

CREDIT CARD USE: DO BRAND EQUITY AND MATERIALISM INFLUENCE IMPULSIVE BUYING BEHAVIOR?

O USO DO CARTÃO DE CRÉDITO: O VALOR DA MARCA E MATERIALISMO INFLUENCIAM NO COMPORTAMENTO IMPULSIVO DE COMPRA?

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ABSTRACT

Purpose - This study aims to identify factors, such as materialism and brand equity, that can influence impulsive buying behavior associated with the use of a credit card.

Design/methodology/approach - We adopted the survey method, collecting 384 structured face-to-face questionnaires, focusing on the footwear industry. We collected the data in the state of Rio Grande do Sul - Brazil, covering the seven mesoregions of the state. Confirmatory factor analysis, descriptive statistics, ANOVA, T test and Structural Equation Modeling (SEM) were used to analyze the data.

Findings – In this study, we find that brand equity does not impact impulsive buying behavior, but the credit card positively impacts impulsive buying behavior.

Research limitations/implications – The research was executed just in one province, so future research could be developed in other's places and cultures

Practical Implications – This study can help scholars and managers of footwear industry understand impulsive buying behavior of its consumers.

Original value – This study shows the relationship between credit card use, materialism and impulsive buying behavior constructs.

Keywords: Impulsive behavior, Brand equity, Credit card, Materialism.



RESUMO

Objetivo - Este estudo visa identificar fatores, como materialismo e Valor da marca, que podem influenciar o comportamento de compra impulsivo associado ao uso do cartão de crédito.

Desenho / metodologia / abordagem - Adotamos o método survey, com a coleta de 384 questionários estruturados face a face, com foco na indústria calçadista. Os dados foram coletados no estado do Rio Grande do Sul - Brasil, abrangendo as sete mesorregiões do estado. Análise fatorial confirmatória, estatística descritiva, ANOVA, teste T e Modelagem de Equações Estruturais (SEM) foram utilizados para analisar os dados.

Resultados - Neste estudo, descobrimos que o valor da marca não impacta o comportamento de compra impulsivo, mas o uso do cartão de crédito impacta positivamente o comportamento de compra impulsivo.

Limitações / implicações da pesquisa - A pesquisa foi executada apenas em um estado, então pesquisas futuras poderiam ser desenvolvidas em outros lugares e culturas.

Implicações práticas - Este estudo pode ajudar acadêmicos e gerentes da indústria de calçados a entender o comportamento de compra impulsiva de seus consumidores.

Valor original - Este estudo mostra a relação entre o uso do cartão de crédito, o materialismo e os construtos do comportamento de compra impulsiva.

Palavras-chave: Comportamento Impulsivo, Valor da Marca, Cartão de crédito, Materialismo.

1 INTRODUCTION

Consumers buy products for their benefits and also for the symbolic values that they provide (LEVY, 1959; RITSON & ELLIOTT, 1999). Purchasing and using certain products confers symbolic values that are related to materialism (OTERO-LOPEZ & VILLARDEFrancos, 2013; BADGAIYAN & VERNA, 2014) and this dynamic may vary for each consumer. Early investigations into materialism were carried out by Ward & Wackman (1972), who conceptualized it as: “an orientation that considers material goods and money as being important for a person’s social development” (p. 54).

Previous studies have shown that impulsive buying research has shown that materialism can influence impulsive behavior (e.g.: Badgaiyan & Verma, 2015; Pereira et al. 2013; Mendes-Da-Silva et al., 2012). Studies such as Veludo-de-Oliveira, Ikeda & Santos (2004), Pirog & Roberts (2007) and Wang & Xiao (2009) have established a relationship between impulsive buying and the use/misuse of credit cards, focusing on purchases made by college students.

In the present study, we aim to advance the investigation into the relationship between materialism and impulsive buying with the use of a credit card, by including the issue of the influence of brand equity on the purchasing process. Brand equity makes it easier to recognize a product, thus increasing favorable associations toward the product and helping people to make a purchase decision (AAKER, 1996). However, these relationships have not been tested before. In this sense, this study aims to identify whether impulsive buying behavior associated with the use of credit cards is influenced by brand equity and materialism.

Credit cards offer benefits such as telephone and Internet purchasing (BERTAUT & HALI-ASSOS, 2005), significantly increasing the number of users of this payment method. According to ABECS (2019), the use of credit cards increases annually. For example, from 2017 to 2018, credit card use increased by 12.73%. In addition, the credit card sector grew by 2.6% in 2020 compared to 2019, even with the serious financial and health crisis surrounding the COVID-19 pandemic (ABECS, 2021).

