Testing a Theoretical Model of Fashion Clothing Involvement

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Fashion is a way that the consumer has to monitor the changing fashion environment on a regular basis. In this perspective, fashion clothing involvement is a degree that the consumer perceives the relevance of the fashion in its life. This study has as goal to test an extended theoretical model of fashion clothing involvement that represents the antecedents and consequents of fashion involvement. Nine hypotheses are proposed and tested using structural equation modeling. The data, collecting in a survey of 315 people, showed support to five of them. Conclusions and general comments end the paper

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/14061/la/v2_pdf/LA-02

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ABSTRACT

Fashion is a way that the consumer has to monitor the changing fashion environment on a regular basis. In this perspective, fashion clothing involvement is a degree that the consumer perceives the relevance of the fashion in its life. This study has as goal to test an extended theoretical model of fashion clothing involvement that represents the antecedents and consequents of fashion involvement. Nine hypotheses are proposed and tested using structural equation modeling. The data, collecting in a survey of 315 people, showed support to five of them. Conclusions and general comments end the paper.

INTRODUCTION

For centuries the phenomena of fashion behavior have been the varied subject of social analysts, cultural historians, moral critics, academic theorists, and business entrepreneurs (Sprules 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/her wardrobe up-to-date with current fashions most of the time. In this context, fashion clothing appears to become so important that many people are now more involved with it, indicating, as a consequence, the concept of “fashion involvement” as a recent consumer behavior construct.

This study has as goal to test an extended theoretical model of fashion clothing involvement that represents the antecedents and consequents of fashion involvement. Hence, this paper is organized as follows. It initially proposes the hypotheses that structure the extended model. Next, it discusses the concepts, the scales and the methods used for doing the research field. Consequently, it analyzes the data using structural equation modeling. Then, the article ends with a conclusion about the topic and suggestions for future research.

HYPOTHESIS PROPOSITION

Browne and Kaldenberg (1997) presented a causal relation between materialism and involvement, indicating that the first could be the antecedent of the second. In this context, it could be inferred that fashion clothing, as possession, may be seen for its role as a code (i.e. assists in portraying acceptable images). In fact, diverse theorists have demonstrated the use of clothing as a code and a language, which allows a message to be created and (selectively) understood (McCracken and Roth 1989). For instance, Noesjrwan and Crawford (1982) make this convergence saying that clothing is primarily a means of communicating, not personal identity, but social identity to others. Thus, fashion clothing creates the impression (Belk 1985) and is a way of presenting the codes and signs, it could be an indicative that materialism is linked to fashion involvement, since materialism is way of cause impression to others. In this circumstance, O’Cass (2004) comments that some products are thought to include fashion clothing, because it is particularly susceptible to differences in consumption stereotyping and therefore to differences in ability to encode and decode a range of messages and images. Then, it is expected that materialism could influence fashion clothing involvement, because the last one is a way of presenting messages, appearance (O’Cass 2004), image, feelings, and possessions. In addition, empirical research have been show that materialism leaves to involvement (Browne and Kaldenberg 1997; O’Cass 2004). Based on this context, the first hypothesis is: H1: Materialism has a significant positive influence on Fashion Clothing Involvement.

Tigert, King and Ring (1980) stated, based on seven major fashion studies across four different cultures, that a much larger proportion of the female fashion buying public is now monitoring new women’s fashions on a regular basis. Thus, it is one of the indicative is that woman is more involved in fashion than man’s. In their seminal research on the interpretation of clothing “codes”, McCracken and Roth (1989) found that females were significantly better than men in interpreting the syntax of clothing codes. That is, women recognized more readily a “look” and were more sensitive to fashion cues than men are (Auty and Elliott, 1998). Moreover, recent research has shown that men and women differ in the way they pay attention to cues in advertising (Meyers-Levy and Maheswaran 1991) and similarly that they read fashion symbols with different criteria (e.g. Elliott, 1994; Meyers-Levy and Sternthal, 1991). Thus, females have been found to be more sensitive to the informative details provided in ads than men generally are and tend to focus more on their own external appearance, as reflected by the positive relationship between fashion consciousness and public self-consciousness (Auty and Elliott, 1998). For that reason, females could also be more sensitive to fashion clothing involvement than men generally are, since fashion clothing has more of a feminine image and thus females will place it in a more central position in their lives than males (O’Cass 2004). In fact, some studies argue that woman is more involved in fashion than man is (Tigert, King and Ring 1980; Tigert, Ring and Ring 1976; Browne and Kaldenberg 1997; Auty and Elliott 1998; O’Cass 2004). Thus, it is hypothesized that: H2: Gender has a significant positive influence on Fashion Clothing Involvement.

