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Article

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Arab Economic and Business Journal

Provided in Cooperation with:

Holy Spirit University of Kaslik

Suggested Citation: Gohary, Ali; Hanzaee, Kambiz Heidarzadeh (2014) : Personality Traits as Predictors of Shopping Motivations and Behaviors: A Canonical Correlation Analysis, Arab Economic and Business Journal, ISSN 2214-4625, Elsevier, Amsterdam, Vol. 9, Iss. 2, pp. 166-174,
<http://dx.doi.org/10.1016/j.aebj.2014.10.001>

This Version is available at:

<http://hdl.handle.net/10419/187525>

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Conference Title

Personality Traits as Predictors of Shopping Motivations and Behaviors: A Canonical Correlation Analysis

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ARTICLE INFO

Article history:

Received 14 February 2014

Received in revised form 22 September 2014

Accepted 24 September 2014

Keywords:

Big Five Personality

Hedonic values

Utilitarian values

Compulsive buying

Impulsive buying

ABSTRACT

This study examines the relationship between Big Five personality traits with shopping motivation variables consisting of compulsive and impulsive buying, hedonic and utilitarian shopping values. Two hundred forty seven college students were recruited to participate in this research. Bivariate correlation demonstrates an overlap between personality traits; consequently, canonical correlation was performed to prevent this phenomenon. The results of multiple regression analysis suggested conscientiousness, neuroticism and openness as predictors of compulsive buying, impulsive buying and utilitarian shopping values. In addition, the results showed significant differences between males and females on conscientiousness, neuroticism, openness, compulsive buying and hedonic shopping value. Besides, using hierarchical regression analysis, we examined sex as moderator between Big Five personality traits and shopping variables, but we didn't find sufficient evidence to prove it.

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1. Introduction

Personality traits are one of the main sources of our decisions. Furthermore, social personality can predict the social behaviour in particular conditions. In this paper, we don't want to examine what factors impacts on personality, but we want to explore the personality effects on shopping motivations to predict future behaviour of our new or current customers and illustrate a guideline map to plan and conduct our strategic programs. A Study on the impact of personality on shopping section will modify our approach to the business; what goods and services should we

produce? What is the customer's response to specific social stimuli that have impact on personality and what proper reaction should we do? Which personality trait has outstanding role in the society so that we will provide suitable goods and services to be alive in this emerging market? Are men and women same in shopping procedure? And when do they notice hedonistic or utilitarian aspects of shopping? In other words, individuals have different types of personality traits which are bold within their personality and make them distinctive in behaviour, habits, motivations and responses to a stimulus. Individual differences in personality come from two sources: environmental sources which are early experiential calibrated, enduring situational evocation, strategic specialization, adaptive self-assessment of inheritable qualities and

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Peer review under responsibility of Holy Spirit University of Kaslik.



heritable sources, which are temporal or spatial variations in selection pressures, negative frequency-dependent selection and mutation–selection balance (Buss, 2008). For several centuries, psychologists tried to determine the dimensions and characteristics of personality. These efforts had continued until they increasingly agreed that five supertraits might adequately describe the structure of personality (Maltby, Day, & Macaskill, 2010). Costa and McCrae (1985, 1992a, 1992b, 1995) discussed five major factors, which are influential in forming personality. They called these traits as Big Five Model of Personality and developed a measure to assess them that is called NEO Personality Inventory. Five dimensions of Big Five Factors are Neuroticism, Extraversion, Openness (to experience), Conscientiousness, Agreeableness (Digman, 2002). These personality factors were conceived by researchers to pay much more attention to relations between personality and consumer behaviour. Although personality research (“personology”) has long been a fringe player in the study of consumer behaviour, little research has directly been devoted to personality issues, and if consumer personality has ever been investigated, it tended to be from the narrow perspective of developing yet another individual difference measure in an already crowded field of personality scales or considering the moderating effects of a given trait on some relationship of interest (Baumgartner, 2002). But recently, many researchers discussed the topic of personality and consumer behaviour (Verplanken & Herabadi, 2001; Wang & Yang, 2008).