The remainder of this paper is structured in four additional sections. The next one presents the theoretical framework and previous research, the hypotheses and the research model. The following section presents the research method, the constructs, the data collection and the analysis procedures. Finally, the results and conclusions are shown.



2 LITERATURE REVIEW

In this chapter, we present a literature review on impulsive buying behavior, brand equity, materialism and credit card use.

2.1 Impulsive Buying Behavior

According to Veludo de Oliveira (2004), there is a wide and quite fragmented range of concepts regarding compulsive buying. This fragmentation is exemplified by the large number of terms used for its identification, including: compulsive buying, compulsive shopping, addictive buying, compulsive spending and *oniomania*.

The impulsive buyer presents an unstable buying profile, marked by a sudden desire to make purchases, an inner conflict between pleasure and reality and disregard for the consequences (De Almeida & Jolibert, 1993). On the other hand, the compulsive buyer, as mentioned by O'Guinn & Faber (1989), presents a repetitive and chronic buying tendency, which can be a response to events that produce negative effects on the buyer. Table 1 shows key differences between impulsive and compulsive buying.

Table 1- Differences between impulsive buying and compulsive buying

<i>Impulsive</i>	<i>Compulsive</i>
The impulsive buyer is seen as an unstable buyer. 1 - Sudden and spontaneous desire to buy 2 - State of psychological instability. 3 - Inner conflict between the pleasure principle and the reality principle, with disregard for the consequences.	The compulsive buyer is seen as a dependent buyer. 1 - Psychological tension of the buyer is reduced through buying 2 - Anxiety is reduced through the pleasure provided by the purchase 3 - Objective is not to obtain the goods purchased, but rather to reduce tension.

Source: Adapted from Almeida & Jolibert (1993)

Purchases and possession of goods can be seen as a form of happiness (BELK, 1985) for people considered materialists. Possession of goods and the self-image that the possessor projects towards society can be seen as a means of personal growth to materialistic individuals, fostering the need for continual accumulation of possessions.

2.2 Brand Equity

Brands are present in consumers' daily lives (Keller, 2020), and studies on brand have been carried out in different contexts (Schmitt, 2012). According to the AMA - American Marketing Association (2021), a brand is a name, term, design, symbol or any other feature that identifies one seller's goods or services as distinct from those of other sellers. Brands help to distinguish companies' products from those of competitors (Tarsitano & Navacinsk, 2004).

According to Keller (1998), a brand may have greater value on the market when consumers of that product segment react more favorably to it, facilitating their decision to purchase; thus it may impact their impulse buying. Impulse buying can be triggered by two basic factors: instrumental factors and symbolic factors (Dittmar et al., 1995). The greater the consumer's involvement with a



brand, the more likely he or she will be to present impulsive buying characteristics with regard to that brand (Rook & Hoch, 1985), since the symbolic value attributed to the product favors impulse buying (Amos, Holmes & Keneson, 2014).

One of the benefits of brand equity is related to psychological states of consumers, such as happiness (Ambler & Styles, 1997). In this sense, brand equity will also be studied as an influencer in consumer behavior. Consequently, the first hypothesis of this study was developed:

H1: Brand equity positively impacts impulsive buying.

2.3 Materialism

Materialism is directly related to the importance of possessing goods (Belk, 1985) and is found in people's daily lives (Richins & Dawson, 1992). Past studies have shown that there is a relationship between materialism and impulsive buying (Badgaiyan & Verma, 2015; Pereira et al. 2013; Mendes-Da-Silva et al., 2012). Materialism causes consumers to spend excessively (Ponchio, 2006). Materialistic consumers are prone judging themselves and others by their possessions (Richins, 2011).

The act of consuming a good or service occurs differently for each individual (Belk, 1982). Shopping and possession of goods can be seen as a form of happiness (Belk, 1985) for materialistic individuals. Capital allows individuals to acquire symbols in order to be recognized within society and aspiring to this recognition can cause impulsive buying (Von Stumm et al., 2013). Thus, the second hypothesis of this study is:

H2: Materialism positively impacts impulsive buying.

Limbu, Huhmann & Xu (2012) pointed out that people who have high levels of materialism present more risky behaviors with credit card use than other consumers. Ponchio and Aranha (2007) propose that materialistic individuals may have a propensity toward using credit cards, corroborating Schroeder & Dungal (1995), who claim that materialistic people are more socially anxious and consider individual possessions to be important social indicators. Pinto, Parente & Palemer (2000) also reported that individuals who own a credit card have a higher relationship with asset materialism. In this sense the second hypothesis is:

H2: Materialism positively impacts credit card use.

