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This study explored how plus-size female consumers perceive their bodies and themselves, how their body-esteem and self-concept may influence involvement with clothing, and how these factors may impact their perceptions of the importance of plus-size store attributes. A preliminary qualitative study of in-depth interviews with four retailers of plus-size apparel and three plus-size consumers was conducted, followed by a quantitative survey study that included sixty female plus-size consumers living in southeastern region of U.S. Results of the hypothesis testing revealed only one significant relationship between plus-size consumers' clothing involvement and perceived importance of store attributes—which was merchandise quality. No significant relationships were found between clothing involvement and the other four store attributes (merchandise price, merchandise assortment, responsiveness of sales personnel, and store display). The results did indicate, however, that consumers' body-esteem and self-concept significantly affect their perceptions of merchandise quality, responsiveness of sales personnel, and store display.

THE U.S. PLUS-SIZE FEMALE CONSUMER: SELF-ERCEPTION,
CLOTHING INVOLVEMENT, AND THE IMPORTANCE
OF STORE ATTRIBUTES

by

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CHAPTER I

INTRODUCTION

Chapter I presents eight major sections: (1) The Worldwide Problem of Obesity; (2) The Impact of Obesity and Overweight; (3) Apparel and Obesity: The Plus-size Apparel Market (4) Research Leading to This Study; (5) Gaps in the Literature; (6) Research Questions; (7) Research Objectives; and (8) Definition of Key Terms

The Worldwide Problem of Obesity

Around the Globe

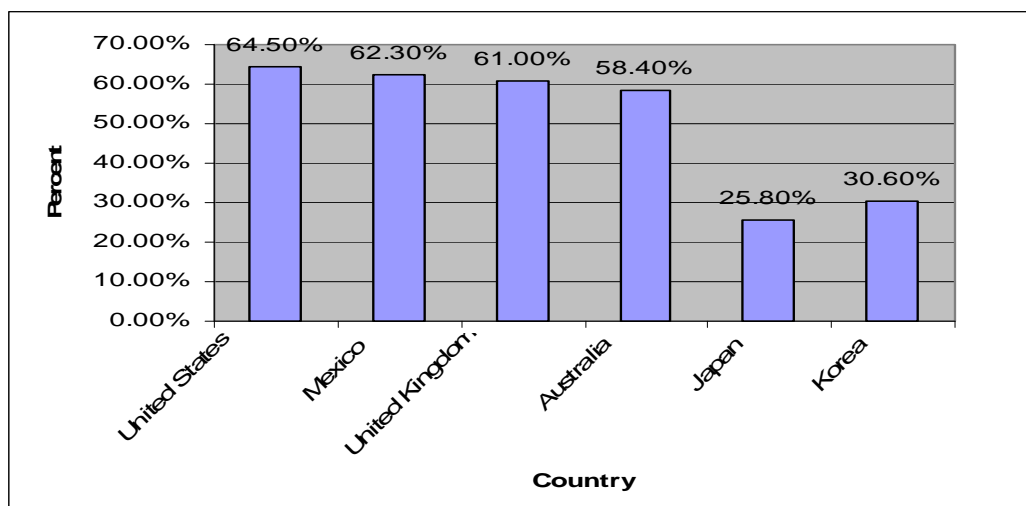
Obesity is a growing problem. Data from the World Health Organization (WHO) indicated that obesity is spreading around the world as a “global epidemic” termed “globesity” (WHO, 2004). Overweight and obesity in adult populations and individuals are commonly classified by the Body Mass Index (BMI), which is recognized as a reliable indicator of body fatness for most people (Centers for Disease Control and Prevention (CDC), 2007). Overweight is generally considered to be a BMI between 25 and 29.9, while obese is generally considered to be a BMI over 30 (CDC, 2007). Worldwide in 2005, there were approximately 1.6 billion adults (age 15+) that were overweight, with at least 400 million of them classified as clinically obese. It is projected that approximately 2.3 billion adults will be overweight and more than 700 million will be classified as obese by 2015 (WHO, 2006). The problem of overweight and obesity is widespread in most industrialized countries, and it is now dramatically on the rise in developing countries, particularly in urban settings (WHO,

2006). Obesity rates have raised three-fold or more since 1980 in some areas of North America, the United Kingdom, Eastern Europe, the Middle East, the Pacific Islands, Australasia and China (WHO, 2004). Around the globe, the United States has the highest percentage of obese and overweight people (64.5%). Mexico (62.3%), the United Kingdom (61%), and Australia (58.4%) follow close behind. The lowest percentages are recorded in Japan (25.8%) and Korea (30.6%) (see Figure 1.1).

Figure 1.1 represents obese and overweight rate in selected countries.

Figure 1.1.

Obese and Overweight in Selected Countries, 2004



Note. The data are from “Obesity: Economic Dimensions of a ‘Super Size’ Problem,” by Maria L. Loureiro, 2004, *Choices Magazine*, 3rd Quarter, 2004.

In the United States

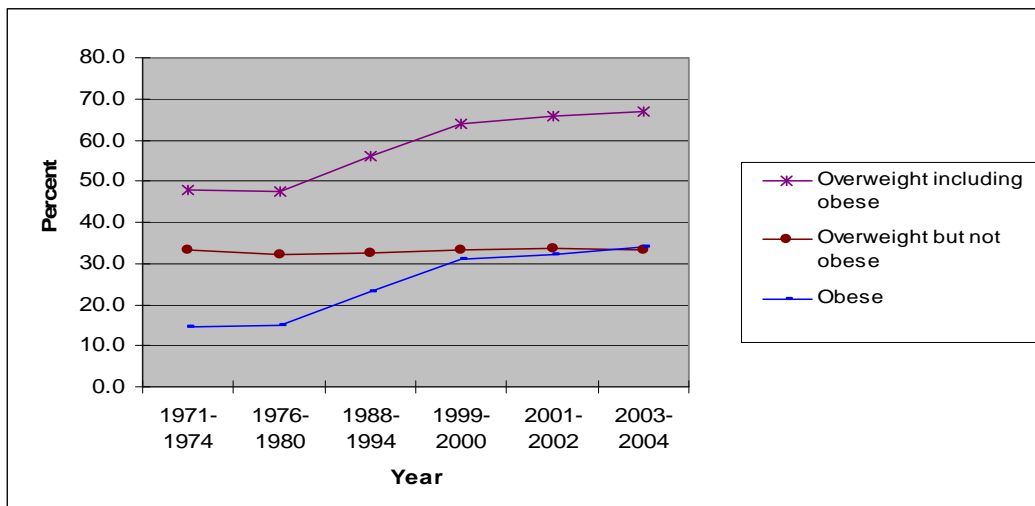
As shown in Figure 1.1, the prevalence of obesity in the United States is higher than in most parts of the world (Goel, McCarthy, Phillips, & Wee, 2004). Nationally, representative data and numerous studies document an epidemic proportion of overweight and obesity in the US population and the numbers have

continued to rise at alarming rates in the past 20 years (Kuczmarski, Flegal, Campbell, & Johnson, 1994). Specifically, findings from the 1988–1994 and 1999–2004 National Health and Nutrition Examination Surveys (NHANES) showed substantial increases in overweight among adults. The upward trend in overweight since 1980 reflects primarily an increase in the percentage of adults 20–74 years of age who are obese. In 2003–2004, 67% of adults in that age group was overweight with 34% obese (age adjusted) (see Figure 1.2).

Figure 1.2 represents the trends in overweight and obesity among U.S. adult.

Figure 1.2.

Trends in Adult Overweight and Obesity, 20-74 years of age: United States, 1971-2004



Note. The data are from National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, 2007.

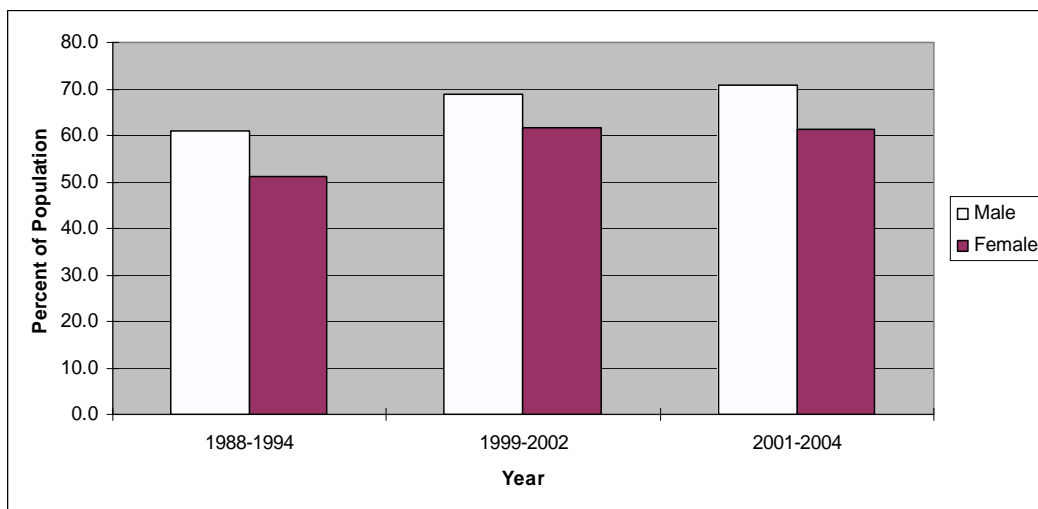
For children (6–11 years of age) and adolescents (12–19 years of age), the percentage of whom are overweight has more than tripled since 1980 (CDC, 2006). In

2003–2004, 17%–19% of children and adolescents were overweight (CDC, 2006). In terms of gender, more adult women 20-74 years of age are obese (34 percent) than men (30 percent) from 2001-2004 (CDC, 2006) (see Figure 1.3 and 1.4).

Figure 1.3 and 1.4 represents overweight and obesity among U.S. females and males from 1988 to 2004.

Figure 1.3.

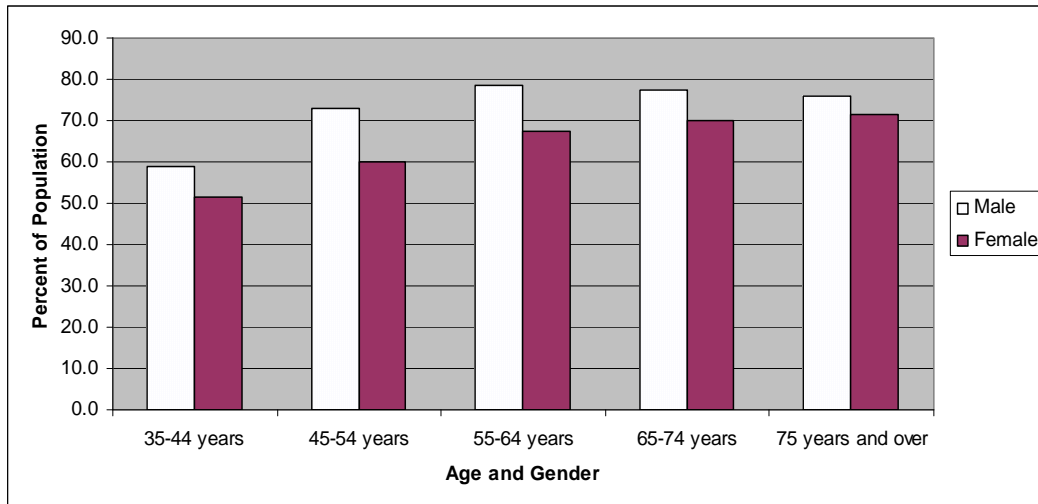
Overweight and Obesity among person 20-74 years of age, by sex: United States, 1988-1994 through 2001-2004



Note. The data are from National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, 2007.

Figure 1.4.

Overweight and Obesity by gender and age groups: United States, 2001-2004



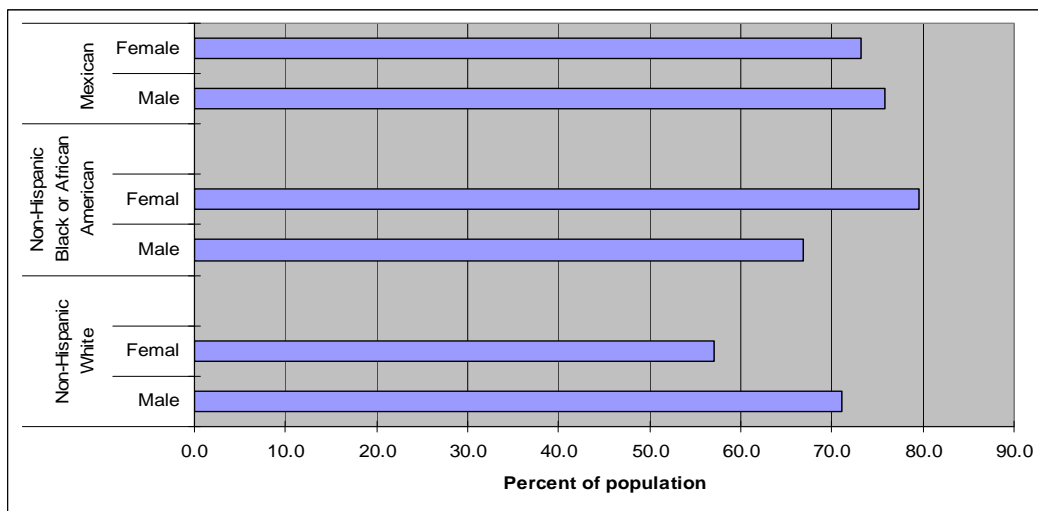
Note. Data are from National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. 2007.

The prevalence of obesity among women has differed significantly by racial and ethnic group. In 2001–2004, one-half of non-Hispanic black women were obese compared with nearly one-third of non-Hispanic white women. In contrast, the prevalence of obesity among men was similar by race and ethnicity (CDC, 2006) (see Figure 1.5).

Figure 1.5 represents overweight and obesity among adults within different ethnic groups.

Figure 1.5.

Overweight and Obesity among persons 20-74 years, by race and gender: United States, 2001-2004



Note. The data are from National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, 2007.

The Impact of Obesity and Overweight

Impact on Health

Obesity and overweight are associated with serious health and economic consequences. For example, the problems of obesity and overweight now are believed to be major influences relative to disability and chronic disease globally. More specifically, overweight and obese individuals tend to have a much higher risk for certain health problems, including hypertension (high blood pressure), osteoarthritis (a degeneration of cartilage and its underlying bone within a joint), dyslipidemia (for example, high total cholesterol or high levels of triglycerides), type 2 diabetes, coronary heart disease, stroke, gallbladder disease, sleep apnea, other respiratory

problems, and even some cancers (endometrial, breast, and colon) (CDC, 2006). As a consequence, these diseases lead to increased risk of premature death (WHO, 2006).

Impact on Economics

The problem of overweight and obesity also implies significantly economic burdens to the society as well as individuals. The subsequent increased need for health care for overweight and obese people impacted on the U.S. health care system economically (USDHHS, 2001), both for the individuals involved and for the public at large. The costs related to obesity such as morbidity and mortality as well as preventive, diagnostic, and treatment services take a large proportion of medical expenditures (CDC, 2007). Research found that increases in obesity prevalence alone account for 12 percent of the growth in health spending (Thorpe, Florence, Howard, & Joski, 2004). In addition, these costs have been associated with more use of health care resources (Goel et al., 2005). According to some recent studies of national costs attributed to both overweight and obesity, it is estimated that the excess costs attributable to overweight and obesity are between 4% and 9% of total U.S. medical expenditures (Finkelstein, Fiebelkorn, & Wang, 2003; Goel et al., 2005). A study by CDC found that obese and overweight Americans racked up about \$75 billion in weight-related medical bills in 2003 (Hellmich, 2005).

At the individual level, the overweight people are affected financially as a result of weight-related expenses. It is indicated by many studies have indicated that losing or gaining weight has a direct relationship with losing or gaining wealth (for example, Wolf & Colditz, 1998; Thompson & Wolf, 2001; etc.). In 1987, obese adults with private health insurance spent \$272 more per year on healthcare than did normal-

weight adults. By 2002, that difference had increased to \$1,244 (56%) per person per year (Healthology, 2007). Private health insurance spending on illnesses related to obesity itself has increased more than tenfold since 1987. Overall, employers and privately insured families spent \$36.5 billion on obesity-linked illnesses in 2002, up from an inflation-adjusted \$3.6 billion in 1987. That's up from 2% of total health care spending on obesity in 1987 to 11.6% in 2002 (Hellmich, 2005).

Impact on Quality of Life

In addition to the negative financial impact that excess weight carries, there are also significant impacts on the quality of life by being overweight or obese. People who are severely overweight may have difficulty performing simple daily tasks, such as tying their shoes or walking up a flight of stairs (Healthology, 2007). “Larger” sized people often find it difficult to use the products that have been designed for “normal” sized individuals. For example, many obese people have trouble sitting in standard furniture or fitting in airplane or movie theater seats. They must deal with the fact that airline seat belts are too short for them; most bathroom scales can't weigh them, bath towels are too small; clothes fit too tight; and life jackets may not fit at all. Increasing number of companies are making bigger products for America's bigger people, customizing everything from caskets to seat belts. Businesses ranging from car manufacturers to clothing retailers recognize that big people are big business (Sanders, 2007). In automobile industry, the wider profile of the U.S. buyer is cited as one reason that SUVs and other so-called light trucks outsold passenger cars in 2002. In furniture industry, although the trend has not been directly linked to the fattening of America, between 1997 and 2001 the U.S. market

share for queen-size mattresses has grown from 31% to 34%, while king sizes (76 in. across) have claimed an 8% share, up from 6% (Intel, 2007). Medical equipment industry are benefiting directly from the increase in obesity as equipment manufacturers that cater to the bariatric market — a branch of medicine that treats the severely obese. Among travel and entertainment companies, Southwest Airlines, for example, enforced a long-standing policy of requiring the obese to buy an extra seat based solely on the judgment of staff at the check-in counter that a particular passenger wouldn't fit in a single seat (Kher, 2003).

