# RESUMO

## Determinants of the purchase or non-purchase of fashion apparel: an exploratory study

#### Valter Afonso Vieira

### Determinantes de comprar ou não roupas de moda: um estudo exploratório

A proposta neste artigo é explorar algumas variáveis que estão associadas (ou não) a um comportamento em relação a roupa de moda. Inicialmente, sugerem-se cinco hipóteses com possível impacto na compra de roupa de moda. Com uma amostra de 301 respondentes e utilizando a regressão logística, foi possível encontrar suporte para três hipóteses que diferenciam os grupos: idade, conhecimento e comprometimento. Os resultados sugerem um modelo efetivo na correta classificação (71%) dos grupos de compradores. Ademais, os achados sugerem que a escala de materialismo não foi confiável.

Palavras-chave: moda, regressão logística, compra.

#### 1. INTRODUCTION

For centuries, the phenomenon of fashion behavior has been the subject of social analysts, cultural historians, moral critics, academic theorists and business entrepreneurs (SPROLES, 1974). From the academic perspective, King, Ring and Tigert (1979) conceptualized the fashion change agent as a consumer who at least monitors the changing fashion environment on a regular basis, but who also keeps his or her wardrobe up-to-date with current fashions most of the time. In the last few decades, the market has felt that the consumer is monitoring his or her fashion environment more constantly. In this context, fashion apparel appears to become so important that many people are increasingly involved with it. This points to the concept of fashion apparel behavior as a consumer behavior construct.

The Brazilian fashion apparel segment produced 5.6 billion units (i.e. garments and accessories) and consumed 1 million of textiles in 2004. The investment of the sector's 17,500 companies amounted to some US\$103.6 million (IEMI, 2007). From 1998 to 2004, the fashion trade balance improved. Thought it had posted a US\$124 million deficit in 1998, by 2007 it reached a US\$192 million surplus (IEMI, 2007). Moreover, according to the Brazilian Textile Association (Associação Brasileira da Indústria Têxtil e de Confecção – ABIT).

Recebido em 15/abril/2008 Aprovado em 04/fevereiro/2010

Sistema de Avaliação: Double Blind Review Editor Científico: Nicolau Reinhard

Valter Afonso Vieira, Doutor em Administração pela Universidade de Brasília, é Professor do Centro de Pesquisa e Pós-Graduação em Administração do Departamento de Administração Geral e Aplicada da Universidade Federal do Paraná (CEP 80210-170 - Curitiba/PR, Brasil). E-mail: valterafonsovieira@yahoo.com Endereco:

Universidade Federal do Paraná Setor de Ciências Sociais Aplicadas Departamento de Administração Geral e Aplicada Avenida Prefeito Lothário Meissner, 632 - 2º andar Bairro Jardim Botânico 80210-170 - Curitiba - PR

Brazil is the second largest denim manufacturer in the world, second only to China (MIRRIONE, 2007). These data show the importance of studying the fashion apparel segment and the intent of its consumers, especially in the jeanswear market

Based on these data, identifying the potential antecedents of fashion buying behavior could be very important for marketing researchers, firms, retail and the textile industry. On the other hand, identifying the constructs that are associated with buying fashion apparel or not might help to expand fashion theory. Thus, the main purpose of this paper is to explore which constructs differentiate the behavior of purchasing fashion apparel or not. The paper was organized as follows: first, the authors present their hypotheses. Next, the concepts, scales, and method used in the study's fieldwork are discussed. This is followed by an analysis of the data that resulted from the application of logistic regression, given that the dependent group has a **yes/no** purchase decision. The article ends with conclusions on the subject.

#### 2. FASHION APPAREL BACKGROUND

The process whereby new apparel and apparel concepts, style statements and tastes continually cycle across the population has been the subject of popular commentary for centuries (TIGERT, RING and KING, 1976). Therefore, understanding how people interpret apparel and how different groups of people make different judgments about the same brand of apparel is critical to apparel manufacturers and their advertising agencies (AUTY and ELLIOTT, 1998).

In recent years, increased consumer independence, the large number of accepted styles at any one point of time and the decline of apparel as a status symbol have placed the individual consumer under less pressure to conform. Thus, individuals are now free to determine how much they are willing to pay for fashion (DARDIS, 1974). Consequently, we assume that if fashion expenditures are high, then the perceived benefits from being fashionable are presumably also high.

Comprehending the fashion construct is not easy, since different definitions appear in the literature. Sproles (1974, p.463-467) suggested three points that define basic constructs and the structured concepts that outline a contemporary theory of fashion:

- The generalized concept of fashion fashion may be defined
  as a broadly based behavioral phenomenon evidenced in a
  variety of material and non-material contexts. A generalized
  definition of fashion reflects the generalized concept of
  fashion represented in a wider realm of non-material as well
  as of consumer behavior phenomena.
- Fashion as an object and a process fashion can be conceptualized both as an object and as a behavioral process. The critical characteristics of a fashion, both as an object and as a process, are defined.

• The mechanisms of the fashion process – the fashion process can be mechanistically characterized as a process of social influence and dissemination. The conceptual basis of the fashion process mechanism is developed based on perspectives taken from classical and contemporary literature.

King and Ring (1980, p.13), complementing the Sproles (1974) structure, comment that fashion can be seen as two--dimensional and encompassing both the fashion object and the fashion process. They indicate that the fashion object refers to a specific object, such as a particular dress, an architectural style – note the work style – or a particular style of child rearing. Fashion process is the process whereby a potential fashion moves from its point of origin to public acceptance. The fashion process is characterized by the introduction of a fashion innovation; its early adoption by fashion leaders; the dissemination of the fashion object throughout a particular sociocultural network; and the eventual decline in acceptance of the fashion object. From those dimensions, this study will analyze fashion as a process, because the investigation measures behaviors, opinions and attitudes regarding the fashion movement, though in relation, specifically, to the object jeans.

