INTRINSIC CUES AS PREDICTORS OF PERCEIVED QUALITY OF APPAREL

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ABSTRACT

This exploratory study investigated the importance of intrinsic cues of apparel in perceptions of quality, one product component ultimately related to consumer satisfaction. Ninety female undergraduates evaluated five pairs of pants on 24 garment features including, style features, construction, fiber content, care, fashionability, and uniqueness. Factor scores isolated in principal components analysis, and single item variables were entered in regression models for the estimation of the dependent variable, overall quality, of each garment. The *Fabric* factor, containing items related to fabric characteristics, care, and construction, explained the most variance across all pants. However, configurations of estimator variables varied for most pairs of pants suggesting that product characteristics used in perceptions of quality may be item specific to some extent. The findings further suggest that aesthetic cues, many times excluded from studies of quality, are important in perception of quality.

INTRODUCTION

This study focused on the importance of intrinsic criteria in consumer evaluations of perceived quality of an apparel product. Stimuli were actual products (i.e., women's slacks) which respondents could examine for physical composition. The study begins to fill a gap in research on apparel quality. Previously published research has concentrated primarily on extrinsic cues and ignored consideration of more complex attributes of design. This trend in past research is myopic because aesthetic attributes, as well as performance and physical properties, may be important aspects of perceived quality.

Quality and Satisfaction

Quality of an apparel product can be approached from either a manufacturing-based perspective or a consumer-based perspective. Manufacturing-based measures of quality are objective; quality is based upon conformance to manufacturing specifications or service standards pre-determined by managers or product developers (Crosby, 1972). A consumer-based approach to quality is more subjective and not easily verified (Zeithaml, 1988). As a result, consumers and product developers may define quality differently (Morgan, 1985). A product meeting specifications established by a product developer may not fully satisfy the consumer's notion of a "quality" product.

Retailers suspect that today's consumers are increasingly using perceived quality to discriminate among product alternatives (Morgan & Pollack, 1984; Rabin, 1983). Discrepancy between definitions of quality used by product developers and consumers may affect consumers' satisfaction with the product and the ultimate success of a product in the marketplace.

Monroe and Krishnan (1985) defined perceived quality as estimated ability of a product to provide satisfaction relative to other alternatives. Starr (1972) added the qualification that the consumer incorporates an adjustment for value and cost in respect to projected end-use for the product when assessing quality. Consumer judgment about a product's overall excellence or superiority was a focus emphasized by Zeithaml (1988). Since we are examining consumer perceptions of quality in this study and do not define the term for our respondents, we recognize that they may be using one or several of these interrelated definitions.

The concepts of perceived quality and consumer satisfaction are inherently interrelated. Both concepts encompass the comparative process of evaluation of products or services against expectations. Whereas much of perceived quality research on apparel focuses upon the criteria resulting in the positive or negative evaluation of

a product at point of purchase, consumer satisfaction/dissatisfaction studies of apparel tend to focus on the positive or negative evaluative state of the consumer following purchase and use. Definitions of satisfaction/dissatisfaction related to the cognitive process consumers undergo in evaluation of performance of a product center on the confirmation or disconfirmation of expectations held by a consumer for the product (Hunt, 1977; Oliver, 1977; Swan & Combs, 1976).

Many of the same factors used as selection criteria (Sproles & Geistfeld, 1978) and in the evaluation of quality (Hemmerick & Sproles, 1988) are the product characteristics requisite for consumer satisfaction (Francis & Dickey, 1984; Swan & Combs, 1976). Consumers assess quality at point of purchase and incorporate that assessment in their evaluation of satisfaction at time of purchase. Since perceived quality includes preliminary estimations of performance properties, consumers probably use judgments of quality to predict satisfaction following purchase and extended use of the product. Satisfaction/dissatisfaction is an evolving evaluation on the part of consumers (cf. Swan & Combs, 1976) and may be reassessed throughout the ownership process. Abraham (in progress) is comparing assessments of satisfaction and quality of apparel items at time of purchase and after a few weeks of ownership.

Oliver and Linda (1981) realized that product evaluations, including the evaluation of quality, are not operational definitions for satisfaction. Satisfaction may occur even though problems were experienced in textile and clothing products (Steiniger & Dardis, 1971), possibly due to intervening social-psychological variables (e.g., Westbrook & Cote, 1980) or the process of consumer socialization (Francis & Davis, 1989).

