FIT OF WOMEN'S JEANS: AN EXPLORATORY STUDY USING DISCONFIRMATION PARADIGM

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ABSTRACT

The purpose of this study was to examine women's level of disconfirmation of jean fit. Respondents were segmented into three groups based on body frame size: small (n=44), medium (n=112), large (n=24). Multivariate analysis of variance and univariate analysis of variance revealed significant differences among groups' level of disconfirmation with jean fit. Eight body sites (e.g., waist) and ten jean performance characteristics (e.g., pockets conform to the shape of the body without bulging) were examined. Overall, the largest gap between expectation and perceived performance of jean fit was experienced by large frame women. Women, regardless of frame size, perceived jean performance on eight body sites to be less than expected. Recommendations for improving consumers' perceived performance of jean fit are provided.

BACKGROUND

Jean Industry Trends

Women's preference for western-style clothing in general and jeans in particular continued to increase between the 1900s and 1950s (Beard, 1993). By 1960, however, satisfaction and popularity with jeans waned as consumers readily adopted new polyester fabrics. By 1990, denim once again gained consumer acceptance (Beard, 1993; Walsh, 1993).

Baby Boomers, the primary jean target market, grew up in jeans that complimented their casual and active lifestyle (Vargo, 1994). Approximately 35% of all women's slacks produced in the U.S. have been jeans or dungarees. Only a few years into the '90, however, manufacturers' and retailers' sales and profits have once again declined (Vargo, 1994). This trend has been attributed, at least in part, to increased competition and consumer dissatisfaction with fit; the industry has recognized the need to examine new markets, focusing on the changing needs of consumers in terms of fit, comfort and styling (Ozzard, 1993; Vargo, 1994).

Dissatisfaction with Apparel Fit

Dissatisfaction with jean fit has been well documented in popular press (e.g., Gordon, 1992; 1994). One problem area identified has been women's unmet expectations attributed to outdated manufacturers' sizing system. Established in 1940, the voluntary sizing system has failed to take into consideration today's taller and heavier body shapes (Delk and Cassill, 1989; Tamburrino, 1992a; 1992b; 1992c). In addition, models whose figures are most flattering, although not necessarily representative of the target market, have been used in the development of jean patterns (Delk and Cassill, 1989). Of the limited satisfaction research conducted on general clothing fit, average or well-proportioned women were typically more satisfied with their own body shape and the fit of ready-to-wear clothing than less well-proportioned and shorter persons (Shim, Kotsiopulos and Knoll, 1990).

Another contributing factor for dissatisfaction has been the arbitrary numerical size codes (Chun-Yoon and Jasper, 1994). Standard body measurements associated with size codes have varied both within and among manufacturers (Tamburrino, 1992a; 1992b; 1992c). As a result, size 12 from one manufacturer may vary significantly from that of another manufacturer.

In order to better satisfy the target market, jean manufacturers have become increasingly more dependent upon variables other than demographics. Body shape, size, weight, and fit have been identified as being important variables in making a better fitting jean (Gordon, 1992; Kaplan, 1993; Ozzard, 1994; Spevak, 1994).

Despite the enormous market size and recognized need, few research studies have investigated the multibillion dollar jean industry (Meyer, 1995). The most recent jean study

examined satisfaction with jean fit, using a sample of one female (Delk and Cassill, 1989). The model tried on 28 pairs of jeans, with only two pairs having fit properly. Jean measurements varied by brand and price points; higher price points tended to be larger per size than lower price points.

Confirmation/Disconfirmation Paradigm

The conceptual framework used in this study was Oliver's (1980) disconfirmation model. This paradigm proposed that consumers' expectations are a function of disconfirmation. Satisfaction was stated as being influenced by the discrepancy between expectation and perceived performance (Oliver, 1980; Swan and Combs, 1976). When perceived performance exceeded expectations, positive disconfirmation was experienced. Confirmation was formed when expectations and perceived performance are equal. Perceived performance measured below expectations results in negative disconfirmation (Cadotte, Woodruff and Jenkins, 1987; Oliver and DeSarbo, 1988; Rogers, Peyton, and Berl, 1992).

The purpose of this study was to examine the level of disconfirmation in relation to apparel fit of women's jeans. Guided by previous studies (e.g., Gordon, 1992; Ozzard, 1994), the influence body frame had on perceived fit and the level of disconfirmation with jean performance characteristics were examined.