According to Tigert, Ring and King (1976), the concept of involvement with fashion is based essentially on three propositions: the population is distributed along a broad continuum in terms of fashion-related behavioral activities; the population is also distributed on an unidimensional continuum for each of these fashion-related behavioral activities; and for several specific fashion-related behavioral activities, these continuums have been and can be researched and identified for specific geographic submarkets. Involvement with fashion is defined as the perceived personal relevance for or interest of the consumer in fashion apparel (ENGEL, BLACKWELL and MINIARD, 2000).

In fashion literature, few studies attempt to explain the fashion involvement phenomena. For instance, O'Cass (2000) proposes and tests four types of involvement: product involvement; purchase decision involvement; advertising involvement and consumption involvement, creating a measurement scale. Zhang and Elmadag (2006), in a series of five studies, developed and validated a scale that measures consumers' different orientations toward fashion. Kim (2005) found five consumer involvement types, based on four dimensions of involvement: challenged moderate, knowledge enthusiast, indifferent moderate, challenged enthusiast, and cautious moderate.

However, only a few papers analyze the antecedents and consequences of fashion apparel. For instance, O'Cass (2001b) explored the relation between self-monitoring, materialism and product involvement in fashion apparel. O'Cass (2001a) also analyzed the impact of fashion apparel involvement on the development of perceptions of product knowledge expertise

and confidence. O'Cass (2004) proposed and tested a theoretical model according to which fashion apparel involvement is significantly affected by a consumer's degree of materialism, gender and age and influences fashion apparel knowledge. Park, Kim and Forney (2006) found that involvement with fashion and positive emotion had positive effects on consumers' fashion-oriented impulse purchase behavior, their involvement with fashion having the greatest effect.

Although these research studies analyzed the fashion apparel phenomena, little effort has been made to better understand the antecedents and consequences that drive people to buy or not to buy fashion apparel. Thus, this paper proposes that materialism, commitment, knowledge, gender and age are antecedents of buying fashion apparel or not, differentiating the two groups. Following this background, the next topic proposes the hypotheses that structure the model.

#### 3. HYPOTHESES PROPOSITION

The purpose of this paper is to explore how materialism, subjective knowledge, commitment, age and gender influence fashion apparel buying behavior. To this end, we reviewed the literature and identified the arguments that may explain fashion

apparel associations. Figure 1 presents our logistic regression model.

In the market, one can infer that fashion apparel, as a possession, may be seen for its role as a code. For instance, fashion apparel assists in portraying acceptable images. Several theorists have demonstrated the use of apparel as a code, as a visual language and as an image, allowing a message to be created and selectively understood. McCracken and Roth (1989) introduced this idea by presenting apparel as "body talk". Their results showed that an understanding of the code depends on the social location of the individual and the social characteristics of the particular apparel look.

Noesjirwan and Crawford (1982) converge toward the same point, saying that apparel is primarily a means of communicating to others a social identity, rather than a personal one. Since fashion apparel establishes personal impressions (BELK, 1985; RICHINS and DAWSON, 1992) and is a way of presenting codes and signs (NOESJIRWAN and CRAWFORD, 1982; McCRACKEN and ROTH, 1989), it might indicate that materialism is linked to involvement with fashion, given that materialism is also a means of impressing others.

In practice, Browne and Kaldenberg (1997) supported a causal relation between materialism and involvement, indi-

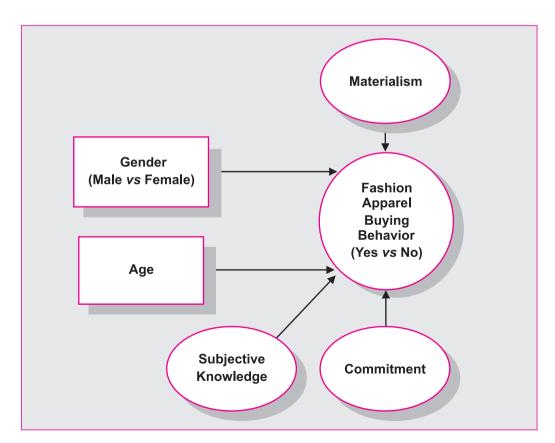


Figure 1: Involvement with Fashion Apparel – Theoretical Model

Source: Based on O'Cass (2004, p.870).

cating that the former antecedes the latter. According to these researchers, highly materialistic individuals find possessions to be generally involving and devote more energy to activities that concern products and brands. Thus, possessing more materialistic values has been associated with using possessions for impression management, hanging on to things rather than disposing of them, and self-indulgent purchasing (BELK, 1985). O'Cass (2004) also found that materialism leads to involvement with fashion. Thus, we assume that materialism discriminates the two consumer groups that buy fashion apparel. Hence:

**H**<sub>1</sub>: Materialism differentiates consumers that buy fashion apparel from those who do not.

Based on seven major fashion studies across four different cultures, Tigert, King and Ring (1980) stated that a much larger proportion of the female fashion buying public monitors new women's fashions on a regular basis. This might indicate that women are more involved with fashion than men are. In their seminal research on the interpretation of apparel **codes**, McCracken and Roth (1989) found that women were significantly better than men at interpreting the syntax of apparel codes. In other words, women recognized a **look** more readily and were more sensitive to fashion cues than men (AUTY and ELLIOTT, 1998). Moreover, research has shown that men and women differ in how they grasp advertising cues (MEYERS-LEVY and STERNTHAL, 1991), in that women pay more attention to advertising (ELLIOTT, 1994).

