sign Up or Get More Information?
- Stop by the office(independent living facilities, club house, church) and sign on the signup sheet
- Contact: Kyungnam Seo (Lina) at 515-779-4399, or kyungnam@iastate.edu.
Dear Participants:

The proportion of the older population has been increasing remarkably in the U.S. The needs and interests of older consumers related to clothing may be different from the rest of the population. However, there has not been done any research that looks at older consumers’ current perceptions of apparel retail, and the fitting room, in particular.

You are invited to participate in a study to indicate your perceptions and thought about the retail environment of a particular store in the Des Moines area. This information may help retailers to better cater to older consumers. Your participation in this study is completely voluntary and you may skip any questions you are uncomfortable answering.

You will visit the stores and shop for several outfits including pants for about 10 to 15 minutes and to try on those items in the fitting rooms. Afterwards, you will complete a questionnaire in the food court. The questionnaire will take no more than 30 minutes of your time. Total duration of your participation in this study will be 1~1.5 hours.

Records identifying participants will be kept confidential to the extent permitted by laws and regulations and will not be made publicly available. To ensure confidentiality, the following measures will be taken: You will be assigned a unique code on forms instead of your name. The primary researcher will have access to study data, which will be kept confidentially in password-protected computer files. Records will be retained until Dec. 25, 2014. If the results are published, your identity will remain confidential. Result will be published in summary form only.

If you have any question, please feel free to contact either of the persons listed below.

Kyungnam Seo  
PhD Candidate,  
Department of Apparel, Events & Hospitality Management  
Iowa State University  
Ames, IA 50011-1102  
(515)779-4399  
E-mail: kyungnam@iastate.edu

Ann Marie Fiore, PhD  
Professor,  
Department of Apparel, Events & Hospitality Management  
Iowa State University  
1062 LeBaron  
Ames, IA 50011-1102  
(515)294-9303  
E-mail: amfiore@iastate.edu

**Title of Study:** “Analysis of fitting room environments: Effects on older clothing shoppers’ patronize intention”
3. Consent form for participation

INFORMED CONSENT DOCUMENT

Title of Study: “Analysis of fitting room environments: Effects on older clothing shoppers’ patronize intention”

Investigators: Kyungnam Seo (Lina), Dr. Ann Marie Fiore

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purpose of this study is to investigate what older clothing shoppers think about the store environment. You are being invited to participate in this study because you can provide helpful information about your satisfaction with store environment.

DESCRIPTION OF PROCEDURES

This study will consist of two field trips. If you agree to participate in this study, your participation will last for 1-1.5 hour per each trip. Before the shopping trip, you will fill out the initial survey regarding general perception of the stores and competence level. During the study you will be asked to shop for several outfits including pants for about 10 to 15 minutes and then to try them on in the store’s fitting rooms. You are not required to show the researcher the items you try on. After shopping experience, you will sit in the food court of the Jordan creek mall and fill out a paper and pencil questionnaire. You may skip any questions that you do not wish to answer or that makes you feel uncomfortable.

RISKS

While participating in this study, there are possible risks of falling or loss of balance while trying on clothing at this time from participating in this study.

BENEFITS

If you decide to participate in this study, there may be no direct benefit to you, but this study can provide retailers with information on ways to better serve the older customers.

COSTS AND COMPENSATION

You will not have costs from participating in this study. You will be compensated for participating in this study by receiving a $20 gift certificate.
PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality, the following measures will be taken: You will be assigned a unique code and letter and it will be used on forms instead of your name. The primary investigator will have access to study records and the data will be kept confidentially in password protected computer files. Records will be retained until Dec. 25th in 2014. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study.

- For further information about the study contact Kyungnam Seo (Lina), e-mail address: kyungnam@iastate.edu, Phone: 515-779-4399 or please contact Ann Marie Fiore, professor, 515-294-9303, amfiore@iastate.edu
- IF you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515)294-4566, IRB@iastate.edu, or Director, (515)294-3115, Office for Responsible Research, Iowa State University, Ames, Iowa 50011.

PARTICIPANT SIGNATURE

Yours signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the written informed content prior to your participation in the study.

Participant’s Name
(printed) ________________________________________________

(Participant’s signature) __________________________ (Date)
4. Questionnaire

To complete this survey please reflect on your experience at the fitting room you just visited. Thank you.

**Section1: General information about yourself.**

Please give your year of birth and check the category that best describes you.