Researchers in the consumer satisfaction area have, to some extent, entangled the concept of quality in the explanation and operation of the study of consumer satisfaction and dissatisfaction. Swan and Combs (1976) stated that judgments of the relative quality of clothing product performance are related to expectations; it is the fulfillment of expectations that leads to satisfaction. Lowe and Dunsing (1981) suggested that satisfaction with quality and satisfaction with quantity of clothing would produce an accurate indication of overall satisfaction with clothing. Sproles and Geistfeld (1978) found that many consumers place priority on comfort and quality in judging satisfaction with apparel products. Lower overall quality of clothing was related to dissatisfaction. Consumer satisfaction is strongly tied to the quality of many products and services (Claxton & Ritchie, 1979; Plummer, 1977).

Aesthetics in Quality

Holbrook and Corfman (1985, p. 34) stated that "skillful effort, sound materials, and painstaking method" are three elements of a product that can be evaluated in perceived quality. Skillful effort in creating and combining aesthetic components of fabric and garment design can be a factor in perceived quality. However, few studies have examined the role of aesthetic attributes in perception of apparel quality. Eckman, Damhorst, and Kadolph (1990) examined criteria used to evaluate apparel during actual purchase decisions. Aesthetic attributes were the primary criteria used in evaluation of garments during actual point of purchase situations. Thus, research in which aesthetic attributes are given a subordinate role in (or are eliminated from) measures of overall evaluations of apparel products suffers from a limited approach to measurement of quality. Important contributors to perceived quality may be absent.

Intrinsic vs. Extrinsic

The contribution of aesthetic attributes to perceived quality of textile and apparel products is inconclusive for a number of reasons. First, there is a dearth of perceived quality research taking a complex approach to examining aesthetic attributes. Extrinsic cues have been frequently examined. Twelve of thirteen studies of perceived quality of textile and apparel products reported during the past 20 years examined extrinsic cues as compared to eight studies examining intrinsic cues (Abraham, in progress). Only six studies gathered data relevant to the importance of aesthetic attributes in perception of quality. Of the six only one study (Szybillo & Jacoby, 1974) manipulated fabric or garment design to study the role of aesthetic attributes in perceived quality of apparel.

Two studies (Wheatley & Chiu, 1977; Wheatley, Chiu, & Goldman, 1981) included manipulation of color and other surface characteristics in perceived quality of textile products (i.e., carpet).

Zeithaml's (1988) summary of research on consumer use of extrinsic versus intrinsic cues in perception of quality does not support the emphasis on extrinsic cue research. Intrinsic cues appeared to be more important than extrinsic cues in perception of quality across a wide range of consumer products. Perhaps intrinsic cues are less frequently examined empirically because extrinsic cues, such as price, are more easily manipulated than the complex intrinsic cues of styling in ANOVA-type experimental designs preferred by many researchers.

End-Use Saliency

The importance of aesthetic attributes in perceived quality of apparel products is inconclusive for a second reason. The product category examined may be a determinant of the relative importance of aesthetic attributes in perceived quality. End-use properties of a product are tied to evaluations of quality. Hatch and Roberts (1985) found that product compositional features were important in judgments of apparel product quality but salient compositional features differed among product categories. Fabric was most important in judging quality of socks, construction was important for quality of blouses and men's suits, and aesthetic aspects were most important in judging quality of sweaters. Color, style, and fabric weight were relatively unimportant for socks, blouses, and suits. Apparently, consumers use different criteria in judging quality of different product categories. McCullough and Morris (1980) found that end-use properties perceived by subjects as important for children's clothing were comfort, ease of care, and durability. Aesthetic attributes may have been non-significant in perception of quality of children's clothing, but could have been significant if, for example, women's evening apparel were studied. The end-use properties for women's evening apparel would more likely include aesthetic elements of garment styling and fabric design than ease of care or durability, resulting in perceived quality based on aesthetic attributes.

Stimulus Variability

A third reason for the inconclusiveness of the role of aesthetic attributes in perceived quality is manner of representation of the product stimuli. The product stimuli used in experimental studies of quality may influence the effect of aesthetic attributes in the perception of quality due, in part, to variability of characteristics of the stimuli. In numerous studies apparel stimuli were chosen or developed to have very similar style properties such as color and tactile and visual texture. In their development of socks and sweater stimuli, Hatch and Roberts (1985) carefully limited style, color, and knit stitch variation within each apparel category. Fiber content, price, and use of seals of approval were greatly varied among all stimuli. As could be expected, aesthetic product attributes held constant were not found to be important determinants in judging perceived quality, but fiber content, the intrinsic attribute which was varied, was most important in determining perceived quality.