Women have generally been found to be more sensitive to the informative details provided by advertising than men are and they also tend to focus more on their own external appearance, as reflected by the positive relationship between fashion awareness and public self-consciousness (AUTY and ELLIOTT, 1998). Stith and Goldsmith (1989) found that women reported greater fashion innovativeness, opinion leadership and money spending than men and therefore might be more sensitive to involvement with fashion apparel than men, given that women placed this in a more central position in their lives (O'CASS, 2004). Empirically, Browne and Kaldenberg (1997) also supported this assumption. Therefore, it is hypothesized that:

**H**<sub>2</sub>: Gender (male *vs.* female) differentiates consumers that buy fashion apparel from those that do not.

Age has been identified as an important dimension in the field of fashion apparel (O'CASS, 2001b). Some studies indicate that the differences in fashion apparel attachment and usage exist because of age (AUTY and ELLIOTT, 1998; O'CASS, 2000). The assumption is that younger people place more emphasis on their appearance than older people (O'CASS, 2004), as they are starting to develop a more active social live

and need to show off their looks to their friends. In fact, younger people might place more weight on their appearance because teens want to be accepted by their reference group, to imitate their aspiration group, or to gain some measure of social approval (SCHIFFMAN and KANUK, 2006). The literature supports the notion that there are significant differences in consumers' age when it comes to their perception of fashion website attributes (KWON, JOSHI and JACKSON, 2007) and fashion consumption (ROCHA, HAMMOND and HAWKINS, 2005). Likewise, the next assumption is:

H<sub>3</sub>: Age differentiates consumers that buy fashion apparel from those who do not.

O'Cass (2004) states that knowledge has been described as product familiarity or prior knowledge of the object or stimulus. In the context of fashion apparel, product knowledge is viewed as familiarity with the brands of a product class and with product-use contexts and attributes, frequency of use and experience with fashion apparel (RAJU and REILLY, 1979; JOHNSON and RUSSO, 1984). According to O'Cass (2004), knowledge can come from product experience, exposure to advertising, interactions with sales people, friends or the media, prior decision-making or previous consumption and usage experiences that are recalled.

This study takes a **subjective** fashion knowledge viewpoint, which refers to the extent to which the consumer believes that he or she knows fashion, rather than an **objective** fashion perspective, which concerns how much the consumer actually knows. We assumed that if the consumer knows more about the object, he or she might be more inclined to buy that, because the consumer is engaging in the search for information more constantly. We assumed that prior knowledge of the object or stimulus could influence fashion apparel buying behavior. Based on this perspective, the next proposition is:

H<sub>4</sub>: Consumers' perception of fashion knowledge differentiates consumers that buy fashion apparel from those that do not.

As a conceptual definition, continuity commitment (or calculative commitment) is based on the cognitive evaluation of the brand and infers that consumers maintain a consistent behavior while perceiving the benefits to be gained from the brand (AMINE, 1998; VIEIRA and SLONGO, 2008a; 2008b; VIEIRA, 2009). In this study, continuity commitment is related to the brand. Based on this point of view, we assume that the more committed to fashion apparel the consumer is, the more he or she will be inclined to buying fashion apparel. Furthermore, there is ample evidence that commitment is an important predictor of customer return intentions (i.e. buying fashion apparel) and actual loyalty behavior over time (BARKSDALE JR., JOHNSON and MUNSHIK, 1997; WETZELS and RUYTER,

1998; GARBARINO and JOHNSON, 1999). Thus, as the consumer maintains consistent behavior while perceiving the benefits to be derived from fashion apparel, we assumed that he or she would become more loyal, given that this consumer is perceiving value in fashion apparel. Customer commitment should therefore be a good indicator of attitudinal loyalty and relationship marketing success (LILJANDER and ROOS, 2002). Consequently, the next proposition is:

**H**<sub>5</sub>: Consumers' continuity commitment differentiates consumers that buy fashion apparel from those that do not.

#### 4. RESEARCH DESIGN

#### 4.1. Measurement

The scales used for measuring involvement with fashion apparel (three items), and fashion apparel knowledge (two items, see Appendix I) were based on O'Cass (2004). Since O'Cass (2004) confirmed the reliability of the measures, we decided to use them. Calculative commitment, which focuses on brand and not on store, used three items from Fullerton (2003). Materialism used five items from Monteiro (2005). All scales were rendered operational using a seven-point Likert scale, varying from "strongly disagree" to "strongly agree", and were translated into Portuguese by marketing students. Age was an open question (continuum scale), e.g. "What is your age?" See details in Appendix I.

#### 4.2. Questionnaire pre-test

A pre-test among 53 business students was used to check the tool. These respondents were not included in the final sample. The results showed that the materialism tool was psychometrically unreliable. Initially, materialism was based on Richins and Dawson (1992). Because of the reliability issues, the researchers decided used the tool proposed by Monteiro (2005). The other scales seemed to be sound.

#### 4.3. Sample

The sample was defined as non-probabilistic and convenience-based. The student sample included both undergraduate and graduate students from the academic and technical colleges of one of the top six Brazilian cities. The overall sample included students. The initial sample consisted of 315 respondents, while the end sample had 301 (95%). Men accounted for 54% of the sample (162). People who commented that they buy fashion apparel accounted for some 54% of the total. Their family income stood at US\$0.00-US\$400.00 (29%); US\$401.00-US\$1,200.00 (45%); US\$1,201.00-US\$1,900.00 (14%); US\$1,901.00-US\$2,200.00 (3%); and US\$2,201.00- and above (9%) (exchange rate: US\$1.00 = R\$1.46). The average age was

M = 23 and the range was 12 to 70. Respondents interested in buying run-of-the-mill jeans were willing to pay M = US\$23.00, whereas those interested in fashion jeans were willing to pay M = US\$51.00. Respondents spend an average of 40 minutes buying conventional jeans and 47 minutes buying fashion jeans.

#### 5. DATA ANALYSIS

For the hypotheses test, we used logistic regression, since the dependent variable is categorical. To this end, we pre--analyzed the data in the light of certain criteria to clean it up better. First, the missing values found were below 5% and they were replaced by means (KLINE, 1998). The variable with the highest missing value was just 3.7%. Second, outliers were checked according to two criteria: one based on score Z, where values above  $\pm 3$  were identified (they were retained), and the second based on the Mahalanobis distance D2, where values under p<.001 were deleted (no case). Third, multicolinearity was assessed using the Pearson correlations (HAIR JR. et al., 1998), values above  $\pm$  .90 being excluded (no case). Fourth, normality was checked in terms of kurtosis (<±5) (OLSSON et al., 2000), skew ( $\leq$ ±2) and the Kolmogorov Smirnoff test ( $p\leq$ .01). Regarding these three, non-normality was identified, although within the moderator parameters. Since the values were lower than those suggested in the literature, we proceed with exploratory factor analysis and logistic regression.