Apparel and Obesity: The Plus-size Clothing Market

Plus-size Market

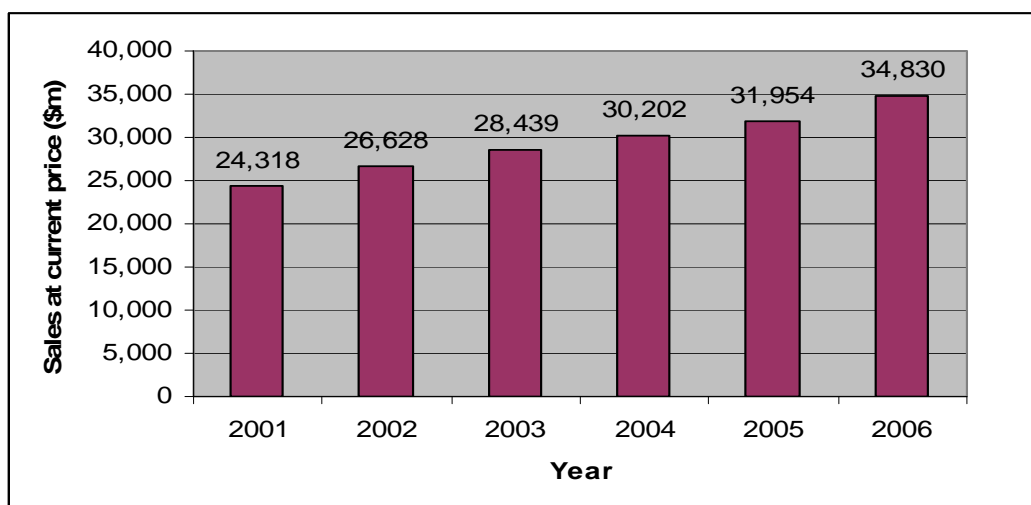
The plus-size clothing market should present a very attractive proposition to both marketers and retailers, accordingly with the rise in obesity in America. According to Marketdata Enterprises Inc. estimates, the plus-size market was worth more than \$29 billion in 2000, with 99 percent of that related to clothing (Slater, 2006). In 2005, nearly \$32 billion were spent on plus-size clothing (Todd, 2006). It was documented that plus-size clothing sales grew an average of 9.7 percent per year from 1996 to 2000 (Slater, 2006). The market for women's plus size apparel has been the fastest growing segment in women's apparel industry for the past several years (Aaron and Stoner, 2001). The plus-size market is tipping the scale at \$ 17.1 billion a year by 2001, a 22.2 percent increase in one year, compared to 2.1 percent growth in the overall women's apparel market between 1999 and 2000 (Fetto, 2001). Between 2000 and 2005, the plus-size segment experienced an increase of 47% as compared to 2% growth for the overall women's clothing market, and it is predicted to continue to

increase 32% at current prices from 2005-2010 (Mintel, 2007). Indeed, the total women's clothing market fell at about 2% annually between 2000 and 2005 after adjusting for inflation, while the plus-size market averaged growth of more than 4% annually. Plus-size sales in 2005 were \$31,954 million, compared to \$77,100 million for all women's clothing or 41.4% of the total market sales and the plus size apparel market was worth almost \$35 billion in 2006 (Mintel, 2007). Together, plus-size clothing for women and girls and big & tall clothing for men and boys rocketed to \$76 billion at retail, a 9% increase rate in 2006, or over a 5% increase in constant dollars. By 2012, plus-size/big & tall clothing sales could shatter the \$100 billion mark, estimated by Mintel (2007). Total U.S. sales of plus-size clothing are predicted to increase 37% at current prices and to increase 15% at constant prices from 2006 to 2011 (Mintel, 2007).

Figures 1.6 illustrates the sales of plus size clothing between 2001 and 2006.

Figure 1.6.

Sales of Plus-size Clothing, at current prices, 2001-2006

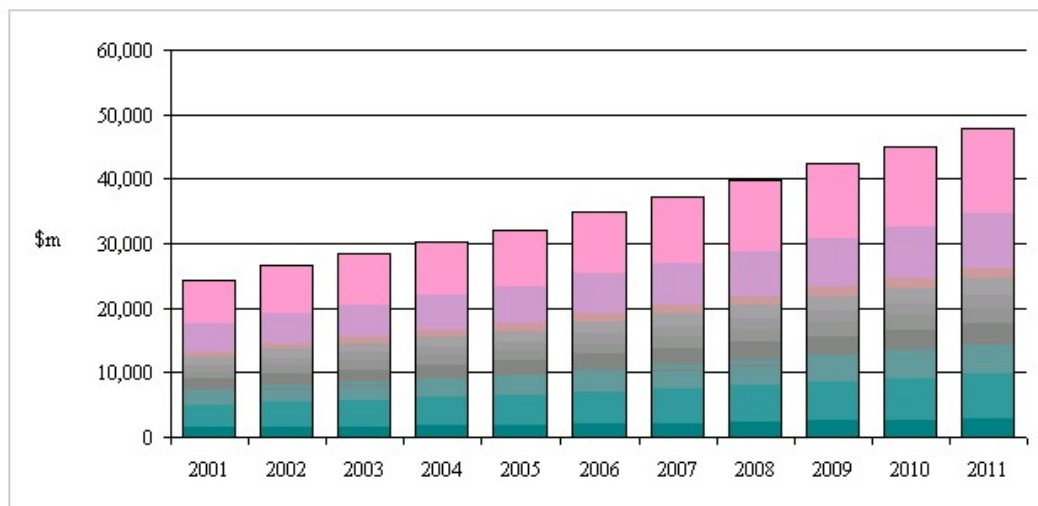


Note. The data are from Mintel, 2007; *Adjusted for inflation using the All Items CPI.

Figure 1.7 represents the previous and forecast of the total U.S. sales of plus-size clothing at current prices from 2001 to 2011.

Figure 1.7.

Previous and Forecast of Total U.S. Sales of Plus-size Clothing, at current prices, 2001-11



Note. The Graph is from Mintel, 2007. * Adjusted for inflation using the All Items CPI.

It was anticipated that the strongest growth opportunities in women's plus size apparel exists in the following niche markets: trendy and fashion-forward apparel; upscale and high quality business apparel for professional women; Special sizes – plus size petites and super sizes; Juniors' plus sizes; and Intimate apparel (Aaron and Stoner, 2001).

Plus-size Retailers

Several retailers such as Casual Male, Charming Shoppes (Lane Bryant), Jones Apparel Group, Kellwood, Sara Lee (JustMySize) are paying more attention to

the needs of plus-size female customers. For example, Lane Bryant, the nation's largest women's plus-size specialty apparel retailer, added Cacique, a store devoted to lingerie for plus-sized women in 2006 (“Lane Bryant begins”, 2006).

Several Internet companies, such as alight.com (e-tailer) and plusstop.com, have emerged to cater exclusively to the plus size customer (a shopping portal for plus size women) (Aaron et al., 2001). Other key plus-size clothing retailers online including: bigonbatik.com (1996), junonia.com (1999), igigi.com (2000), sizeappeal.com (2000), and zaftique.com (2001) (numbers in parentheses indicate the year the online company began) (Mintel, 2007).

Some of today's market leaders of plus-sizes have had great gains by catering to this customer with improved service and with expanded arrays of plus-size fashion merchandise. For example, to make it easier for customers to find their size, Fashion Bug has launched a Web site that offers plus-size apparel that is also available in its Fashion Bug Plus stores. It also offers the company's new plus-size maternity wear—serving the current baby boom—in sizes up to 3X (Fashion Bug is a division of the leading plus-size retailer Charming Shoppes, also the parent company of Lane Bryant) (“service, options”, 2004). Abby Z., a contemporary line catering to big women with fashion oriented offerings was opened in 2004 (Zeveloff, 2004). Forth & Towne, Gap’s fourth brand which opened in 2005, carries fashionable items for women up to size 20. Torrid, owned by Hot Topic, offers trendy clothing for plus-size juniors. Fashion to Figure, a plus-size, moderately-priced retailer, offers approximately 50 trend-right brands to choose from (Nolan, 2006).

Table 1.1 presents the number of stores owned by major U.S. plus-size retailers.

Table 1.1.

Number of Stores of Plus-size Retailers, 2001-2006

Retailer or brand Brick-and-mortar stores:	2001	2002	2003	2004	2005	2006
Lane Bryant	647	689	710	722	748	800+
The Avenue	555	553	533	514	500	485
Catherine's Plus Size	461	467	466	471	463	460
Pure Color	-	-	-	-	<250	250
Torrid	-	48	52	76	120	125+
Mu	-	-	-	-	<75	75
Cacique	-	-	-	-	-	50
Liz Claiborne (Elisabeth)	44	36	32	30	30	32
Igigi	-	-	-	-	-	1
Old Navy Plus (in- store boutiques)	-	-	-	55	NA	NA
Approximate Total	1,707	1,793	1,793	1,868	2,184	2,278

Note. The data are from Mintel, 2007.

However, despite the growing awareness of the attractiveness of the plus-size consumer, a large proportion of the plus-size market remains underserved in a variety of ways (Mintel, 2006; Chowdhary and Beale, 1988; Aaron et al., 2001).

Plus-size Consumer

According to CDC, around 68.8 million or 62% of women over 18 years of age were overweight or obese in 2002, the culmination of an approximate 11.5 million increase in the number of obese women from 1994 to 2002 (Mintel, 2006). The NPD Group estimates that 60% of American women wear a size 12 or larger, while 50% of the adult female population is now wearing a size 14 or larger and nearly one-third wears size 16 or larger in 2001 (Aaron et al., 2001). It is estimated that more than 30% of the female population purchases at least some plus-size clothing items (Todd, 2006) and the typical plus-size woman spent an average of \$932 on clothing in 2000 (Slater, 2006). According to a spring 2006 survey conducted by Simmons Market Research, women over 35 are the most likely to buy plus-sized apparel (Nolan, 2006).

In term of ethnicity of plus-size consumers, research found that Black and Hispanic women are likely to be the prime consumers for plus-size clothing because they are more likely to be overweight or obese than other ethnic groups (Mintel, 2006). Another reason may be the growing population of these groups. For example, nationally, the black population is projected to grow 29.9 percent from 1990 to 2009, compared with 12.1 percent for whites and 23.7 percent for the total population (Lee, 2005). However, African-American plus-size consumers felt they have been largely ignored by the fashion industry and retailers, which have never fully addressed their needs for fit, wider size ranges or preference for dressier, more put-together looks. They complain that predominantly black neighborhoods have far fewer retail offerings than white areas (Lee, 2005).

In terms of general plus-size consumers' preference for plus-size clothing, size, fit, and style seems are the most dissatisfied area (Choudhary et al., 1988; Kind and Hathcote, 2000; Mintel, 2006 & 2007). For example, a study by the North Carolina State University has found that the fashion industry is ignoring the changing shapes of women's bodies. Similarly, a study conducted by KRC Research for Kohl's Department Stores found that among the 1,000 women surveyed, 63% of plus-size women believe the industry is doing a fair or poor job of offering apparel to fit their body type ("At Kohl's", 2005). Kind and Hathcote (2000) concluded that dissatisfaction was greatest among the large-size group when studying size availability, pricing, colors, style selection and fit. The available clothes were sometimes considered "matronly" implying that the clothes were perceived to be for older women (Otieno, Harrow and Lea-Greenwood, 2005). Besides, Mintel research noticed that plus-size females are becoming more aware of shopping for clothes to flatter their figures rather than hiding their full curves (Aaron et al., 2001). Thus, there is a strong opportunity exists for companies that offer affordable, fashionable, quality merchandise to this customer.

However, "the problem may not lie solely with the variety of sizes and styling on offer but, more importantly, with their role in providing overall fashion content, fit and the shopping environment" (Otieno et al., 2005). Half of the women in the survey conducted by Mintel research feel that retailers have a long way to go in order to serve plus size women. Respondents (especially the younger consumers) were dissatisfied with the shopping experience because they cannot find the "cute" and fit clothes that like those in regular sizes. Another issue is the concerned with store

location (in an inconvenient area) when shopping for plus size clothing indicated by over a third respondents (Mintel, 2007).

In terms of store patronage behavior, more plus-size consumers would like to purchase plus-size clothing at mass merchandisers such as Wal-Mart and Target (Mintel, 2007). Plus size women disproportionately prefer to shop for apparel via direct sales channels – both catalogs and the Internet (Aaron et al., 2001). It also has been found that women with higher incomes are less likely to purchase plus-size clothing than those with lower incomes (Mintel, 2007).

Research Leading to This Study

Literatures regarding body self-image, clothing, and retail store were reviewed in order to guide this study to understand plus-size consumer better.

In western society, the idea of ideal female beauty has included a thin, less-rounded body (for example, Cash & Henry, 1995; etc.); thinness becomes a standard of beauty in Western nations (Bruch, 1978). Garner, Garfinkel, Schwartz, & Thompson's (1980) study found a significant trend toward a thinner standard of cultural expectations for women. As a result, females in western cultures maintain a body ideal that is thinner than their current body (Nelson & Gidycz, 1993) and overestimate the degree to which other males and females prefer women who are thinner (Cohn & Adler, 1992; Jacobi & Cash, 1994).

Women's adoption of a "thin ideal" in judging themselves and others is mainly influenced by the presentations of ultra thin individuals by mass media (Wedell, Santoyo, & Pettibone, 2005; Henderson-King & Henderson-King, 1997). Some empirical studies noticed that the media in Western countries have portrayed a

steadily thinning female body ideal (Stice & Shaw, 1994). Those media, particularly fashion advertisements, provide images of an unattainable “ideal,” and that these images may have a cumulative effect on women’s satisfaction with their appearance. For example, several studies have documented an increasingly pervasive body discontent among American females, especially Caucasians (Cash & Green, 1986; Cash & Henry, 1995; Rosenblum & Lewis, 1999). Because of the widespread phenomenon of high levels of dissatisfaction with the body, the average young women can be said to exist in a state of “normative discontent” and adolescents are found place more importance on and feel more negatively about their bodies than older Americans (Cash, Winstead, & Janda, 1986; Cash & Pruzinsky, 1990).

The social and societal pressures to be thin that many women experience are widely believed to negatively affect their body image and females tend to have more negative body self-images and express greater dissatisfaction than males about their physical attributes with respect to body weight (Cash, et al., 1986; Cash et al., 1990; Levinson, Powell, & Steelman, 1986). Overweight women reported more negative body-image affect and self-perceptions associated with both weight and overall appearance than regular weight women (Cash et al., 1986; Cash & Hicks, 1990; O’Connor & Dowrick, 1987) and they were significantly more dissatisfied with the appearance of their bodies than women from other weight categories (Cash et al., 1986).

Multiple studies have found that overweight children, adolescents, and adults generally have lower body-esteem than do their normal-weight peers (for example, Hendry & Gillies, 1978; Mendelson & White, 1982, 1985; Stunkard & Mendelson,

1967; etc.), and this is especially true for female individuals (Dwyer, Feldman, Seltzer, & Mayer, 1969; Gray, 1977; Mendelson & White, 1985; Miller, Coffman, & Linke, 1980). In terms of self-esteem, research found that obese white women have much lower self-esteem compared to white women of average weight (Jourard, 1958; Averett & Korenman, 1999). Erikson (1968) also characterized the body as a source of identity and self-concept. The basic purpose of all human activity is the protection, the maintenance, and the enhancement of the self-concept or symbolic self (Grubb & Edward, 1965). In this regard, a consumer may buy a product because he feels that the product enhances his own self-image. Similarly, a consumer may decide to buy a product or to shop at a particular store if he feels that these actions are consistent with his own perceptions of himself (Britt & Steuart, 1966). Multiple studies can be found investigating consumers' self-concept (for example, Rosenberg, 1979; Sirgy, 1982; Belch, 1987; etc.), with some focus on its relations with shopping behavior (Gutman & Mills, 1982; Landon, 1974; Malhotra, 1981).

