

Deep dive into Extraversion and its Relationship with Impulse Buying Tendency

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Abstract

Most of the research studies the general terms from the Big Five personality traits (Openness, Extraversion, etc.) rather than speculating on their more specific facets. Much evidence shows a significant relationship between extraversion and one's financial well-being, such as impulse buying tendency, without looking at extraversion's specific facets. The present study tested the correlations between extraversion facets (sociability, assertiveness, energy level) and the impulse buying tendency to determine which facets mediate the relationship between extraversion personality traits and impulse buying tendencies. Correlation and linear regression analysis techniques were used to test the hypothesis based on data from 1200 adults who were engaged in online shopping. Results revealed the basis for the role of assertiveness, energy level, and their combination in impulse buying tendency.

Introduction

The study of personality has long been a topic of interest in the psychology research world. Over decades, there has been much empirical evidence to categorize and define the Big Five Personality traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism. Among all the personality fields, there has been an increasing interest in exploring how personality traits impact financial behaviours and performance. Specifically, researchers have examined how certain personality traits may influence financial decision-making, risk-taking behaviour, spending, and other financial activities.

Of all the Big Five personality traits, extraversion has stood out in many financial-related studies. For instance, a study found significant evidence for a positive correlation between extraversion and the amount of debt and financial assets held (Brown & Taylor, 2014). Furthermore, evidence shows that extraversion negatively correlates with household liquid savings (Nyhus & Webley, 2001). Extraversion significantly impacts students' financial decision-making: individuals tend to use short-term borrowing for lifestyle choices (Harrison & Chudry, 2011). Verplanken and Herabadi (2001) showcase evidence of a positive correlation between extraversion and impulse buying tendency (IBT). From the studies mentioned, extraversion could be a powerful indicator of one's financial well-being. In addition, lower liquid savings and borrowing behaviours can have an important relationship with one's spending behaviours.

Impulse buying was a particular purchasing behaviour with at least two core elements. Impulse buying often lacks planning and deliberation concerning impulsively bought products (Verplanken & Herabadi, 2001). Purchases might be unplanned or un-deliberated for numerous reasons; Verplanken and Herabadi (2001) believe the Big Five personality traits could be one of them. Their study, however, briefly found a significant correlation between general extraversion and IBT. Hence, to explore the relationship between extraversion and financial well-being, we aim to investigate the potential link between extraversion and impulse buying tendencies as a starting point.

Yet, just like all the other personality traits, extraversion is a combination of numerous characteristics. According to the definition of BFI-2, extraversion is an umbrella factor with three different facets combined (sociability, assertiveness, and energy level) (Soto & John, 2017). Sociability indicates one's desire to engage with others socially, assertiveness specifies the willingness to express one's personal opinions and goals in social situations, and energy level measures how active or energetic an individual is (Soto & John, 2017). The extent to which facets of extraversion affect IBT remains unclear, and further research is needed to understand this relationship better.

For the present research, we would like to dig deeper into the relationship between three facets of extraversion and two aspects of IBT (cognitive versus affective) (Verplanken & Herabadi, 2001); we hypothesize these three specific facets could be related to impulse buying tendency in various ways. This research will help shed light on the role of focused facets of extraversion in impulse buying tendency and provide insights into how individuals can better manage their spending behaviours based on their extrovert personality traits.

Hypotheses

For the specific topic, we hypothesize that assertiveness positively correlates to both the cognitive and affective facets of IBT (Hypothesis 1). In contrast, sociability and energy level positively correlate only to the affective facet of IBT (Hypothesis 2 & 3). We, in addition, conjectured that individuals with high assertiveness and energy levels would interactively have higher IBT (Hypothesis 4). For testifying our hypothesis, multiple data items containing three facets of extraversion and two aspects of IBT will be collected and analyzed through correlation and multiple linear regression. Facets of extraversion will be used as independent variables, or predictors, of IBT.