After data clean up, the final sample consisted of 301 observations. An analysis of the correlation matrix indicated some interesting results, according to table 1. Materialism is associated negatively with age (r = -.17, p < .05). This result suggests that the younger consumer is more focused on materialism than the older ones. Materialism, commitment and subjective knowledge are associated positively. Consumers with more subjective knowledge have more commitment to the purchase of fashion apparel (r = .36, p < .05). Older consumers are more inclined to buying fashion products (r = .24, p < .05).

After these initial checking procedures, multivariate data analysis was employed. First, an exploratory factor analysis (EFA) was used to evaluate the unidimensionality of the variables. The purpose of using EFA was not only to define better variables that compose the factor (in terms of loads), but also to assess whether the constructs are unidimensional or multi--dimensional. Thus, the criterion for excluding the variables in the matrix was load-values under .35 (cut-off). For extraction, we used the principal axis, and, for rotation, the Oblimin method (Eigenvalues over 1). The extraction method chosen was non--orthogonal. This method is justified because the factors are assumed to be correlated in social science, oblique rotations will always meet the simple structure criterion better than orthogonal rotations, and some research supports a slight superiority of oblique rotations in terms of the factor replicability (REISE, WALLER and COMREY, 2000).

Table 1

Correlation Matrix Regarding the Variables and Constructs

Measure	Mean	Standard Deviation	Materialism	Knowledge	Commitment	Buy	Gender
Materialism	3.25	1.46	1				
Knowledge	3.31	1.49	0.25*	1			
Commitment	2.55	1.48	0.20*	0.36*	1		
$Buy^\omega$	_	_	n.s.	n.s.	n.s.	1	
Gender <sup>ω</sup>	_	_	n.s.	0.25**	n.s.	n.s. $^{\ddot{\upsilon}}$	1
$Age^\delta$	23.54	9.44	-0.17**	n.s.	n.s.	0.24**	-0.18**

**Notes:** Mean of a 7-point scale; Buy and Gender are dummy variables; correlations are significant at the p<.05 level\*, and at the p<.01 level\*\* (2-tailed);  $\delta$  used Spearman's rho correlation;  $\omega$  used Nominal-by-Interval Association Eta;  $\upsilon$  chi-squared; n.s. = non significant association.

According to the data, materialism yielded alpha values under .70 (HAIR JR. *et al.*, 1998). Thus, the items that had poor loads were excluded and we recalculated alpha. The results, after excluding "materialism\_5", show one dimension with 44%. The observation is that even recalculating alpha for materialism scale it did not perform well ( $\alpha$ = .57). Table 2 shows the results of that analysis.

Table 3 presents the results of the hypotheses test. Logistic Regression was used for this propose. In statistics, logistic regression is a model used to predict the probability of an event occurring. It makes use of several predictor variables that may be either numerical or categories (PEDUZZI *et al.*, 1996). Thus, since age and gender are not interval variables, and since materialism, commitment and knowledge are Likert type scales, we used logistic regression. Specifically, logistic regression allows one to predict a discrete outcome, such as buying fashion apparel or not, because the dependent or response variable is dichotomous.

According to table 3, Wald statistics is an alternative test commonly used to test the significance of individual logistic regression coefficients for each independent variable (HAIR JR. *et al.*, 1998). S.E. is the error value and unstandardized logit coefficients are shown in the Beta column. The results are

discussed following this. One should note that the independent constructs (knowledge, materialism and commitment) represent the average of the scale items.

#### 5.1. Hypotheses discussion

The first hypothesis assumes that materialism might influence the fashion apparel purchase decision. The results indicated that materialism did not lead to buying behavior ( $\beta$ =.16; Wald = 1.84; p =NS). A likely reason for this result is that people perhaps buy fashion apparel sporadically or just at a specific moment of their lives. Therefore, consumers might not be focused on material elements. They might just be engaging in momentary experimentation.

Tigert, King and Ring (1980) stated that a much larger proportion of the female fashion buying community is now monitoring new women's fashions on a regular basis. Other studies also yielded the same results (McCRACKEN and ROTH, 1989; O'CASS, 2004) and based on that literature, this study assumed that gender might have a significant positive influence on fashion apparel purchases. The results indicated that the second hypothesis was not supported. A possible explanation of this outcome is that men may be changing their

Table 2
Scale Unidimensionality Test Using Exploratory Factor Analysis

Construct	Items	Dimensions After EFA	KMO	Bartlett	Alpha	VE %	
Knowledge	2	1	.50	.000	$\alpha$ = .73	78	
Materialism	5*	1	.63	.000	$\alpha$ = .57	44	
Commitment	3	1	.72	.000	$\alpha$ = .85	77	

Notes: \*Exclude 1 item from materialism scale; KMO = Kaiser Meyer Olkin Test; VE = Variance Extracted; used Principal Axis and Oblimin.

Table 3

Variables in the Equation and Hypotheses Test

Construct	Beta	S.E.	Wald	d.f.	<i>p</i> -value	Hypothesis
Knowledge	0.70	0.12	35.82	1	0.000	$H_{\mathtt{A}}$
Commitment	0.41	0.11	13.58	1	0.000	$H_{5}^{T}$
Materialism	0.16	0.12	1.84	1	0.170	H₁́
Age	-0.06	0.02	15.03	1	0.000	$H_3^{'}$
Gender	0.32	0.29	1.24	1	0.260	$H_2$
Constant	2.41	0.66	13.14	1	0.000	-

Notes: (-) not tested; S.E. = error; d.f. = degree of freedom.

focus and orientation from conventional apparel to fashion apparel in the last few years, therefore balancing the female/male relation. In fact, the masculine society is becoming more vanity-oriented, as indicated by the appearance of the metro sexual figure (such as David Beckham and Brad Pitt). It seems that men are now spending more time at hairdressers, having silicone implants in their legs, going to health clubs more and so forth, as compared to a while back. Concluding, men and women might have an equal and significant positive influence on fashion apparel buying.