1.1. The importance of investigating shopping behaviour in Iran

In this study, we examine personality and shopping variables among a sample that was chosen from Iranian college students. The main reason that we chose Iran was the rapid economic and social changes in the last years that have direct impact on society’s social behaviour; for example, based on IMF (International Monetary Fund), Iran’s GDP was increased and wealth dissemination index got a better rate, the Gini ratio improved and women contribution rate ascended rapidly. These factors caused to raise a new category of mid-income families with higher education, different needs, and unfamiliar with urban living challenges might affect in their personality. In addition, Iran’s population increased very fast from 1979 to 1990. The birth rate reached over 3% per year. Total population goes higher from 35 million up to more than 65 million. In this era, a new Iranian Generation Y was introduced regarding those who prefer to live in urban regions and immigrated therefore from rural to urban regions in the last years for better job opportunities and educational purposes. These factors drove people to create their new identity throughout consumption. On the other side, by increasing oil price which is Iran’s major income source, demand for consuming (luxury) goods especially imported goods increased, so that imports set a record and go over 58 billion dollars in 2011. By spread of materialism in Iran in these years (Teimourpour & Hanzaei, 2014), social shopping behaviour and social personality were impressive. In this context, most of international foreign companies such as Apple, HP, Hyundai, L’Oréal, Porsche, Knor, Procter & Gamble, and Siemens started to export their goods and services to Iran and open a representation without paying attention to sanctions. Others like Nestle, Unilever, Samsung, LG, Volvo directly manufactured their product in Iran. Meanwhile, the lack of enough researches related to shopping and psychology in this market makes of this research a necessary study for awareness-raising Iranian shopping behaviour.

1.2. Literature Review and Hypotheses

Research suggests that the shopping experience provides consumers with a combination of utilitarian and hedonic shopping value (Carpenter & Moore, 2009; Babin, Darden, & Griffin, 1994), impulsive and compulsive buying. Considering five major personal traits that we wanted to test which ones drove shopping motivations, a concise literature review of this factor has been described hereunder. At first, we explained four major shopping variables and then, personality traits will be provided to explore theoretical linkage among personality and shopping variables.

Impulsive Buying: Impulse buying generates over \$4 billion in annual sales volume in the United States. With the growth of e-commerce and television shopping channels, consumers have easy access to impulse purchasing opportunities, but little is known about this sudden, compelling, hedonically complex purchasing behavior in non-Western cultures (Kacen & Lee, 2002). Impulsive buying has been defined as the spontaneous or sudden desire to buy something, and when compared to more contemplative approaches to decision-making, it considered emotional, reactive, and “prone to occur with diminished regard” for the consequences (Rook, 1987). Rook (1987) also stated: “Impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also, impulse buying is prone to occur with diminished regard for its consequences”. Recent research on impulse buying behavior indicated that individual consumers did not view their specific purchases as wrong and indeed retrospectively reported a favorable evaluation of their behavior (Hausman, 2000).

Compulsive Buying: Faber and O’Guinn (1988) defined compulsive consumers as “people who are impulsively driven to consume, cannot control this behavior, and seem to buy in order to escape from other problems” (Mowen & Spears, 1999). DeSarbo and Edwards (1996) concluded that compulsive consumption was related to some of psychological traits such as “dependence, denial, depression, lack of impulsive control, low self-esteem, approval seeking, anxiety, escape coping tendencies, general compulsiveness, materialism (envy), isolation, excitement seeking, and perfectionism”. Most research and scholars consider that excessive buying, defined as consumer spends more than he/she can afford or beyond his/her needs, is responsible for this situation. The results of this painful issue for individuals, families, societies as well as countries and business environment are all unfavourable. For this reason, this behaviour has been of theoretical and practical interest to psychologists, psychiatrists, economists, sociologists and marketing scholars and practitioners (Eren, Eroglu, & Hacıoglu, 2012). That is why, authors discuss compulsive buying in terms of personality traits, demographic variables, family structure and the patterns that classify buyers as compulsive and non-compulsive (Faber & O’Guinn, 1992; Faber, O’Guinn, & Krych, 1987; Faber & O’Guinn, 1989).

Hedonic Shopping Value: Hirschman and Holbrook (1982) defined hedonic consumption as “those facets of consumer behavior that relate to the multisensory, fantasy and emotive aspects of one’s experience with products.” Basically this values are unstructured, mentally, affective and experience-based (Kim & Han, 2011) stimuli driven, pleasant and fun (Nguyen, Nguyen, & Barrett, 2007). People with higher hedonic values cannot be satisfied with utilitarian or functional aspects of buying behaviors but enjoyable and pleasurable aspects of them and they regard emotional and psychological values of shopping experience. Hedonic values are assumed to be associated with gratification through fun, fantasy, playfulness and enjoyment (Eren, Eroglu, & Hacıoglu, 2012). Hedonic value derived from the shopping experience reflects the emotional or psychological worth of the purchase. Sources of hedonic

value could include the joy and/or the excitement of shopping, or the escape from everyday activities that is provided by the experience (Carpenter & Moore, 2009).

Utilitarian shopping values: The utilitarian perspective is based on the assumption that consumers are rational problem-solvers. As a result, the utilitarian perspective stresses functional and product-centric thinking, and the research has focused on consumer decision processes. Consumption is understood as a mean to accomplish some predefined end (Rintamäki, Kanto, Kuusela, & Spence, 2006). Consumers perceive utilitarian value by acquiring the product that necessitated the shopping trip while simultaneously perceiving hedonic value associated with the enjoyment of the shopping experience itself. Utilitarian value reflects shopping with a work mentality (Hirschman & Holbrook, 1982). Consumers seek utilitarian value in a task-oriented, rational manner (Carpenter & Moore, 2009). Utilitarian consumer behavior has been described as ergic, task-related, and rational (Babin, Darden, & Griffin, 1994).

