

# **Understanding Fitting Preferences of Female Consumers: Development an Expert System to Enhance Accurate Sizing Selection**

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## ***PROJECT GOALS:***

In addition to body measurements as a basis for apparel sizing, in order to produce garments that fit, manufacturers and retailers must understand consumer's perceptions of physical comfort, psychological comfort, and appearance which all impact the consumer decision process. The purpose of this project is to: 1) understand the nuances of fit as defined from the consumer's perspective, 2) develop instruments and methodologies to capture personal fit preferences of the consumer, and 3) translate consumer fit preference data into an expert system to be used in decision making involving fit.

## ***ABSTRACT:***

This report presents a summation of the research activities for years one and two of the project, understanding the fit preferences of women for garments in various apparel categories. Work in the first year involved establishing a global consortium of researchers and industry personnel working in a range of areas impacting consumer preference and fit in women's apparel. Survey work investigating the impact of body cathexis, clothing benefits sought, and personal profiles on fit preferences has been completed. A series of four focus groups using probing and projective techniques were completed to elicit responses from female consumers relative to fit preferences. Dialog from the focus groups is being analyzed to develop a model for understanding fit preferences for female consumers. A national survey to assess fit preferences of a larger female population has been undertaken and is being analyzed. Year three will involve analysis of body scans for development of a fit preference system to provide direction for manufacturers seeking to better define fit for a target market.

## ***INTRODUCTION:***

Industries around the globe have become intent on investing in the latest technology to maintain a competitive edge. The apparel industry has realized its inability to remain competitive by marketing only standardized products and services. One key strategy in industry competitiveness appears to be the ability to develop a means of

product differentiation while consistently delivering quality products that meet customer expectations. Style, fabrication, and price points are means of establishing product differentiation. However, beyond the basics of fashion and style, the perception of good fit from the consumer may be one of the strongest ties an apparel manufacturer can have to the consumer. Consistently, consumers report multiple purchases when they find garments that fit. However, defining and interpreting good fit is difficult and predicated on individual preferences.

This research project to date has focused on identifying components of fit that are important to the consumer. In order to produce garments that “fit”, manufacturers and retailers must understand consumers’ perceptions of physical comfort, psychological comfort, and appearance which all impact the consumer’s decision process. Therefore, understanding the cultural, physical, and psychological differences of women in relation to preferences in garment fit in women’s ready-to-wear is important.

### **Analysis of body shapes and sizing**

The shape and size of the “ideal” American woman has been changing for decades. In the 1700's women were traditionally pear-shaped. In the 1800's, the American standard for women evolved from a rectangle shape, to a bell form, to an hourglass figure late in the century. From the 1900's to 1940, women’s body shapes became rectangular and very slim. From 1940 to 1960, the hourglass shape returned and was epitomized by Marilyn Monroe. The 1980's brought about a strong preference for the muscle-toned look. The early 1990's brought with it the thin waif-like look. Today, in the late 1990's, the ideal woman is thin with body tone. The shapes and sizes of women over the past decades have indeed been changing, however, sizing standards and garment proportions used by the apparel industry have not. In spite of dieting, American women are getting larger.

In 1942 the U.S. Department of Commerce developed sizing data based on the actual measurements of 10,000 American military women. These women were measured at different body points, and assigned sizes 2 to 20 according to measurements at the specified body points (U.S. Department of Commerce, 1942). Although these standards are dated, makers of mass-produced clothing continue to use these measurements as guidelines. The average woman then was 5 feet 2 inches and weighed 129 pounds in the 1940's. Today, the average woman is about 5 feet 4 inches and weighs about 142 pounds.

As a result of this sizing inconsistency, many consumers, particularly female, feel somewhat personally inadequate when clothes do not fit properly. Consumers blame themselves and have negative feelings toward their own bodies rather than the ill-fitted clothing (Labat and DeLong, 1990). When name-brand garments do not fit, women are more likely to feel that they have bodies that are less than ideal. Wenger (1999) labeled “vanity sizing” as one culprit that has led to today’s sizing dilemma. This sizing concept does not give consistent measurements; rather, it makes the sizes of average clothing appear to be twice as small on the size label. The price points for “vanity” sized clothing are very expensive. While this is flattering to some consumers, others continue to be frustrated and distraught.

However, good fit goes beyond a set of body measurements. Women for example with the same bust, waist, and hip measurements, can be completely different shapes with variations in posture, back curvature, hip positions, bust shape, legs, etc. This is a problem because manufacturers use dress forms, and live fit models to test the sizes and fit of garments. However, there is no guarantee that the consumers who are buying these garments will conform to the size and shape of the dress forms or the fit models used by these manufacturers. Labat and DeLong (1990) noted that the most obvious reason for consumer dissatisfaction with the fit of apparel is that it does not conform to the body.