The third hypothesis gives one to understand that younger people place more emphasis on their appearance than older consumers do (O'CASS, 2004), which possibly leads to a buying behavior. Support for this hypothesis was found ( $\beta$  = -.06; Wald = 15.029; p<.001). This hypothesis can perhaps be explained by the fact that younger individuals might be associating in a reference group (i.e., social gathering and social environment) or might be trying to gain the approval of other friends, thus spending more money on fashion apparel.

The data supported the fourth hypothesis, indicating that fashion apparel knowledge leads to buying fashion apparel. O'Cass (2004) comments that knowledge has been described as product familiarity or prior knowledge of the object or stimulus. Since the results appear to support the fourth hypothesis, we believe that prior knowledge of the object and exposure to advertising helped people to buy fashion apparel. Based on this point of view, the argument is that when the consumer is better acquainted with the product, he or she may be more inclined to buy fashion apparel.

Results supported the fifth hypothesis, which points out that consumers' perception of fashion commitment appears to be connected with fashion buying behavior. The consumer commitment result in buying fashion apparel was significant ( $\beta$ =.40; Wald=13.580; p<.000). The results seem to support the Iwasaky and Havitz (1998) model in part. This model suggested the existence of a relationship between involve-

ment, commitment and loyalty (in that study, loyalty concerned product purchase intent). The assessment underlying this sequence is that the more involved the shopper is with the product (with the imagination using a larger range of cognitive aspects), the more committed to his or her decision (i.e., buying the product) he or she will be.

#### 5.2. Model adjustment

The likelihood ratio chi-square of 108.21 with p < .0001 tells us that our model as a whole has significantly better fit than the empty model (Model 0). In addition, the Hosmer and Lemeshow (H-L) goodness of fit test is another name for a chi--square goodness of fit test that verifies model adjustment. The test divides subjects into deciles based on predicted probabilities and computes chi-square from observed and expected frequencies. Then, a probability value is calculated from the chi-square distribution with 8 degrees of freedom to test the fit of the logistic model. If the H-L goodness of fit test statistic is greater than .05, as one requires for well-fitting models, we fail to reject the null hypothesis that there is no difference between observed and model-predicted values, implying that the model's estimates fit the data at an acceptable level (HAIR JR. et al., 1998). In other words, well-fitting models show non--significance on the H-L goodness of fit test. In this context, table 4 presents the H-L goodness of fit test.

Table 4

Hosmer and Lemeshow Test

Step	Chi-square	d.f.	Sig.	
1	4.06	8	.85	

Note: d.f. = degree of freedom.

Table 5 presents the Cox and Snell R-Square and the Nagelkerke R-Square results. According to Hair Jr. *et al.* (1998), Cox and Snell's R-Square is an attempt to imitate the interpretation of multiple R-Squares based on likelihood, but its maximum can be (and usually is) less than 1.0, making it difficult to interpret. Nagelkerke's R-Square is a further modification of the Cox and Snell coefficient to assure that this can vary from 0 to 1. The results indicated a Cox and Snell value of .30 and a Nagalkerke value of .40, i.e., values that are not good.

Table 5

Determinants of Fashion Apparel Purchase:

Model Summary

-2 log Likelihood	Cox & Snell R <sup>2</sup>	Nagelkerke R <sup>2</sup>
307.30	.30	.40

Classification tables are the 2 x 2 tables in the logistic regression output for dichotomous dependents, or the 2 x n tables for ordinal and polytomous logistic regression, which tally correct and incorrect estimates (HAIR JR. et al., 1998). The columns are the two predicted values of the dependent, while the rows are the two observed (actual) values of the dependent. In a perfect model, all cases will be on the diagonal and the overall correct percentage will be 100%. The model, presented in table 6, shows an overall correct classification of a moderate 74%.

Table 6

Group Classification

Observed		Pred Buy Fa App	ashion	% Correct
		No	Yes	
Buy fashion apparel	No Yes	99 38	40 124	71.2 76.5
Overall percentage				74.1

Note: The cut value is .50.

#### 5.3. Additional tests

O'Cass (2004) suggested that the issue of antecedents of involvement with fashion could be extended to include personal

values, personality traits and consequences, such as information search and time spent shopping. Based on this situation, this study expects **time** spent shopping to be great among people buying fashion apparel as compared to the time spent by those buying conventional apparel. The same argument is supported by Mckinney *et al.* (2004). Theoretically, Browne and Kaldenberg (1997) suggest that strong pleasure feelings related to possessions cause people to spend more time buying things. This might be the case because normal apparel does not demand much expertise with brands and because the cognitive effort required is presumably not as great as when purchasing fashion apparel. Thus, cognitive effort might be greater when buying fashion clothing, leading to more time spent buying it.