Fit of general body sites examined included: 1) waist, 2) abdomen, 3) crotch, 4) seat, 5) hips, 6) thigh, 7) calf of leg, and 8) leg width. These areas are consistent with those used in the apparel industry. Performance characteristics measured included: 1) jeans fit snug at waist, 2) jeans are easy to fasten, 3) waistline lies at the natural waistline when I sit down, 4) waistline lies at the natural waistline when I stand, 5) pockets conform to the shape of the body without bulging, 6) jeans have slight crosswise wrinkles around abdomen and thigh, 7) crotch is loose so that buttock and thigh are not defined, 8) jeans are easy to get on over my hips, 9) jeans are loose through hip and legs, and 10) jeans are easy to get on over my feet and legs.

Hypotheses

H1: Significant differences exist among small, medium, and large frame women's attitude regarding jean fit at eight general body sites.

H2: Significant differences exist among small, medium, and large frame female consumer's level of disconfirmation of jean performance characteristics.

Sample and Data Collection

A convenience sample of women attending the "98th Annual Cheyenne Frontier Days", held in Cheyenne Wyoming USA was used in this study. This event was chosen as the data collection location because it was the premier western event in the country and a variety of jean wearers attended the event, ranging from western enthusiasts to city dwellers.

Respondents were asked to complete a pretested questionnaire. The first section of the questionnaire addressed expectations when buying jeans, perceived general fit, and preferences regarding characteristics of jeans (e.g., stonewashed vs. prewashed). Participants who wore jeans within sizes ranging from 7 to 14 were asked to try on a pair of jeans and evaluate performance. These sizes were selected because they have been the dominant sizes sold in recent years.

Of the 331 surveys collected, 315 surveys were deemed useable. From this, 180 met the criteria tried on and evaluated the perceived performance of the jeans. Remaining participants answered questions regarding jean preferences and shopping behaviors. Participants received a ten dollar gift certificate to a local western wear retail store upon completion of the survey.

Instrument

Body Frame. Building upon the recommendation to examine satisfaction with fit on measures other than dress size (Gordon, 1992; Ozzard, 1994), consumer's were segmented into three groups based on body frame size. Segments included small ($\underline{n}$=44), medium ($\underline{n}$=112), large ($\underline{n}$=24).

Prior Experiences. Participants were asked to indicate prior experiences with jean fit, including: waist abdomen, crotch, seat, hips, thigh, calf of leg, and leg width. Prior experiences with fit were measured on a 5-point Likert-type scale (1=too tight, 3=good fit, 5=too loose).

Expectations. Considering recommendations by previous research (e.g., Rogers et al., 1992), expectations were measured using multiple variables. Participants were asked to respond to ten characteristics regarding expectations of jean performance. Expectations were measured on a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree).

Performance. Two competing brands were selected due to similar characteristics including number of pockets, color, fly closing, and length. The jeans were void of any labels that may influence respondents' answers. Multivariate analysis of variance revealed no significant differences between the two brands in perceived fit. As such, both brands were used in this analysis.

Performance was measured on statements identical to those regarding expectations. Similar to past consumer satisfaction research, perceived performance was measured on a 5-point Likert-type scale (1=strongly disagree, 5=strongly agree) (Bearden and Teel, 1983; Churchill and Surprenant, 1982; Oliver, 1980). In order to reduce potential bias, expectation and performance questions were located in a separate sections of the questionnaire.

Demographic Profile

Demographic characteristics, including age, marital status, occupation, education, total family income, and geographic area were measured. The sample was predominantly Caucasian (92%) and married (56%). Respondents were well educated; 29% earned a bachelor's or graduate degree and an additional 45% completed some college. Forty percent of the sample indicated a total family income of $30,000 or less. An additional 29% reported an income between $30,000-$49,999. The remaining 31% earned in excess of $50,000 annually. Forty-four percent of the sample lived in rural areas; 34% resided in suburban areas.

Purchasing Behavior Profile

Pearson correlation coefficients were conducted to identify relationships between body frame and jean purchase behaviors. Results revealed a negative relationship between body frame and number of jeans owned ($p<.001$), number of jeans purchased in the last year ($p<.001$), and amount of money spent on jeans ($p<.01$). No significant correlation was revealed between body frame size and the quantity of jeans purchased at a time.

ANALYSES

Jean Fit

Respondent's body frame was examined in relation to jean fit of the waist, abdomen, crotch, seat, hips, thigh, calf of leg and leg width areas. Multivariate analysis of variance (MANOVA) revealed significant differences among groups ($F(df=2,530)=2.36, p<.01$). Support for Hypothesis 1 was provided (see Table 1).