Clothing, as the second skin and extended self (Belk, 1988; Horn, 1975) represents an important symbolic consumption (Otieno et al., 2005). Bodily appearances were said to be transfigured with the use of clothing since fashion clothing is highly related to feelings of esteem, self image and worth (Labat & Delong, 1990; Stanforth & Lennon, 1998; Horn, 1975; Belk, 1988). Considerable research are conducted in understanding how individuals maintain or enhance their self-esteem by consuming the symbolic meanings of products and brands (Banister & Hogg, 2004). For example, it is believed that a change in dress can result in a change in attitude toward body and the self (Jourard, 1958). Specifically, Sontag and

Schlater (1982) stated that clothing may compensate for body dissatisfaction and that body satisfactions or dissatisfactions may be translated to clothing and affect self-esteem (Shim, Kotsiopoulos, & Knoll, 1991). Also, Chattaraman and Rudd (2006) indicated that the act of clothing one's body provides aesthetic pleasure to the individual through the experience, allows individuals to minimize the discrepancy between cultural beauty ideals and their perceived appearance, and leads to better self-image and stronger self-esteem. Self-concept research also suggests that fashion consumption is often a manifestation of self image. In turn, Kaiser (1990) indicated that self-feelings about the body play a major role in clothing preferences and attitudes. What's more, clothes and fashion appear to play a more prominent role for women's self-definition and gender identity than for men's (Gould & Stern, 1989; Solomon, 1989).

At last, Fairhurst, Good, & Gentry (1989) stated that "given the importance of shopping to the selection of apparel, one would also expect the strength of one's beliefs about store attributes to vary directly with apparel involvement" (p. 11).

Gaps in the Literature

There have been several studies on obesity, but limited research on obesity related to the fashion field (Black & Boylan, 2000); more research need to be done to clarify the nature of the relationship between body perceptions and usage of clothing (Kaiser, 1990).

Clothing involvement has been investigated in segmentation studies of tuxedo customers (May, Shim & Kotsiopoulos, 1992) and big and tall men (Shim & Kotsiopoulos, 1991), however, no such studies regarding plus-size female consumers

could be found in the literature.

Otieno and colleagues' (2005) study investigated satisfaction/dissatisfaction with the fashion provision and shopping environments for plus women (specifically display and changing rooms) in the United Kingdom, however, few studies have investigated the important retail store attributes perceived by U.S. plus-size female consumers.

At last, few studies were found to investigate the relationships among body-esteem, clothing involvement, and perception of retail store attributes by plus-size consumers.

Research Questions

In response to the gaps in literature, this study sought to explore plus-size female consumers' body self feelings in relation to clothing interest, as well as their clothing interest's effects on perception of plus-size retail stores. Specifically, this study sought to understand better how they perceive their bodies and general self, and whether the perceptions are related to their involvement with clothing, which may impact their perceptions of store attributes of plus-size consumers. The study was an exploratory study on plus-size female apparel shoppers in all age groups.

Specific Research Questions

1. How does plus-size consumer perceive her body and self?
2. How are body-esteem and general self-concept related to the involvement with clothing of plus-size female consumers?
3. How does clothing involvement impact perceptions of important retail store attributes of plus-size female consumers?

Research Objectives

The objectives of this research centered on the body-esteem and self-concept of plus-size female shoppers, their involvement with clothing, their perceptions of important store attributes, and the relationships among these variables. Three main stages were conducted in this study:

1. To do an in-depth review of the relevant literature, including self-concept concept and theory, concepts of self-esteem and body-esteem, involvement theory, and store image.
2. To explore psychological characteristics regarding body and self in relations to clothing, as well as their shopping behavior by preliminary qualitative study.
3. To focus specifically on the relationships among variables in interest by quantitative survey study. Following demographic variables such as weight/height, ethnicity, age, income, education, and marital status were included in the survey.

Definition of Key Terms

For the purpose of this study, terms and concepts were defined as follows

- Body-esteem:** “Refers to self-evaluations of one’s body or appearance.”
(Mendelson and White, 2001, p. 1), which is a dimension of general self-esteem (Franzoi & Shields, 1984).
- Body-image** The “image of our body which we form in our mind-the way in which our body appears to ourself” (Schonfeld, 1969, p. 42)
- Body Mass Index (BMI):** A number calculated from a person’s weight and height. BMI

provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems (CDC, 2006).

Calculation formula: $BMI = \frac{\text{weight (lbs.)}}{\text{height (in.)}^2} \times 703$ (U.S. Department of Health and Human Services, CDC, National Center for Health Statistics, 2006).

Involvement: The degree of interest of a person in an object (Mittal, 1989).

Overweight and Obesity: Labels for ranges of weight that are greater than what is generally considered healthy for a given height” and “that have been shown to increase the likelihood of certain diseases and other health problems”. For adults, BMI between 25 and 29.9 is considered overweight and BMI of 30 or higher is considered obese (CDC, 2006).

Plus-size: An extra large or oversize clothing size, especially one for women's or children's clothing. It also refers to a garment of such a size (thefreedictionary.com).

Plus-size women: The plus-size women are defined as larger figure types at size 16 and larger corresponding to Misses (Ashdown, 1998).

Self-concept: In general, is a person’s perception of him/her-self (Shavelson, Hubner, and Stanton, 1976). “These perceptions are formed

through experience with, and interpretations of, one's environment. They especially are influenced by evaluations by significant others, reinforcements, and attributions for one's own behavior" (Marsh, 1990).

Self-esteem: "A global self-reflexive attitude addressing how one feels about the self when it is viewed as an object of evaluation" (Campbell, 1990).

Store Attributes: Dimensions of store image (Hansen and Deutscher, 1977-1978).

Store image The personality of the store and the manner in which the store was represented in a person's mind (Martineau, 1958).

CHAPTER II

LITERATURE REVIEW

In developing the theoretical and literature framework for this study, Chapter II presents the following sections: (1) Self-concept; (2) Self-esteem and Body-esteem; (3) Involvement (including involvement of consumers' perspective); (4) Retail Store Attributes; and (5) Hypotheses Development.

Self-concept

Self-concept is a recognized construct in psychology and has been used widely in many disciplines (Marsh, 1990). Understanding consumer's self-concept is very important for investigating the characteristics and shopping activities of consumers because many purchases made by consumers are directly influenced by how the individual sees him/herself (Onkvisit and Shaw, 1987). Kalish (1975) defined self-concept as the total image one has of oneself, containing one's actual experiences and the interpretations of those experiences. Shavelson and colleagues (1976) conceptualized self-concept as a person's perceptions of him/her self formed through interactive experiences with the environment rather than as an entity within one's self. Kaiser (1997) described self-concept as the global perception of who one is. In general, most consumer researchers have accepted the definition of self-concept as the totality of the individual's thoughts and feelings having reference to himself as an object (Rosenberg, 1979; Sirgy, 1982). Consumers' different self-perceptions are found to be associated with varying patterns of consumer behavior. Thus, self-concept

can be used as a meaningful mode of market segmentation (Grubb & Grathwohl, 1967).

Self-concept Construct

The self-concept construct has been developed over time and is viewed as a multidimensional construct. According to Sirgy (1979 & 1980) self-concept has four components: actual self-concept, ideal self-concept, social self-concept, and ideal social self-concept. The actual self-concept dimension is the image of oneself, while the ideal self-concept dimension is the image one would like to be (Belch & Landon, 1977; Delozier & Tillman, 1972; Dolich, 1969). The social self-concept dimension is the image that one believes others hold, while the ideal social self-concept dimension refers to the images that one would like others to hold (Sirgy, 1982).

Self-concept has been studied from a number of points of view. For example, psychoanalytic theory views self-concept as a self-system inflicted with conflict; behavioral theory construes the self as a series of conditioned responses; organism theory treats the self in functional and developmental terms; phenomenology views the self in a holistic form; cognitive theory represents the self as a conceptual system processing information about the self; and symbolic interactionism views the self as a function of interpersonal interactions (Sirgy, 1982).

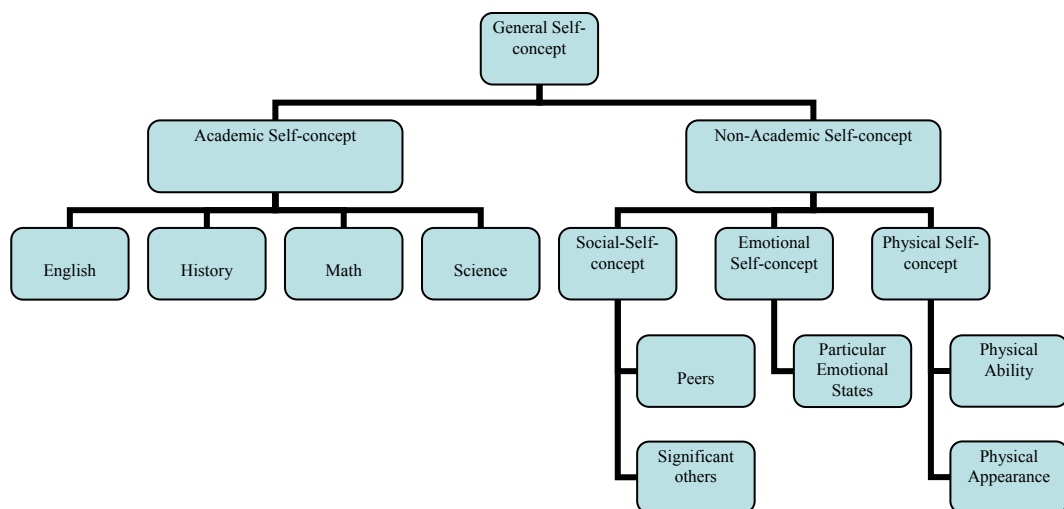
Shavelson and colleagues (1976) were the first to propose a sophisticated model of a multidimensional self-concept (Marsh, 1990 & 1993) (see Figure 2.1). General self-concept appeared at the top of the hierarchy and was divided into the academic and non-academic self-concept. Academic self-concept was then divided into four specific areas (e.g., English, history, math, and science), while nonacademic

self-concept was divided into three subcategories: social self-concept, which can be subdivided into relations with peer and significant others; emotional self-concept, which refers to particular emotional status; and physical self-concept, which is subdivided into physical ability and physical appearance (Marsh, 1990 & 1993).

Figure 2.1 demonstrated the hierarchical organization of self-concept.

Figure 2.1

The Hierarchical Organization of Self-concept



Note. Adopted from “Self-concept: Validation of construct interpretation,” by Shavelson et al., 1976, *Review of Educational Research*, 46, 407-441.

A number of variables have been associated with self-concept. Age and gender effects and how they influence self-concept have been investigated by some researchers. Wylie (1979) summarized former studies and concluded that there was no evidence of age and gender effects relative to the overall self-concept. However, other scholars have found age effects in regards to self-concept (Shavelson et al., 1976;

Marsh, 1987). For example, Shavelson (1976) hypothesized that self-concept is increasingly differentiated with age. Marsh (1990) documented a decline in self-concept that occurs in preadolescence and early adolescence and an increase during late-adolescent and early adult years. He also found that gender differences vary substantially with age only on the physical appearance scale in the Self-Description Questionnaires (SDQ) instruments. Marsh (1990) concluded that “as children grow older their self-concepts more accurately reflect information about self provided by external sources.” (Marsh, 1990).

Many studies have incorporated self-concept into the research of consumer behavior (Jacobson & Kossoff, 1963; Guttman, 1973; Mizerski, Golden, & Kernan, 1979). Belch and Landon’s (1977) viewed the self-concept as a multidimensional construct that explains the role that symbolic consumption may play in human society. It is believed that consumers’ behavior will be directed toward protecting and enhancing self-concept, and the purchase of goods communicates the symbolic meaning of self to the individual and to others (Grubb et al., 1967). Specifically, some studies have investigated certain marketplace effects on the formation and change of the consumer’s self-concept, while some have examined the effects of self-concept on consumer behavior such as the consumer choice process (Birdwell, 1968; Dolich, 1969; Grubb & Hupp, 1968; Hamm & Cundiff, 1969; Grubb et al., 1967; Ross, 1971).

Self-esteem and Body-esteem

Considered as one of the most important aspects of self-concept, self-esteem is one of three major domains of the self-concept construct and is an important variable that related to body-esteem. The three domains of the self-concept are: (a) the specific

content of an attitude towards the self (cognitive), (b) judgment about that content relative to a standard (evaluative), and (c) a feeling attached to that judgment (affective), and self-esteem refers to the affective component of self-concept (Kalish, 1975; Wells & Marwell, 1976). It was assumed that self-esteem may play a critical role both in the structure of self-concept and in its interface with external information (Campbell, 1990). Self-esteem can be also viewed as a motive which influences self-concept (Epstein, 1980). Campbell (1990) referred self-esteem as the degree of certainty or clarity in the self-concept. For example, low self-esteem (LSE) people have more poorly articulated notions of who or what they are (Campbell, 1990). The pursuit of self-esteem is recognized by marketing managers as one of the most important motivational drivers of consumer behavior and decision-making (Banister & Hogg, 2004). For example, some research has demonstrated that individual differences in self-esteem affect behavior in areas such as competition, conformity, attraction, causal attribution, achievement, and helping (Well et al., 1976; Wylie, 1974 & 1979).

Variables such as appearance and body satisfaction have been shown to be related to self-esteem (Mendelson, Mendelson, & White, 2001). Research found that women who reported higher self esteem engaged also reported greater body satisfaction (Rogers, 2000). And it is believed that the level of satisfaction with physical appearance, as a domain in self-concept, is highly predictive of self-worth, notably during one's entire life (Harter & Jackson, 1993). What's more, Averett and Korenman (1999) found that there is no significant difference in self-esteem level between obese black women and those with recommended weight, but self-esteem

was much lower among obese white women compared to white women of recommended weight (Averett et al., 1999).

Another important variable that often considered as a component of self-esteem is body-esteem (Rosa, Garbarino, & Malter, 2006). Body-esteem is distinct from self-esteem (Henriques & Calhoun, 1999; Lerner, Karabenick, & Stuart, 1973), which refers to the self-evaluations of one's body or physical appearance and is most strongly related to appearance esteem conceptually (Mendelson, White, & Mendelson, 1996). As an affective concept, body-esteem should also be distinguished from body image, which is the conceptual representation or frame that people hold of the physical self (Cash, 1990). Body esteem was also viewed as one of several important self-domains (Mendelson, et al., 1996).

Body-esteem is the one of the key variables investigated in this study because it is said to be the only specific domain of self-esteem that has been studied extensively in overweight individuals (Mendelson et al., 1996).

Construct of Body-esteem

Body-esteem has typically been conceptualized as a global construct with multi-dimensions (Mendelson et al., 2001). Body-esteem scale (BES) differs with gender. Franzoi et al. (1984) developed the BES (see Table 2.1), in which lists 32 body parts for male and 31 parts of the body for female (Molloy & Herzberger, 1998). The male subscales dealt with sexual attractiveness, weight concern, and physical condition (Franzoi et al., 1984). The female subscales of BES dealt with sexual attractiveness, weight concern, and physical condition. In the later research on BES, Mendelson and White (2001) included a variety of items that reflect physical

appearance, weight, and possibly social attributions in revised BES for adolescents and adults.

Table 2.1 presents the BES developed by Franzoi and Shields (1984).

Table 2.1

The Body-Esteem Scale by Gender

Male		Female	
Physical Condition (PC)	Physical stamina Reflexes Waist Energy level Thighs Physical coordination Agility Figure or physique Feet Sex organs Appearance of stomach Health Physical condition	Sexual Attractiveness (SA)	Body scent Nose Lips Ears Chin Chest or breasts Appearance of eyes Cheeks/cheekbones Sex drive Sex organs Sex activities Body hair Face
Physical Attractiveness (PA)	Weight Lips Ears Chin Buttocks Appearance of eyes Cheeks/cheekbones Hips Sex organs Feet Face Muscular strength	Weight Concern (WC)	Appetite Waist Thighs Body build Buttocks Hips Legs Figure or physique Appearance of stomach Weight Muscular strength
Upper Body Strength (UBS)	Biceps Body build Physical coordination Width of shoulders Arms Chest or breasts Sex drive Appearance of stomach	Upper Body Strength (UBS)	Reflexes Muscular strength Energy level Biceps Physical coordination Agility Health Physical condition

Note. From “The body esteem scale: a convergent and discriminant validity study,” by Stephen L. Franzoi & Mary E. Herzog, 1986, *Journal of personality assessment*, 50(1), 24-31.

Clothing Involvement

Involvement

In order to better understand consumer behavior, consumer researchers have often included the construct of ‘involvement’ (Laurent & Kapferer, 1985; Mittal & Lee, 1989; Slama & Tashchian, 1985; Zaichkowsky, 1986). Understanding consumer involvement is important to marketers because it helps them understand consumer/seller relationships and activate consumer motivations, and increasing involvement may potentially increase marketing effectiveness and efficiency (O’Cass, 2000).

Involvement is defined as a person’s motivational state of mind toward an object or activity, which also indicates the level of personal interest or relevance in that object or activity (Mittal, 1983). Similarly, Mitchell (1979) defined involvement as ‘an internal state variable that indicates the amount of arousal, interest, or drive evoked by a particular stimulus or situation’ (Mitchell, 1979, p. 194). Involvement is said to reflect the extent of personal relevance of the decision to the individual in terms of her basic values, goals, and self-concept (Engel & Blackwell, 1982; Zaichkowsky, 1985; Celsi & Olson, 1988).

Involvement can apply to a purchase decision/behavior, a product category, a brand, or a marketing communication (Gordon, McKeage, & Fox, 1998; Engel et al., 1982; Robertson, 1976; Tigert, Ring & King, 1976; Traylor & Joseph, 1984). In terms of brand choice, research found that highly involved consumers seek to maximize expected satisfaction from their brand choice (Chaiken, 1980) and are more likely to express their lifestyle and personality characteristics in their brand choice. Bowen and

Chaffee (1974) had presented empirical evidence that highly involved consumers make different pre-purchase judgments than do low involved consumers (Bowen and Chaffee, 1974).