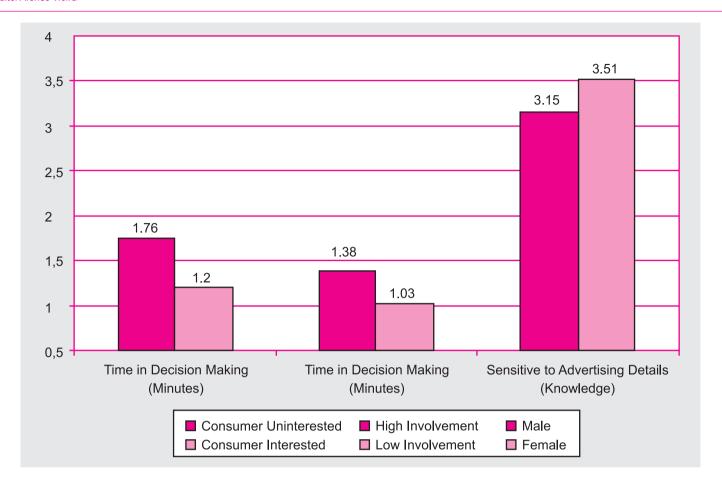
According to figure 2, time spent in buying apparel (open question / continuum) was related to fashion apparel purchase intent. Thus, the average time spent deciding to buy apparel (i.e., minutes) is significantly greater among those who are really interested in buying fashion apparel as compared to people who are uninterested in it ( $M_{\rm interested} = 176.97 \, {\rm vs.} \, M_{\rm not-interested} = 120.73$ ; Mann-Whitney U = 7052.00; p<.000). Another Mann-Whitney test showed that the average time spent in deciding to buy apparel is significantly greater among people more involved in purchasing fashion apparel than among people with low involvement ( $M_{\rm high-involvement} = 138.43 \, {\rm vs.} \, M_{\rm low-involvement} = 103.30$ ; Mann-Whitney U = 5000.50; p<.000).

According to Auty and Elliott (1998), women have been found to be more sensitive to the informative details provided in advertising than men generally are. They also tend to focus more on their own external appearance, as reflected by the positive relationship between fashion awareness and public self-consciousness. In this context, we conducted a t-test between commitment, knowledge and materialism, and gender. The only significant difference concerned subjective knowledge. Thus, women evaluate the knowledge construct better than men ( $M_{\text{female}} = 3.51 \text{ vs. } M_{\text{male}} = 3.15; F_{(1,300)} = 4.03; p<.05$ ), supporting the notion that women are more sensitive to the informative details provided by advertising.

#### 6. FINAL THOUGHTS

The main objective of this research study was to explore which constructs differentiate the behavior of buying or not buying fashion apparel. The paper's main contribution to fashion theory comes from supporting the variables that discriminate buying behaviors. We found that commitment, knowledge and age are key variables that separate buying from non-buying behavior.

More specifically, retailing might benefit from investing more in consumer commitment by offering educational programs on fashion, discussing innovation in fashion apparel and presenting up-to-date apparel design and styles. Such a program might help individuals become more interested in fashion apparel, increasing their commitment.



**Note:** We transformed the scale values in order to present all results inside the figure. In other words, "Time in decision making" from 176 to 1.76 (176/ 10=1.76) and, from 120 to 1.20. Subjective knowledge was not transformed.

Figure 2: Difference Between Consumers' Segments

Second, subjective knowledge is connected with familiarity with the product or prior knowledge of the object or stimulus. When it comes to fashion apparel, product knowledge is viewed as the awareness and understanding of brands in the product class and in terms of product-use contexts (e.g. raves party), product attribute knowledge (e.g. quality), frequency of use (e.g. use in college and high school) and experience with fashion apparel. Fashion designers can map the profile to design specific apparel.

Third, age, the only variable that had a negative association with buying behavior, can be manipulated by investing in advertising specifically designed for the target market. Different kinds of apparel should use specific advertising appeal for younger consumers.

This study may also be of use to managers, as it found that fashion apparel and time spent at stores are positively associated. This indicates that fashion brands should invest more in their in-store environments. The literature supports the notion that a better store atmosphere gives more pleasure to cus-

tomers (BAKER, LEVY and GREWAL, 1992), encouraging consumers spend more time and money buying (SHERMAN, MATHUR and SMITH, 1997).

In sum, the outcomes of the hypotheses suggested valuable support for the understanding of the dynamics of fashion consumption based on an initial study of an exploratory nature. Other studies might refine the propositions suggested herein and further our understanding of fashion buying behavior. Thus, consumer behavior researchers might consider studying fashion apparel consumption in greater depth, as this is important for the Brazilian fashion market.

#### 6.1. Limitations and directions for future research

This study has a few limitations that should be mentioned here. The first is its cross-sectional nature. Alternative methodologies, such as longitudinal studies, should be used in future research. The second concerns the sample used. It is difficult to generalize this study's outcomes as its sample, comprised of students, differs substantially from non-student samples. Third, the product category used as stimulus (fashion apparel) had certain interesting characteristics that justified its inclusion here. However, further studies should consider analyzing other product categories to validate the results of this study (for example, cell phones or video games).

In sum, this research hopes to have awakened discussion of the fashion apparel segment and encouraged the testing of hypotheses under more favorable circumstances, without the limitations of this particular study, so that one may acquire a better understanding of the influence of desires on the purchase of fashion apparel.

AMINE, A. Consumers' true brand loyalty: the central role of commitment. *Journal of Strategic Marketing*, London, v.6, n.4, p.305-319, Winter 1998.

AUTY, S.; ELLIOTT, R. Fashion involvement, self-monitoring and the meaning of brands. *Journal of Product and Brand Management*, London, v.7, n.2, p.109-123, Summer 1998.

BAKER, J.; LEVY, M.; GREWAL, D. An experimental approach to making retail store environment decisions. *Journal of Retailing*, v.68, n.4, p.445-460, Winter 1992.

BARKSDALE JR., H.C.; JOHNSON, J.T.; MUNSHIK, S. A relationship maintenance model: a comparison between managed health care and traditional fee-for-service. *Journal of Business Research*, v.40, n.2, p.237-247, Nov. 1997.

BELK, R. Materialism: trait aspects of living in a material world. *Journal of Consumer Research*, Gainesville, v.12, n.3, p.265-280, Summer 1985.

BROWNE, B.; KALDENBERG, D. Conceptualizing self-monitoring: links to materialism and product involvement. *Journal of Consumer Marketing*, Santa Barbara, v.14, n.1, p.31-44, Winter 1997.

DARDIS, R. Fashion behavior: a consumerist view. In: WARD, Scott; WRIGHT, Peter (Ed.). *Advances in consumer research*. Duluth, Minnesota: Association for Consumer Research, 1974. v.1, p.484-487.