If consumers are asked to discriminate among items, they rely on perceived or actual differences to compare quality among items. Thus, the product characteristics which differ are likely to become more salient in judging perceived quality than will characteristics which are held constant. For this reason, the significance of fiber over style variations in Hatch and Roberts (1985) findings needs further study.

Not only do actual differences need to be present for cues to be utilized in comparing perceived quality of alternatives, but the change in cue level also needs to be above the just noticeable difference (Wheatley, Chiu, & Goldman, 1981). For example, variations in smoothness of texture or size of collar may not be used as indicators of quality if these characteristics are not differentiated above the just noticeable difference within the product category.

Actual vs. Generic Product Stimuli

Another methodological concern is how product stimuli are presented to respondents. Vague or generic garment terms, when presented as stimuli, may diminish attention to aesthetic attributes in judging quality because the possible

variety of designs is difficult for consumers to mentally average. For example, Hemmerick and Sproles (1988) presented an abstract categorization (i.e., "apparel") and found that color was rated as having medium priority in the determination of quality. Design details, style, and fashionability ranked as low priority determinants of quality. O'Neal (1988) found that focus group participants discussing quality in "apparel" in general referred to "aesthetic appeal" in only 9% of the qualitative response units. Rogers and Lutz (1990) asked retail buyers to identify characteristics they considered to be the best indicators of quality in women's sportswear. Garment construction was cited by more than 50% of the respondents and style was cited by less than 4% of the respondents. These studies show that performance related properties were more important than aesthetic appeal when abstract categorization are employed.

In contrast, previous research using actual textile products as stimuli resulted in strong contributions of aesthetic attributes to the perception of quality. Actual products may tend to elicit greater dependence upon aesthetic attributes due to physical presence of cues. Szybillo and Jacoby (1974) found tactile qualities of nylon hosiery to be a major determinant of perceived quality. Two textile product studies using carpet samples as stimuli showed aesthetic attributes of color (Wheatley & Chiu, 1977) and carpet tuft length and density (Wheatley, Chiu, & Goldman, 1981) to significantly influence perceived quality.

Hence, actual products versus abstract categorization may to some degree determine the impact of aesthetic attributes on perceived quality. Aesthetic attributes may not be salient in abstract categorizations due to lack of tangible differences between products rated generally in questionnaires or interviews.

Limitations of Instruments

One last reason why the importance of aesthetic aspects is inconclusive in studies of perceived quality is the trend to incorporate limited evaluation criteria in research instruments. For example, Wheatley and Chiu (1977) focused on the criteria of color, price, and store image, holding all other criteria constant. When confronted with the whole gamut of evaluative criteria in a real purchase situation, consumers may not follow the same formula for assessing quality as they do in more controlled and limited experimental situations. Rating scales effect an arbitrary limit on the number of evaluative criteria available to the subject.

Purpose

The purpose of this study was to take a consumer-based approach to measuring perceived quality of an apparel product, women's pants. The relative importance of intrinsic cues, including aesthetic attributes, in perception of quality was explored. Aesthetic attributes have been insufficiently examined in many studies of perceived quality and may prove to be important due to their role as key evaluative criteria in garment selection. Stimuli were actual garments, providing complete intrinsic cues of the product's physical composition. Women's sportswear pants were chosen because a variety of end-uses are possible for the product category. Evaluation of perceived quality of an apparel product using actual products with variation of many intrinsic cues distinguishes this study from other perceived quality studies. Presentation of multicue stimuli may more realistically reflect perceptions of quality during actual product selection decisions.

In this study extrinsic cues were excluded, limiting to some extent external validity of the findings. However, in previous research respondents focused on intrinsic cues more frequently than extrinsic cues, except when intrinsic cues were not available (Zeithaml, 1988). Also, extrinsic cues were used in judging quality if intrinsic cues required more time to evaluate than was perceived as worthwhile (Zeithaml, 1988). Intrinsic cues were used when they were readily available as search attributes. Hence, the focus on intrinsic cues in the present study has previous support and gives a long needed shift away from extrinsic cues predominating apparel quality research efforts. The elimination of extrinsic cues facilitated broad and deep exploratory examination of intrinsic factors.