We characterized *Extraversion* as the dimension underlying a broad group of traits, including sociability, activity, and the tendency to experience positive emotions such as joy and pleasure (Costa, Jr & McCrae, 1992). Introversion and social isolation are opposite of extraversion, which is one of the Big Five Factors (Mowen & Spears, 1999). In a research about shopping experiences, Guido et al. (2007) stated that when individuals were introverted, their shopping behaviour tended to be utilitarian; whereas, when the same enduring trait of personality was directed towards extroversion, their shopping behaviour tended to be hedonic. In addition, Matzler et al. (2006) found that extraversion was positively related to the hedonistic value of the products. Therefore, it sought to investigate this match-up hypothesis as well.

H_{a1} : There is an indirect relationship between extraversion and impulsive buying.

H_{a2} : There is a direct relationship between extraversion and compulsive buying.

H_{a3} : There is a direct relationship between extraversion and Hedonic shopping values.

H_{a4} : There is an indirect relationship between extraversion and Utilitarian shopping values.

High *Openness* (to experience) individuals are imaginative and sensitive to art and beauty and have a rich and complex emotional life; they are intellectually curious, behaviourally flexible, and non-dogmatic in their attitudes and values (Costa, Jr & McCrae, 1992). They are not conventional in their ideas, values, and beliefs. Low open to experience people are conventional and present narrow interests (Lakhal, Frenette, Sévigny, & Khechine, 2012). Matzler et al. (2006) concluded that the higher open individuals tended to be curious about both inner and outer worlds, to have experientially richer lives, and to experience both negative and positive emotions more keenly than closed individuals. It can be assumed that they perceive and experience hedonic values of products stronger than individuals who score low on openness. Some researches confirmed the relationship between openness and intelligence (DeYoung, Peterson, & Higgins, 2005; Zurawicki, 2010). It attempts to determine the biological conditioning of intelligence can prove important to identify the problem-solving skills and, hence, the decision making patterns (Zurawicki, 2010) that have a crucial role in predicting shopping behaviours and motivations. It is noticeable that Voss et al. (2003) stated problem solving as a subcategory of utilitarian values. Then,

H_{b1} : There is a direct relationship between openness and impulsive buying.

H_{b2} : There is a direct relationship between openness and compulsive buying.

H_{b3} : There is a direct relationship between openness and Hedonic shopping values.

H_{b4} : There is an indirect relationship between openness and Utilitarian shopping values.

Neuroticism represents the individual's tendency to experience psychological distress, and high standing on neurotic is a feature of most psychiatric conditions (Costa, Jr & McCrae, 1992). In relation to Neuroticism, people high on N tend to be emotionally labile and frequently complain of worry and anxiety as well as of bodily aches (e.g., headaches, stomach difficulties, dizzy spells), they are hypochondriac, insecure, and inadequate (Pervin, 2006). The opposite of neuroticism is emotional stability (Goldberg, 1990). Prior researches reported the relationship between compulsive buying and neuroticism. Johnson and Attmann (2009) found a significant relationship between compulsive buying and neuroticism. However, according to Mowen et al. (1999) individuals who got a high score on neuroticism were compulsive buyers. In addition, d'Astous et al. (1990) found a negative relationship between self-esteem and compulsive buying. It is noticeable Costa, Jr. & McCrae (1995) concluded that by increasing the level of neuroticism, individuals tending to impulsiveness, depression, anxiety and vulnerability would be more intensive. Additionally, Mick (1996) found a positive relationship between impulsive buying and neuroticism. Chetthamrongchai and Davies (2000) suggested about individuals who scored relatively high on present orientation which was indicating that they were more concerned with that was happening at the moment than in the past or in the future. In addition Roberts and Pirog (2004) found a positive link between extrinsic goals, which were associated with low self-esteem, and compulsive buying. So,

H_{3a} : There is a direct relationship between neuroticism and impulsive buying.

H_{3b} : There is a direct relationship between neuroticism and compulsive buying.

H_{3c} : There is an indirect relationship between extraversion and Hedonic shopping values.

H_{3d} : There is a direct relationship between neuroticism and Utilitarian shopping values.