ELLIOTT, R. Exploring the symbolic meaning of brands. *British Journal of Management*, London, v.5, n.1, p. S13-S19, Summer 1994.

ENGEL, J.F.; BLACKWELL, R.D.; MINIARD, P.W. Comportamento do consumidor. 8.ed. São Paulo: LTC Editora, 2000.

FULLERTON, G. When does commitment lead to loyalty. *Journal of Service Research*, v.5, n.4, p.333-345, Summer 2003.

GARBARINO, E.; JOHNSON, M.S. The different roles of satisfaction, trust, and commitment in customer relationships. *Journal of Marketing*, Chicago, v.63, n.2, p.70-88, Summer 1999.

HAIR JR., J.F.; ANDERSON, R.E.; TATHAM, R.L.; BLACK, W.C. *Multivariate data analysis*. 5.ed. New Jersey: Prentice Hall. 1998.

INSTITUTO DE ESTUDOS E MARKETING INDUSTRIAL (IEMI). Pesquisa traça perfil do bilionário mercado da moda.

2007. Available in: <a href="https://www2.uol.com.br/canalexecutivo/notas/170620053.htm">www2.uol.com.br/canalexecutivo/notas/170620053.htm</a>. Retrieved: 31 Dec. 2007.

IWASAKI, Y.; HAVITZ, M.E. A path-analytical model of the relationships between involvement, psychological commitment and loyalty. *Journal of Leisure Research*, v.30, n.2, p.256-280, Summer 1998.

JOHNSON, E.; RUSSO, J. Product familiarity and learning new information. *Journal of Consumer Research*, Gainesville, v.11, n.1, p.542-550, Summer 1984.

KIM, H. Consumer profiles of apparel product involvement and values. *Journal of Fashion Marketing and Management*, London, v.9, n.2, p.207-221, Winter 2005.

KING, C.W.; RING, L. The dynamics of style and taste adoption and diffusion: contributions from fashion theory. *Advances in Consumer Research*, Provo: Utah, v.7, p.13-16, Summer 1980.

KING, C.W.; RING, L.; TIGERT, D. Fashion involvement and retail buying behavior. In: *Competition in retail markets*: a department store perspective. Proceedings of the New York University, American Marketing Association Retail Conference, Apr. 1979.

KLINE, R.B. *Principles and practice of structural equation modeling*. New York: The Guilford Press, 1998.

KWON, H.J.; JOSHI, P.; JACKSON, V.P. The effect of consumer demographic characteristics on the perception of fashion web site attributes in Korea. *Journal of Fashion Marketing and Management*, Manchester, v.11, n.4, p.529-541, Summer 2007.

LILJANDER, V.; ROOS, I. Customer relationship levels from spurious to true relationships. *Journal of Services Marketing*, Santa Barbara, v.16, n.7, p.593-614, Summer 2002.

McCRACKEN, G.; ROTH, V. Does clothing have a code? Empirical findings and theoretical implications in the study of clothing as a means of communication. *International Journal of Research in Marketing*, Chicago, v.6, n.2, p.13-33, Summer 1989.

MCKINNEY, L.N.; LEGETTE-TRAYLOR, D.; KINCADE, D.H.; HOLLOMAN, L.O. Selected social factors and the clothing buying behavior patterns of black college consumers. *International Review of Retail, Distribution and Consumer Research*, v.14, n.4, p.389-406, Oct. 2004.

MEYERS-LEVY, J.; STERNTHAL, B. Gender difference in the use of message cues and judgments. *Journal of Marketing Research*, Chicago, v.28, n.1, p.84-96, Feb. 1991.

MIRRIONE, H. No meio da discussão quem ganha é o consumidor. 2007. Available in: <www1.folha.uol.com.br/folha/especial/2005/moda16/mo1612200504.shtml>. Retrieved: 31 Dec. 2007.

MONTEIRO, P.R.R. Compra compulsiva, inovação e hábitos de moda: teste de uma teoria fundamentada no modelo 3M de motivação e personalidade. 2005. Dissertação (Mestrado em Administração) – Centro de Pós-Graduação e Pesquisa em Administração da Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brasil.

NOESJIRWAN, J.; CRAWFORD, J. Variations in perception of clothing as a function of dress form and viewers' social community. *Perceptual and Motor Skills*, v.54, p.155-163, Summer 1982.

O'CASS, A. An assessment of consumers' product, purchase decision, advertising and consumption involvement in fashion clothing. *Journal of Economic Psychology*, v.21, n.5, p.545-576, Summer 2000.

\_\_\_\_\_. An exploratory assessment: fashion clothing involvement's influence on the development of perceptions of product knowledge expertise and confidence. In: TIDWELL, P.M.; MULLER, T.E. (Ed.). *Asia Pacific advances in consumer research*. Provo, Utah: Association for Consumer Research, 2001a. v.4, p.288-295.

\_\_\_\_\_. Exploring the relationship between self--monitoring, materialism and product involvement in fashion clothing. In: TIDWELL, P.M.; MULLER, T.E. (Ed.). *Asia Pacific advances in consumer research*. Provo, Utah: Association for Consumer Research, 2001b. v.4, p.183-189.

\_\_\_\_\_. Fashion clothing consumption: antecedents and consequences of fashion clothing involvement. *European Journal of Marketing*, v.38, n.7, p.869-882, Winter 2004.

OLSSON, U.; FOSS, T.; TROYNE, S.; HOWELL, R. The performance of ML, GLS and WLS estimation in structural equation modeling under conditions of misspecification and nonnormality. *Structural Equation Modeling*, v.7, n.4, p.557-595, Winter 2000.

PARK, E.J.; KIM, E.Y.; FORNEY, J.C. A structural model of fashion-oriented impulse buying behaviour. *Journal of Fashion Marketing and Management*, v.10, n.4, p.433-445, Winter 2006.

PEDUZZI, P.J.; CONCATO, E.K.; HOLFORD, T.R.; FEINSTEIN, A. A simulation of the number of events per variable in logistic regression analysis. *Journal of Climical Epidemiology*, Great Britain, v.99, n.1, p.1373-1379, 1996.