Age has also been identified as an important dimension in fashion clothing (O’Cass 2004). Some studies indicated that differences in fashion clothing attachment and usage are said to exist (Auty and Elliott 1998; O’Cass 2004). The assumption is that younger people in general place more emphasis on their appearance than older people (O’Cass 2004). It could be because teens need to be accepted in the reference group, try to imitate aspiration group, or are trying to gain some approbation. Furthermore, it is hypothesized that H3: Age has a significant negative influence on Fashion Clothing involvement; i.e. younger people place more emphasis on fashion clothing than elders’.

O’Cass (2004) comments that knowledge has been referred to, in the literature, as product familiarity or prior knowledge of the object or stimuli. In the context of fashion clothing, product knowledge is viewed as knowledge of brands in the product class and in terms of product-use contexts and product attribute knowledge, frequency of use and experience with fashion clothing (Johnson and Russo 1981, 1984; Raju and Reilly 1979). According to O’Cass (2004), knowledge can come from product experiences, ad exposure, interactions with sales people, friends or the media, previous decision-making or previous consumption and usage experiences held in memory. Some studies indicated that fashion clothing involvement has a significant positive influence on consumers’ perception of fashion knowledge (e.g. Gill et. al. 1988; Parameswaran and Spinelli 1984; Phelps and Thorson 1991; Zinkhan and Muderrisogly 1985). However, these studies did not investigated fashion knowledge based on subjective fashion knowledge. Sub-
jective fashion knowledge is operationalising in terms of how much a consumer thinks or perceives they know about the product (i.e. individual’s subjective self-report). Objective fashion knowledge is operationalising in terms of how much a consumer actually knows about the product (i.e. long-term memory). This study takes the Subjective fashion knowledge perspective. The proposition is raised here is that since the product knowledge has a number of key aspects (fashion clothing familiarity, experience and expertise), it should be affected by the degree of involvement in fashion clothing. Hence, it is hypothesized that: $H_6$: Fashion Clothing involvement has a significant positive influence on consumers’ perception of Fashion Knowledge.

Consumers’ perception of fashion knowledge is suggested to be linked to confidence. Depending on the circumstances, the degree of confidence could reflect either certainty or uncertainty as to which judgment is correct or the best in that situation, or ambiguity as to the meaning of an attitude object altogether (Zajonc and Morrisette, 1960). Confidence, in this context, represents a consumer’s belief that their knowledge or ability is sufficient or correct regarding fashion clothing (O’Cass 2004). Wendler (1983) defines confidence as the consumer’s subjective certainty that he or she has made the decision that is best for him or her. In other words, it is the ability to make the right choice in the context of fashion clothing. It is expected that fashion knowledge will have a positive effect on consumers’ confidence. It is because fashion knowledge is linked to the degree of knowledge that a consumer has, this acquaintance would help the consumer in making the right decision about fashion clothing (i.e. to have more confidence in its judgment). Therefore: $H_7$: Fashion Clothing knowledge has a significant positive influence on consumers’ Confidence in making the right decision about fashion clothing.

The next hypothesis deals with fashion clothing involvement and confidence. The literature indicates that confidence-involvement has been investigating so much (Parameswaran and Spinelli 1984; Burton and Netemeyer 1992). However, these studies do not deal with fashion clothing segment. Chebat and Picard (1985) showed that involvement had a direct effect on confidence in both product and message, in that the more involved the consumer was, the more confident they were. Based on the same idea, Park and Lessing (1981) raised a theoretical proposition that consumers are likely to be more confident when they are more highly involved in a product. Wendler (1983) also supported the hypothesis that a high risk and involvement situation, confidence will increase only to the extent that the consumer information is understood and used. O’Cass (2004) believes that one of the key outcomes of being involved in a product is perhaps that one would tend to be more confident in decisions or purchases related to that product or product class. Therefore, it is hypothesized that: $H_8$: Fashion Clothing involvement has a significant positive influence on consumers’ confidence in making the right decision about fashion clothing.