Agreeableness is an expression of the need for harmonious relations, which implies the rejection of the domineering approach (Zurawicki, 2010). High agreeable individuals are trusting, sympathetic, cooperative, good natured, straightforward, forgiving, and gullible; low-An individual are cynical, callous, and antagonistic (Costa, Jr & McCrae, 1992; Pervin, 2006). These people with higher scores on agreeableness tend to trust rather than to be suspicious of other people. In other words, individuals with a lower degree of agreeableness doubt things that they do not personally know (Wang & Yang, 2008). Ho et al. (2004) suggested that agreeable people would not experience as strong a negative emotional response, as less agreeable people, and these people are better at emotional self-regulation, including the regulation of anger and other negative emotions. Duijns and Diekstra (1996) reported a negative relationship between agreeableness and compulsive and impulsive behavior, but Balabanis (2002) and Wang et al. (2008) didn't find sufficient evidence to support this claim. Guido et al. (2006) suggested agreeable people would have a strong linkage with hedonic shopping values. Then we hypothesis:

H_{4a} : There is an indirect relationship between agreeableness and impulsive buying.

H_{4b} : There is an indirect relationship between agreeableness and compulsive buying.

H_{4c} : There is a direct relationship between agreeableness and Hedonic

shopping values.

H_{4d} : There is a direct relationship between agreeableness and Utilitarian shopping values.

Conscientiousness is a dimension that contrasts scrupulous, well-organized, and diligent people with lax, disorganized, and lackadaisical individuals (Costa, Jr & McCrae, 1992). These people are reliable, self-disciplined, punctual, neat, ambitious, persevering, deliberating, competent, dutiful (Pervin, 2006; Maltby et al., 2010), who display planned rather than spontaneous behavior and at the extreme, like the individuals tending to be perfectionists (Zurawicki, 2010). Conscientiousness people are able to control impulse emotions and delay gratification (Joshanloo, Rastegar, & Bakhshi, 2012). This ability drives them to not be an impulse shopper as the reports from Gustavsson et al. (2003) showed a negative relationship between impulsive behavior and conscientiousness. Mowen et al. (1999) in a research found a significant negative relationship between compulsive buying and conscientiousness and suggested that individuals who had difficulty controlling their buying might also reveal a lack of organization, precision, and efficiency in their daily lives. Therefore, the following hypotheses are proposed:

H_{5a} : There is a direct relationship between Conscientiousness and impulsive buying.

H_{5b} : There is a direct relationship between Conscientiousness and compulsive buying.

H_{5c} : There is a direct relationship between Conscientiousness and Hedonic shopping values.

H_{5d} : There is a direct relationship between Conscientiousness and Utilitarian shopping values.

Although we considered shopping as an activity to respond our daily needs, but nowadays it has an importance role in spending time and answers the different kinds of social pressures (which affect the person's behaviors) and lifestyle activity. Considering the different aspects of each personality trait, we want to answer the question that "Do personality traits predict shopping motivations?"

2. Method

2.1. Participants and procedure

To determine sample size, we used Statistical Power Analysis method which tried to make a balance between α (Error type I) and β (Error type II) to optimize hypothesis test and make the results more precious (Davey

& Savla, 2010). So, we used GPower Ver 3.1 to calculate sample size (Faul, Erdfelder, Buchner, & Lang, 2009). The results of acquired samples showed the statistical power is 0.97, which was an acceptable amount to verify sampling procedure because statistical powers more than 0.6 are acceptable (Dattalo, 2008). Therefore, a self-report questionnaire was distributed randomly among 247 college students at Qazvin and Urmia in Iran. This sample consists of 149 male (60.3%) and 98 female (37.3%) students. Respondents were recruited from a variety of majors. A hundred-eighty-nine respondents were single and fifty-eight respondents were married. Average age of respondents was 25.53 years old (SD = 5.908) which 153 (63.22%) respondents were between 16- 25 years old, 68 (28.09%) respondents were 26-35 and 21 (8.69%) were 35-33 years old. Trained data collectors distributed questionnaires in the classrooms. They described the measures and answered the questions. Participants were convinced about confidentiality of data, and they participated in the research voluntarily.

2.2. Measures

The 74-item questionnaires were collected from samples. All the items of scales were translated to Persian by using the back-translation method. Due to the variety of variables of this research, we used different scales in our questionnaire. A shorten version of the *NEO PI* consisted of 44-items which was developed and obtained by John et al. (1991) and who was employed to measure Big Five personality traits in 2008. To assess *Compulsive Buying*, we used a scale which was developed by d'Astous et al. (1990). To measure *Impulsive Buying*, we employed a 9-item scale which was developed by Rook et al. (1995) in this research. Furthermore, we employed scales to assess *Hedonic* and *Utilitarian Shopping Values* that were developed by Babin et al. (1994) consisting of 11-items for hedonic shopping values and 4-items for utilitarian shopping values.

3. Results

To assess the relationship between personality traits and shopping motivations, we analysed our data using by SPSS version 21. Preliminary analyses calculated bivariate correlations, means, standard deviations, and Cronbach's alpha are shown in Table 1. The results of bivariate analysis indicated that some of the relationships were supported recent studies and findings, but some of them were not significant.