RAJU, P.; REILLY, M. Product familiarity and information-processing strategies: an exploratory investigation. *Journal of Business Research*, v.8, n.2, p.187-212, Winter 1979.

REISE, S.P.; WALLER, G.W.; COMREY, A.L. Factor analysis and scale revision. *Psychological Assessment*, v.12, n.3, p.287-297, Summer 2000.

RICHINS, M.; DAWSON, S. A consumer values orientation for materialism and its measurement: scale development and validation. *Journal of Consumer Research*, Gainesville, v.19, n.2, p.303-316, Winter 1992.

ROCHA, M.A.V.; HAMMOND, L.; HAWKINS, D. Age, gender and national factors in fashion consumption. *Journal of Fashion Marketing and Management*, v.9, p.380-390, 2005.

SCHIFFMAN, L.; KANUK, L. Consumer behaviour. 9<sup>th</sup> ed. New York: Prentice Hall, 2006.

SHERMAN, E.; MATHUR, A.; SMITH, R.B. Store environment and consumer purchase behavior: mediating role of consumer emotions. *Psychology & Marketing*, Wiley InterScience, Hoboken, NJ, v.14, n.4, p.361-378, Summer 1997.

SPROLES, G.B. Fashion theory: a conceptual framework. In: WARD, Scott; WRIGHT, Peter (Ed.). *Advances in consumer research*. Duluth, Minnesota: Association for Consumer Research, 1974. v.1, p.463-472.

STITH, M.T.; GOLDSMITH, R.E. Race, sex and fashion innovativeness: a replication. *Psychology & Marketing*, Wiley InterScience, Hoboken, NJ, v.6, n.4, p.249-263, Winter 1989.

TIGERT, D.; KING, C.; RING, L. Fashion involvement: a cross-cultural analysis. In: OLSON, Jerry C. (Ed.). *Advances in consumer research*. Ann Arbor: Association for Consumer Research, 1980. v.7, p.17-21.

TIGERT, D.J.; RING, L.J.; KING, C.W. Fashion involvement and buying behavior: a methodological study. In: BEVERLEE, A.B. (Ed.). *Advances in consumer research*. Cincinnati, Ohio: Association for Consumer Research, 1976. v.3, p.46-52.

VIEIRA, V.A. An extended theoretical model of fashion clothing involvement. *Journal of Fashion Marketing and Management*, v.13, n.2, p.179-200, Winter 2009.

VIEIRA, V.A.; SLONGO, L.A. Um modelo dos antecedentes da lealdade no varejo eletrônico. *Revista de Administração Contemporânea*, Curitiba, v.12, Edição Especial, p.40-60, 2008a.

\_\_\_\_\_. Comprometimento e lealdade: dois conceitos ou duas dimensões de um único conceito? Uma resposta a Prado e Santos (2003). *Revista de Administração Contemporânea*, Curitiba, v.12, n.4, p.995-1018, 2008b.

WETZELS, M.; RUYTER, K. Marketing service relationships: the role of commitment. *Journal of Business and Industrial Marketing*, MCB University Press, England, v.13, n.4/5, p.406-424, 1998.

ZHANG, J.; ELMADAG, A.B. Understanding consumers' perceptions of fashion. In: FITZSIMONS, Gavan; MORWITZ, Vicki (Ed.). *Advances in consumer research*. Orlando, FL: Association for Consumer Research, 2006. v.34.

#### Determinants of the purchase or non-purchase of fashion apparel: an exploratory study

The aim of this paper is to explore how some variables are or are not connected with the decision to buy fashion apparel. First, the article proposes five hypotheses that may influence purchase behavior. Using a sample of 301 consumers and logistic regression, we found support for three hypotheses that differentiate the groups: age, knowledge and commitment. Second, the results suggest that the theoretical model is effective in correctly classifying fashion-buying groups (71%). Additionally, the results also indicated that the materialism scale had low psychometric reliability.

**Keywords:** fashion, logistic-regression, buying.

#### Factores determinantes de la compra o no de ropas de moda: un estudio exploratorio

El objetivo en este artículo es explorar algunas variables que están asociadas (o no) a un comportamiento efectivo con relación a la ropa de moda. Inicialmente se proponen cinco hipótesis con posible impacto en la compra de ropa de moda. Con una muestra de 301 consumidores y utilizando la regresión logística, se pudo encontrar apoyo a tres hipótesis que distinguen los grupos: edad, conocimiento y compromiso. Los resultados sugieren un modelo efectivo en la correcta clasificación (71%) de los grupos de compradores. Asimismo, los hallazgos indican que la escala de materialismo no fue confiable.

Palabras clave: moda, regresión logística, compra.

#### APPENDIX I - SCALES

#### Subjective Knowledge

- I am very familiar with fashion apparel (M = 3.30; s.d. = 1.65) [Average and standard deviation. 7-point Likert Type Scale.]
- A am an experienced fashion apparel consumer (M = 3.11; s.d. = 1.65)

#### Commitment

- It would be very hard for me to change from brand to another one, even if I wanted to (M = 3.20; s.d. = 2.07)
- It would be a hassle to change from brand to another one (M = 2.60; s.d. = 1.82)
- At this time, changing from brand \_\_\_ to another one would demand a lot of effort and dedication (M = 3.71; s.d. = 1.98)

#### **Materialism**

- Sometimes I like to buy things that are not very useful (M = 5.79; s.d. = 1.76)
- I like to buy things to impress other people (M = 4.31; s.d. = 1.89)
- Sometimes I like a bit of extravagance in my life (M = 2.88; s.d. = 1.84)
- I would like to have more money to buy the things that I like (M = 2.48; s.d. = 1.75)
- Acquiring material goods is an important thing in life (M = 2.23; s.d. = 1.61)

#### Age \_\_\_\_ years

• *Time* spent shopping \_\_\_ minutes.