Univariate analysis of variance identified significant differences of fit among five of the eight general body sites. Scheffe's post-hoc test revealed that large frame women perceived the general fit of jeans around the abdomen ($F(df=2,273)=3.39$, $p<.05$), hips ($F(df=2,273)=4.89$, $p<.01$), thigh ($F(df=2,273)=6.69$, $p<.001$), and calf of leg ($F(df=2,273)=3.19, p<.05$) to be significantly tighter than small frame women. Medium frame women perceived the general fit of jeans in the seat ($F(df=2,273)=4.06$, $p<.01$), hips ($F(df=2,273)=4.89, p<.01$) and thighs ($F(df=2, 273)=6.69$, $p<.001$) to be significantly tighter than small frame women.

Disconfirmation

MANOVA identified significant differences among groups' level of disconfirmation with jean fit ($F(df=2,334)=1.76, p<.05$). Support for Hypothesis 2 was provided (see Table 2). Univariate analysis of variance revealed significant differences in disconfirmation on five of the ten

jean characteristics. Scheffe's test revealed large frame women as having experienced significantly more negative disconfirmation with jean fit through hips and legs than did small frame women ($F(df=2,177)=3.52, p<.05$). Small frame women perceived the performance of jeans in the hips and legs to be significantly better than expected. Medium frame women indicated that the performance of pockets conforming to the shape of the body without bulging ($F(df=2,177)=5.47$, $p<.01$) and the loose fit around the crotch ($F(df=2,177)=2.94$, $p<.05$) to be significantly less than expected. The positive disconfirmation experienced by the medium frame women was significantly higher from that of small frame women; this group perceived the jean performance of the pockets and crotch areas to be significantly better than expected.

Table 1
Mean Scores of Women's Perceived Fit of Jeans

Variable	Mean Scores: Small Frame (n=44)	Medium Frame (n=112)	Large Frame (n=24)	Uni-variate F	Multi-variate F
Waist	2.16	1.94	2.07	2.25	2.37**
Abdomen	1.96[a]	1.80	1.69[a]	3.39*	
Crotch	1.64	1.61	1.69	.30	
Seat	2.12[a]	1.86[a]	1.90	4.06**	
Hips	2.07[a,b]	1.80[b]	1.74[a]	4.89**	
Thigh	2.20[a,b]	1.83[b]	1.83[a]	6.69**	
Calf of leg	2.02[a]	2.03	1.81[a]	3.19*	
Leg width	2.07	2.03	1.89	1.43	

NOTE: A pair of means with the same superscripts indicates significant differences between the two groups. Scores ranged from 1 (strongly disagree) to 5 (strongly agree).

*p<.05, **p<.01, ***p<.001

DISCUSSION AND CONCLUSIONS

Results of this study have demonstrated that jean manufacturers' concerns regarding the target market are warranted; women were dissatisfied with jean fit, including specific characteristics of the performance. The results also support the premise that variables other than sizing (i.e., body frame) as having significantly influenced the consumer's level of disconfirmation with jean fit.

Table 2
Mean Scores of the Level of Disconfirmation with Jean Performance

Variable	Mean Scores: Small Frame (n=44)	Medium Frame (n=112)	Large Frame (n=24)	Uni-variate F	Multi variate F
Jeans fit snug at waist	.56	-.05	.12	2.09	1.76*
Jeans are easy to fasten	.11	-.22	.12	1.27	
Waistline lies at the natural waistline when I sit down	.25[a]	-.15	.66[a]	3.41*	
Waistline lies at the natural waistline when I stand	.18[a]	-.29	.50[a]	3.82*	
Pockets conform to the shape of the body without bulging	.54[a]	-.30	.16[a]	5.47**	
Jeans have slight cross-wise wrinkles around abdomen and thigh	.34	.06	.54	.92	
Crotch is loose so that buttock and thigh are not defined	-.34[a]	.15[a]	.75	2.94*	
Jeans are easy to get get on over my feet and legs	-.25	-.41	.04	1.16	
Jeans are loose through hip and legs	-.77[a]	-.17	.33[a]	3.52*	
Jeans are easy to get on over my hips	-.38	-.36	.291	.99	

NOTE: A pair of means with the same superscripts indicates significant differences between the groups.

*p<.05, **p<.01

Differences Among Groups

Significant differences were identified among groups' attitudes toward jean fit in the abdomen, seat, hips, thigh, and calf of leg areas. With the exception of the waist, crotch, and seat, larger frame women experienced more negative disconfirmation due to tight fitting jeans. Three possible reasons exist. One explanation in respondents' perceptions of tight fit may the result of a lack of standardized sizing in the women's apparel industry (Chun-Yoon and Jasper, 1994). Inconsistencies among manufacturers and within each company over time have been shown to warp

size dimensions used for the target market (Delk and Cassill, 1994). Although the jean styles were comparable, measurements for each body site (e.g., waist, thigh) may have varied enough to generate negative disconfirmation, where only the average size consumer received a relatively satisfactory fit (Shim et al., 1990).