Involvement has been discussed and utilized to examine fashion clothing in multiple studies (Browne & Kaldenberg, 1997; Fairhurst, Good & Gentry, 1989; Flynn & Goldsmith, 1993; Tigert et al., 1976; O’Cass, 2000 & 2004). It is defined as consumer-fashion clothing attachment or relationships (O’Cass, 2000). The importance of the concept of involvement in the domain of fashion clothing is due to the defining role of fashion clothing in society, as fashion clothing is often represents an important symbolic consumption area for consumers (O’Cass, 2000). The purchase of apparel items is classified as a high involvement activity (Fairhurst et al., 1989).

Construct of Involvement

It is believed that involvement is a continuum from minimal to high involvement (DeBruicker, 1979; Bloch, 1986; Tigert et al., 1980; O’Cass, 2000). Several studies have been conducted to investigate the construct of product and personal involvement (See Table 2.2& 2.3). Sherif and Cantril (1947) first researched the construct of involvement, followed by a number of other researchers: Arora, 1982; Assael, 1981; DeBruicker, 1979; Engel et al. 1982; Robertson, 1976; etc. Celsi et al. (1987) defined product involvement, as the interest taken in possessing and using a product, and purchase or brand-decision involvement, as the interest taken in the brand selection task (Celsi et al., 1987). Houston and Rothschild (1977) pointed out an enduring/situational involvement dichotomy: enduring involvement reflects a general and permanent concern with the product class (Bloch, 1981; Richins & Bloch,

1983; Fairhurst et al., 1989); whereas situational involvement reflects concern with a specific situation such as a purchase occasion or election (O’Cass, 2000). O’Cass (2000) concluded that involvement with an object should be stable while still allowing for situational fluctuations in certain underlying components (O’Cass, 2000). Overall, together the different involvement types can form an overall profile of consumer involvement that encompasses purchasing and consumption occasions or they can be treated as separate types of involvement that focus on a particular consumer-object context (Laurent et al., 1985; O’Cass, 2000).

Several researchers have been conceptualized the construct of fashion clothing involvement into multiple facets. For example, Tigert et al. (1976) developed five fashion involvement indexes--fashion innovativeness and time of purchase, fashion interpersonal communication, fashion interest, fashion knowledgeability, and fashion awareness, and reaction to changing fashion trends (Tigert et al., 1976). O’Cass (2000) divided fashion clothing involvement into four forms—the product fashion clothing involvement, fashion clothing advertising involvement, fashion clothing purchase decisions involvement and fashion clothing consumption involvement (O’Cass, 2000).

Table 2.2 presents major product involvement measures that have been developed in the literature.

Table 2.2.

Major Product Involvement Measures

Product Category	Measurement Items	Author
General	Number of brands Styling differences Product performance Price	Importance of purchase Dealer brand specialization Substitutability of brands Bowen and Chaffee, 1974
Beer	Average weekly consumption Perceived product differentiation Perceived image differentiation Self-reported knowledgeability Interest in product information Endorsement/attitude toward using product Brand awareness	Tyebee, 1979
Car	Enjoyment of driving and usage of cars Readiness to talk to others about cars Interest in car racing activities Self-expression through one's car Attachment to one's car Interest in cars	Bloch, 1981
General	When other people see me using this product, they form an opinion of me You can tell a lot about a person by seeing what brand of this product he uses This product helps me express who I am. This product is "me." Seeing somebody else use this product tells me a lot about that person When I use this product, others see me the way I want them to see me	Traylor & Joseph, 1984
Fashion clothing	Fashion innovativeness and time of purchase Fashion interpersonal communication Fashion interest Fashion knowledgeability Fashion awareness, and reaction to changing fashion trends	Tigert, Ring, & King, 1976

Note. Based on the previous literatures.

Table 2.3 presents major personal involvement measures that have been developed in the literature.

Table 2.3.

Major Personal Involvement Measures

Name	Measurement Items	Author	
Personal Involvement Inventory (PII)	Means a lot/nothing to me Of no concern /concern to me Irrelevant/relevant Useless/useful Valuable/worthless Trivial/fundamental Beneficial/not Beneficial Important/unimportant Uninterested/interested Significant/insignificant	Matters to me/doesn't matter Vital/Superfluous Boring/interesting Unexciting/exciting Appealing/unappealing Mundane/fascinating Essential/non-essential Undesirable/Desirable Not needed/needed	Zaichkowsky, 1985 &1987
Revision of the Personal Involvement Inventory (RPII)	Important / Unimportant Irrelevant/relevant Means a lot to me/ means nothing to me Unexciting/exciting Dull/neat	Matters to me / doesn't matter Boring/interesting Of no concern/of concern to me Appealing/unappealing Fun/not fun	McQuarrie & Munson, 1986 &1992

Note. Based on the previous literatures.

Retail Store Attributes

Store Image

Store image has been identified as one of the important determinants of success in retailing (Mahajan, Sharma, & Kerin, 1988; Samli & Lincoln, 1989). It was linked to, for example, store selection (Berry, 1969; Doyle et al., 1974) and store loyalty (Lessig, 1973). Many scholars have advanced the conceptualization of store image (Doyle and Fenwick, 1974; James, Durand, Dreves, 1976; Kunkel & Berry, 1968; Marks, 1976). Martineau (1958) first conceptualized the store image as the personality of the store and its presentation in people's mind (Martineau, 1958). Consistent with Martineau's definition of store image, other researchers considered store image to include both physical (factual, functional, tangible) and psychological

dimensions. Aron (1961) defined store image as a complex bundle of meanings representing the store for individuals; Dichter (1988) described images as a global or overall impression; several research conceptualized store image as a set or kind of attitude characterizing a person's overall impressions of a store (Dichter, 1988); Wyckham (1967) described store image as a consumer's summative perceptions of the store attributes, formed as the result of experience with the store (Wyckham, 1967); Lindquist (1974) defined store image as perceptions of both tangible and intangible factors (Amirani & Gates, 1993); and Bloemer and Ruyter (1998) define store image as the complex of a consumer's perceptions of a store on different (salient) attributes (Bloemer et al., 1998). Overall, Amirani et al. (1993) concluded that "store image was defined as consumers' overall evaluation of a store depicted as a bundle of both tangible and intangible attributes" (p 36).

Dimensions of Store Attributes

The dominant attitudinal perspective that is taken in the literature treats store image as the result of a multi-attribute model (Marks, 1976; James et al., 1976). Different store attributes or characteristics are part of the overall image towards the store (the so-called retail mix) (Bloemer et al., 1998). For each retail store a distinct image may exist within consumers' minds. This is based on the salient elements of the retail mix. The merchandise of a retailer is its most important retail mix element (Ghosh, 1990). A retailer has to make sure that he/she offers those products to his/her customers that they expect him/her to offer. Nevertheless, other nonfunctional elements also have to be in line with the expectations of the customer in order for a customer to become store loyal (Bloemer et al., 1998).

Numerous studies have investigated the dimensions of store attributes (Berry, 1969; Marks, 1976) and empirical studies found that store image attribute importance vary across store types (Hansen & Deutscher, 1977; Arnold, Ma, & Tigert, 1977; Hirschman, Greenberg, & Robertson, 1978).

Table 2.4 summarizes major store attribute measures that have been developed in the literature.

Table 2.4.

Major Store Attribute Measures

Store Category	Measurement Items	Author
General	Layout and architecture Symbols and colors Advertising	Sales personnel Merchandise Service Martineau, 1958
General	Clientele Physical facilities Convenience/comfort Merchandise	Store atmosphere Promotion Service Location Lindquist, 1974
General	Price/value relationship Store specialization Quality of merchandise	Salesclerk service Institutional factors and post- Transactional satisfaction Jolson and Spath, 1973
General	Large, varied Assortment Good-quality Merchandise Priced for good value	Convenient location Attractive, up-to-date Merchandise Prompt, helpful service Pessemier, 1980
Grocery chains	Product Price	Assortment Styling location Doyle and Fenwick, 1974
Downtown Versus Outlying Shopping Centers	Price Quality of the Merchandise Assortment	Atmosphere Friendly personnel Location Parking facilities Bearden, 1977
Grocery store	Location Merchandise Store atmosphere Customer service	Price Advertising Personal selling Sales incentive programs Ghosh, 1990

Table 2.4 (continued)

Chain Company	Trade potential available Size characteristics of the stores Site and location Character of the town in which they are found Type of clientele which they serve Level of selling efficiency displayed.		Davies, 1973
Department and grocery stores	Physical facilities Store atmosphere Merchandise		Hansen and Deutscher, 1977
Men's clothing stores	Price Assortment	Personnel	James, Durand and Dreves, 1976
Women's fashion clothing stores	Showed value for money Assortment/selection Quality Salesperson Fashion	Convenience Everyday wear Price Advertising Merchandising display	Arnold, Ma, and Tigert, 1977
Men's fashion clothing store	Merchandise quality Merchandise price Merchandise fashion Merchandise selection	Refund and company procedures Reputation Professional and friendly staff Internal layout and design	Birtwistle, Clarke, and Freathy, 1999
Specialty apparel store	Convenience of store location Quality of merchandise Value for the price Store services	Up-to-date fashionable merchandise Merchandise assortment Brand names of merchandise Sales information	Fairhurst, Good, and Gentry, 1989

Note. Based on the previous literature review.

Hypotheses Development

The Relationship between Body-esteem and Consumer Involvement

It is meaningful to clarify the nature of the relationship between body-perceptions and the usage of clothing (Kaiser, 1997). Rosa et al. (2006) found that body esteem, as beliefs and perception components of self-concept positively influences consumer apparel involvement (Rosa et al., 2006). It is assumed that these

findings are equally relevant and applicable to plus-size consumers. Given the literature findings, it is hypothesized that:

H1: For plus-size females, there will be a positive relationship between body esteem and clothing involvement.

The Relationship between Self-concept and Consumer Involvement

Elements of self-concept have been shown to influence consumers' beliefs and behaviors (Landon, 1974; Sirgy, 1982; Thompson & Hirschman, 1995). It was indicated that involvement reflects the extent of a decision's relevance to the individual in terms of basic values, goals, and self-concept (Engel et al., 1982). In terms of clothing, Otieno et al. (2005) indicated that "self-image and self-concept may influence fashion interest and involvement, since fashion clothing is highly related to feelings of esteem, self-image, and worth" (Otieno et al., 2005, p 301). Thus, it is hypothesized that there is a relationship between plus-size consumers' self-concepts and clothing involvement:

H2: For plus-size females, there will be a positive relationship between self-concept and clothing involvement.

The Relationship between Consumer Involvement and Store Attributes

Fairhurst et al. (1989) stated that "given the importance of shopping to the selection of apparel, one would also expect the strength of one's beliefs about store attributes to vary directly with apparel involvement" (Fairhurst et al., 1989, p. 11). Multiple research studies have indicated the importance of the consumer involvement construct in explaining the importance of store attributes. Fairhurst and his colleagues (1989) found that different personal and fashion involvements are associated with the following store attributes: assortment of merchandise, quality of merchandise, value

for price, brand names of merchandise, variety of store services, adequate sales information, and up-to-date fashionable merchandise (Fairhurst and his colleagues, 1989). More specifically, Shim and Kotsiopoulos (1991) found that, for big and tall male consumers, highly involved consumers were least satisfied with the general quality of sales personnel among other consumers (Shim & Kotsiopoulos, 1991); Zaichkowsky (1985) found that highly involved consumers had a greater preference among brands (Zaichkowsky, 1985); several studies found that highly involved consumers were less price conscious than those with less clothing involvement (Shim & Kotsiopoulos, 1991); and Lumpkin, Allen, and Greenberg (1981) mentioned that involvement is associated with heavy usage in clothing and high quality is found to be important to heavy clothing users (Lumpkin, Allen, & Greenberg, 1981). What's more, while previous research have indicated that shopping ease is not as important to heavy-users of wearing apparel (high clothing involvement consumers) (Lumpkin et al., 1981), the results of this study's interviews with both consumers and retailers indicated that convenient in-store shopping environments and helpfulness of sale personnel are very important attribute of store selection by plus-size consumers. Thus, considering both the literatures findings and interview results, it is hypothesized that:

H3a: For plus-size females, there will be a negative relationship between clothing involvement and a store's merchandise price.

H3b: For plus-size females, there will be a positive relationship between clothing involvement and a store's merchandise quality.

H3c: For plus-size females, there will be a positive relationship between clothing involvement and a store's merchandise assortment.

H3d: For plus-size female, there will be a positive relationship between clothing involvement and the responsiveness of a store's sale personnel.

H3e: For plus-size females, there will be a positive relationship between clothing involvement and a store's visual image.

H3f: For plus-size females, there will be a positive relationship between clothing involvement and the in-store ease of access.

CHAPTER III

RESEARCH METHODOLOGY

Chapter III presents a general explanation of methodology, including the following sections: (1) Introduction; (2) Research Design; (3) Preliminary Qualitative Study; (4) Study Survey; and (5) Analysis.

Introduction

The population of plus-size consumers is growing and represents an attractive market for retail companies (Intel, 2006 & 2007). However, relatively few research studies have investigated plus-size consumers' body self perceptions, involvement with clothing, and various store attributes. This study investigated these topics with exploratory nature. Many market research companies are making efforts to investigate the demographics of plus-size consumers, their attitudes about plus-size clothing and shopping activities, as well as the relationships among those factors (Intel, 2006 & 2007). Thus an in-depth understanding of the psychological and motivational aspects of plus-size consumers is fundamental to understand their clothing and shopping behaviors. This study collected first-hand information about plus-size consumers' experiences by using both a preliminary qualitative study and a follow up quantitative study to test research hypotheses.

Research Design

In order to explore the research question appropriately, this study consists of two data collection methods: (1) a qualitative method using in-depth interviews and (2) a follow up quantitative method using the survey technique. Considering the limited amount of research on plus-size consumers, it was deemed necessary to use an exploratory qualitative study to provide the foundation and guidance needed for comprehensive conceptual development of the research question. The quantitative study was used to test research questions, allowing for generalization of the findings. The target population is female plus-size consumers older than 18 who live in the southeastern region of United States.

Preliminary Qualitative Study

The first step of data collection for this research was a preliminary qualitative study. In-depth interviews were used as a primary data collection tool to get an overall and updated understanding of plus-size consumers' feelings about themselves and their behaviors in plus-size apparel shopping.

Background

In marketing research, the qualitative method is widely used. In general, it seeks the meanings and motivations behind behavior as well as a thorough account of behavioral facts and implications via a researcher's encounter with people's own actions, words, and ideas (Mariampolski, 2001). Qualitative research has a number of advantages. First, it can provide insights and explanations about an individual's attitudes, perceptions, beliefs, views, and feelings, and the meanings and interpretations are combined into a framework (Hakim, 2000). Second, it is a

relatively inexpensive way to understand the in-depth motivation and feelings of consumers, and last, it can improve the efficiency of quantitative research (McDaniel & Gates, 1993). It is particularly effective when the phenomena of interest have not been previously addressed or when topics that are not easily quantified are being explored (Shao, 2002). However, qualitative research has several limitations. It cannot distinguish small differences in attitudes and opinions as can large-scale quantitative studies. Additionally, the respondents may not be representative of the population of interest relative to the research question (McDaniel et al., 1993). The emphasis of qualitative data on consumers' "lived experiences" makes it particularly useful for exploring new research area such as plus-size consumer's feelings and shopping behaviors (Miles & Huberman, 1994).

Among three common types of qualitative techniques--focus group, in-depth interviews, and projective techniques (Shao, 2002), the in-depth interview questioning technique was selected for this study. For one reason, in-depth interviews have been proven to be better at assessing beliefs and attitudes, as well as providing data that is more detailed and revealing than other techniques (Shao, 2002). What is more, due to the sensitivity of this research topic, plus-size interviewees may feel more comfortable discussing their opinions with a single person in a secure, private, and protected environment.

Sample

A total of seven people agreed to participate in the study and were interviewed (see Table 3.1). They are divided into two groups: four retailers and three plus-size consumers. Although there are small numbers of interviewees in each group,

a review of interview records reveals recycling ideas and perceptions and those results are consistent with the finding of most market researches.

Data Collection Procedures

Data were collected during winter 2006 through January 2007 in Greensboro, North Carolina by face-to-face meetings and pre-arranged phone calls. Interviewees were contacted using a purposive sampling approach. The interviews were conducted using pre-arranged phone, except one interview with student was conducted face-to-face in the Southeastern region of the United States. All interviews were audio-taped with the permission of the informants and lasted between 30 to 60 minutes. To ensure a systematic approach to the data collection procedure, the researcher followed a prepared schedule of questions for each individual interview (see Appendix B).

Table 3.1 represents the profile of informants for in-depth interviews.

Table 3.1

Profile of Informants for In-depth Interviews (see Appendix A for details)

	Retailer	Consumer
Number	4	3
Interview Method	Phone	Phone and face-to-face

Note. Interviewees included a VP of Product Development, a Regional Manager, a VP/Divisional Merchandise Manager of Plus Sportswear for Fashion, a Buyer of Career Sportswear and Coordinates who work for leading plus-size retailers.