2.4 Credit Card Use

People who make purchases with a certain constancy may show signs of impulsive buying behavior (Veludo-de-Oliveira et al., 2004). Thus, it can be understood that impulsive buying is closely related to the consumer's level of materialism. Chavosh, Halimi & Namdar (2011) point out that materialism may have a direct relationship with impulsive buying and materialism is one of the most studied subjects by researchers in recent decades (Veludo-de-Oliveira et al., 2004).

Supporting the fourth and last hypothesis of this study, Rook (1987) and Rook & Fisher (1995) reported that aspects such as acceptance of credit card use may influence consumers to make impulsive purchases. Veludo-de-Oliveira et al. (2004), Pirog & Roberts (2007) and Wang & Xiao (2009) demonstrated the existence of a relationship between impulse buying and credit card use in their studies covering purchases made by college students. Hence, the fourth hypothesis of this study is:

H4: Impulsive buying behavior positively impacts credit card usage.

For retailers, one of the main reasons to offer consumers a private label card is to take advantage of their materialistic traits and encourage impulsive buying to increase the number of transactions (Sakamoto et al., 2009).



3 METHOD

This study adopted a survey method the data collection consisted of face-to-face questionnaires in 15 different cities in the seven mesoregions of the state of Rio Grande do Sul. Table 1 shows the questionnaire’s structure and sources:

Table 2 - Structure of the questionnaire

Constructs	Block	Acronym	Items	Source(s)
Respondent Profile	1	RP	11	Elaborated by the author
Purchase activities	2	PA	6	Adapted from Costa (2002)
Materialism	3	M	8	Adapted from Richins & Dawson (1992), Richins (2004), validated in Brazilian context by Moura (2005)
Impulsive buying behavior	4	IBB	30	Adapted from Mendes da Silva, Nakamura & Moraes (2012)
Credit Card Use	5	CCU	10	Adapted from Mendes da Silva, Nakamura & Moraes (2012)
Profile of the Credit Card User	6	PCCU	7	Adapted from Mendes da Silva, Nakamura & Moraes (2012)
Brand Equity	7	BE	18	Adapted from Yoo, Donthu & Lee (2000), validated in Brazilian context by Vargas Neto (2006)

Source: Elaborated by the author

The questionnaire scales comprise affirmations with a six-point Likert scale, where 1 is in complete disagreement and 6 is in complete agreement, along with option 0, which corresponds “unable to express an opinion”. The study was based on the footwear industry worldwide, not limited to regional or national brands, because it is accessible to a large part of the population, with access to credit card payment methods.

For content validation, each of the scales has already been validated nationally and the questionnaire elaborated in this study underwent face-to-face validation by three specialists and professors in Marketing and Consumer Behavior. After that, the questionnaire underwent two pre-tests, each with 25 respondents, to verify possible errors in the collection instrument, either of interpretation and/or layout. The only adjustments made were to the layout. It is noteworthy that there were no changes in the variables.

The population chosen for the application of the study consisted of residents of the state of Rio Grande do Sul who were 18 years of age or over. The state has 7 mesoregions, which were taken as dividers to determine the quantity of samples. For the stratification of the sample, 2 cities were selected for each region, except for the metropolitan region, where 3 cities were selected, totaling 15 cities. In each city, the 3 most populated neighborhoods were selected, based on data from IBGE (2013). Neighborhoods that posed risks to the researchers’ safety were discarded.

384 complete questionnaires were collected and 127 questionnaires were collected only from the respondents’ profile (questionnaires answered up to the filter questions 10 and/or 11, “10. Do you have credit card?” and “11. Do you purchase shoes with the credit card?” respectively), totaling 511 questionnaires applied in 15 different cities in the state of Rio Grande do Sul. The sample can be seen by region in Table 2.



Table 3- Sample Data

Mesoregions	Cities	Complete questionnaires	Profile questionnaires
Metropolitan	Gramado	57	26
	Canela	57	20
	Porto Alegre	57	10
Southwest	Uruguaiana	13	4
	Barra do Quaraí	13	03
Southeast	Caçapava do Sul	16	0
	Pelotas	17	1
Northeast	Caxias	19	4
	Farroupilha	19	8
Northwest	Santo Ângelo	35	20
	Ijuí	35	12
Midwest	Santa Maria	9	5
	S. Martins	9	3
Central East	Lajeado	14	15
	Santa Cruz	14	3
Total		384	127

Source: Elaborated by the author

After the data collection, the data was verified by identifying the missing values (lost data) and outliers (atypical observations). Descriptive statistics and multivariate analysis techniques were used for the analysis of the data, with SPSS 20.0® and Amos™ software. First, descriptive statistics of the variables were calculated in order to characterize the sample and describe the behavior of the individuals in relation to each of the surveyed constructs, especially the use of the credit card. In addition, mean difference tests (t test) and analysis of variance (ANOVA) were used to verify differences in the sample profiles with regard to use of credit card, materialism and impulse buying. The Exploratory Factorial Analysis was not carried out because all the questionnaires had already been validated for the Brazilian context, as can be seen in Table 3.