In taking an exploratory multivariate approach, we examined cue combinations that explained the most variance in consumers' evaluations of quality of women's slacks. We tested whether aesthetic

aspects were important in perceptions of quality and, if so, which aspects were important.

METHOD

Respondents

Respondents were 90 female students at a Midwest university. Personal data revealed a high degree of homogeneity among subjects on measures of age, college major, marital status and home state. Subjects ranged in age from 18 to 35, with an average age of 19. Ninety-six percent were single. Ninety-nine percent had hometowns in the Midwest. Eighty percent were Textiles and Clothing majors. The largest proportion (64%) were freshmen followed by almost equal numbers of sophomores and juniors (17% and 16%) and the remaining 30% were seniors. Participants were volunteers who received course credit for participation. Though not representative of all students in the Midwest, this homogeneous convenience sample provided opportunity to conduct preliminary exploration of a novel approach to studying how consumers use criteria while evaluating quality of apparel. Calder, Fillips, & Tybout (1981) support the use of relevant convenience samples for exploratory development of theory and models.

Stimuli

Stimuli consisted of nine pairs of women's pants lent by a major national mail-order company. The respondents were a potential target market for each of the styles. Pants were selected because they were available at different price points and represented a variety of styles on the market at the time of the study. The pants included a range of styles with simple to complex surface and layout design as defined by DeLong (1987). Surface variations of color, drape, thickness, visual texture, tactile texture, and fabric construction were included. Layout variations included lower leg width, upper leg width, upper leg shape, fullness through the stomach/hip area, ease devices of pleats, gathers, or tucks, pocket style, and waist treatment. Fabrics included medium weight wool tweed, sweater knit, heavy weight canvas, slinky rayon, and suitweight plaid flannel.

The range in prices from $42-$180 ensured variation in construction techniques, materials and care requirements. Fiber contents included naturals, man-mades, and blends. Price and brandname, which varied, were masked from view as they were extrinsic cues outside the focus of this study. However, respondents could access fiber and care information tags. Another consideration in selection of pants was clarity of catalog photographic representation on a model in the catalog. During data collection the photograph was displayed along with the pants to represent the look of the garment on a body.

Instruments

Instruments were designed to collect descriptive and quantitative data. The instruments consisted of: 1) a Likert scale instrument 2) a personal data questionnaire, and 3) a qualitative quality evaluation questionnaire.

The quantitative component, consisted of 24 seven-point bipolar scales. Fifteen items measured subjects' liking (+3 for like to -3 for dislike) of garment features, including layout and surface elements, fiber content, care, and "overall quality". Ten items measured agreement or disagreement (+3 to -3) with statements about characteristics of the pants such as fashionability and uniqueness. Garment feature terms were gleaned from previous research of the apparel purchase process and aesthetic aspects of apparel. DeLong's (1987) approach to aesthetic analysis stresses relationships between clothing and the body, between clothing and the surrounding space, between ensemble components, and among design aspects within the clothing product. These relationships were represented in the present study by items in the rating instrument.

The personal data included age, hometown, class level, major, and marital status. The qualitative instrument consisted of two open-ended questions asking the respondent to list factors enhancing and detracting from quality of the stimulus pants.

Procedure

Groups of up to 20 participants received a standardized verbal introduction and printed

consent forms at the beginning of each data collection session. Respondents completed the qualitative measure first. Then, following a repeated measures format, they completed all quantitative items for one pair of pants before judging four other pairs of pants, one at a time, on the same items. Finally, subjects completed the personal data questionnaire.

Each respondent viewed five of nine pairs of pants. Respondents were randomly assigned to two experimental groups; each group evaluated four different pairs of pants and one fifth pair of pants common across groups. The two sets of stimuli allowed exploration of consumer evaluations of a wide variety of designs.

We assigned respondents to five different orders for viewing stimuli in an effort to limit order effects. Each pair of pants was evaluated first by one-fifth of the respondents. Subjects could touch and observe the pants and catalog photograph but were instructed not to remove the tape covering the extrinsic cues of brand labels. Subjects were debriefed when collection of the data was completed at each session.

RESULTS

Principal Components

To avoid problems due to multicollinearity and redundant single item measures, we attempted item reduction through principal components analysis with orthogonal rotation of the 24 bipolar items. Factor structures for ratings of each of the pants were examined separately and found to be highly similar to factor structure of all pants ratings pooled across subjects. Therefore, the factors resulting from the pooled data were used to construct multi-item measures. Only the summary factor structure across all pants is reported here.