Analysis

The audio-taped interviews were later transcribed into text. Once the interview texts were vetted and reconciled, the interview transcripts were analyzed to

draw out the themes of the informant's clothing experiences (Denzin & Lincoln, 1994). Then each individual interview was analyzed using categorization, abstraction, and integration that resulted in a summary for each interview (Spiggle, 1994). The actual names of interviewees were recorded and then coded with fictitious initials (for example, AZ, BY, CX, DW, XA, YB, and ZC).

Consumer Interview Results

Analysis of the interview text of plus-size consumers resulted in four themes: (1) more confidence in physical appearance; (2) comfort and style; (3) ease of access; and (4) consumer loyalty.

The first theme: more confidence in physical appearance

Based on the study data, professional and younger plus-size women seemed to be more involved with clothing than stay-at-home plus-size consumers. They paid more attention to how other people dress and cared more about other people's view of their dress than stay-at-home consumers. One of the reasons appeared to be that they believed the "right" clothing would help them feel more confident in profession situations and in public. In other words, they felt that clothing may enhance a plus-size consumer's general self-concept and body-esteem:

XA: "Yes (I pay attention to how other people dress) because if they look nice in their clothing, I want to copy the 'look'."

YB: "...I stay at home all the time so I don't worry (about fashion clothing) that much."

XA: "When I dress-up I act differently than when I wear casual or jean-type clothing. I feel better about myself when I dress more professionally."

"...If my clothing is stylish and fits me correctly I have more confidence in how I look and act differently (more secure in my presentation)."

The second theme: comfort and style

Fashion appeared to be less of a concern for most plus-size consumers. Comfort and fit were two key issues for most plus-size shoppers compared to fashion; poor quality clothing and poorly fitting clothing were the biggest concern to them. They were even willing to pay more in order to get good quality clothes. Besides fit and quality, there were differences in the importance of clothing attributes between professional and nonprofessional women. Professional women emphasized clothing style, whereas nonprofessionals were more concerned about the comfort issue. Additionally, standardized clothing sizes were another issue mentioned by consumers:

YB: “They (plus-size clothing) don’t have to be high fashion. I think people who are plus sizes look for more comfort than fashion.”

ZC: “Comfort, fit, and how long it lasts (are most important to me when I select clothing).”

XA: “.....I want a better quality and I’m willing to pay for it.”

XA: “...a more consistent sizing throughout the clothing industry would be wonderful.”

XA: “I think the manufacturers need to realize large size women don’t wear ugly patterns and immature designs... but some designers are foolish to think a size 20 woman looks good in clothing designed for a skinny 15-year old high school student.”

YB: “If it is not comfortable... I don’t buy it....”

The third theme: ease of access

Several store attributes were mentioned most by plus-size consumers: store assortment, convenient shopping, friendliness of the sales people and a reasonable return policy. The “right” clothes in terms of color, fit, size and variety offered to consumers in plus-size stores were perceived important by plus-size consumers. Convenient shopping mentioned by interviewees refers to in-store layout such as

locations of fitting rooms and space between displays, and convenient parking and availability of the stores. Store promotions seemed to have little impact on their store selections:

XA: "Some of the better stores (Dillard's, Macy's) carry odd colors in clothing that fits but no one I know wears...people with lower incomes are stuck with unflattering clothes that might fit but looks odd."

YB: "... They don't carry these sizes...the worst thing (about plus size specialty stores) is they don't have enough selections....."

XA: "...I expect the salespeople to be courteous to me even if I am a large size...I expect a reasonable return policy with no hassles."

XA: "...Aisle distances between displays and location of changing rooms (of plus-size store) is terrible. Usually there are more choices in colors and sizes (since there is no consistency unless you stay with the same brand)..."

XA: "...One stop parking and multiple locations of the same store are what brings me to Belk's, Dillard's, and Macy's..."

ZC: "It should be more stores; it should be at least five plus-size stores in a mall..."

The fourth theme: consumer loyalty

The study results indicated that plus-size women seemed to be very loyal to plus-size stores, probably one of the reasons is the limited choice they have. However, younger and fashion-conscious plus-size shoppers seemed not to restrict their interest to specific brands when they were shopping for clothing.

XA: "I have found a couple of nice stores and stick to them when I'm buying more formal/business style outfits."

YB: "...I only go to Catherines and JCPenney."

ZC: "...you may wanna go to another plus-size store so you can get something else, different styles and so."

Retailer Interview Results

Analysis of the interview text of plus-size consumers resulted in five themes: (1) special offerings; (2) meeting personalized customer needs; (3) congruency of expectations; (4) non-traditional advertising; and (5) online business potential.

The first theme: special offerings

Three key competitive factors that emerged for plus-size specialty stores as perceived by retailers were things not available elsewhere: (1) the availability of an extensive size range (There is a need to offer so-called extended sizes as 4X, 5X, and 6X to plus-size customers); (2) standardization of product sizes so that customers will know what size they need to purchase; and (3) the provision of plus-size niche offerings such as so-called “church dresses or church wear” or coats that are not available at most plus-size stores:

BY: “...I think while we are still have difficulty for customers is when you get into what we called the extended sizes, the 4X, 5X, and 6X...”

CX: “...we standardized our products, and in our private label merchandise...the fit’ll be consistent across the board. So you always know what size you are...we are heavier into suits and what we call “church dresses or church wear”, coats... those kind of specialty items that most of our competitors don't carry....”

The second theme: meeting personalized customer needs

The informants believed that the competitive strength of plus-size specialty stores is providing personalized customer service and relatively better store merchandise assortment. The sales personnel in plus-size specialty stores are trained to be friendly and courteous to plus-size customers. Also, most salespeople hired in plus-size stores are plus-size consumers themselves because retailers believe they would understand and serve the customers better. Specialty stores also carry private

brands as well as variety of other brands that offer customers more unique products and more choices than in department stores:

BY: "...I can speak with confidence about our stores is most of our store managers and sales associates are plus size themselves... so they really, personally understand the needs of the plus size customer who comes to our stores... most plus size specialty stores do a lot of their private brands, so that customer can find more unique products as are suppose to going from one department store to another...."

DW: "The advantage (of plus-size specialty store) I think that is its environment that customers feel comfortable shopping. There is a better assortment, a style for her, more styles in her size range....."

The third theme: congruency of expectations

The interview informants cited the importance of store attributes, for example, personnel, product assortments and store environments, which are consistent with the perceptions of plus-size consumers. Plus-size retailers do realize that friendliness and helpfulness of sales person are important to bring and keep more customers:

BY: "...when the customers come in... they (sales personnel) say "Hello", and you will be amazed that how many come in and they say, they know her name...so definitely customer service... the key factor I think is to have the right products she likes but also I think it's the store personnel and services that they give."

BY: "...we (are) putting too much products into the store so she (customer) had a difficult time walking around and seeing the product, also...we are trying to give her a little bit larger fitting room, so they can accommodated her. And there we also have some seating...so that she can sit down and rest, she brings her husband in, he can stand and wait for her in a comfortable spot...."

BY: "We like to be in the street malls in that our customers can park right in front of our door, and especially when you get some of our bigger customers...."

CX: "...price, fashion and quality (are most important to achieve customer satisfaction)..."

The fourth theme: non-traditional advertising

Plus-size retailers believed that it is very important to attract traffic into the store because the customers, especially Baby Boomers, are loyal to the store once they can find what they want in the store. However, the informants indicated that they expect to reach more customers by word-of-mouth such as store promotions and community service rather than through advertising:

BY: "...we don't do a lot of advertising; our customers tell each other about us, a lot of word-of-mouth... The other advantage we have is....special extended customer, more products that she can find in the store...."

BY: "...we found that once you get the customer into the store, particularly if she is in the baby-boomer age range and with the service that we gave, she'll usually come back.... they are definitely much more loyal than what you would find."

CX: "The plus size customers probably are the most loyal customer I've ever worked within the business because the fact that she is so limited in where she can shop, so that when she find some places that give her great services and then give her good fit and product, and that where she can afford to buy the clothing...she will be loyal to that place forever..."

BY: "...Also we do a lot of store promotions, we sent out booklets about 6 times a year, we also have a what we called card purchase program We also do a lot of, we call them "grass roots" program, and our stores will get involve with things going on in the community, and they'll have special events in the store..."

The fifth theme: online business potential

Specialty plus-size retailers appeared to realize the potential of online business. They indicated that they are making great efforts for plus-size online shoppers by offering more selections and sizes on their Web sites, especially given the limited access that many plus-size consumers have to plus-size stores and merchandise:

BY: "...if we don't happen to have something that in her size in the store, they can go on the Web site and find it on the Web site.... we are building our dotcom business and we've seen huge opportunities for growth; we've seen a lot of growth in the past year...and that it'll increase in the total

percentage of the business.”

CX: “I think it’s (plus-size online sale) definitely increasing....Web offers customers that, A (is) the ease of not having to walking into the mall, and B, there is also segment out there.... so for that customer she is very driven to the Web because she can get products there that she can’t find anywhere else at her size at all.”

Study Survey

Restatement of Hypotheses

In order to address the research question—to understand better the relationships among body-esteem, self-concept, clothing involvement, and importance of store attributes---eight hypotheses were developed. The first two hypotheses were developed to investigate the relationship among plus-size consumers’ body-esteem and self-concept and their clothing involvement. The rest six hypotheses were designed to examine the relationship between clothing involvement and the importance of store attributes of plus-size clothing stores.

H1: For plus-size females, there is a positive relationship between body esteem and clothing involvement.

H2: For plus-size females, there is a positive relationship between self-concept and clothing involvement.

H3a: For plus-size females, there is a negative relationship between clothing involvement and a store’s merchandise price.

H3b: For plus-size females, there is a positive relationship between clothing involvement and a store’s merchandise quality.

H3c: For plus-size females, there is a positive relationship between clothing involvement and a store’s merchandise assortment.

H3d: For plus-size female, there is a positive relationship between clothing involvement and the responsiveness of a store’s sale personnel.

H3e: For plus-size females, there is a positive relationship between clothing involvement and a store’s visual image.

H3f: For plus-size females, there is a positive relationship between clothing involvement and the in-store ease of access.

Background

Survey research is the use of questionnaires to gather facts, opinions, and attitudes (McDaniel et al., 1993). It has been widely used because it can accommodate large sample sizes, distinguish small differences between diverse sampled groups, and tap into latent factors and relationships. Other advantages of quantitative research include its generalizability of results and capability of using advanced statistical analysis. However, two main potential problems with quantitative research are that researchers lack control over long time frames and low response rates (Hair, Bush, & Ortinau, 2000). After exploring the feelings and preferences of plus-size consumers through in-depth interviews, the author described the general psychology and shopping behavior of plus-size consumers through using the survey technique. Generally speaking, the survey method can be divided into three categories: person-administered, telephone-administered, and self-administered. Of these three categories, self-administered surveys are the most popular method especially with new emerging technology (Hair et al., 2000). Person-administered surveys were used in this study in order to reach the special research sample (e.g., plus-size consumers). Specifically, the data collection technique was to send the survey to respondents directly by administrators and surveys were collected from each respondent. Approximately 300 questionnaires were planned to be distributed with expected 60 usable ones.

Survey Development and Instrument Items

In order to test the research hypotheses, an initial survey was developed using extant scales (see Table 3.2) from the literature, modifying those scales minimally to reflect the study topic, as well as the relevant findings from the preliminary qualitative study. The survey instruments (see Appendix C) were pre-tested with 10 graduate students to determine the clarity of survey content, time needed to complete the questionnaire, and/or any other problems that might be encountered by the respondents.

Part A measures respondents' body-esteem by using the female subscale in the Body-Esteem Scale (BES), which was developed by Franzoi et al. (1984). The female subscale of BES has shown adequate internal consistency (alphas range from .78 to .87) and moderately correlates with overall self-esteem ($r_s = .19$ to $.51$) (Molloy et al., 1998). Questions in the questionnaire measure female subscales of body-esteem were demonstrated to have good convergent and discriminate validity (Franzoi, 1986; Thomas et al., 1990). The statement of "I feel positive about my..." was used to measure respondent's body perceptions of 32 parts of body, for example, "I feel positive about my lips," and "I feel positive about my hips." Respondents were asked to rate their agreement with the statement on a 7-point Likert-type scale, where 1 = *strongly disagree* and 7 = *strongly agree*.

The self-concept construct was measured using items from The Self-Description Questionnaire III (SDQ-III) (Marsh & O'Neil, 1984) which was designed to measure the facets of self-concept of older adolescents and young adults and was developed from the original SDQ. The SDQ III measures 13 dimensions of self-

concept: mathematics, verbal, academic, problem solving/creativity, physical ability/sports, physical appearance, relations with same and opposite-sex peers and with parents, religion/spirituality, honesty/reliability, emotional stability/security, and general self-concept (Sondhaus et al., 2001). The reliability of the 13 dimensions was high (median alpha = 0.89) and correlations among the factors were low (median $r=0.09$), which indicated the construct validity of overall self-concept (Marsh et al., 1984). The eleven statements from the SQD III that measure general self-concept were used in the questionnaire in this study. Participants were asked to rate those questions using a seven-point scale that assesses how they agree with statements, for example, “Overall, I have very good self-confidence” and “I have a lot of respect for myself,” rating these statement from 1 = *strongly disagree* to 7 = *strongly agree*.

In Part C, the measurement assessing the construct of consumer involvement in clothing was adapted from O’Cass’ (2000) fashion clothing involvement measure (see Table 3.2). The researcher selected a total of fifteen items from previous studies on fashion clothing involvement developed by O’Cass (2000). Respondents were asked to rate their agreement with statements such as “Clothing means a lot to me” and “Clothing is a significant part of my life,” using a 7-point Likert-type scale, where 1 = *strongly disagree* and 7 = *strongly agree*.

Part D assessed five important store attributes including merchandise assortment, merchandise quality, merchandise price, visual image of the store, in-store ease of access, and responsiveness of sales personnel and used scales developed from previous studies. These five store attributes were selected because of their importance in previous studies and also because previous research has pointed out that the

number of attribute beliefs individuals can manage to conceptualize normally ranges from five to nine (Miller, 1956). The merchandise price and merchandise quality scales contain three items each and are adapted from Yoo and Chang's (2005) study on retail store image (for example, "It is important that a store has low price relative to the other stores" and "It is important that a store has excellent clothing quality relative to price"). The merchandise assortment scale includes four items and is adapted from Chen-Yu and Seock's (2002) study (for example, "Availability of clothing size in a store is important"). The measure of responsiveness of sales personnel and visual image of the store each includes five items and are adapted from Terblanche and Boshoff's (2001) study on the in-store shopping experience of supermarket and clothing store customers (for example, "It is important that salespersons give me personal attention"). Finally, the store's visual image and in-store ease of access scale contain five and six items each and were drawn from Newman and Patel's study (2004) (for example, "Attractive décor in a store is important" and "It is important that there are many changing rooms in a store"). Each store attribute evaluation statement was made on seven-point Likert-scale, where 1 = *strongly disagree* and 7 = *strongly agree*.

Part E of the survey contained items to collect demographic data as age, race, level of education, income, occupation, marital status, and respondents' weight and height in order to calculate their BMI (Body Mass Index).

Table 3.2 presents the constructs and measurement items in the study survey.

Table 3.2.

Summarized the Constructs and Measurement Items

Constructs	Measurement Items
PART A: Body-esteem	1. Body scent
	2. Nose
	3. Lips
	4. Ears
	5. Chin
	6. Chest or breasts
	7. Appearance of eyes
	8. Cheekbones
	9. Sex organs
	10. Sex drive
	11. Sex activities
	12. Body hair
	13. Face
	14. Physical stamina
	15. Reflexes
	16. Muscular strength
	17. Energy level
	18. Biceps
	19. Physical coordination
	20. Agility health
	21. Health
	22. Physical condition
	23. Appetite
	24. Waist
	25. Thighs
	26. Body build
	27. Buttocks
	28. Hips
	29. Legs
	30. Figure or physique
	31. Appearance of stomach
	32. Weight
PART B: Self-concept	1. Overall, I have a lot of respect for myself.
	2. Overall, I have very good self-confidence.
	3. Overall, I lack self-confidence.
	4. Overall, I am pretty accepting of myself.
	5. Overall, I don't have much respect for myself.
	6. Overall, I have a lot of self-confidence.
	7. Overall, I have a very good self-concept.
	8. Overall, I have pretty positive feelings about myself.
	9. Overall, I have a very poor self-concept.
	10. Overall, I have pretty negative feelings about myself.
	11. Overall, I am not very accepting of myself.
PART C: Clothing Involvement	1. Clothing means a lot to me.
	2. Clothing is a significant part of my life.
	3. I have a very strong commitment to clothing that would be difficult to break.
	4. I consider clothing to be a central part of my life.
	5. I think about clothing a lot.
	6. For me personally clothing is an important product.
	7. I am very interested in clothing.
	8. Clothing is important to me.
	9. Clothing is an important part of my life.
	10. I would say clothing is central to my identity as a person.
	11. I would say that I am often pre-occupied with clothing.
	12. I can really identify with clothing.
	13. I am very much involved in/with clothing.
	14. I find clothing a very relevant product in my life.
	15. I pay a lot of attention to clothing.