1. __Year of birth
2. What is your marital status?  __Single  __Married  __Divorced  __Widow
3. Indicate your highest level of education completed
   __Middle school  __High school  __Vocational school  __College
   __Graduate or professional (e.g., Law or medical) school  __Other
4. Occupation__
   If you currently work outside the home, do you work?  __Full time  __Part-time  __other
5. How do you feel about your financial state?
   1. I do not have enough money to take care of my basic expenses.
   2. I am only able to take care of my basic expenses.
   3. I have sufficient funds to buy something for me, my friends, and my family.
   4. I think I am well off to provide for all my needs and leisure activities.
6. When I shop for clothing and shoes, I frequently shop(You may check more than one)
   __by myself
   __with children
   __with spouse
   __with friends
   __other
7. How many clothing items or pairs of shoes have you bought for yourself during the past 12 months?
   __None
   __One item
   __2-4 items
   __5-7 items
   __8-10 items
   __More than 10 items
### Section 2: Store Image

Think about the following stores. Please read each statement and circle a number between 1 and 5 that reflects how you felt. 1 represents strong disagreement and 5 represents strong agreement with the statement, 3 represents a neutral feeling towards the statement.

<table>
<thead>
<tr>
<th>Store</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Talbots</strong> is a pleasant place to shop.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers an attractive shopping experience.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has a good store image.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has good overall service.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>carries high quality merchandise.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. <strong>Younkers</strong> is a pleasant place to shop.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers an attractive shopping experience.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has a good store image.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has good overall service.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>carries high quality merchandise.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. <strong>TJ Maxx</strong> is a pleasant place to shop.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers an attractive shopping experience.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has a good store image.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has good overall service.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>carries high quality merchandise.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. <strong>Stein Mart</strong> is a pleasant place to shop.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers an attractive shopping experience.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has a good store image.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has good overall service.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>carries high quality merchandise.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. <strong>VonMaur</strong> is a pleasant place to shop.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers an attractive shopping experience.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has a good store image.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>has good overall service.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>carries high quality merchandise.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
### Section 3: Competence level

For each category, please circle the item description that most closely resembles your highest functional level.

#### Ability to Use Telephone
1. __ I operate telephone on own initiative; looks up and dials numbers
2. __ I dial a few well-known numbers
3. __ I answer telephone, but do not dial
4. __ I do not use telephone at all

#### Shopping
1. __ I take care of all my shopping needs independently
2. __ I shop independently for small purchases
3. __ I need to be accompanied on any shopping trip
4. __ I am completely unable to shop for myself

#### Food Preparation
1. __ I plan, prepare, and serve myself adequate meals independently
2. __ I prepare adequate meals if supplied with ingredients
3. __ I heat and serve prepared meals or prepare meals but do not maintain adequate diet
4. __ I need to have meals prepared and served

#### Housekeeping
1. __ I maintain house alone with occasion assistance (heavy work)
2. __ I perform light daily tasks such as dishwashing, bed making
3. __ I perform light daily tasks, but cannot maintain acceptable level of cleanliness
4. __ I need help with all home maintenance tasks
5. __ I do not participate in any housekeeping tasks

#### Laundry
1. __ I do personal laundry completely
2. __ I launder small items, rinses socks, stockings, etc
3. __ All laundry must be done by others

#### Mode of Transportation
1. __ I travel independently on public transportation or drive own car
2. __ I arrange my own travel via taxi, but do not otherwise use public transportation
3. __ I travel on public transportation when assisted or accompanied by another
4. __ I travel limited to taxi or automobile with assistance of another
5. __ I do not travel at all

#### Responsibility for Own Medications
1. __ I am able to take medication in correct dosages at correct time
2. __ I am able to take medication if someone else prepares in advance in separate dosage
3. __ I am not capable of dispensing my own medication

#### Ability to Handle Finances
1. __ I manage financial matters independently (budgets, writes checks, pays rent and bills, goes to bank); collects and keeps track of income
2. __ I manage day-to-day purchases, but need help with banking, major purchase, etc.
3. __ I am incapable of handling money
### Section 4: Dimensions of fitting room and psychic cost