Table 1- Intercorrelations between the scales and descriptive statistics among this study.

	1	2	3	4	5	6	7	8	9
1- Extraversion	1								
2- Agreeableness	.313**	1							
3- Conscientiousness	.320**	.442**	1						
4- Neuroticism	-.384**	-.447**	-.372**	1					
5- Openness	.372**	.188**	.297**	-.279**	1				
6- Compulsive	-.012	-.055	-.164**	.124	.021	1			
7- Impulsive	-.027	-.042	-.132*	.136*	-.063	.720**	1		
8- Hedonic	.108	-.033	.015	.102	.017	.640**	.516**	1	
10- Utilitarian	.145*	.122	.266**	-.161*	.212**	-.018	-.113	.256**	1
Mean	3.22	3.71	3.47	2.90	3.57	2.78	2.39	3.06	3.50
Alpha	.64	.63	.74	.71	.73	.73	.82	.87	.34

* $P < 0.05$; ** $P < 0.01$;

3.1. Multiple regression

Four multiple regressions were performed to evaluate the role of Big Five personality as predictor of shopping motivations. We used stepwise method in procedure of multiple regression analysis, because it was the most appropriate way to determine the association between variables (Cramer, 2003). Table 2 shows the summaries of multiple regression results. The Outcome demonstrates that 2.7% of total variance in compulsive buying was explained by Big Five personality traits. This result suggested conscientiousness as significant predictor of compulsive buying ($R^2 = 0.027$, $R^2(\text{Adj}) = 0.023$, $F_{(2,45)} = 6.78$, $P < 0.001$). The results showed that 1.9% of total variance in impulsive buying was explained by

Big Five personality traits ($R^2 = 0.019$, $R^2(\text{Adj}) = 0.015$, $F_{(2,45)} = 4.62$, $P < 0.05$). Also, the results suggested neuroticism as significant predictor of impulsive buying with standardized β coefficient of 0.136 ($P < 0.005$). Third regression analysis didn't conclude on a certain trait as predictor of hedonic shopping values. Finally, the outcome of the last regression analysis demonstrates that 9% of total variance in utilitarian values was explained by Big Five personality ($R^2 = 0.09$, $R^2(\text{Adj}) = 0.083$, $F_{(2,45)} = 12.10$, $P < 0.001$). Consequently, the results showed that conscientiousness ($\beta = 0.223$, $P < 0.001$) and openness ($\beta = 0.146$, $P < 0.05$) played an effective role in the prediction of utilitarian values.

Table 2- Summaries of multiple regression analysis for Big Five personality predicting shopping motivations.

Dependent Variable	R ²	F	Df1	Df2	Significant Predictor(s)	β	Sig
Compulsive Buying	.027	6.777**	1	245	Conscientiousness	-.164**	.009
Impulsive Buying	.019	4.621*	1	245	Neuroticism	.136*	.033
Hedonic Values	-	-	-	-	-	-	-
Utilitarian Value	.09	12.104***	2	244	Conscientiousness	.223***	.000
					Openness	.146*	.023

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

3.2. Canonical Correlation

Canonical correlation was performed which was one of the most appropriate tools when a researcher desire to examine the relationship between two variable sets (Sherry & Henson, 2005). Because canonical correlation is a multivariate technique, we could have more than one variable, so we put Big Five personality traits as predictor (independent) and shopping motivation variables as criterion (dependent). Table 3 shows the result of canonical correlation. Totally, the full model was statistically significant, with a Wilks's $\lambda = 0.81$ ($F_{(20,790.31)} = 2.52$, $P < 0.001$). It is noticeable that Wilks's λ represents the amount of variance not explained by variable sets. Therefore, by taking $1 - \lambda$, we found the full model effect size in a r^2 metric (Joshi et al., 2012). Canonical correlation analysis output demonstrates four functions with canonical coefficients of 0.33, 0.24, 0.16 and 0.05 for each function. Function 1 was statistically significant ($F_{(20,790.31)} = 2.53$, $P < 0.001$). Although function 2 ($F_{(12,632.63)} = 1.76$, $P < 0.051$), ($F_{(6,480)} = 1.13$, $P < 0.341$), ($F_{(2,241)} = 0.32$, $P < 0.729$) didn't explain a significant amount of variance which shared between variable sets, we decided to consider function 2 in our analysis. The reason for this decision was rooted in Sherry and Henson's (2005) instruction for choosing functions. They suggested that researcher should only interpret those functions that explained reasonable amount of variable sets, and they advised researchers not to rely on statistical significance to decide whether the function should be interpreted (Function 1 explains about 11.18% of shared variance, function 2: 5.72%; function 3: 2.52% and function 4: 0.26). Table 3 demonstrates the structure coefficients are greater than |.3| from which, the standardized canonical coefficient, the communality coefficient, and the squared structured coefficient for function 1 and 2 can be interpreted. Structure coefficient of function 1 indicated that compulsive buying ($r_s = -0.467$), impulsive buying ($r_s = -0.462$) and utilitarian shopping values ($r_s = 0.887$) were interpretable contributors to the synthetic criterion variable. Considering the Big Five personality variable set as predictor, r_s column in function 1 informs us that extraversion ($r_s = 0.427$), agreeableness ($r_s = 0.380$), conscientiousness ($r_s = 0.935$), neuroticism ($r_s = -0.577$) and openness