The Structural Equation Modeling (SOM) technique was applied to evaluate the reliability and validate each of the constructs and test their relations. The validity of the measurement model was evaluated by checking the convergent validity (observing the magnitude and statistical significance of the standardized coefficients and the absolute adjustment indices), unidimensionality (evaluation of the standardized residues) and reliability of the constructs (extracted variance and the Cronbach Alpha).

4 RESULTS

This section presents the profile of the sample respondents, as well as the T and ANOVA tests to verify whether there is any predominance of behaviors. In addition, the results of the Modeling of Structural Equations are presented.

4.1 Sample Profile

We interviewed 384 respondents from the seven mesoregions of the state of Rio Grande do Sul. Table 3 shows the results regarding the respondents' profiles. The variable age was divided into groups of 4-year intervals. Respondents who were 69 years of age or older were allocated to only one category. The survey was conducted with only those over 18 years of age, with N=384.

Table 4 - Respondent's profile

Variable	Alternatives	Frequencies	%
Gender	Female	255	66,4
	Male	129	33,6
Civil Status	Single	178	46,4
	Married	152	39,6
	Divorced	18	4,7
	Stable Union	25	6,5
	Widower	11	2,9
Has dependents	No	219	57,0
	Yes	165	43,0
	Dependents (mean)	1,44	
Age	18-22	57	14,844
	23-28	93	24,219
	29-32	39	10,156
	33-36	33	8,594
	37-40	37	9,635
	41-44	22	5,729
	45-48	38	9,896
	49-52	18	4,688
	53-56	23	5,990
	57-60	13	3,385
	61-64	3	0,781
	65-68	6	1,563
69 or more	2	0,521	
Educational level	Not Literate	2	5
	Elementary school incomplete	15	3,9
	Elementary school	14	3,6
	Secondary incomplete	39	10,2
	Secondary	128	33,3
	Superior incomplete	82	21,4
	Superior	80	20,8
	Post-graduation incomplete	6	1,6
Post-graduation	18	4,7	
Occupation	Public agent	34	8,9
	Salaried employee	160	41,7
	Student	39	10,2
	Agrarian	2	0,5
	Retired	10	2,6
	Self-employed	72	18,8
	Self-employed*	15	3,9
	Intern	6	1,6
	Not working	25	6,5
	Other	21	5,5
Live with relatives	Yes	317	82,6
	No	67	17,4
	Number of relatives (mean)	2,25	

Source: Survey data



Most respondents are female (66.4%), one third of the respondents have only completed high school 41.7% of them are wage earners and 82.6% of the respondents live with a relative.

4.2 T Test and ANOVA

T and ANOVA tests showed no significant differences among the different consumer profile variables regarding materialism, brand equity and credit card use. Significance was found only with respect to impulsive buying behavior, with the female gender having higher rates than the male gender according to Table 3.

Table 5 - Averages of impulsive buying behavior

Variable	Test	Sig.
Gender (1)	-2.040	0.038
Civil Status (2)	1.183	0.465
Age (1)	-0.587	0.316
Has dependents (1)	-0.090	0.388
Educational level (2)	0.889	0.566
Family income (2)	1.563	0.293
Individual income (2)	1.140	0.417
Has credit cards (1)	-2.871	0.314
Age when received first card (1)	-0.800	0.321
Number of cards (2)	1.931	0.163
Committed income (%) (2)	2.491	0.185
High credit card fees (1)	0.394	0.429
Overdue invoice (2)	2.028	0.288

Source: Survey data

Note: (1) = T Test, (2) = ANOVA Test

With the exception of the variable CI.DF.4.20 “When I go shopping, I buy things I didn’t intend to buy”, all the other variables of the Impulsive Buying Behavior construct, presented significant p-values (<0.5) in the T test with respect to gender, showing a possible relationship between gender and impulsive buying behavior. For the other variables, p-values were above 0.05, showing less probability of significant differences.