Table 3.2 (continued)

PART D: Importance of Store Attributes	Merchandise price	1. It is important that a store has low price relative to the other stores. 2. It is important that a store has reasonable price relative to product. 3. It is important that a store has overall low price.
	Merchandise quality	4. It is important that a store has excellent clothing quality relative to the other stores. 5. It is important that a store has excellent clothing quality relative to price. 6. It is important that a store has overall excellent clothing quality.
	Merchandise assortment	7. Availability of clothing size in a store is important. 8. Variety in clothing styles in a store is important. 9. Availability of well-known brands is important. 10. Variety in product category in a store is important.
	Responsiveness of sales personnel	11. It is important that salespersons give me personal attention. 12. It is important that salespersons are always willing to help me. 13. It is important that salespersons provide me with prompt service. 14. It is important that salespersons are courteous. 15. It is important that salespersons are never too busy to assist me.
	Visual image	16. Attractive décor in a store is important. 17. Attractive physical facilities (check-out counters, shelves, etc) in a store are important. 18. Attractive product and promotional displays in a store are important. 19. Attractive materials associated with their service (shopping bags, catalogues, etc) in a store are important. 20. Well-spaced product displays in a store are important.
	In-store ease of access	21. It is important that the clothes in a store are laid out in an easy to find manner. 22. It is important that there are many changing rooms in a store. 23. It is important that the changing rooms are easy to find in a store. 24. It is important that there is adequate seating for companions in a store. 25. It is important that it is easy to move around in a store. 26. It is important that it is easy to find the clothes you want in a store. 27. It is important that a store has a fast checkout.

Note. Based on previous literature review.

Data Collection Procedures

Purposeful samples were used that include women from the Southeastern region of the United States who purchase and wear plus-size clothing. The surveys were mainly distributed in the States of North Carolina and Maryland, which have relative high rate of overweight population compared to other States. According to CDC data in 2005, 62.6% of North Carolina adults are overweight or obese in 2005 and 61.1% of Maryland adults are overweight or obese (CDC, 2007). Surveys were distributed and administered by the researcher and her professors to: (1) sales associates in plus-size specialty stores and plus-size department in department stores because most of them wear plus-size clothes; (2) plus-size consumers around local shopping centers; (3) friends who wear plus-size clothing. Sales associates are main participants in this study. Plus-size specialty stores included Lane Bryant, Catherines, Ashley Stewart, Cato, C. J Banks, Talbots, and Torrid. Department stores included JC Penny, Dillards', Belk, and Macy's. Study surveys had been distributed and received during the beginning of May through the end of June, 2007. Some participants received a gift after completing the survey. It took about 10-15 minutes to complete the questionnaire. A research report of this study's result was mailed to participant upon her request.

Out of expected two-hundred and ninety-five qualified survey participants, there were sixty respondents (20%) agreed to answer the survey and returned survey by mailing or being collected by investigator. The overall quality of the responses is satisfactory. Eleven surveys were returned with missing values. Total twenty-one respondents (35 %) indicated that they would like to receive a copy of this study's

result.

Table 3.3 represents the profile of participants by geographic location.

Table 3.3.

Profile of Participants by Geographic Location

States	Survey Distributed	Survey Returned	Response Rate
North Carolina	152	39	25.6%
Maryland	41	19	46.3%
Others	2	2	100%
Total	195	60	20%

Analyses

Statistical Package for the Social Sciences (SPSS) was used to describe and analyze the study data. Specifically, preliminary analyses were conducted to determine whether scores on clothing involvement and store attributes were different across demographic groups (e.g., race, age, etc.) by using two-way ANOVA. Also, simple linear regression analysis with BMI as a predictor and clothing involvement, as well as six dimensions of store attributes, as criterion variables were utilized to examine whether BMI significantly predicted the scores on those variables. Bivariate correlation analysis was used to test inter-correlations among variables, which provided a general idea of the relationship among the variables of interest. Descriptive statistics were examined to understand how plus-size consumers perceived themselves, how they were involved with clothing, and what store attributes they considered important. Mean (*M*) and standard deviation (*SD*) were two main statistics used for

this purpose. Reliability analysis was also conducted to measure the study's scales' reliabilities. Finally, a series of multiple regression analyses were conducted to test eight research hypotheses investigating the relationships among consumers' self-perception, clothing involvement, and store attributes. All statistical tests were considered significant at an alpha level of 0.05 (Brace at al., 2003).

CHAPTER IV

ANALYSES AND RESULTS

This chapter describes and summarizes the statistical analyses used to evaluate the research questions and hypotheses established in previous chapters. Chapter IV presents the following four sections: (a) Data Screening, (b) Preliminary Analysis, (c) Descriptive Statistics, and (d) Research Hypothesis Testing.

Data Screening

Prior to conducting the study's primary analyses, all the variables of interest were examined through SPSS 10.0 program for accuracy of data entry and missing values. All the scores were accurately coded. A total of eleven surveys had missing values for the Body-esteem (BES), Self-concept (SC), and Body Mass Index (BMI) scales. It appeared that overweight and obese women were reluctant to answer questions regarding their bodily feelings and weight. Those missing values were replaced by the mean of all cases for the variable affected. Five questions in the scales of SCS were stated in the negative, while all other items were stated in the positive. These negative items were reverse scored to ensure correct analysis. Extreme Z scores were used to identify univariate outliers, but none were found.

Sample Characteristics

This section represents the demographics of the survey respondents. The majority of respondents were African-Americans (58.3%) and Caucasians (28.3%).

Other ethnic groups, including Hispanics, Asian, Indian, and Black African, composed the rest of the sample (13.4%). In terms of occupation and age of respondents, most of them were sales associates or managers working in clothing stores, which is related to the overall younger age of respondents in this study, that is, women aged 18 to 35 (65.0 % of the sample). As far as education, 38.3% of the sample have a college degree or higher, with 28.3 % of whom have graduate degrees or higher. Finally, 60.0 % respondents were single, compared to 28.3 % that were married.

Preliminary Analysis

To ensure the integrity of the study analyses, demographic variables such as ethnicity and age, as well as BMI, were analyzed to see whether they influenced plus-size consumers' responses to involvement with clothing (CI) or to importance of store attributes (SA). Additionally, the hypothesis variables were analyzed for inter-correlations.

To determine whether demographics influenced consumers' involvement with clothing and importance of store attributes, a series of two-way ANOVAs were computed for each variable among different age and ethnic groups (people who are older than 65 as well as Asian and Native American respondents were excluded from this analysis because there were fewer than 3 respondents in each group).

Table 4.1 presents demographics of survey respondents including ethnicity, age, educational, and marital status.

Table 4.1.

Demographics of Survey Respondents

Ethnicity	Age					Education					Marital Status				
	18 - 25	26 - 35	36 - 45	46 - 55	56 - 65	>65	High school	Some college	Graduate or higher	Technical degree	4-year college	other	Single	Married	Others
African American	15	9	4	4	2	1	2	17	10	2	4	0	23	7	5
Asian	2	0	0	0	0	0	1	0	1	0	0	0	1	1	0
Caucasian	4	4	6	2	0	1	2	7	5	0	2	1	8	7	2
Hispanic	2	1	0	0	0	0	1	2	0	0	0	0	2	1	0
Others	0	2	1	0	0	0	2	0	1	0	0	0	2	1	0

Two-way ANOVA was used to examine age and ethnicity effects on BES, SCS, and CI. The results of the analyses revealed no main effect of age, ethnicity, and interaction effect of age * ethnicity on BES and CI (see Table 4.2). However, there is a main effect of ethnicity on SCS ($F(4, 44) = 5.44, p < .05$), suggesting that people from other ethnic group such as west Indians and Black African demonstrated the highest SCS, followed by African Americans, Hispanics, and Caucasians, respectively.

Table 4.2 represents two-way ANOVA summary table.

Table 4.2.

Two-Way ANOVA Summary Table for BES, SCS, and CI Variable Differences

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Dependent Variable: BES					
age	10181.63	5	2036.33	2.28	.063
ethnicity	7655.35	4	1913.84	2.14	.09
age * ethnicity	3235.74	6	539.29	.60	.73
Error	39340.80	44	894.11		
Total	1825744.80	60			
Dependent Variable: SCS					
age	1481.965	5	296.39	2.36	.06
ethnicity	2735.28	4	683.82	5.44	.00*
age * ethnicity	1152.603	6	192.10	1.53	.19
Error	5532.44	44	125.74		
Total	272310.87				
Dependent Variable: CI					
age	2156.58	5	431.32	.86	.52
ethnicity	4309.72	4	1077.43	2.14	.09
age * ethnicity	2480.227	6	413.37	.82	.56
Error	22130.96	44	502.98		
Total	386915.53				

Note. BES = Body-esteem scale; SCS = Self-concept scale; CI = Clothing Involvement scale; * *F* value is significant at the 0.05 level (2-tailed).

At last, linear regression was used to examine whether BMI significantly predicts the scores on CI and SA. The results showed that BMI does not significantly predict both variables (see Table 4.3). Therefore, for all analyses, the data with different BMI were combined.

Table 4.3 presents the unstandardized beta (B), standard error estimates (*SE B*), the standardized betas (β), the *t* statistics, and the p-values for linear regression analysis predicting CI and SA.

Table 4.3.

Linear Regression Analysis Predicting CI and SA by BMI

Variable	B	<i>SE B</i>	β	<i>t</i>	p
CI	.11	.45	.03	.25	.80
MP	.06	.08	.10	.77	.44
MQ	.03	.05	.07	.55	.59
MA	.03	.06	.08	.58	.56
RS	.06	.10	.08	.59	.59
VI	.12	.12	.14	1.04	.30
IE	.20	.13	.20	1.58	.12

Note. CI = Clothing Involvement scale; MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel, VI = Visual Image; IE = In-store Ease of access.

Pearson correlation analysis was used to test inter-correlations among research variables. The result indicated moderate inter-correlations among those factors:

BES/SCS = .66, BES/MQ = .36, BES/MA = .34, BES/RS = .34, BES/VI = .34,

BES/IE = .33, SCS/MQ = .27, SCS/MA = .42, SCS/VI = .36 and SCS/IE = .38. The

moderate interrelation suggests that those factors are somewhat interrelated but still

represent distinct constructs. However, the correlation between RS and IE ($r = .74$),

and VI and IE ($r = .73$), was above .70, which is considered high enough to affect regression analysis adversely through multicollinearity (Pedhazur, 1997). Thus, two store attributes: VI (Visual Image of the store) and IE (In-store Ease of access) were combined into a new store attribute called Store Display (SD) based on the nature of these two attributes. Reliability analysis suggest that the new variable SD has high interitem reliability coefficient (Cronbach's alpha = .919). From the correlation table including the new variable (see Table 4.4), all variables are moderately related to each other. Also, the result indicated that BES significantly correlated to all store attributes except MP at the .01 level: BES/MQ = .36, BES/MA = .34, BES/RS = .34 and BES/SD = .36. While SCS was significantly correlated with MQ, MA, and SD ($r = .27, .42, .40$, respectively) at .05 level. CI was found to have no significantly correlation with any of those variables. This result implied that positive relationships between BES and CI, as well as CI and SA may not be found in subsequent future regression analysis.

Descriptive Statistics

The calculated means, standard deviations, skewness, and Kurtosis for nine indicators (BES, SCS, CI, MP, MQ, MA, RS, and SD) are shown in Table 4.5. BMI was calculated as $BMI = \text{weight (kg)} / [\text{height (m)}]^2$ by using weight and height values reported by respondents (CDC, 2007). The respondent was classified as overweight if her BMI was calculated greater than 25.0; while the respondent was classified as obese if her BMI was calculated greater than 30.0. Most respondents were classified as at least overweight (defined as $BMI > 25.0$) ($M = 36.83$) as they reported, except two respondents with a BMI equal to 24.39 and 23.47. Due to the

close nature of those values to 25.0, the respondents were included in the future data analysis.

Table 4.4 represents correlations among BES, SCS, CI, MP, MQ, MA, RS, and SD Variables.

Table 4.4.

Correlations among BES, SCS, CI, MP, MQ, MA, RS, and SD Variables

	BES	SCS	CI	MP	MQ	MA	RS	VI	IE
BES	1								
SCS	.66**	1							
CI	.08	-.07	1						
MP	.21	.18	-.02	1					
MQ	.36**	.27*	.05	.44**	1				
MA	.34**	.42**	-.01	.36**	.42**	1			
RS	.34**	.22	.11	.33*	.57**	.49**	1		
SD	.36**	.40**	.18	.18	.33**	.62**	.68**	1	
N	60	60	60	60	60	60	60	60	60

Note. BES = Body-esteem scale; SCS = Self-concept scale; CI = Clothing Involvement scale; MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel, SD = Store Display; N = sample size; **Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

The mean scores for all variables tended to be relatively high (5 or 6) on a 7-point scale. This implied that the respondents tended to have positive feelings about their bodies and themselves; are highly involved with clothing; and considered all five store attributes important. Among the five store attributes included in the study—Merchandise Price (MP), Merchandise Quality (MQ), Merchandise Assortment (MA),

Responsiveness of Sales personnel (RS), and Store Display (SD)—SD had the highest score ($M = 6.40$), followed by MQ, MA, and RS ($M = 6.24$, 6.14 , and 5.91 , respectively). MP, supporting previous literature and interview results, has the lowest score ($M = 5.37$).

Most values for skewness and kurtosis fit into an appropriate range (i.e., below the absolute value of 2), indicating the normal distribution of the scores across the variables of interest (Heppner & Heppner, 2004). Only two variables, SCS (*Kurtosis* = 4.48) and CI (*Kurtosis* = 3.81), indicated high kurtosis, which suggest that respondents' responses were consistently high for the SCS and CI scales. The high kurtosis score of SCS may be due to the fact that overweight women tend to report higher scores on self-concept than what they really feel. The high kurtosis score for CI may be due to the majority of the study respondents being sales associates and working in plus-size clothing stores. They may be more involved with clothing than the average plus-size consumer. It should be noted that the high kurtosis value of SCS and CI may have an impact on the subsequent regression analyses testing the positive associations among BES, SCS, and SA.

Reliability coefficients for BES, SCS, CI, MP, MQ, MA, RS and SD were .96, .94, .82, .80, .84, .61, .86 and .92, indicating that all scales had acceptable internal consistency with the exception of MA which was somewhat low.

Table 4.5 represents the means, standard deviations, skewness, kurtosis and alpha coefficient for the research variables of interest.

Table 4.5.

Descriptive Statistics

Variables	Mean	Std. Deviation	Skewness	Kurtosis	Alpha Coefficient
BMI	36.83	6.86	.07	-.42	--
BES	5.36	.99	-.34	-.29	.96
SCS	6.02	1.15	-1.97	4.48	.94
CI	5.12	1.57	.94	3.81	.82
MP	5.37	1.33	-.274	-.70	.80
MQ	6.24	.93	-1.17	.57	.84
MA	6.14	.78	-.80	.14	.61
RS	5.91	1.07	-.90	.15	.86
SD	6.40	1.09	-.53	-.72	.92

Note. BMI = Body Mass Index; BES = Body-esteem scale; SCS = Self-concept scale; CI = Clothing involvement scale; MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel; SD= Store Display

Research Hypothesis Testing

Multiple regression was conducted to test the study's research hypotheses by incorporating demographic (age and ethnicity) and BMI variables. As indicated before, VI (visual image of the store) and IE (in-store ease of access) were combined into a new variable called SD (Store Display), thus, the revised hypotheses tested were:

- H1: For plus-size females, there is a positive relationship between body esteem and clothing involvement.
- H2: For plus-size females, there is a positive relationship between self-concept and clothing involvement.

H3a: For plus-size females, there is a negative relationship between clothing involvement and a store's merchandise price.

H3b: For plus-size females, there is a positive relationship between clothing involvement and a store's merchandise quality.

H3c: For plus-size females, there is a positive relationship between clothing involvement and a store's merchandise assortment.

H3d: For plus-size female, there is a positive relationship between clothing involvement and the responsiveness of a store's sale personnel.

H3e: For plus-size females, there is a positive relationship between clothing involvement and a store's display.

Hypotheses 1 and 2

Age and ethnicity were first entered as predictors by using a dummy coding. Age group 18-25 and Caucasian group were the reference groups. BES, SCS, age, ethnicity, and BMI scores were then entered into a multiple linear regression model predicting CI. The results, shown in Table 4.6, indicated that the model was not significant, $F(7, 48) = 2.21, p > .05$. Neither BES nor SCS significantly influenced CI score at .05 level. Therefore, hypotheses 1 and 2 were not supported.

Table 4.6 presents the unstandardized beta (B), standard error estimates (SE B), the standardized betas (β), the t statistics, and the p-values for multiple regression analysis predicting CI.

Table 4.6.