### **Body Cathexis and Body Image**

Other personal factors that affect consumer satisfaction or dissatisfaction with fit are body cathexis (Labat and DeLong, 1990) and body image (Garner and Kearney-Cooke, 1996). Labat and DeLong (1990) found that the external factors which affect the satisfaction of fit include: societal messages concerning the ideal body, the fashion industry's portrayal of an "idealized figure", and industry sizing systems.

Body cathexis is determined by feelings of satisfaction or dissatisfaction with one's body and is important to self-concept. Feelings about specific body sites affect a woman's overall perceived body image. Labat and DeLong (1990) found that female consumers are more dissatisfied with their lower bodies, including the buttocks, thighs, hips, crotch, pant length, and waist, than their upper bodies, including the neck, elbow, arm, midriff, and shoulders. A body image survey where over 3,500 of the 4,000 respondents were women indicated that women were dissatisfied with their abdomens (71%), hips (60%), and body weight (66%)(Garner, 1997).

Studies have shown that people with normal weight are less likely to be dissatisfied with their body image. Those who were dissatisfied were usually overweight, or were not happy with particular body sites. Wenger (1969) found that for most women, fit preferences vary depending on the garment and the site where they want the garment to fit. Many women want garments to be more defining on the part of the body with which they are most satisfied. Hwang (1996) surveyed 177 female college students to study the relationships between satisfaction with different body areas and clothing behavior. The study found that clothing attitude and importance of meeting the ideal body image were moderators for the relationship between body cathexis and clothing benefits sought/clothing behavior.

Clothing is an important part of our body image. The clothes that we wear reflect our personalities, our character, and help to make up our image. Over the last decade, a trend toward individuality has taken root in Western society. People have a deeply rooted mental image of who they believe that they are in relation to their body image. This personal image influences how individuals feel about themselves, how they react to others, and could be tied to what consumers define as good fit of apparel.

Race and gender also appear to have an effect on body image and body dissatisfaction. White women appear to be significantly more dissatisfied with their bodies than Black women. Black women report more satisfaction with and positive feelings toward their bodies than White women. Black women tend to use their peer

group for evaluation of body image rather than depend on the cues found in society.

### **Clothing Benefits Sought**

Much of the work in consumer behavior is based on a model by Engel, Blackwell, and Kollat (1978) which included a process in the evaluation of alternatives in consumer choice that consisted of beliefs, attitudes, intentions and ultimately, consumer choice. To understand and identify consumers clothing preferences, researchers must identify consumer attitudes and intentions toward clothing.

Hwang (1996) developed a scale to evaluate clothing benefits sought relative to fashion innovativeness, satisfaction with ready-to-wear, clothing preferences and shopping behavior. Included in the scales were measures of fashion image, figure flaw compensation, sex appeal, clothing preferences including fit, clothing preferences to emphasize body parts, and clothing preferences for fashion innovativeness.