4.3 Modeling Structural Equations

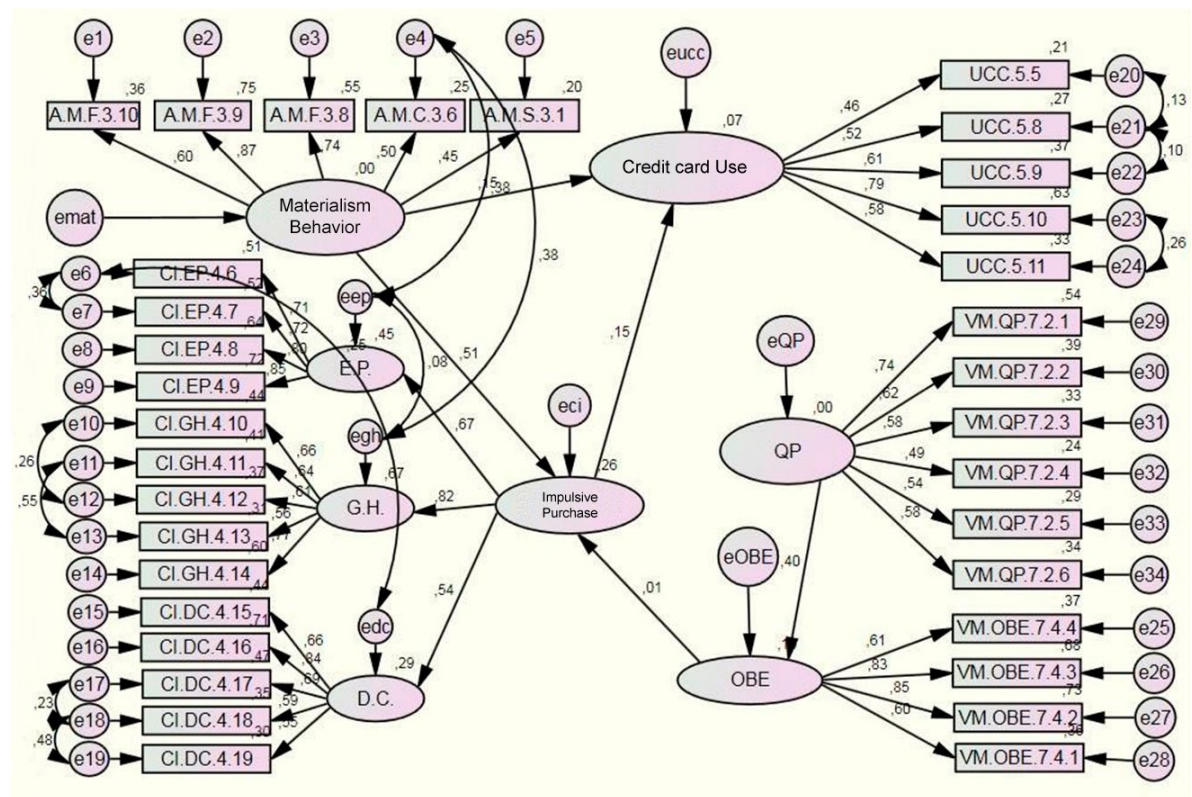
In this section, the four constructs and their validation process will be addressed: Materialism, Brand Equity, Credit Card Use and Impulsive Buying Behavior. To check the validity of the construct, the methods used were: Chi-square statistics (χ^2), Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI) and Tucker-Lewis Index (TLI).

For a given model to be considered robust, the RMSEA index must be lower than 0.08, besides the TLI, CFI, NFI and GFI indexes being higher than 0.9 and the minimum factor load must be 0.4 (HAIR et al., 2009). In order to confirm the reliability of the constructs, Cronbach’s Alpha and Average Extracted Variance tests were carried out. For all constructs, the average extracted variance was higher than 0.5 and Cronbach’s Alpha was above 0.6. Initially, each of the constructs was mod-



elled separately to verify consistency and, as they each were shown to be adequate, the following final model was obtained. Figure 1 shows the indices found in the application of Structural Equations Modeling.

Figure 1 – Integrated Model



Source: Research data

Next, the data reliability was checked, and the following values for the indices were found:

Table 6 - Indices of the integrated model - Final Model

Indexes	Values
Qui-square	1126,494
Degrees of freedom	513
Probability	0,000
GFI	0,847
CFI	0,873
NFI	0,791
TLI	0,861
RMSEA	0,056

Source: Research data

By observing the initial indexes of adequacy of the integrated model, it is possible to verify that only RMSEA, chi-square, degrees of freedom and probability indexes are suitable. Next, we performed correlation among the variables for fitting the integrated model.