Think about the experience you just had in the fitting room. Please read each statement and circle a number between 1 and 5 that reflects how you felt. 1 represents strong disagreement and 5 represents strong agreement with the statement, 3 represents a neutral feeling towards the statement.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When trying clothing on in the fitting room, I felt that….</td>
<td></td>
</tr>
<tr>
<td>1. the height of the hooks in the fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. the number of hooks in the fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. waiting time to use fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. seating in the room to sit or placing belongings was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. the lighting level was a problem for me when wanting to check price tags, labels, or real color of products.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6. the lighting to check how I looked in the product was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. the width of the doorways was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. the obstacles in the doorway was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. the grab bars in the fitting room were a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10. the door handle was a problem in the fitting room me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. the size of the fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12. the ability to see how I look in mirrors from every angle was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. the flooring material in the fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14. the number of sales associates in the fitting room area was a problem for me when needing advice</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15. the younger age of the sales assistants in the fitting room was a problem for me.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
16. the friendliness of the sales assistants in the fitting room area was a problem for me.

17. the helpfulness of the sales assistants in the fitting room area was a problem for me.

**Section 5: Satisfaction**

Please read each statement and circle a number between 1 and 5 that reflects how you felt about your store experience today. 1 represents strong disagreement and 5 represents strong agreement with the statement, 3 represents a neutral feeling towards the statement. Here are some statements regarding fitting room experience.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the whole, I was satisfied with my experience with this store today.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Overall, my negative experience outweighs/outweighed my positive experience with this store today.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>In general, I was happy with the store experience today.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I was very happy with the products I tried.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>My choice of the products turned out better than I expected.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

**Section 6: Patronage intention**

Please read each statement and circle a number between 1 and 5 that reflects your thoughts about your store experience today. Again, 1 represents strong disagreement and 5 represents strong agreement with the statement, 3 represents a neutral feeling towards the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The likelihood that I would shop in this store is very high.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I would be willing to buy merchandises at this store.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>I would be willing to recommend this store to my friends.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
5. Competence level scoring chart

**Ability to Use Telephone**
1. Operates telephone on own initiative; looks up and dials number 1
2. Dials a few well-known number 1
3. Answers telephone, but does not dial 1
4. Does not use telephone at all 0

**Shopping**
1. Takes care of all shopping needs independently 1
2. Shops independently for small purchases 0
3. Needs to be accompanied on any shopping trip 0
4. Completely unable to shop 0

**Food Preparation**
1. Plans, prepares, and serves adequate meals independently 1
2. Prepares adequate meals if supplied with ingredients 0
3. Heats and serves prepared meals or prepares meals but does not maintain adequate diet 0
4. Needs to have meals prepared and served 0

**Housekeeping**
1. Maintains house alone with occasion assistance (heavy work) 1
2. Performs light daily tasks such as dishwashing, bed making 1
3. Performs light daily tasks, but cannot maintain acceptable level of cleanliness 1
4. Needs help with all home maintenance tasks 1
5. Does not participate in any housekeeping tasks 0

**Laundry**
1. Does personal laundry completely 1
2. Launders small items, rinses socks, stockings, etc 1
3. All laundry must be done by others 0

**Mode of Transportation**
1. Travels independently on public transportation or drives own car 1
2. Arranges own travel via taxi, but does not otherwise use public transportation 1
3. Travels on public transportation when assisted or accompanied by another 1
4. Travel limited to taxi or automobile with assistance of another 0
5. Does not travel at all 0

**Responsibility for Own Medications**
1. Is responsible for taking medication in correct dosages at correct time 1
2. Takes responsibility if medication is prepared in advance in separate dosages 0
3. Is not capable of dispensing own medication 0

**Ability to Handle Finances**
1. Manages financial matters independently (budgets, writes checks, pays rent and bills, goes to bank); collects and keeps track of income 1
2. Manages day-to-day purchases, but needs help with banking, major purchases, etc 1
3. Incapable of handling money 0

Scoring: For each category, circle the item description that most closely resembles the client’s highest functional level (either 0 or 1).

APPENDIX C: OFFICIAL DOCUMENTS FOR MAIN STUDY

Human Subjects Approval
**INSTITUTIONAL REVIEW BOARD (IRB)**

*Application for Approval of Research Involving Humans*

**Title of Project:** Analysis of fittingroom environments: Effects on older clothing shoppers' patronize intention.

**Principal Investigator (PI):** Kyungnam Seo  
**Degrees:** PhD

<table>
<thead>
<tr>
<th>University ID</th>
<th>Phone</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>58524056515</td>
<td>515-779-4399</td>
<td><a href="mailto:kyungnam@iastate.edu">kyungnam@iastate.edu</a></td>
</tr>
</tbody>
</table>