Negative disconfirmation and respondents' perceived tight fit of jeans may have been attributed to this design characteristics. Even wide leg designs (e.g., sailor cut) have typically offered little ease throughout thigh, hips and waist areas. As such, women may have required a size larger than worn by the majority of her apparel. Because of the body conscious image held by women in the US, purchasing a larger size for comfort may not have been viewed as an acceptable option. Identification of important jean features (e.g., style vs. comfort) and relationships among style and body frame may have played a crucial role in consumers' disconfirmation with jean fit.

Unlike past studies and popular press information, these findings provide empirical evidence that body frame may vary significantly by body site. For example, the jean fit around the abdomen of large frame women was significantly tighter than that of women with small and medium frames. This finding suggests that as a woman's frame increases, so does the physical measurements of the abdomen. This change in size may not necessarily be uniform among the three body frames. These variations may influence the level of disconfirmation experienced by consumers.

Denim fabric may also have influenced the perceived jean's tight. Traditionally made from heavy weight cotton in a tight weave, denim does not give as generously as other fabrics (e.g., synthetics). The feel and fit of jeans may be different than a tight silhouette made from other fabrics. The use of a lighter or more flexible fabric for jeans may not be acceptable to consumers. Instead, two possible courses of actions may be beneficial. One option is for manufacturers to alter the design and sizing based on the fabric qualities. Another option is to develop marketing messages designed to reshape the consumer's expectations regarding jeans. According to Oliver's (1980) disconfirmation theory, changing consumers' expectations may subsequently alter the perceived performance of the product, thereby changing the level of disconfirmation. For example, manufacturers may employ marketing techniques that emphasize the qualities of denim (e.g., durable denim, made of 100% cotton allows the fabric to breath without being stretched out of shape). Jean design may not have changed significantly, however revised expectations based on marketing messages may positively influence consumer satisfaction.

Disconfirmation as a Competitive Advantage

Designers and manufacturers have the capability to increase customer satisfaction, thereby encouraging brand loyalty. Similar to the statement "make a better mouse trap..." is "make a better jean and women will become brand loyal". Respondents, regardless of body frame, believed that jean was too tight. A manufacturer who can produce a better fitting jean without changing the size code (i.e., make a size 12 jean slightly larger but still label the garment as a 12) may create a competitive advantage. In order to accomplish this goal, however, the industry must change the traditional measurements to better accommodate contemporary woman's body frame while maintaining the sizing on labels. An analysis of the market may reveal an increase in body measurements which are not necessarily uniform among body sites (e.g., hips, thigh) or sizes (e.g., size 12 vs. 14).

Understanding the fit of general sites, such as the waist, is the first step in identifying a more accurate measurement of women's jeans. Additional information regarding perceived performance of fit must be analyzed in order to redefine the pattern to fit the body frame. Measurement of disconfirmation on specific jean characteristics is one method of accomplishing this goal. The identification of sources of disconfirmation and decreasing the gap between expectations and perceived performance of jean fit may assist manufacturers in their goal to promote customer satisfaction (Oliver, 1980; Swan and Combs, 1976).

LIMITATIONS AND RECOMMENDATIONS

Although the examination of women's

satisfaction with the fit of jeans adds to the current body of research, some limitations should be noted. The sample population was one of convenience, addressing women who frequented a particular location in a Western state. The sample selected prohibited the generalizability of the results. In order to obtain a more accurate evaluation of women's satisfaction with jeans, a nationwide random sample is recommended.

Special size markets (e.g., petite) have become an increasingly more profitable segment of the apparel industry. Combined with the widespread acceptance of jeans, it is recommended that satisfaction with jean fit by special markets be examined. Expectations, performance, satisfaction, evaluative criteria used in selecting jeans, and style preferences may also differ by size category.

Jean attributes (e.g., finish, detail, fabric) should be examined. Like most apparel products, jeans vary by design attributes. Depending upon the consumer's familiarity with terminology used to describe jeans, the reliability and validity of data measured may be questioned. Respondents may have a different vision or do not have an accurate understanding of jean features that are offered. It is recommended that future studies include the use of samples for respondents to examine. This procedure may act as a stabilizer of information obtained among individuals. The use of sample may be used in a test market setting, measuring consumers attitudes and propensity to purchase jeans featuring specific attributes.

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