In the materialism construct, there was no covariance between the variables, but there was a high correlation index between variable e4 and the sample error of the mood management and positive emotions dimensions. In the impulsive behavior construct, correlations were performed between the sampling errors of positive emotions and mood management and as well as correlation between variable e6 and the sampling error of disregarding the future.

For the brand equity construct, there were no new correlations. However, for the credit card use construct, there was a correlation between variables e23 and e24. Finally, a total of 67 variables was used for modeling. According to Bentler & Chou (1987), for an adequate SEM, the number of respondents for each variable should vary between 5 and 10 (335 to 670). Due to the low sample size, two indices were not within the desired range.

RMSEA was 0.047; IFI, TLI and GFI were within the established parameters, above 0.900. NFI did not reach the minimum value (0.825). NFI increases according to the sample size (Bollen, 1989), meaning that the sample size may have interfered with the index. Table 7 shows the Standardized Coefficients and the significance of the relations of the final model.

Table 7 - Standardized Coefficients and Significances of the Final Model

H	Construct	Relation	Construct	Standardized coefficients	Sig.
H1	Brand Equity	→	Impulsive Buying Behavior	-0,024	0,788
H2	Materialism	→	Credit card use	0,068	0,423
H3	Materialism	→	Impulsive Buying Behavior	0,523	***
H4	Impulsive Buying Behavior	→	Credit card use	0,156	0,211

Source: Research data

The results related to hypothesis H1 was not significant (0.788). Hence, the hypothesis of a positive relationship of brand equity with impulsive buying behavior was rejected.

For the second hypothesis (H2), although materialism positively influenced credit card use, it was not statically significant, thus H2 was rejected.

For hypothesis H3 (Materialism can positively impact impulsive buying behavior), the positive relationship between the two constructs was verified, confirming the suggested hypothesis. Chavosh, Halimi & Namdar (2011) point out that materialism may have a direct relationship with impulsive buying. There was a relationship between impulsive buying behavior and credit card usage, however, not statistically significant, thus H4 was rejected.



Table 8 - Summary of the hypotheses and results

Hypotheses	Results	Studies
H1: Brand equity positively impacts on impulsive buying behavior.	Rejected	Dittmar et al. (1995), Aaker & Joachimsthaler (2000), Cardos & Neves (2008) and Rook & Hock (1985).
H2: Behavioral materialism impacts positively on credit card use.	Rejected	Ponchio & Aranha (2007), Richins (2004), Ponchio (2006) and Limbu, Huhmann & Xu (2012).
H3: Materialistic behavior can impact positively on impulsive buying behavior.	Confirmed	Rook (1987), Arocas et al. (2004), Veludo de Oliveira et al. (2004) and Chavosh, Halimi & Namdar (2011).
H4: Impulsive buying Behavior positively impacts on credit card use.	Rejected	Rook (1987) and Rook & Fisher (1995).

Source: Research data

Table 8 shows the hypotheses of this study. Three of the four hypotheses were rejected (H1, H2 and H4). The “Studies” column shows previous studies that confirmed the hypotheses initially proposed.

Each construct was modeled individually to create the aggregate model and reliability and robustness were checked, using NFI, CFI, GFI, TLI, RMSEA, Chi-square, degrees of freedom and probability indexes, as recommended in the literature. In all models, the indexes were within the necessary parameters. However, in the final model, the NFI and RFI indexes were below 0.900, despite being close.

4.4 Discussion of Results

Although consumers who can recognize and have favorable associations with a brand name are more likely to purchase a particular brand (Sanyal & Datta, 2011), the present study did not show that brand equity impacts on impulsive buying behavior. Although brand equity can facilitate the consumer purchase process, it does not lead consumers to behave impulsively.

However, there were some statistical differences related to brand equity and impulsive buying behavior constructs. Brand equity presented the highest means and lowest standard deviations of this study. The brands mentioned by the respondents are well known and familiar to them, being part of their daily lives. On the other hand, the results of the descriptive statistics indicate low levels of impulsiveness among the respondents. These opposite results may explain why no significant relationship was found between these constructs.

Materialism was found to positively and significantly influence impulsive buying behavior, corroborating previous studies (e.g.: Badgaiyan & Verma, 2015; Pereira et al. 2013; Mendes-Da-Silva et al., 2012). Arocas, Luna, Arrieta & Botero (2004) also confirmed that there is a strong relationship between impulsive buying behavior and materialism, which underlies how the role of possessions can impact consumers’ lives by influencing their shopping activities. As materialistic behavior aims to acquire goods to provide values to the consumer, such as power, successful self-image, maintenance and entry into social circles, among others, impulsive behavior is closely linked to this, as it is related to the act of shopping. In other words, people with materialistic values are more likely to purchase products, as long as they meet their materialistic requirements, such as social value or internal value, which may lead the individual to make impulsive buying.