### **Demographic Profiles**

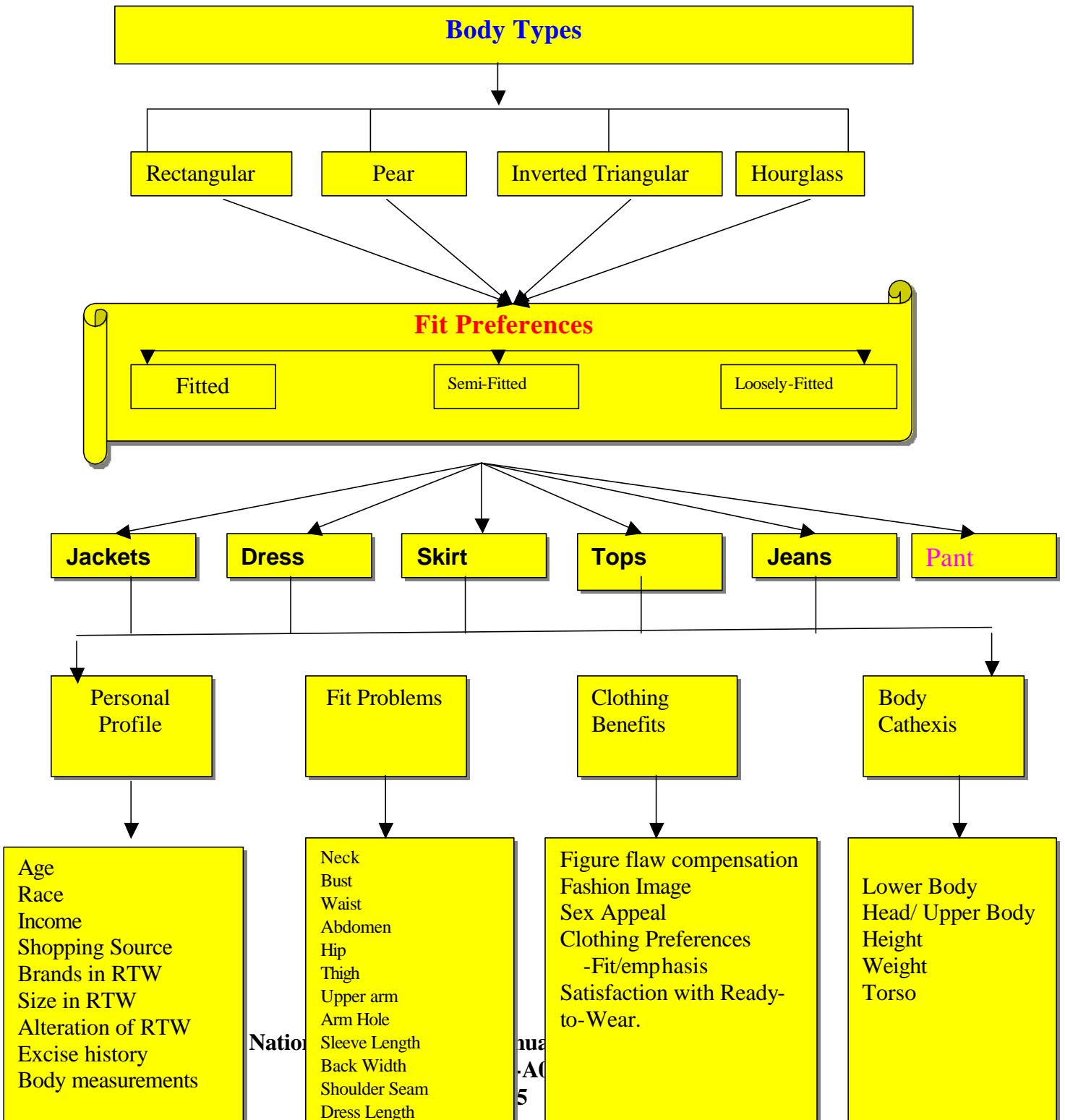
There can be many subjective reasons why the benefits that consumers seek from clothing vary. However, demographics are objective and help identify points where individual consumers may vary or be unified. Aggregated data can help researchers identify and profile larger consumer segments. Several factors affect purchases people desire to make. These factors are financial considerations, family characteristics, culture, social class, previous decisions, individual development, current situation, and marketing efforts. According to a study by Shim and Bickle (1994) it is important to understand the demographics of the consumer in relation to consumer's clothing and fit preferences because consumer characteristics influence the benefits that consumers seek from products.

### ***DEVELOPMENT OF RESEARCH:***

This project is designed to explore the role that fit plays in the purchase decision process for apparel from the "mind of the consumer". That is being accomplished quantitatively with survey work and qualitatively with focus group discussions.

### **Survey Research**

Based on focus group work, a research framework was develop to assess fit preferences for specific womenswear apparel categories relative to the respondent's body cathexis, personal profile, and clothing benefits sought.



### Fit Preference Research Framework

A questionnaire was developed using existing scales to assess each section of the research framework.

Section I is used to determine the respondent's personal profile including: the sites where the consumer most frequently shops for clothing, the sizes of ready-to-wear the consumer has purchased within the last year, the brands of clothing the consumer prefers for good fit, a rating of the consumer's satisfaction with ready-to-wear, and a measure of body locations where clothing has caused problems for the consumer.

Section II is used to identify a range of styles based on career separates and including jackets, skirts, tops, jeans/khakis, and pants that women prefer to wear. Flat sketches are used to depict three garments each category. The garments are similar in style but range from more fitted to more loosely fitted garments. Respondents are asked to identify if they would purchase each of the styles. They were further asked to define how they would like each of those garments to fit with the choices being fitted (garment touches the body while worn), semi-fitted (moderate ease), and loosely fitted (maximum ease).

Section III consist of scales to evaluate body cathexis and clothing benefits sought by the respondents. A 7-point Likert scale measures consumers' attitudes about specific body locations. Respondents are asked to rate how they felt about 19 different parts of their bodies. A 5-point Likert scale is used to measure consumer's opinions relative to clothing benefits sought. This scale consisted of 25 questions measuring fashion image, figure flaw compensation, sex appeal, clothing preferences including fit, clothing preference including emphasis of body parts, and clothing preference for fashion innovation.