Some research indicated that there is a relationship between involvement and commitment, indicating that the last one is the consequent (Beatty et al 1988). Iwasaky and Havitz (1998) proposed a model that suggested the existence of a relationship between involvement, commitment and loyalty (in that sequence). However, no empirical test was conducted. The logic behind this sequence is that more involved the consumer is (using more cognitive think), more committed he/she will be with their decision (paying more attention to that choice). Freire and Nique (2005) tested this causal relation, using and putting continuity commitment as a mediator of involvement-loyalty relation, and found support. Continuity commitment (or calculative) is based on cognitive evaluation of the brand and it is inferred that the consumer maintain its behavior consistent while perceive the benefits gained from the brand (Amine, 1998). In this study, continuity commitment will not be related to the brand, but to the store (i.e. based on the perceived costs in abandon the relation). Thus, it is hoped that when more involved with fashion clothing the consumer is, more commitment he/she will have with his/her store. Thus, $H_7$: Fashion Clothing involvement has a significant positive influence on consumers’ Continuity Commitment.

O’Cass (2004) suggested that the issue of antecedents of involvement with fashion could be extended to include personal values and personality traits and consequences such as information search and time spent shopping. Based on this context, this study hopes that the time spent in shopping be great in people buying fashion clothing than conventional clothing. It is because normal clothing could not demand some degree of expertise with brands and the cognitive effort could not be as great as buying fashion clothing. In addition, social-psychological perspective assumes that time uses represent indications of consumer lifestyles (McDonald, 1994). In consequence, it is presumable that since fashion clothing is a lifestyle, time could be a consequent of this. Thus, it is predictable that: $H_8$: Fashion Clothing involvement has a significant positive influence on Time Spent in Shopping.

Store patronage is the consumer’s selection for a shopping outlet (Haynes et al., 1994). Patronage patterns are theorized as based on consumer characteristics including social factors (Haynes et al., 1994). Patronage behavior is influenced by a variety of characteristics at each stage in the decision process (McKinney et al 2004). Research has shown more specifically that clothing store patronage is related to fashion involvement for some consumers (Kopp, Eng & Tigert, 1989; see also McKinney et al 2004). Higher levels of fashion involvement have been associated with consumers who patronize department stores rather than discount stores (Tatzel, 1982). Thus, consumers who use clothing to enhance self-esteem tend to shop more in special and better department stores (McKinney et al 2004). Therefore, the next hypothesis is: $H_9$: Fashion Clothing involvement has a significant positive influence on Patronage.

**METHOD**

**Measurement.** The scale used for measuring fashion clothing involvement (three items), fashion clothing knowledge (two items) and fashion clothing confidence (three items) was choose from O’Cass (2004) and they were double-back translation. Three items referred to time spent in shopping were used and (e.g. “buying fashion clothing demands much time”) developed from the literature. For measuring patronage, we choose four items from the instrument used by D’Angelo et al (2003). For measuring calculative commitment, we choose three items from the instrument used by Freire and Nique (2005). For measuring materialism, we choose five items from the instrument used by Monteiro (2005). All those scales were operationalising using seven-point likert scale.

**Questionnaire Pre-Test.** A pre-test was used to verify the instrument with 53 business students, who were not part of the final sample. The results indicated that the materialism instrument was not psychometrically good. The results also indicated that the patronage instrument was not psychometrically good. The rest of the scales sounds good and because of these problems with materialism and patronage scales, this study used other instruments.

**Sample.** The sample was defined as non-probabilistic by convenience. One of the goals was to collected data from different demographic profile. This process could generate different kind of opinion, increasing the wealth of data collection and trying to reduce the sample bias. Therefore, the overall sample include students from one academic-college (n=107) and from two technical-college (n=115; n=19). It is because the academic-college is
younger than the technical-college’s, and is not employed yet. In addition, two companies were contacted and just their office-employees agree in answer the questionnaire (n=20). To concluded, some other questionnaires (n=54) were got after five days in a hairdresser. Thus, the final sample was 315.