As seen previously, materialism has several different forms of influence on consumer behavior. However, it was not possible to observe its influence on credit card use, nor was a relationship between impulsive buying behavior and credit card use found in this study. These results are in line with Khare (2013), who did not find a relationship between impulsive buying and credit card use in the



Indian context. In that study, respondents reported rarely preferring credit cards as they were used to paying with cash and felt that credit cards would translate into extra costs (Khare, 2013, p. 37).

However, other previous studies (e.g. Phau & Woo, 2008; Pirog & Roberts, 2007; Roberts, 1998; Roberts & Jones, 2001; Wang & Xiao, 2009) have shown different results, where credit cards were perceived as status symbols, hence consumers possessing credit cards exhibited compulsive behavior. As these studies were carried out in developed countries, the results differences may be explained by the different economic and cultural contexts of research.

Another possible explanation may be related to the samples used. Many previous studies (e.g. Veludo-de-Oliveira et al., 2004; Pirog & Roberts, 2007; Roberts, 1998; Roberts & Jones, 2001; Wang & Xiao, 2009) used college student samples. Christenson et al. (1994) suggests that compulsive behavior is more apparent among young college students. Our study and that of Khare (2013) used broader sample profile.

5 CONCLUSION

Although symbolic elements, such as brands, can affect buying behavior, this relationship was not found in this study, where brand equity did not have a positive impact on impulsive buying behavior. This may have been related to a number of factors which can directly affect the results, such as the sample size, the intrinsic values of each respondent and the regional culture.

However, materialistic behavior did have a positive impact on impulsive buying behavior, in line with previous studies. Materialism also positively impacted the behavior of credit card use, influencing decision making and periodicity, among other aspects, but the significance was not high enough to confirm this hypothesis. It was possible to verify a positive influence of impulsive buying behavior on credit card use, however the result was not significant enough to confirm this hypothesis.

We hope the results will assist researchers, consumers and companies to understand impulsive buying behavior associated with the use of credit card and its relationship with brand equity and materialism. In this study, the highest average family gross income was found in the northwestern region of Rio Grande do Sul. The least materialistic region was the Central Eastern region (Santa Cruz do Sul and region). Females presented more impulsive buying behavior than males. There were not significant differences for income, age, educational level or number of dependents and family members.

For future studies, it would be interesting to improve the scale of credit card use and evaluate more factors that precede materialism, which may impact in a positive or negative way on consumer attitudes towards credit card use. Furthermore, the face to face data collection in several regions of the state led to logistical difficulties. Even though a sample of 384 respondents is representative and significant, a larger number of respondents would allow for better results in the Modeling of Structural Equations.

It would also be important to study in more detail the relation between materialism and brand equity, for example by carrying out an analysis of a specific brand of a certain product, an analysis of luxury products and their relation with materialism or an analysis of the use of credit card at supermarkets. Another interesting analysis would be to observe the construct of mediators in the relationship between impulsive buying behavior and credit card use. In addition, the objects of study used to evaluate brand equity were shoes and sneakers, thus, we propose for future research an evaluation of different products. Studies in different regions and states would allow analysis of cultural features. Moreover, cross-country studies would add a complementary cultural perspective to the consumer behavior analysis.



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APPENDIX

Scales

Materialism statistics				
Statements	Average	Median	Standard deviation	
AM.S.3.1 I admire people who own expensive houses, cars, and clothes.	2,9453	3,000	1,2360	
AM.S.3.2 I like to own things that impress people.	2,1692	3,000	1,4086	
AM.S.3.3 Spending a lot of money is among the most important things in life.	1,4543	2,000	0,3800	
AM.S.3.4 The things I own say a lot about how well I am doing in life.	3,0755	3,000	1,2360	
AM.C.3.5 I like to spend money on expensive things.	2,0520	2,000	1,4086	
AM.C.3.6 Buying things gives me a lot of pleasure.	3,9192	4,000	2,0619	
AM.C.3.7 I like a lot of luxury in my life.	1,8697	2,000	1,2360	
AM.F.3.8 My life would be so much better if I had things that I don't have	3,0130	3,000	1,4086	
AM.F.3.9 I would be happier if I could buy more things.	3,5572	4,000	2,0619	
AM.F.3.10 It bothers me when I can't buy everything I want.	2,9192	3,000	1,9305	