Section IV identifies basic demographics including age, income, profession, Internet experience, body measurements, and exercise history.

Section V asks respondents to identify their body shapes based on the shapes shown for reference including rectangular, pear, an inverted triangle, and an hourglass shape. Definitions are given with the rectangular shape being characterized by straight up and down proportions with very little waist definition. The pear shape is characterized by broader hips than shoulders and the inverted triangle is depicted by broad shoulders and smaller hips. The hourglass figure is shown with full bust and hips and waist definition.

The questionnaire has been used with three populations. One sample was drawn from women enrolled in two major universities. Approximately 250 females were surveyed. A second research project surveyed black professional women. The questionnaire was administered to one group using traditional survey methods. The instrument was administered to a second sample in an online survey. A third survey is in process using professional women. The questionnaire is also attached to the NTC project web site.

### **Focus Groups**

A series of four focus groups were held in the Raleigh, N.C. These focus groups were designed to collect data from several different sources. Female consumers segmented by age and size were recruited by an independent market research agency. One group included women ages 25-55 who wore smaller sizes ranging from 2-10. A second group was recruited from women ages 25-55 who wore large sizes from 18 and up. The third group consisted of women in a mid-size range (12-16) ages 19-35. The final group was also based on women wearing a mid-size range but who were ages 36-55.

Focus groups were held in Raleigh so women participating in the study could have a body scan done using the [TC]5 body scanner. Participants were assigned an appropriate time for each group. They were instructed to come to the focus group wearing a pant and top that they consider to be their favorite career wear pant and top. Upon arrival, participants were placed into smaller groups and rotated through the following pre-focus group activities which took about 45 minutes:

Digital Photo—a digital photograph was taken of the each participant clothed in the garment they self-selected as a favorite fit for a pant and top.



### Digital Photo in Preferred Fitting Garment

Body Scan/Measurements—Participants were asked to put on a sports bra and short in a private dressing room near the body scan equipment. Participants were moved from the dressing room into the body scan booth to be body scanned by a female technician.



Body Scan

Body Measurements--Participants were moved back to the dressing room to have the following measurements including bust, waist, hips, and back waist length taken by a trained female research technician.

Self-administered Questionnaire—Participants were seated in a room adjacent to the focus group area. They will be asked to fill out a questionnaire as they waited for the focus group to begin.

Participants then returned to a focus group setting and responded to a schedule of interview questions. The focus groups were structured around issues related to the fit preferences of these women for apparel products. Interviews were videotaped and audio taped as a notetaking device for transcription later. Transcripts were prepared for each session. Transcripts and other related data including body scans, body measurements, photos, and questionnaires are being analyzed based on triangulating the



multiple data points. Body scans are being compared to digital photographs to analyze basic body shape and the relationship of garment ease desired by each participant. Data from the digital photographs, body scans and pre-focus group questionnaire were analyzed for similarities and differences and correlated with the content analysis from the focus group transcripts.

### **PROJECT RESULTS AND DIRECTION:**

Project results exist on several levels. Project work to date indicates that significant numbers of female consumers are dissatisfied with fit. This is pervasive even in younger populations (45%) whose physical frame is closer to the idealized body image that is the basis for pattern development. Approximately 62% of this group of respondents had to alter ready-to-wear. Significant associations exist between body cathexis (satisfaction with head/upper body, lower body, height, weight and torso) and body shape. Those wishing to understand more about the survey work should visit the web site <http://car.clemson.edu/fit2000/>.

Focus group results indicate that women develop strategies for approaching fit in apparel. Women in a mid-size range, ages 36-55 indicated that self doubt played a role in fit preferences with comments such as:

“Is it common for women to be an 8 on top and an 8 on bottom or a 12 on top and a 12 on bottom? The fashion industry treats us like it is, but if it is, I am way off base. I ‘m not even the next size on the bottom. “ Alice

To compensate for disparity in sizing for tops and bottoms Nancy noted “I’ll try the pants or the skirt on first because I know, invariably the top will be okay but if it isn’t going to go on the bottom, you might as well not even try on the top”.

These women noted being selective in shopping for dresses with larger belts, longer short sleeves, wider short sleeves, better proportion between shoulder and waist, and longer dresses.

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**WEB ADDRESSES:** [www.auburn.edu/~anderl1/index.html](http://www.auburn.edu/~anderl1/index.html),  
<http://car.clemson.edu/fit2000/>