($r_s = 0.527$) were contributors to the synthetic predictor variable. By analyzing the output of first canonical variable, we concluded that higher extraversion, agreeableness, conscientiousness and openness were associated with higher utilitarian values, but because of the negative structure coefficient for neuroticism, it was positively related to compulsive and impulsive buying and negatively related to utilitarian values. Moving on to function 2, the coefficient in Table 3 suggested the predictor variables of relevance were extraversion ($r_s = -0.350$), neuroticism ($r_s = -0.426$) and openness ($r_s = 0.465$). On the other side, the only criterion variable of relevance was hedonic values ($r_s = -0.617$). Second canonical variable indicated that higher extraversion and neuroticism were associated with higher hedonic values but, negatively related to openness. The last column listed the communality coefficient (h^2), which represented the amount of variance that was reproducible across the functions (Sherry et al., 2005). Communalities above 30% were also underlined to show the variable with the highest level of usefulness in the model. Considering Table 3, H_{a1} stated that a negative relationship between extraversion and impulsive buying was confirmed. In addition, H_{a2} was rejected which showed there was a negative relationship between extraversion and compulsive buying. The results confirmed H_{a3} , but rejected H_{a4} that showed a positive relationship between extraversion and utilitarian shopping values. About neuroticism and its relationship with shopping variables, H_{b1} hypothesized that the direct relationship between impulsive buying and neurotics was rejected and stated that this relationship was negative. In the case of other hypothesis, H_{b2} was rejected but H_{b3} and H_{b4} were confirmed. About the relationship between openness and shopping variables, despite the recent researches (Matzler, et al., 2006, Voss, et al., 2003), all of the hypotheses including H_{3a} , H_{3b} , H_{3c} , H_{3d} were rejected. It showed agreeableness had a negative relationship with compulsive and impulsive buying, positive relationship with hedonic shopping value and no significant relationship with utilitarian shopping values. Hypotheses H_{4a} , H_{4b} , H_{4d} , which explored the relationship between agreeableness, compulsive buying, impulsive buying and

utilitarian shopping values were confirmed but we didn't find a significant relationship between hedonic shopping values and agreeableness (H_{4c}). Analyzing Conscientiousness and shopping variables demonstrate that

H_{5a}, H_{5b}, H_{5d} were confirmed, but no significant relationship between Conscientiousness and hedonic shopping values (H_{5c}) was found.

Table 3- Canonical solution for Big Five Personality predicting Shopping motivations for Functions 1 and 2.

Variable	Function1			Function2			
	Coef	r_s	r_s^2 (%)	Coef	r_s	r_s^2 (%)	h^2 (%)
<i>Predictors</i>							
Extraversion	.024	<u>.427</u>	18.23	-.751	<u>-.350</u>	12.25	<u>30.48</u>
Agreeableness	-.156	<u>.380</u>	14.44	.263	.194	3.76	18.20
Conscientiousness	.830	<u>.935</u>	87.42	-.518	-.216	4.67	<u>92.09</u>
Neuroticism	-.266	<u>-.577</u>	32.29	-.600	<u>-.426</u>	18.15	<u>50.44</u>
Openness	.223	<u>.527</u>	27.77	.682	<u>.465</u>	21.62	<u>49.39</u>
R_c			33.44			23.92	
R_c^2			11.18			5.72	
<i>Criterion</i>							
Compulsive Buying	-.457	<u>-.467</u>	21.81	1.131	.081	.006	21.816
Impulsive Buying	-.100	<u>-.462</u>	21.34	-.291	-.196	3.84	25.18
Hedonic Values	.120	-.010	0.0001	-1.302	<u>-.617</u>	38.07	<u>38.0701</u>
Utilitarian Values	.836	<u>.887</u>	78.68	.431	.110	1.21	<u>79.89</u>

Note: Structure coefficients (r_s) greater than |.3| underlined. Coef = standardized canonical function coefficient; r_s = structure coefficient; r_s^2 = squared structure coefficient; r_c = canonical correlation coefficient; r_c^2 = squared canonical correlation coefficient; h^2 = Communality coefficient

3.3. Supplemental Analysis

3.3.1. Sex Differences and Moderating Effect of Sex

In this part, we investigated the gender differences in personality and motivation. An independent-Sample t-Test was conducted to investigate gender differences. The results of t-Test indicated that males were more conscientiousness ($t_{(245)} = 2.51, P < 0.05$) and openness ($t_{(245)} = 2.03, P < 0.05$). On the other hand, females tended to be more neurotic ($t_{(245)} = -2.634, P < 0.01$), they were more compulsive buyer ($t_{(245)} = -3.671, P < 0.001$) and they did more shopping for hedonic purposes ($t_{(245)} = -3.542, P < 0.001$).