Use Credit Card Statistics				
Statements	Average	Median	Standard deviation	
UCC.5.1 My credit card(s) are usually at their maximum available credit limit.	2,8020	3,000	2,0686	
UCC.5.2 I often use available credit on one card to pay off another credit card.	1,1382	1,000	0,6830	
UCC.5.3 I spend more when I use my credit card.	3,6015	4,000	2,0119	
UCC. (I).5.4 I worry about paying off my credit card debts.	5,4479	5,000	1,3620	
UCC.5.5 I often pay as little as possible on my credit card debt.	1,4609	1,000	1,1656	
UCC.5.6 I care little about the price of products when I use my credit card.	1,9843	2,000	1,6680	
UCC.5.7 I am more impulsive when I use my credit card for purchases.	2,7187	3,000	1,9688	
UCC. (I).5.8 I always pay my card(s) on the due date to avoid interest charges.	5,5364	5,000	1,1546	
UCC. (I).5.9 I rarely exceed the limit available on my credit card (s).	5,4895	5,000	1,2900	
UCC. (I).5.10 I'm rarely defaulting on the payment of my debts by credit card.	5,5963	5,000	1,0481	
UCC.5.11 Rarely I use all disponsible cash of my credit cards	5,5625	5,000	1,1800	
UCC.5.12 I have so much credit cards	1,7864	2,000	1,5382	



Impulsive Behavior Purchase statistics

Statements	Average	Median	Standard deviation
CI.NU.4.1 I have trouble controlling my buying impulses.	2,3489	2,000	1,8059
CI.NU.4.2. I feel a need to buy an item as quickly as possible so as not to have the feeling of not having bought anything.	1,6171	2,000	1,3187
CI.NU.4.3. When I browse through stores or store websites, I don't stop until I find an attractive item to buy.	1,4479	1,000	1,1403
CI.NU.4.4. I feel helpless when I see something attractive in a store or on a site.	1,5364	2,000	1,2669
CI.NU.4.5. The need to buy something comes up suddenly and I am surprised.	2,4921	2,000	1,7854
CI.EP.4.6. When I make impulsive purchases, I have fun and get excited.	2,1328	2,000	1,7113
CI.EP.4.7. I get a thrill when I buy on impulse.	1,8828	2,000	1,5663
CI.EP.4.8. I like the feeling of impulse buying.	1,7604	2,000	1,4681
CI.EP.4.9 - I have a feeling of pleasure when I buy on impulse	1,9947	2,000	1,6460
CI.GH.4.10. I make purchases to improve my mood.	2,7783	3,000	1,8904
CI.GH.4.11. When I am depressed, I go out and buy something impulsively.	1,7395	2,000	1,4574
CI.GH.4.12. Sometimes, I buy something to feel good.	3,2447	3,000	1,9367
CI.GH.4.13. I buy products on impulse when I am upset.	1,5781	2,000	1,2732
CI.GH.4.14. Buying is a way to reduce the stress of daily life.	2,2682	2,000	1,7529
CI.DC.4.14. I usually think of product options to get a good deal.	5,0182	5,000	1,4765
CI.DC.4.15. I am a cautious consumer.	4,8359	5,000	1,5177
CI.DC.4.16. Even when I see an attractive product, I think about the consequences of my purchase before I make it.	5,1484	5,000	1,2881
CI.DC.4.17. When I have to make a purchase decision, I usually take some time to evaluate all aspects of the purchase.	4,9244	5,000	3,4918
CI.DC.4.18. When I buy things, I am generally slower and more reflective than quick and careless in the buying process.	4,6223	5,000	3,3753
CI.DF.4.19. When I go shopping, I buy things that I didn't intend to buy.	3,1432	3,000	1,9013
CI.DF.4.20. I tend to spend my money as soon as I get it.	2,1822	2,000	1,8395
CI.DF.4.21. I am a person who makes unplanned purchases.	2,8229	3,000	1,9019
CI.DF.4.22. I buy things even though I can't afford them.	1,4244	1,000	1,0959
CI.DF.4.23. I often buy products that I don't need, even though I know that I have little money left.	1,6822	2,000	1,3580



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1. Definition of Research problem		√
2. Development of hypotheses or research questions	√	√
3. Development of theoretical propositions	√	√
4. Theoretical foundation	√	√
5. Definition of methodological procedures		√
6. Data Collection	√	
7. Statistical analysis	√	
8. Analysis and interpretation of data	√	√
9. Critical Revision of the manuscript		√
10. Manuscript writing	√	√

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The authors have stated that there is no conflict of interest.

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