Multiple Regression Analysis Predicting CI

Variable	B	SE B	β	<i>t</i>	p
BES	.17	.13	.21	1.30	.20
SCS	-.62	.34	-.31	-1.85	.07
Age 26-45	5.23	6.56	.11	.80	.43
Age 46-65	-1.93	7.06	-.04	-.27	.78
African American	6.32	7.65	.13	.83	.41
Hispanic	63.37	18.87	.60	3.36	.00*
Other ethnicity	-29.64	14.51	-.39	-2.04	.05

Note. BES = Body-esteem scale; SCS = Self-concept scale; CI = Clothing Involvement scale. * *t* value is significant at .05 level. Age from 18-25 and Caucasian were nondummy independent variable (Studenmund, 1997).

Hypotheses 3a to 3e

The predictor variables: CI, age, ethnicity, and BMI scores were entered into a simultaneous multiple regression model predicting five store attributes (MP, MQ, MA, RS, and SD). The results (see Table 4.7) indicated that none of the models except the one predicting MQ by CI ($F(6, 49) = 3.18, p = .01 < .05$) was found significant at .05 level. R^2 for the model was .28, with an adjusted R^2 of .19. Thus, the hypotheses predicting that CI would impact consumers' perceptions of MP, MA, RS and SD were not supported, while the hypothesis predicting that CI would impact consumers' perceptions of MQ was supported. The more involved with clothing, the more emphasis plus-size consumers put on clothing quality in the store.

In terms of the effects of age and ethnicity on the relationship between CI and SA, ethnicity was found to have significant impact on the relationship. African Americans and Caucasians differed significantly on the prediction effect of CI on MP ($t = 2.37, p = .02$).

Table 4.7 presents the R^2 , adjusted R^2 , F , and p-value for multiple regression models predicting five store attributes by CI.

Table 4.7.

Multiple Regression Model Predicting SA (MP, MQ, MA, RS, and SD) by CI

Criterion	R^2	Adjusted R^2	F	p
MP	.16	.06	1.55	.18
MQ	.28	.19	3.18	.01*
MA	.07	-.04	.62	.71
RS	.17	.07	1.70	.14
SD	.17	.07	1.72	.14

Note. Independent Variable: CI. ; CI = Clothing involvement scale; MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel, SD = Store Display. * F value is significant at .05 level.

Table 4.8 presents the unstandardized beta (B), standard error estimates (SE B), the standardized betas (β), the t statistics, and the p-values for multiple regression predicting five store attributes by CI.

Table 4.8.

Multiple Regression Analysis Predicting SA (MP, MQ, MA, RS, and SD)

Criterion	Variable	B	SE B	β	t	p
MP	CI	-.00	.02	-.01	-.11	.91
	Age 26-45	-.95	1.07	-.02	-.89	.38
	Age 46-65	-.42	1.14	-.05	-.36	.72
	African American	2.79	1.18	.36	2.37	.02*
	Hispanic	-1.33	3.41	-.08	-.39	.70
	Other ethnicity	3.65	2.47	.30	1.47	.15

Table 4.8 (continued)

MQ	CI	.01	.02	.12	.92	.36
	Age 26-45	1.32	.75	.23	1.77	.08
	Age 46-65	-1.45	.80	-.23	-1.82	.07
	African American	1.52	.82	.26	1.84	.07
	Hispanic	-4.49	2.38	-.35	-1.88	.07
	Other ethnicity	.53	1.73	.06	.31	.76
	MA	CI	-.00	.02	-.03	-.20
Age 26-45		1.21	.94	.19	1.29	.20
Age 46-65		-1.11	1.00	-.16	-1.11	.27
African American		.74	1.03	.11	.71	.48
Hispanic		-.99	3.00	-.07	-.33	.74
Other ethnicity		-.21	2.17	-.02	-.10	.92
RS		CI	.04	.03	.17	1.16
	Age 26-45	1.14	1.53	.10	.74	.46
	Age 46-65	-1.79	1.64	-.15	-1.09	.28
	African American	2.39	1.69	.21	1.41	.16
	Hispanic	-5.13	4.90	-.21	-1.05	.30
	Other ethnicity	-.64	3.55	-.04	-.18	.86
	SD	CI	.13	.07	.25	1.71
Age 26-45		1.40	3.39	.06	.41	.68
Age 46-65		-3.61	3.63	-.14	-.99	.32
African American		5.88	3.74	.24	1.57	.12
Hispanic		-17.43	10.84	-.32	-1.61	.11
Other ethnicity		6.61	7.86	.17	.84	.40

Note. MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel, SD = Store Display. * t value is significant at .05 level.

As mentioned in the preliminary analysis, correlation analyses suggested that there were significant inter-correlations between BES, SCS and some SA variables. Multiple regression was thus conducted to investigate whether BES and SCS were predictors to SA. The regression analyses revealed that BES and SCS significantly predicted MQ and SD (see Table 4.9) and only BES was found to be a significant predictor of RS ($t = 2.07$, $p = .04$).

Table 4.9 presents the R^2 , adjusted R^2 , F , and p-value for the multiple regression models predicting five store attributes by BES and SCS.

Table 4.9.

Multiple Regression Model Predicting SA (MP, MQ, MA, RS, and SD) by BES and SCS

Criterion	R^2	Adjusted R^2	F	p
MP	.20	.09	1.76	.12
MQ	.33	.24	3.43	.00*
MA	.21	.10	1.88	.09
RS	.26	.16	2.46	.03*
SD	.26	.15	2.37	.04*

Note. Independent Variable: BES and SCS; MP = Merchandise Price; MQ = Merchandise Quality; MA = Merchandise Assortment; RS = Responsiveness of Sales personnel, SD = Store Display. * F value is significant at .05 level.

CHAPTER V

CONCLUSIONS

Chapter V presents five sections: (1) Study Summary, (2) Discussion, (3) Implications, (4) Study Limitations, and (5) Future Research.

Study Summary

This study specifically sought to understand better how plus-size female consumers perceive their bodies and themselves, and how their body-esteem and self-concept may influence involvement with clothing and, finally, what impact that might have on their perceptions of the importance of plus-size store attributes. Given little extant research in this particular area, the study was exploratory in nature to gain a broad understanding of plus-size female consumers and to begin the process of mapping their consumer needs and wants.

Three primary steps were taken to achieve the purpose of the study. First, the researcher reviewed the relevant literature on self-concept theory, involvement theory, and store image to explore psychological characteristics as well as clothing and shopping behavior of plus-size consumers. Second, the business literature on plus-size retailing was reviewed to understand better the plus-size market and plus-size consumers. Third, in-depth interviews with four plus-size retailers and three plus-size consumers were conducted to help develop specific research hypotheses.

Finally, eight research hypotheses were developed based on the findings from the previous research stages. However, those eight hypotheses were reduced to seven hypotheses during statistic analysis, in which two original hypotheses containing

variables as visual image of the store and in-store ease of access were replaced by one hypothesis with a new variable: store display. Two hypotheses predicted that plus-size consumers' body-esteem and self-concept would positively affect their involvement with clothing. The remaining five hypotheses predicted that the perceived importance of five store attributes (merchandise quality, merchandise assortment, responsiveness of sales personnel, and store display) would be influenced by the degree of clothing involvement. Results indicated that only the hypothesis predicting the perceived importance of store merchandise quality by BES and SCS was supported. Additional analysis, however, revealed some interesting findings.

Discussion

Hypothesis Testing Results

Hypotheses 1 and 2 predicted that the clothing involvement of plus-size consumers would be predicted by their body-esteem and self-concept scores. Neither of these predictions was supported by the results of this study. No relationships between body-esteem or self-concept score and clothing involvement were found across all ages and ethnic groups. Interestingly, the results were not consistent with the findings of Rosa and colleagues (2005), who found that body-esteem had a positive influence on clothing involvement. One explanation of this contradictory finding may be the difference between the samples in the two studies. The Rosa and colleagues' (2005) study respondents were U.S. Internet consumers of both genders (not plus-size consumers), while this study included only female plus-size consumers. Among plus-size consumers, this relationship may not exist. Plus-size consumers may not differ significantly either on self-perception or on the degree of clothing

involvement, or both. For example, a plus-size consumer who has low body-esteem may be as highly involved with clothing as her peers because clothing may compensate for her body dissatisfaction (Sontag et al., 1982). Too, as stated in Chapter IV, most respondents in this study were sale associates working in plus-size clothing stores, and they may exhibit consistently high scores on clothing involvement because they have a higher overall interest in clothing than regular consumers. The lack of variation in the clothing involvement variable may influenced the results.

Likewise, the lack of a significant relationship between self-concept and clothing involvement may be explained in the same way. Otieno and colleagues (2005) stated that self-concept may influence fashion involvement because fashion clothing is highly related to feelings of esteem, self-image and worth. However, for regular clothing, clothing involvement may be influenced by other factors such as age, professions, income, personality, etc. rather than general self-perception. For example, interviews with plus-size consumers found that young and professional plus-size shoppers seem to be more involved with clothing than housewives in the fact that they paid more attention to how other people dress and cared more about other people's view of their dress. They felt that clothing may enhance their confidence in the public.

Hypothesis 3b stated that plus-size consumers' clothing involvement has a positive influence on the importance of merchandise quality. This prediction was supported by the results of the study. The more plus-size consumers were involved with clothing, the more they perceived clothing quality in the store as an important factor. This finding was consistent with Fairhurst and colleagues' (1989)'s study, which found different fashion involvements to be associated with the quality of

merchandise (Fairhurst et al., 1989).

Hypotheses 3a, 3c, 3d and revised 3e stated that plus-size consumers' clothing involvement influenced four store attributes (merchandise price, merchandise assortment, responsiveness of sale personnel, and store display). Those hypotheses were not supported by the results of the study. Clothing involvement was not found to relate to any of the store attributes across all age and ethnicity groups. There are three alternate explanations for this result. First, Fairhurst and colleagues (1989) assumed that the strength of one's beliefs about store attributes varied directly with apparel involvement for general consumers. However, this may not hold true for plus-size consumers. The results of the study interviews indicated that fashion appeared to be less of a concern for most plus-size consumers. Thus, a strong relationship between clothing involvement and perceptions of store attributes by plus-size consumers regarding general clothing may not exist. Then again, the consistency of the clothing involvement score may have influenced the results. Also, the perceptions of store attributes may have been biased by the close association of the sale associates, the majority of the study sample, with the stores.

Among the five store attributes of plus-size specialty stores, the score levels of plus-size consumers in this study in descending order were store display, followed by merchandise quality, merchandise assortment, and responsiveness of sales personnel, with merchandise price ranked as the lowest. Mintel research did find that over one third of the respondents were concerned with store location (in an inconvenient area) when shopping for plus size clothing (Mintel, 2007). Similarly, this study indicated that convenience was important, for example, the ability to move around the store and

the availability of changing rooms were the most important store attributes indicated by plus-size consumers. This result was consistent with the results of the study interviews. Both plus-size consumers and retailers mentioned that a convenient in-store shopping environment was a very important attribute of store selection. Also the results of the interviews showed that clothing quality and the helpfulness of sale personnel were of the most concerned to plus-size consumers. Finally, the results of the plus-size interviews indicated that plus-size consumers were willing to pay more in order to get good quality clothes. This was reflected in the survey results, in which merchandise price was found to be the least important store attribute.

New Findings

The new findings of this study included the significant predicting effects of body-esteem and self-concept relative to three store attributes. Body-esteem alone was found to predict responsiveness of sale personnel in the store, while consumers' body-esteem and general self-concept score together were found to have a significant impact on their perceptions of store merchandise quality and store display. However, whether these relationships can be applied to general plus-size consumers need further investigation.

Study Contributions

Theoretical Implications

This exploratory study has made several important contributions to our knowledge of plus-size consumers and their behavior in the marketplace. One important contribution is that the study extends the previous literature and theoretical understanding of body-esteem and self-concept of overweight women by exploring

the relationship between bodily feelings and BMI. Specifically, among overweight or obese women, the degree to which they were overweight or obese did not appear to influence plus-size consumers' perceptions of body and general self.

Another important contribution of this study to the literature on investigating body-esteem, involvement with clothing, and perceptions of store attributes was extending it beyond segmentation studies which have formed the majority of previous studies (e.g. Roberson, 1976). In addition, while there have been studies investigating big and tall men and tuxedo consumers' clothing involvement and perceived store attributes (Shim et al., 1991; May et al., 1992), this study comprehensively explored these issues for the first time with plus-size female consumers—who have consistently been among the most profitable target markets and may be significantly different from other consumers in terms of body-esteem, clothing involvement, and perception of store attributes.

Finally, this study provided evidence of the direct influence of body-related and general self perception on the perceived importance of store attributes, an area that has thus far received limited attention in consumer research. Furthermore, it has pushed into a new area—the interactive role of body-esteem and store attributes—suggesting that how plus-size consumers perceive their body and self affect the way they perceive the importance of store attributes.

One important methodological implication of this study is the importance of qualitative research in understanding plus-size consumers better. In-depth interviews from this study provided many helpful insights into how plus-sized consumers relate to themselves, clothing and retail establishments. Given the early nature of the

research area, interviews and focus groups appear to be needed to provide the information about plus-size consumers that is needed for research to progress in the area.

Practical Implications

The findings from both the qualitative and quantitative studies have practical implications for plus-size retailers. The results suggest that consumers' perceptions of the importance of merchandise quality are influenced by the degree of involvement with clothing. Retailers may want to emphasize different store attributes to target consumers with different levels of clothing involvement. Secondly, there are consistent perceptions of the importance of store attributes by consumers and retailers. They agreed that a convenient store environment is very important in plus-size specialty stores.

Also, plus-size retailers do realize that merchandise assortment and friendliness and helpfulness of sales personnel are important to bring in and keep more customers. In terms of product itself, as the results of interviews indicated, professional and nonprofessional women tended to put different emphases on their clothing. Professional women emphasized clothing style, whereas nonprofessionals appeared to be more concerned about the comfort issue. Thus, retailers need to continue to support good merchandise assortment, to hire helpful sales personnel, and to provide style as well as comfort in their clothing designs.

Plus-size retailers also indicated that the potential of online business given the limited access that many plus-size consumers have to plus-size stores and merchandises is great. Retailers may want to give their Web efforts special attention

to develop this potential market.

Limitations

As with all studies, this study has its limitations. First, given that the study's sample was a purposive sample with participants recruited primarily from plus-size consumers engaged in the plus-size retail industry in two states of the United States, the sample cannot be described as a random sample of plus-size consumers. Care should be taken in generalizing the study results beyond the sample base. Second, the sample included a majority of African American (58.3%) and Caucasian (28.3%) plus-size consumers ages 18 to 35 (65.0%), and this sample composition should be taken into account when considering the study findings. Third, as the majority of respondents were sales associates in plus-size retail stores, the scores on clothing involvement and the importance of store attributes may have been biased due to the influence of the respondents' job characteristics, as evidenced by consistently high levels of clothing involvement. Finally, questions on the survey that explored feelings about body parts (5 missing values), self-concept (4 missing values), and weight (5 missing values) were uncomfortable for some respondents as indicated by the high rate of missing values for these items on the survey. Those missing values may have somewhat distorted the statistical analyses. Finally, due to the small sample size of the study, Type I error may have been a factor in the results.

Future Research

As overweight and obesity rates continue to rise among American women, their self-perceptions, clothing involvement, and consumption preferences—topics

ripe for exploration and theoretical advances—will deserve even more attention from business and academic researchers. Three research topics offer the potential for important contributions to the literature. First, future research should include other age and ethnic groups given the expected demographic changes in the United States over the next several decades (CDC, 2007). Older consumers will become more important in the market place. The wealth with which the Baby Boomers are anticipated to retire makes the older consumer a different economic force than in past generations, and this will likely be expressed in the plus-size market given that weight gain is often associated with aging. Likewise Hispanic-Americans and Asian-Americans, two important target markets, may have different self-perceptions, as well as perspectives on clothing and store attributes. It would be interesting to compare plus-size consumers representing the key ethnic groups that will be impacting the plus-size marketplace, especially given that the Hispanic and African American markets have a higher percentage of overweight and obese female consumers than the Caucasian market.

Second, it would be meaningful to investigate further the relationship among body-esteem and self-concept and the perceived importance of store attributes. Although this study provides empirical evidence that body perceptions and self-related information can be important to consumer beliefs about the importance of store attributes, future research should specifically test for these relationships. Furthermore, future research may explore whether these relationships for plus-size consumers are similar to or different from other consumers.

Finally, the brief qualitative research done for this study should be extended.

Additional and more extensive interviews should be conducted with retailers (buyers and/or store managers), as well as general plus-size consumers. Another qualitative research technique, focus groups, could be pursued as well in order to determine what, if any, social influences and interactions may be affecting consumer behavior among plus-size female consumers.

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APPENDIX A
QUALITATIVE INTERVIEW INFORMANTS

Table A.1.

Demographic Information of In-depth Interview Informants

Plus-size Retailers	Informants ^a	Title	Company
	AZ	Buyer - Career Sportswear and Coordinates	Catherine's, Charming Shoppes, Inc.
	BY	VP of Product Development	Catherine's, Charming Shoppes, Inc.
	CX	Regional Manager	Catherine's, Charming Shoppes, Inc.
	DW	VP/Divisional Merchandise Manager of Plus Sportswear	Fashion Bug, Charming Shoppes, Inc.
Plus-size Consumers	XA	Professional	
	YB	Housewife	
	ZC	Student	

Note. ^aReference to each informant is coded in a confidential file.