DATA ANALYSIS
Male were 54% of the sample. People who commented that they buy fashion clothing is around 54%. The familiar income values were R$0-1000 (29%); 1001-2500 (45%); 2501-4000 (14%); 4001-4500 (3%) and 4501-above (9%) [US$1.00=R$2.20 approximately]. The average age was 23 and the range was between 12 and 70.

For the hypothesis test, structural equation model was used. Thus, for such propose, the data were pre-analyzed according to some criteria for better purification. The missing values found were below 5% and they were substituted by means (Kline 1998). Outliers were verified according two criteria: one is based on score Z, where values above ±3 were identified (they were retained), and the second one was based on Mahalanobis distance D² (none case). Therefore, the final sample was 301 observations. Normality was checked in terms of kurtosis (±5), skewness (±2) and Kolmogorov Smirnoff test (p<0.01). In these three features, the non-normality was found, although within the moderator parameters. Multicolinearity was assessed using Pearson correlations, where values above ±0.90 were excluded because they could mean the same variable (none case).

Thus, after these initial check procedures, multivariate data analysis was used. First of all, exploratory factor analysis (EFA) was used to evaluate the unidimensionality of the variables. Thus, the criterion for excluding the variables in the matrix was load-values under 0.35 (cut-off). For extraction, axis principal was used and, for rotation, oblimin method was utilized (eigenvalues>1).

Table 1 shows some results from that analysis. According to the data, Materialism, Involvement and Time were the constructs which had a value under alpha=0.70. Thus, after these consequences, we excluded the items which had poor loads and recalculate the alpha. The final results, which are the ones used in the model, are described in the “notes” of Table 1. The only observation is that even recalculate the alpha for Materialism scale it did not perform well (alpha=57). Therefore, since it could compromise the final results we choose to exclude that to test the model.1

In the sequence, convergent validity was performed using confirmatory factor analysis. Thus, the t-values were evaluated. Convergent validity is supported when t-value is above 1.96 (p<0.05). As a result, the convergent validity was supported for all constructs evaluated. The next step was analyzing the constructs by the discriminant validity, using Fornell and Larcker (1981) procedure. It uses as basis the correlation matrix. The results from discriminant validity can be viewed in the upper triangle of Table 2. In addition, we calculate average variance extracted (AVE) and composite reliability (CR) for the constructs. The results from AVE and CR also indicate Materialism with a poor reliability. The only unexpected result comes from a non-significant correlation between patronage and involvement (r=-0.004), indicating a non association between these two constructs.

After discussing the validity and reliability of the scales and the construct used in the research, the global model was tested. Global fit indicates that the model needs to be adjusted for the data before testing the hypothesis. Without a good fits on the data, the path coefficients cannot be assessed. Thus, AMOS software was used to estimate the hypothesis and the values for the global model fits were: χ²=381.073; d.f.=128; χ²/gl=2.977, p=0.000; AGFI=0.824; GFI=0.87; NFI= 0.835; IFI= 0.884; CFI=0.883; TLI= 0.86; RMSEA=0.081. The Maximum Likelihood estimative was the method used, considering all constructs as latent variables. Results from each hypothesis are discussed ahead.

HYPOTHESIS DISCUSSION
The first hypothesis could not be verified since it achieve poor values in alpha Cronbach (0.57) and in AVE and CR (0.33 and 0.59). Because of that low values, the model could be compromise. Thus, this construct was retired from the model (see end notes). In addition, theses results (pre-test scale and second test-instrument) could be indicative of necessity for suggesting an instrument to measure materialism in Brazil, given that the two scales used for such propose, both had problems.