**Department:** Apparel, Events & Hospitality Management  
**College/Center/Institute:** The College of Human Sciences

<table>
<thead>
<tr>
<th>PI Level</th>
<th>Visiting Faculty/Scientist</th>
<th>Extension to Families/Youth Specialist</th>
<th>Other (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured, Tenure-Eligible, &amp; NTER Faculty</td>
<td>Tenured, Tenure-Eligible, &amp; NTER Faculty</td>
<td>Tenured, Tenure-Eligible, &amp; NTER Faculty</td>
<td>Tenured, Tenure-Eligible, &amp; NTER Faculty</td>
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<tr>
<td>Adjunct/Affiliate Faculty</td>
<td>Adjunct/Affiliate Faculty</td>
<td>Adjunct/Affiliate Faculty</td>
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</tr>
<tr>
<td>Collaborator Faculty</td>
<td>Collaborator Faculty</td>
<td>Collaborator Faculty</td>
<td>Collaborator Faculty</td>
</tr>
<tr>
<td>Emeritus Faculty</td>
<td>Emeritus Faculty</td>
<td>Emeritus Faculty</td>
<td>Emeritus Faculty</td>
</tr>
<tr>
<td>Senior Lecturer/Assistant Professor</td>
<td>Senior Lecturer/Assistant Professor</td>
<td>Senior Lecturer/Assistant Professor</td>
<td>Senior Lecturer/Assistant Professor</td>
</tr>
<tr>
<td>Lecturer/Assistant Professor, Ph.D. or DVM</td>
<td>Lecturer/Assistant Professor, Ph.D. or DVM</td>
<td>Lecturer/Assistant Professor, Ph.D. or DVM</td>
<td>Lecturer/Assistant Professor, Ph.D. or DVM</td>
</tr>
<tr>
<td>P&amp;S Employee, P3T &amp; above</td>
<td>P&amp;S Employee, P3T &amp; above</td>
<td>P&amp;S Employee, P3T &amp; above</td>
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**FOR STUDENT PROJECTS** (Required when the principal investigator is a student)

<table>
<thead>
<tr>
<th>Name of Major Professor/Supervising Faculty</th>
<th>Phone</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Ann Marie Fiore</td>
<td>515-294-1102</td>
<td><a href="mailto:amfiore@iastate.edu">amfiore@iastate.edu</a></td>
</tr>
</tbody>
</table>

**University ID:** 02305680911  
**Campus Address:** 1062 LeBaron Iowa State University  
**Department:** Apparel, Events & Hospitality Management

**Type of Project (check all that apply):**  
- Thesis/Dissertation  
- Class Project  
- Other (specify: )

**Alternate Contact Person:** Mangil Seo  
**Correspondence Address:** 805 50th St. West Des Moines, IA50265  
**Phone:** 515-360-9022

**ASSURANCE**

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
- I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
- I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
- I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
- I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.

**Signature of Principal Investigator**  
**Date:** 5/2/12  
**Signature of Major Professor/Supervising Faculty**  
**Date:** 5/2/12

**Signature of Department Chair**  
**Date:** 5/2/12

**For IRB Use Only**  
**Full Committee Review:**  
**EXPEDITED per 45 CFR 46.110(b):**

<table>
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<td>Approval</td>
<td>Determination</td>
</tr>
<tr>
<td>Date: 5/25/12</td>
<td>Date: 5/25/12</td>
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</tbody>
</table>

**Not Research:**  
**EXEMPT per 45 CFR 46.101(b):**

<table>
<thead>
<tr>
<th>Not Approved:</th>
<th>Risk: Minimal</th>
<th>More than Minimal</th>
</tr>
</thead>
</table>

Office for Responsible Research  
Revised: 08/30/11
BIBLIOGRAPHY


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Shoppers notice lighting (2007, March). *Chain Store Age, 84*(3), 106B.


congruent ambient scent influences on approach and avoidance behaviors in a retail store. 


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Sincere thanks to my parents, for instilling in me the value of education and teaching. I wish to extend my sincere thanks to all my lovely children and their spouses, Sook, Sajid, Eugene, Eva, Jane, Jeff, Jason, Daniel, and Grace for their endless love and encouragement. And my grandchildren, Suleiman, Linus, Loewy, Lily, and Zoya for bringing me a great deal of enjoyments and happiness.

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I thank my Lord, Jesus Christ, for allowing me to finish this long academic journey.