A hierarchical regression analysis was conducted to examine the impact of sex on the relationship between Big Five personality traits and shopping motivation variables. The results of the moderating effect of sex at step 3 showed that there was no significant interaction term as a moderator. It indicated that sex didn't have a moderating effect between personality traits and shopping motivation variables.

3.3.2. Sex Differences

In this part, we conducted the independent sample t-test to investigate the differences between males and females in order to make our conclusion more applicable and comprehensive. Table 4 showed the results that was based on the findings, males were more openness ($t_{245} = -2.03, P < 0.05$). In contrast, females were more neurotic ($t_{245} = -2.634, P < 0.01$), and more than males tended toward compulsive buying ($t_{245} = -2.671, P < 0.001$). In the shopping process, females enjoyed much more than males and showed higher degree of hedonism ($t_{245} = -3.542, P < 0.001$).

Table 4- Sex differences in personality traits and shopping motivations & behaviors.

Variable	Independent sample t-test for analyzing means					
	t	df	Sig	Means		
				Males	Females	Differences
Extraversion	-0.228	245	0.82	3.21	3.23	-0.017
Agreeableness	1.229	245	0.22	3.74	3.67	0.079
Conscientiousness	2.51*	245	0.013	3.54	3.36	0.187
Neuroticism	-2.63*	245	0.009	2.81	3.02	-0.210
Openness	2.038	245	0.043	3.63	3.49	0.141
Compulsive Buying	-3.67*	245	0.000	2.63	3.02	-0.390
Impulsive Buying	-1.397	245	0.164	2.34	2.46	-0.120
Hedonic Values	-3.542*	245	0.000	2.93	3.27	-0.343
Utilitarian Values	1.503	245	0.134	3.55	3.44	0.108

*P<0.05; **P<0.01; ***P<0.001

4. Discussion

In this study, the relationship between Big Five Personality traits and shopping motivations was examined. Some parts of results supported the past research findings and some parts of them didn't support the recent research conclusions. Our findings showed that individual personality had an important role in the shopping procedure, but we had much more important factors in this procedure such as economic conditions, religion, social situation, governments' policies, cultural issues which directly or indirectly had an impact on forming individual's personality and shopping behaviors.

To better analyze the relationship between variables and control overlapping variance among them, we performed canonical correlation and regression analysis. Regression analysis output demonstrated that conscientiousness significantly predicted compulsive buying as a negative predictor. Individuals who got the high score on conscientiousness were able to control impulse emotions which were the background for the occurrence of compulsive behavior. Also, findings introduced neuroticism as a significant predictor of impulse buying. This was expectable that neurotics tended toward impulsiveness, because they were seeking for temporary ways to overcome distress. As mentioned, none of the personality traits significantly predicted hedonic shopping values. Furthermore, conscientiousness and openness were determined as the significant predictors of utilitarian shopping values. It wasn't strange to put conscientiousness as the predictor of utilitarian shopping values. But, introducing openness as a predictor of utilitarian was the opposite of the provided definition of openness provided by Costa & McCrae (1992c).

Canonical correlation analysis presented two significant and sufficiently explained variance functions. Function 2 indicated a paradox in convergence among neuroticism and extraversion. We mentioned that these two traits were almost opposite. Actually, the specification of neuroticism and extraversion is like the two ends of a spectrum. This paradox stated that both neurotic and extravert had tendency to shopping based on hedonism and their behavior in this shopping motivation was the same. In addition, this indicated that hedonic shopping was an irrelevant issue on social confidence level of individuals, because the differences between extraverts and neurotics in social confidence are remarkable (John et al., 2008; Pervin, 2006).

Nevertheless, our canonical correlation analysis outcome suggested that extraverts in Iran had a significant positive relationship with hedonic values. Besides, it reported a positive relationship between extraversion and utilitarian values, thus, like the conclusion of McCrae & Costa (2003), extraverts paid more attention to the benefits and fun-loving, passionate, active and positive emotion. Our findings indicated that there was a negative relationship between compulsive buying and extraversion. Although, DeSarbo and Edwards (1996) discussed about individuals who were in social isolation tended to compulsive buying in efforts to relieve the feelings of loneliness due to a lack of interaction with others, but Mowen (1999) found that there was no relationship between compulsive buying and extraversion and our findings supported the negative relationship result. Meanwhile, current research confirmed Zurawiki's (2010) description that the extraversion was inversely related to the thickness of the right anterior prefrontal cortex (PFC) and the right fusiform gyrus – regions possibly involved in the regulation of impulsive behavior.