Tigert, King and Ring (1980) stated, based on seven major fashion studies across four different cultures, that a much larger proportion of the female fashion buying public is now monitoring new women’s fashions on a regular basis. Other studies also found

FIGURE 1
Fashion Clothing Involvement Theoretical Model

Source: Adapted from O’Cass (2004, p.870)

1 An addition test included the materialism construct in the model (even with its low values in AVE and CR). The results indicated a significant and positive relation with fashion involvement. Therefore, it supports the first hypothesis (p<0.006; t-value=2.746; Beta Adjusted=0.243; Fashion Involvement R²=0.08). The model fits using materialism were little below those found (AGFI=.81; GFI=.855; IFI=.86 and RMSEA=.077).
the same results (McCracken and Roth 1989; O’Cass 2004) signifying that woman is more fashion involved than mans’. Though, the results indicated that the second hypothesis was not support ($\beta=0.01; t=0.22; p=0.822$ [All Betas are standardized]). A possible explanation for this result is that men may be changing their focus and orientation to fashion clothing in the last years. In fact, the masculine society is been more vanity, indicating the appearance of “meter sexual figure” (i.e. David Beckham). It appears that men are now spending more time in hairdresser, making more silicon implant in their legs, frequenting more the gyms and so forth. As a consequence, future research could presuppose to test this difference in fashion clothing orientation (male versus female).

The third hypothesis gives to understand that younger people in general place more emphasis on their appearance than older people (O’Cass 2004). This assumption could be explained because younger people could be associating in a reference group (i.e. social gathering and social environment) or could be trying to gain some approbation by other friends. Another explanation comes from Law, Zhang and Leung (2004), who comment that young consumers have the courage and interest to try on new innovations; and new fashion often starts with young ($\beta=-0.15; t=-2.39; p=0.017$).

The fourth hypothesis was not rejected, indicating that the fashion clothing involvement leaves to subjective fashion knowledge ($\beta=0.47; t=5.89; p=0.000$). This result is consistent with some literature about the topic. Furthermore, the results from this research extend the literature in two points of view. The first investigates fashion knowledge and confirming the relationship between involvement and knowledge (i.e. Gill et al 1988; Parameswaran and Spinelli 1984; Phelps and Thorson 1991; Zinkhan and Muderrisoglu 1985). The second extends O’Cass (2004) subjective point of view. Based on this context, future research could test new models creating the hypothesis that fashion clothing involvement leaves to both subjective and objective fashion knowledge.

The fifth hypothesis was not rejected and indicates that consumers’ perception of fashion knowledge is suggested to be linked to confidence, since it appears that the degree of confidence could reflect either certainty or uncertainty as to which judgment is correct, or ambiguity as to the meaning of an attitude object altogether (Zajonc and Morrisette, 1960). Taylor and Cosenza (2002) also confirm this idea, founding that teen age group was preoccupied with social acceptance, social affiliation and “coolness” attached to make the right clothing judgment. Consumers’
perception of fashion knowledge on confidence was the major beta value ($\beta=0.63$; $t=6.743$; $p<0.000$), indicating a strongest impact in the model and a strong relation from subjective knowledge on ability to make the right decision.

The sixth hypothesis was rejected. It point out that consumers’ perception of fashion knowledge is not suggested to be allied to confidence ($\beta=-0.05$; $t=-0.68$; $p=0.499$). It is also in agreement with O’Cass (2004) results (i.e. bootstrap=1.96). The idea about involvement and confidence was initially based on Parameswaran and Spinelli (1984) and Burton and Netemeyer, (1992), who investigated that relation in the context of voting. O’Cass (2004) tried to test this relation in fashion clothing and got success. However, the hypothesis appears to lack of theoretical consistence in its formation. O’Cass (2004) gives to understand that the stability of preference is the basis of confidence. Using the same argument, this study could believe that the stability of preference is not so well defined in fashion clothing segment and therefore could jeopardize the basis of confidence, leaving to the fact that involvement does not is related to consumers’ confidence.

The seventh hypothesis tested the proposition of Iwasaky and Havitz (1998), who agree that are a relationship between involvement, commitment and loyalty (in that sequence). However, loyalty was not tested in this study. Freire and Nique (2005) tested this causal relation using and putting continuity commitment as a mediator of involvement-commitment relation and found support ($\beta=0.32$) to involvement-commitment. A possible explanation to this result is that the higher the involvement with fashion clothing, the higher the continuity commitment the consumer will have in maintain its closet upgraded with trends ($\beta=0.23$; $t=3.34$; $p=0.001$). Then, the commitment could appear as a justification to the fact that the consumer needs to maintain its appearance with the one prescribe by the market. Thus, this process could be viewed as a cognitive evaluation of the garment and is inferred that the consumer keep its buyer behavior consistent while perceive the benefits gained from the “moment” garment (Amine, 1998).