Cattell's (1965) screen test and an eigenvalue criterion of greater than 1 (Kaiser & Rice, 1974) guided selection of number of factors. Items with factor loadings of .60 or greater were considered representative of their respective factors and used in interpreting meaning of the factors. Pearson product-moment correlation coefficients among all pairs of items along with Cronbach's *alpha* inter-item reliabilities of high loading items further confirmed interrelationships of factor items and determined final inclusion of items in factor scores.

Factor items were summed into multi-item scores for exploratory analysis. Further examination of factor structures of similar measures used by larger and more representative groups of consumers is required before weighing

Table 1
Varimax Rotated Factor Matrix of 25 Evaluation Criteria

Item	Factor Loading
Factor 1: Layout	
A Style I Would Wear	.89
Overall Shape on the Body	.85
A Style I Would Buy	.84
Leg Shape Style	.82
Upper Hip Area Style	.80
Overall Style	.81
Currently Fashionable	.73
I Wouldn't Have Any Place To Wear These Pants	-.66
Compatible With Things Already in My Wardrobe	.63
Variance Explained	7.49
Eigenvalue	10.65
Cronbach's *alpha*	.85
Factor 2: Fabric	
Overall Pleasingness of Fabric	.82
Fiber Content	.81
Feel or Hand of Fabric	.72
Overall Quality	.77
Weight of Fabric	.76
Use of Fabric in This Style	.72
Care	.60
Well Constructed	.60
Variance Explained	5.51
Eigenvalue	2.65
Cronbach's *alpha*	.90
Factor 3: Newness	
A New Style	.77
An Unusual Style	.74
Variance Explained	2.10
Eigenvalue	1.79
Cronbach's *alpha*	.80

of items in the factor scores is recommended.

A four factor structure was the most meaningful solution to the principal components analysis. Because the fourth factor contained only one item, perceived expensiveness, only three factors were used for development of multi-item factors (See Table 1).

Aesthetic attributes were loaded strongly in each factor. Items in the first factor, *Layout*, related to evaluations of garment styling, particularly silhouette and shape, fashionability, compatibility of the garment style with the body, coordination with existing wardrobe, and situational appropriateness. The item indicating willingness to purchase the style was strongly weighted in the factor. Highly loaded items in the second factor, *Fabric*, reflected tactile qualities of the fabric, weight, and overall pleasingness of the fabric. The item, *selection of fabric for the style*, was also incorporated, along with the performance related items *fiber content*, *care*, and *well constructed*. The summary rating *overall quality* was also included. The third factor, *Newness*, contained two items related to novelty of style.

The items *texture or pattern interest* and *drape or hand of fabric* loaded at .55 and .57 in *Layout* but also loaded at .48 and .50 respectively in *Fabric*, which led to their exclusion from the factor item structures and the exclusion of other items below .60. The item *waistband style* (.55) was excluded from *Layout*; *probably too expensive for me* (.50) was excluded from *Newness*. No indications of problems with multicollinearity were evident, so these four items were maintained as single item variables for regression analyses. The willingness to buy item was also excluded from *Layout* and used as a predicted variable in regression analyses not reported in this paper.

Regression

Regression models were examined to search for combinations of variables that were best estimators of *overall quality* ratings. Multi-item measures along with single item measures not incorporated in the factors were entered into stepwise multiple regressions for ratings of each individual pair of pants. We used the maximum R^2 improvement technique to maximize variance explained at each step of model building (SAS Institute Inc., 1985). The program explores combinations of variables to find the best fitting one variable, two variable, and nth variable models.

The dependent variable was highly correlated with items in the *Fabric* factor and was originally part of the measure. For regression explorations, *overall quality* ratings were omitted from the *Fabric* score. We expected, of course, that *overall quality* would best be estimated by the adjusted *Fabric* score with which it was highly correlated. However, we conducted regression analyses to explore whether other variables would improve estimations of perceived quality.

Table 2 presents the variables explaining the most variance in ratings of quality of each individual pair of pants. The R^2 column shows variance explained with each addition of a variable. As expected, *Fabric* explained the greatest amount of variance overall in the nine regression estimations for nine pairs of pants. However, the configurations of additional estimator variables differed for most pairs of pants. *Probably too expensive for me*, *Newness*, and *texture or pattern interest* were estimator variables in one analysis each while *waistband style*, *Layout*, and *drape or hand* appeared as estimator variables for two pairs of pants.