APPENDIX B
QUALITATIVE INTERVIEW SCHEDULE

Role of fashion in the consumer's life... (Clothing and Psychology)

1. How important is clothing to you as an individual?
2. Are you concerned about how people think about how you dress?
3. Do you pay attention to how other people dress? Do you pay more attention on how non-plus size people dress or how plus size people dress? Why?
4. Do the clothes you wear influence how you feel about yourself?
5. Do you feel different when you dress in different clothes? What is the difference that you feel?
6. When you're feeling good about how you look, what part does clothing play in that feeling?
7. When you feel your clothing doesn't look good on you, what do you think is wrong with those garments? How part does clothing play in that feeling?
8. When people notice how you're dressed, what do you wish they would say about it?
9. In what specific ways do your garments contribute to a feeling of well-being? A feeling of being attractive?
10. What is your favorite outfit? Why do you like it?
11. What outfits/garments do you receive the most compliments on? Why do you think you receive these compliments?
12. Do you like your clothes most because others compliment you on them or because you like the clothes? Why?
13. What do you expect from clothes that you wear?
14. What do you not expect from clothes that you wear?
15. How important is clothing to you as an individual?

Shopping at retailers...

1. How difficult it is for you to find plus-size specialty stores? Why?
2. How difficult it is for you to find plus-size department stores? Why?
3. When you shop, what are the first stores you consider for plus sizes? Why?
4. Have you ever purchase plus size clothing from the Internet? Do you like to buy clothes from the Internet? Why?
5. What are the best and worst things about plus size specialty stores?
6. What are the best and worst things about plus size departments in department stores?
7. What things in a plus size retail store draw you into that store? Its name? offerings? activities? promotions? Etc.
8. What expectations do you have of the stores you shop with? Its clothing? Its assortment? Its service and personnel? Store atmosphere? Security? Fitting rooms? Fashion advice? Etc.
9. Are you loyal to certain plus size clothing stores? Why?
10. What do you think could or should be improved in plus size stores?

11. How difficult it is for you to find plus-size specialty stores? Why?
12. How difficult it is for you to find plus-size department stores? Why?
13. When you shop, what are the first stores you consider for plus sizes? Why?
14. Have you ever purchase plus size clothing from the Internet? Do you like to buy clothes from the Internet? Why?
15. What are the best and worst things about plus size specialty stores?
16. What are the best and worst things about plus size departments in department stores?
17. What things in a plus size retail store draw you into that store? Its name? offerings? activities? promotions? Etc.
18. What expectations do you have of the stores you shop with? Its clothing? Its assortment? Its service and personnel? Store atmosphere? Security? Fitting rooms? Fashion advice? Etc.
19. Are you loyal to certain plus size clothing stores? Why?
20. What do you think could or should be improved in plus size stores?
21. How difficult it is for you to find plus-size specialty stores? Why?

Clothing attributes...

1. Which factors impact your clothing purchases the most and why? Fit, comfort, hiding body flaws, fashion, price, brand, easy care, durability.....
2. Are you loyal to certain plus size brands? Why or why not?
3. Are fabrics important in making your decisions about garments you purchase? Why/why not? Which fabrics do you particular like?
4. Which type of clothing (casual, business, formal, etc.) do you prefer? Why?
5. What styles of garments (pants, skirts, jackets, dresses, etc.) do you prefer? Why?
6. What do you think could or should be improved in plus size clothes?
7. How would you describe the clothing of the best-dressed plus-size woman you know?
8. How do you feel your clothing choices are different from or the same as non-plus size consumers?
9. What issues as a plus-size clothing customer do you feel are not being addressed in the marketplace?

APPENDIX C
SURVEY QUESTIONNAIRE

THE U.S. PLUS-SIZE FEMALE CONSUMER SURVEY

This survey is being conducted by Meng Wang, a Master's student in the Department of Consumer, Apparel, and Retail Studies at the University of North Carolina at Greensboro as part of a thesis requirement. You have been selected to participate in this study as the researcher believes that you can provide valuable opinions as a consumer on clothing and shopping behaviors. Your cooperation is totally voluntary and your responses are anonymous. The data collected will be kept confidential and used in this research project only.

It will take you 10-15 minutes to finish the survey. Please respond to ALL questions. Your completed survey will be picked up within one week. You will receive a copy of the results of this study if you are interested and provide your contact information at the end of the survey.

Your participation is very important to the success of this research. We sincerely appreciate your participation and time!



Meng Wang, Master's Student (m_wang@uncg.edu)
Department of Consumer, Apparel, and Retail Studies
School of Human Environmental Sciences
PO Box 26170, 361 Stone Building,
Greensboro, NC 27412

PART A. BODY-ESTEEM

As a clothing consumer, we are interested in your feelings about your body. Please circle one answer for each statement below to indicate how much you agree or disagree with the following statements on a scale where 1 = “strongly disagree” and 7 = “strongly agree.”

I feel positive about my...

	Strongly Disagree			Strongly Agree			
	1	2	3	4	5	6	7
1. Body scent	1	2	3	4	5	6	7
2. Nose	1	2	3	4	5	6	7
3. Lips	1	2	3	4	5	6	7
4. Ears	1	2	3	4	5	6	7
5. Chin	1	2	3	4	5	6	7
6. Chest or breasts	1	2	3	4	5	6	7
7. Appearance of eyes	1	2	3	4	5	6	7
8. Cheekbones	1	2	3	4	5	6	7
9. Sex organs	1	2	3	4	5	6	7
10. Sex drive	1	2	3	4	5	6	7
11. Sex activities	1	2	3	4	5	6	7
12. Body hair	1	2	3	4	5	6	7
13. Face	1	2	3	4	5	6	7
14. Physical stamina	1	2	3	4	5	6	7
15. Reflexes	1	2	3	4	5	6	7
16. Muscular strength	1	2	3	4	5	6	7
17. Energy level	1	2	3	4	5	6	7
18. Biceps	1	2	3	4	5	6	7
19. Physical coordination	1	2	3	4	5	6	7
20. Agility health	1	2	3	4	5	6	7
21. Health	1	2	3	4	5	6	7
22. Physical condition	1	2	3	4	5	6	7
23. Appetite	1	2	3	4	5	6	7
24. Waist	1	2	3	4	5	6	7
25. Thighs	1	2	3	4	5	6	7
26. Body build	1	2	3	4	5	6	7
27. Buttocks	1	2	3	4	5	6	7
28. Hips	1	2	3	4	5	6	7
29. Legs	1	2	3	4	5	6	7
30. Figure or physique	1	2	3	4	5	6	7
31. Appearance of stomach	1	2	3	4	5	6	7
32. Weight	1	2	3	4	5	6	7

PART B. SELF-CONCEPT

We are interested in your self-concept as a clothing consumer. Please circle one answer for each statement below to indicate how much you agree or disagree with that statement on a scale where 1 = “strongly disagree” and 7 = “strongly agree.”

	Strongly Disagree			Strongly Agree			
1. Overall, I have a lot of respect for myself.	1	2	3	4	5	6	7
2. Overall, I have very good self-confidence.	1	2	3	4	5	6	7
3. Overall, I lack self-confidence.	1	2	3	4	5	6	7
4. Overall, I am pretty accepting of myself.	1	2	3	4	5	6	7
5. Overall, I don't have much respect for myself.	1	2	3	4	5	6	7
6. Overall, I have a lot of self-confidence.	1	2	3	4	5	6	7
7. Overall, I have a very good self-concept.	1	2	3	4	5	6	7
8. Overall, I have pretty positive feelings about myself.	1	2	3	4	5	6	7
9. Overall, I have a very poor self-concept.	1	2	3	4	5	6	7
110. Overall, I have pretty negative feelings about myself.	1	2	3	4	5	6	7
111. Overall, I am not very accepting of myself.	1	2	3	4	5	6	7

PART C. INVOLVEMENT IN CLOTHING

We are interested in your involvement with clothing. Please circle one answer for each statement below to indicate how much you agree or disagree with that statement on a scale where 1 = “strongly disagree” and 7 = “strongly agree.”

	Strongly Disagree				Strongly Agree		
1. Clothing means a lot to me.	1	2	3	4	5	6	7
2. Clothing is a significant part of my life.	1	2	3	4	5	6	7
3. I have a very strong commitment to clothing that would be difficult to break.	1	2	3	4	5	6	7
4. I consider clothing to be a central part of my life.	1	2	3	4	5	6	7
5. I think about clothing a lot.	1	2	3	4	5	6	7
6. For me personally clothing is an important product.	1	2	3	4	5	6	7
7. I am very interested in clothing.	1	2	3	4	5	6	7
8. Clothing is important to me.	1	2	3	4	5	6	7
9. Clothing is an important part of my life.	1	2	3	4	5	6	7
10. I would say clothing is central to my identity as a person.	1	2	3	4	5	6	7
11. I would say that I am often pre-occupied with clothing.	1	2	3	4	5	6	7
12. I can really identify with clothing.	1	2	3	4	5	6	7
13. I am very much involved in/with clothing.	1	2	3	4	5	6	7
14. I find clothing a very relevant product in my life.	1	2	3	4	5	6	7
15. I pay a lot of attention to clothing.	1	2	3	4	5	6	7

PART D. IMPORTANCE OF STORE ATTRIBUTES

We are interested in your perceptions of stores. Please circle one answer for each statement below to indicate how much you agree or disagree with that statement on a scale where 1 = “strongly disagree” and 7 = “strongly agree.”

	Strongly Disagree				Strongly Agree		
1. It is important that a store has low prices relative to the other stores.	1	2	3	4	5	6	7
2. It is important that a store has reasonable price relative to product.	1	2	3	4	5	6	7
3. It is important that a store has overall low prices.	1	2	3	4	5	6	7
4. It is important that a store has excellent clothing quality relative to other stores.	1	2	3	4	5	6	7
5. It is important that a store has excellent clothing quality relative to price.	1	2	3	4	5	6	7
6. It is important that a store has overall excellent clothing quality.	1	2	3	4	5	6	7
7. Availability of clothing size in a store is important.	1	2	3	4	5	6	7
8. Variety in clothing styles in a store is important.	1	2	3	4	5	6	7
9. Availability of well-known brands is important.	1	2	3	4	5	6	7
10. Variety in product category in a store is important.	1	2	3	4	5	6	7
11. It is important that salespersons give me personal attention.	1	2	3	4	5	6	7
12. It is important that salespersons are always willing to help me.	1	2	3	4	5	6	7
13. It is important that salespersons provide me with prompt service.	1	2	3	4	5	6	7
14. It is important that salespersons are courteous.	1	2	3	4	5	6	7
15. It is important that salespersons are never too busy to assist me.	1	2	3	4	5	6	7
16. Attractive décor in a store is important.	1	2	3	4	5	6	7
17. Attractive physical facilities (check-out counters, shelves, etc) in a store are important.	1	2	3	4	5	6	7
18. Attractive product and promotional displays in a store are important.	1	2	3	4	5	6	7
19. Attractive materials associated with their service (shopping bags, catalogues, etc) in a store are important.	1	2	3	4	5	6	7
20. Well-spaced product displays in a store are important.	1	2	3	4	5	6	7

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
21. It is important that the clothes in a store are laid out in an easy to find manner.	1	2	3	4	5	6	7
20. Well-spaced product displays in a store are important.	1	2	3	4	5	6	7
21. It is important that the clothes in a store are laid out in an easy to find manner.	1	2	3	4	5	6	7
22. It is important that there are many changing/fitting rooms in a store.	1	2	3	4	5	6	7
23. It is important that the changing/fitting rooms are easy to find in a store.	1	2	3	4	5	6	7
24. It is important that there is adequate seating for companions in a store.	1	2	3	4	5	6	7
25. It is important that it is easy to move around in a store.	1	2	3	4	5	6	7
26. It is important that it is easy to find the clothes you want in a store.	1	2	3	4	5	6	7
27. It is important that a store has a fast checkout.	1	2	3	4	5	6	7

PART E. GENERAL QUESTIONS

These questions are for demographic information ONLY. All information will be kept strictly CONFIDENTIAL.

1. Age: 18 to 25 years [] 46 to 55 years []
 26 to 35 years [] 56 to 65 years []
 36 to 45 years [] Older than 65 years []
2. Ethnicity: African American [] Hispanic []
 Asian [] Native American []
 Caucasian [] Other (please specify)

3. Education: High school [] Technical degree []
 Some college [] 4-year college degree []
 Graduate or higher [] Other (please specify)

4. Occupation: _____

5. Marital status: Single [] Separated, Divorced []
 Married [] Other (please specify)

6. Income: Please provide one of the following:

Annual Personal Income:

_____US\$

Annual Household Income:

_____US\$

It would assist this study to be able to calculate your Body Mass Index (BMI), a standard index used in this area of research. Weight and height information are needed to calculate the following formula:

$$\text{BMI} = \text{weight (lbs.)} \div \text{height (in.)} \div \text{height (in.)} \times 703$$

Your approximate weight: _____ (pounds)

Your approximate height: _____ (feet) _____ (inches)

Thank you for taking the time to complete this survey!

Contact Information:

Meng Wang, Master Student (m_wang@uncg.edu)
Department of Consumer, Apparel, and Retail Studies
School of Human Environmental Sciences
PO Box 26170, 361 Stone Building,
Greensboro, NC 27412

[] Yes, I would like a copy of the research report from this study.

[] No, I do not want a copy of the research report from this study.

To what address may we send your personal research report? (please PRINT your name and address in the space below)

APPENDIX D
INTERVIEW RECRUITMENT MATERIAL

Recruitment Materials
(Consumers)

Each interview participant will be given the following message verbally or via e-mail communications as part of the recruiting process:

I am conducting interviews with any consumers who have ever purchased plus-size clothes for themselves as part of a research project.

The aim of this research is to explore consumers' value perceptions of plus-size clothing and retail stores. Your opinions and views of plus-size clothing and retail are extremely valuable to achieve the project's research goals.

If you would like to participate in this study, I will present to you a "consent to act as a human participant" form to read just prior to the interview. Before you are interviewed, you will need to sign the "consent" form, which spells out the interview content, interview process, and your rights as a research subject. The interview will take approximately 30 minutes, and you will receive a small gift, such as a pencil, for participating.

Please contact me at 336-686-6606, or email me at m_wang@uncg.edu, if you are interested in participating in this interview.

Thank you.

Meng Wang
Master Student
Department of Consumer, Apparel, and Retail Studies
University of North Carolina at Greensboro

Recruitment Materials
(Retailers)

Each participating retailer will be given the following message verbally as part of the recruiting process:

I am conducting a research project exploring the increasingly important area of plus-size clothing.

The aim of this research is to explore the range and importance of consumers' value perceptions of plus-size clothing and retail stores. The study will contain two phases. The first phase will involve in-depth interviews with plus size consumers exploring their feelings about and experience with plus sizes and the stores in which they shop for plus size items. The second phase will involve a short survey, based on the interview data and an intensive literature review, to be distributed to plus size consumers. The survey will take approximately 15-20 minutes to fill out.

If your store would like to participate in this study and have first access to the resulting data about plus size consumers' wants and needs, I will ask you to allow distribution of the surveys via your customer mailing list. Furthermore, I will ask you to write a letter indicating that you understand the nature of the research project and that you are willing to participate.

Please contact me at 336-686-6606, or email me at m_wang@uncg.edu, if you are interested in participating in this research project.

Thank you.

Meng Wang
Master Student
Department of Consumer, Apparel, and Retail Studies
University of North Carolina at Greensboro

APPENDIX E

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL FOR THE
USE OF HUMAN PARTICIPANTS IN RESEARCH



THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

Office of Research Compliance

2718 Hall for Humanities and Research Administration
PO Box 26170, Greensboro, NC 27402-6170
336.256.1482 Phone 336.256.1482 Fax
www.uncg.edu/orc/

January 24, 2007

Meng Wang
In care of Dr. Barbara Dyer
Consumer, Apparel and Retail Studies
205 Stone
Refer to: IRB No: 067008

Dear Meng Wang,

As required by University policy a member of the UNCG IRB has reviewed and approved your modification application to the protocol entitled "Plus-size Research Project" (IRB No. 067008). This modification allows or grants:

- Change in procedure - modification of the interview questions

You should be aware that any other changes in your protocol must be approved by the IRB prior to being implemented. Likewise, any unanticipated problems, complaints or adverse events that arise during the course of your project which involves human participants must be reported promptly to the Office of Research Compliance. The changes in this modification are valid for the duration of the study unless other changes are approved which circumvent this modification application approval. Thank you for your cooperation on this matter and best wishes on your project.

Sincerely,


Eric Allen, Director
Office of Research Compliance

Cc:

THE UNIVERSITY OF NORTH CAROLINA
GREENSBORO

7/6/2006

IRB File NUM:

067008

TITLE: Plus-size research project

PI: Wang.Megan

DEPT: CAR

CO_PIS:

FACULTY SPONSOR: Dver.Barbara

Action Taken:

eXempt from Full Review

Expedited Review

Full IRB Review

Disposition of Application:

Approved

Disapproved

MODIFICATIONS AND COMMENTS:



IRB Chair/Designee

APPROVAL DATE*: 7-10-06

EXPIRATION DATE*: 7-10-07

*Approval of Research is for up to **ONE** year only. If your research extends beyond one year, the project must be reviewed before the expiration date prior to continuation.

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