The eight hypothesis was not rejected ($\beta=0.17$; $t=4.11$; $p=0.000$). It shows that fashion involvement and time spent shopping were significantly and positively related. These results support the research by Flynn and Goldsmith (1993) and Tatzel (1982). In fact, these finds again indicate that the consumer needs to keep his/her wardrobe up-to-date with current fashions most of the time. Thus, for such propose spending more time deciding, trying and wearing fashion clothing in stores are important process by which the consumer needs to pass.

As it was described before in the ninth hypothesis, store patronage is the consumer’s selection for a shopping outlet (Haynes et al., 1994). Some research has shown that clothing store patronage is related to fashion involvement for some consumers (Kopp, Eng and Tigert, 1989; McKinney et al. 2004). Higher levels of fashion involvement have been associated with consumers who patronize department stores rather than discount stores (Tatze l, 1982). Thus, consumers who use clothing to enhance self-esteem tend to shop more in special (indicating more quality) and better department stores (McKinney et al. 2004). As a result, the consequences rejected $H_0$ ($\beta=0.08$; $t=1.18$; $p=0.239$). A possible reason for that outcome is that higher levels of fashion involvement could not be related with consumers who patronize department stores. In fact, fashion clothing does not necessarily is buying in special (top) stores. In parallel, fashion clothing could also be buying in discount stores (for example, tear-old-jeans or flannel-shirt).

In summarize, the research outcomes indicate that the fashion involvement construct lack of predictor variables, since 2.4% of the variance was explained by age (8% adding materialism construct). Second, commitment is also requiring more antecedents, because of its 5.2% of variance is due to fashion involvement. Time achieve 3%.

**FASHION CLOTHING INVOLVEMENT AS MEDIATOR FACTOR**

O’Cass (2004) comments that a major challenge facing involvement research lies not only in understanding involvement itself, but also in understanding the role involvement plays together with other variables in guiding the formation of purchase and consumption patterns and experience of consumers of fashion clothing. Hence, this study also tested the mediator factor of fashion clothing involvement. Baron and Kenny (1986) suggested that variable functions as a mediator when it meets the some conditions. Therefore, this study uses Baron and Kenny (1986) scheme for testing the mediation factor. As a result, fashion clothing involvement mediates the relation between age and commitment, and between age and subjective knowledge. The results were: Age $\rightarrow$ Involvement ($\beta=-.15$; $p<0.017$), Involvement $\rightarrow$ Commitment ($\beta=-.23$; $p<0.001$), Age $\rightarrow$ Involvement $\rightarrow$ Commitment ($\beta=-.02$; $p<0.068$), Age $\rightarrow$ Involvement ($\beta=-.15$; $p<0.017$), Involvement $\rightarrow$ Knowledge ($\beta=.47$; $p<0.000$), and Age $\rightarrow$ Involvement $\rightarrow$ Knowledge ($\beta=.05$; $p<0.462$).

**FINAL CONSIDERATION**

Responding to the purpose of this study, to test an extended theoretical model of fashion clothing involvement, it can be said that the fashion clothing involvement appears to be an important construct in the fashion segment, since some theoretical propositions were supported in this study. An important consideration is that the fashion involvement antecedents need to be more explored, because from the three constructs supposed to be antecedents, just one was supported. Moreover, the fashion involvement $R^2=0.02$ appears to be so low. Second, the materialism construct might be lacking a psychometric instrument, given that the two scales used in this study failed. Therefore, future research could analyze the materialism construct with more details. In addition, it is important to comment that even using the non reliability materialism construct, the $R^2=0.08$ had an frivolous increase. The third latent conclusion is that fashion clothing involvement mediates two theoretical relations. The first one is between age and commitment, and the second one is between age and subjective knowledge. The fourth interesting result indicates that inverting both the relation between involvement-knowledge and involvement-commitment, the theoretical model achieve the best variance in the fashion involvement construct ($R^2=0.22$). In summarize, the framework appears to be a valuable support in comprehending the dynamics of fashion consumption. Other studies might refine the model suggested here and advance more in the fashion involvement comprehension. Thus, consumers’ behavior researchers might consider studying more the fashion clothing consumption with more fervor.

**REFERENCES**