Moreover, because conscientious and agreeable people are goal-directed and they plan before doing any action, current research reported

positive relationship between conscientiousness and agreeable individuals with utilitarian values, negative relationship with compulsive and impulsive buying and no significant relationship reported for hedonic values. In addition, an important implication of this study was rooted in neuroticism results. Our findings approved previous studies results such as Johnson et al., (2009); Mowen et al., (1999); d'Astous et al., (1990); Mick (1996) and Chetthamrongchai et al., (2000) that concluded a positive relationship between neuroticism with impulsive and compulsive buying and hedonic shopping values. The noticeable point was in female shopping behavior; the results showed females were more neurotic, impulsive, compulsive and hedonic shoppers than males. Another noticeable finding was that openness was inversely related to impulsive and compulsive buyings in the Iranian sample. This was inconsistent with theoretical definitions of openness provided by Pervin (2006) which defined them as the curiosity and the appreciation of experience for its own sake. This definition leads us to consider openness people as impulsive and compulsive buyers, but we confirmed Matzler (2006) hypothesis that higher openness individuals paid more attention to hedonic aspects of products.

In addition, we examined the moderated role of sex among shopping motivations and Big Five personality traits. Results indicated that sex didn't have a moderated role in this research. This means that sex wasn't an effective factor in shopping procedure among different personality traits.

Finally, we conducted an independence t-Test to determine the differences of personality traits and shopping motivations among males and females. The results were prominent and supported the prior researches. It showed males got higher scores on conscientiousness and openness than females. Besides, as mentioned, females got higher scores on neuroticism, compulsive buying and hedonic shopping values. Analyzed results confirmed the past researches which males tended to be more assertive and risk taking than females whereas females were generally higher than males in anxiety and tender-mindedness (Schmitt et al., 2008). As mentioned, it stated that females tended to be more neurotic and this tendency emerged in compulsive buying. In addition, we mentioned that neurotics were more hedonic, so females are tended to be more hedonic shoppers. Prior researches concluded that males were risk taking and tended to explore unfamiliarity. Our findings supported these results and showed that males tended to be more open toward discovering new areas.

The present study confronted some limitations. One of them was the sample we used. For further studies, we suggest to use different demographics and different university degrees. This can be useful to investigate education's role in personality traits and shopping motivations. Another limitation was about the method of research. Unfortunately, our participants just answered the questions without the perception of conditions. It will be useful and more precious to conduct an empirical investigation by applying experimental and quasi-experimental methods. In addition, we noticed that some items of scales weren't suitable for Iranian society and culture, especially (Persian) translated version of Big Five personality scale wasn't a suitable tool to evaluate personality in Iran. Prior researches about the translated version of Big Five personality approved this claim (Haghshenas, 1999; Joshanloo et al., 2010). Unfortunately, the scale reliability of utilitarian shopping value didn't report sufficient amount of reliability to get minimum levels of confirmation (Churchill Jr., 1979). Despite these limitations, this study found associations among Big Five personality traits and shopping motivations whereas this association wasn't moderate. Also, gender

difference analysis emphasized on prior research findings.

However, this study had a prominent contribution to the interdisciplinary area of marketing and psychology. Although several researches had been conducted to investigate the relationship between personality traits and shopping motivations, the current study employed whole shopping motivation variables which some of which were used in prior research. This allowed us to hold more comprehensive investigations toward further consumer behavior and personology studies.

5. Managerial Implications

In this study, we investigated the impact of personality traits on shopping behaviors and motivations. We conducted t-test to examine the differences between males and females. The results helped managers to set goals and to choose right customers based on their products and personality. For example, the results demonstrated that females were more neurotic and impulsive buyers, but they paid much more attention to the family economic issues (Sweeney, 2002), so manufacturers should produce cheap goods with acceptable quality. Males were more utilitarian and showed more openness (3.55>3.44). They needed goods and services which were more creative, innovative and considered its price, so that products should have more equipment and in some cases, should be multi-purpose. Furthermore, we can use personality traits in computer and console game industry. For example, Japan, Korea, China and South-East Asian countries tend to do their task in work teams, and they have high scores on agreeableness (Robbins & Judge, 2014). But Western countries pay much more attention to individualism, so game studios can produce team work games and PRG (Rol Playing Games) for each specific region. Some businesses such as shopping malls can provide very cheap but good quality products to satisfy their customers impulsive needs when they are neurotic. Also, the results showed that impulsive buying could drive people to compulsive buyers, if it continued.

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