A maximum R^2 regression analysis was conducted on ratings of all pairs of pants across all subjects. In this latter test, each respondent's ratings of five pairs of pants were considered to represent ratings from five independent respondents. This entry of respondents more than once violates assumptions of the multiple regression model. However, we tested the model across all subjects and stimulus pants to explore a summary prediction of quality evaluations; the summary model is cautiously interpreted.

The summary maximum R^2 regression analysis revealed that *Fabric* and *Layout* were best estimators of quality across all pants. The remaining variables were not significant in estimating *overall quality* at the .05 level (see Table 3).

Qualitative Support

We used the qualitative findings to partially validate and support the regression models. Two

judges coded responses to the qualitative instrument. Positive and negative aspects of quality listed for each pair of pants were assessed using categories similar to the quantitative items. Qualitative responses provided strong evidence that themes related to the *Fabric* factor were important in assessing quality of pants. Respondents mentioned criteria such as tactile features, weight of the fabric, overall fabric evaluations, and fiber content from 64 to 161 times across all pants. Construction and care requirements were also mentioned as related to quality, 159 and 115 times respectively.

Qualitative responses related to the *Layout* factor were also important. Respondents mentioned leg shape style as adding to or detracting from quality 343 times across all pants. Overall liking of the style and fashionability were mentioned 178 and 41 times respectively. Abstract assessment of design components was reflected in 30 responses.

For Pants C and Pants G waistband style was an estimator in the Maximum R^2 equations. Waistband style was mentioned 16 times in qualitative descriptions of quality for Pants C and 30 times for Pants G.

Table 2
Maximum R^2 Regression of *Overall Quality* for Individual Pairs of Pants

Pants	n	Independent Variable	*b*	*F*	*p*	R^2
A	41	intercept	0.44			
		Fabric	0.13	65.08	.0001	.63
B	45	intercept	1.14			
		Fabric	0.13	92.29	.0001	.68
C	90	intercept	1.11			
		Fabric	0.08	10.01	.0001	.54
		waistband style	0.16	6.70	.01	.60
		drape or hand	0.18	4.35	.04	.62
D	43	intercept	-0.92			
		Fabric	0.16	88.22	.0001	.69
E	44	intercept	1.29			
		Fabric	0.11	64.87	.0001	.61
F	43	intercept	0.59			
		Fabric	0.09	35.62	.0001	.69
		Layout	0.04	7.36	.01	.74
G	42	intercept	-1.64			
		Fabric	0.11	44.13	.001	.65
		probably too expensive for me	0.19	7.01	.01	.73
		waistband style	0.19	7.16	.01	.76
		Newness	0.12	3.83	.02	.79
H	45	intercept	0.35			
		Fabric	0.07	11.67	.001	.65
		drape or hand	0.42	10.15	.003	.72
I	43	intercept	0.38			
		Layout	0.08	20.51	.0001	.50
		Fabric	0.09	11.54	.002	.58
		texture or pattern interest	-0.28	10.36	.003	.67

Table 3
Maximum R^2 Regression for the *Overall Quality* Across All Pants

Independent Variable	*b*	*F*	*p*	R^2
Intercept	.47			
Fabric	.11	257.52	0.0001	.61
Layout	.02	25.29	0.0001	.64

For other pairs of pants qualitative responses were less supportive of specific variables significant in the quantitative regression models. For example, price was never mentioned in the qualitative responses for Pants G, but estimated expensiveness was a significant estimator in the regression model. In addition, uniqueness was mentioned only twice for Pants G, but was a significant estimator in the regression model. Texture or pattern interest was mentioned only 5 and 6 times for Pants F and I. The validity of considering some variables as significant estimators of quality is called into question by lack of representation in the qualitative responses.

DISCUSSION AND CONCLUSION

The present study provided support that aesthetic cues, as well as other intrinsic cues such as fiber content and care requirements, are used in the evaluation of quality of an apparel product. Many aesthetic attributes, primarily surface aspects and some layout aspects of garment design, were important estimators of perceived quality of women's pants. Past studies measuring the

importance of intrinsic cues on perceptions of quality, in which aesthetic attributes were held constant or not included, may have ignored important contributions to quality evaluation and may have overemphasized the import of extrinsic cues. Holbrook and Corfman (1985) realized that skillful effort, sound materials, and painstaking method are evaluated in perception of quality. Skillful effort and painstaking method often connote construction details. Skillful effort in selecting and combining aesthetic components of fabric and layout (for some pairs of pants) also appears to be an important component of quality of an apparel product.

Consumers in this study made complex judgments of quality that projected beyond the object to the objects' "aesthetic usefulness". They often analyzed the integration of aesthetic attributes within a product. Variables such as *overall shape on the body*, *I wouldn't have any place to wear these pants*, *compatible with things already in my wardrobe*, and *use of fabric in this style* were included in the factors that were important estimators of overall quality; these measures involved respondents in complex assessments of cue interrelationships.

We may only speculate why the factor *Fabric* was the best estimator of overall quality. *Fabric* contained performance indicators such as fiber content and construction that are more commonly recognized as standards of quality. Care (McCullough & Morris, 1980), construction (Davis, 1985) and fiber content (Hatch & Roberts, 1985) have been found to influence judgment of quality in previous studies. The present findings lend further support that these criteria are strong estimators of apparel quality. Other *Fabric* items such as *feel or hand of fabric* and *weight of fabric* may be strong indicators of quality in women's pants since a sign of most high quality fabrics is comfort and more yarns per square inch of fabric (perhaps indicative of durability). The item *overall pleasingness of fabric* seems to be, however, an aesthetic component of the *Fabric* variable.

The importance of aesthetic cues in perceptions of quality has implications for manufacturers who base quality upon painstaking method alone, focusing on performance to manufacturing specifications. Even though manufacturing based quality is more easily verified than subjective aspects of aesthetic composition, a manufacturer's goal of creating a product that provides satisfaction to the consumer may more likely be attained if equal attention is given to the aesthetic development of the apparel product.

The present study adds support to the need for veridicality of product stimuli in perceived quality research. Examination of results from past research revealed that utilization of actual products as stimuli resulted in findings that aesthetic cues were important in perceptions of quality. Previous research in which aesthetic cues were limited or not available found no contribution of aesthetics to perceived quality. Results of this study, employing actual products, showed the importance of fabric and styling in the perception of overall quality.

Configurations of estimator variables of overall quality varied with each individual product stimulus. The finding that unique sets of predictors existed for specific pants suggests that consumers base substantive judgments of quality upon composition of the garment. Thus, use of abstract categorizations of apparel products may not adequately reflect the process of perceiving quality in the marketplace, where consumers integrate complex combinations of specific product characteristics. The varied findings for each pair of pants illuminates the limitation of abstract categorization stimuli in the study of perceived quality of apparel. Apparel products, in particular, often incorporate wide variety in design features among available alternatives. Consumers may not be adept at summarizing across an array of purchase decision when the product and projected end use varies greatly (Eckman et al., 1990). The apparel product area requires complex approaches to the study of consumer evaluation of quality.

Limitations of the present exploratory study include the convenience sample of females in a narrow age range and interest group for whom aesthetic attributes of the apparel product may outweigh other components of the product. However, the findings give preliminary evidence of how some consumers integrate cues in perception of quality.

Only women's pants were examined here. Other product categories may require very

different quality predictors. A wide array of quality estimators may have surfaced because women's pants do not have a singular end-use. In addition, quality of Pants I, a pair containing intricate seams in leg design, was best estimated by ratings of Layout rather than Fabric. The uniqueness of design of Pants I may have shifted emphasis to design details for evaluations of quality.

The study was limited to intrinsic cues. Actual product evaluations probably incorporate both intrinsic and extrinsic cues. Incorporation of extrinsic cues along with intrinsic cues in further studies may not drastically reduce contribution of intrinsic cue predictors, but the configuration of intrinsic cues may be markedly altered in accordance with the extrinsic cues. For example, a well known designer label may affect the salience and evaluation of garment layout and surface components for consumers aware of the designer's reputation for producing high fashion garments.

Finally, a major contribution of this exploratory testing of regression models is the tentative finding of combinations and relative contributions of variables to consumer evaluations of product quality. Previous work concentrated on univariate statistics in analysis of data. Univariate research design has inherent limitations because perception of quality is a process in which consumers integrate complex combinations of product characteristics. Further study of perceived quality using naturalistic stimuli and multivariate approaches may help in uncovering the intricate process of quality evaluation by consumers.

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