Method

Participants

For the study, a sample of 1200 individuals (600 females) from North America was recruited through advertisements on different online shopping sites, such as Amazon, eBay, and Etsy. Participants were instructed to complete two scales to measure their self-reported impulse buying tendency and extraversion. By completing the survey, individuals were asked for consent to join the study with their past buying histories on corresponding sites. A non-mandatory follow-up peer measure was then sent to participants, instructing them to ask their friends or family members to evaluate their extraversion (sociability, assertiveness, and energy level). By conducting pilot interviews before the study, numerous products on those sites will be indicated as "impulsive buying" products and others as "filter" products. Participants' last two-month purchase histories were collected consensually; the number of "impulse buying" products participants purchased was used to indicate impulse buying tendency in the study. Their demographic information, such as age and gender, was collected for controlling variables.

Impulse Buying Products

216 pilot participants (142 females) were interviewed. We introduced and made the pilot participants familiar with the concept of IBT. After that, we showed participants a list containing 50 top-selling product types from the data of Amazon and asked them to indicate the ones that people typically buy on impulse. 25 products with higher indication frequency were recorded and used as “impulsive buying” products. In contrast, the rest of the list was treated as “filter” products. The 25 impulse products were novels, clothes, posters, charms/keychains, plants, flowers, perfumes, make-up, snacks, candy bars, chocolate, cookies, candies, chips, pies, Belgian beers, wine, video games, study books, comics, Blue-rays, software/apps, stationaries/office supplies, DIY sets, and phone accessories. The filter products were shampoo, washing detergent, body lotion, kitchen cleaning set, magazines, grapes, bananas, apples, oranges, ready-made cigarettes, soft drinks, meat/fish, vegetables, coffee, tea, milk, spices, hard liquor, cat litter, pet food, bandage, female hygiene, instant noodles, tissues/toilet paper, and eyeglasses. In the actual study, we reviewed participants’ purchase history and recorded the number of impulse products they bought in two months.

Impulse Buying Tendency Scale

The 20-item impulse buying tendency scale from the research conducted by Verplanken and Herabadi will be reused for analysis (Verplanken & Herabadi, 2001). During their previous research, the scale correlated significantly with reported frequencies of typical impulse products and recent numbers of frequencies of buying. Verplanken and Herabadi (2001) found high operational validity and reliability levels for the scale based on empirical evidence, providing a solid basis for its use. The table included the 20 items from the scale; 10 of them are strongly correlated to cognitive aspects, whereas the other 10 are strongly correlated to affective aspects (See Appendix A). Each item has the response format of a seven-point agree-disagree Likert scale (1 = totally agree, 7 = totally disagree). The coefficient alpha for the scale was .83, and the minimum item-total correlation was .41. In Verplanken and Herabadi’s (2001) study, the test-retest reliability coefficient of this scale was .87.

Extraversion Facets Measure

As previously mentioned, extraversion is a combination factor of three facets according to the definition of the BFI-2 (Soto & John, 2017). To measure these facets for our study, we developed a self-report scale consisting of nine items, with three items for each facet of extraversion. For each item, participants were instructed to rate the item on a 7-point Likert response format (1 = never like me, 7 = always like me). This scale was designed specifically for collecting and analyzing data on the three facets of extraversion. One sample item from the scale for assertiveness is “I am willing to publicly express my thoughts.” A peer-review version of the measure was also used for averaging the data. The coefficient alpha for the scale was .82, and the minimum item-total was .58.

Measurement Model

All data distributions were checked for deviations from normality, abnormal skew, linearity, and irregular kurtosis prior to analyses. Moreover, exploratory factor analysis on the perceived extraversion facets scale and demographic information were conducted at the beginning of the study. Table 1 below presents the Pearson product-moment correlations (Benesty et al., 2009) between the seven measures and their corresponding mean scores and standard deviations.

Table 1 Pearson correlation matrix, mean scores, and standard deviations for constructs included in the study

	1	2	3	4	5
1. Age	-				
2. Gender	.04	-			
3. Sociability	.16*	-.26*	-		
4. Assertiveness	-.04	.14	.36*	-	
5. Energy level	.38*	.03	.48*	.54*	-
Mean Score	45.2	n/a	4.6	5.4	4.43
Standard Deviation	10.34	n/a	1.17	1.33	1.44

Note: * $p < .05$. ** $p < .01$. *** $p < 0.0001$

Gender: 1- male, 0- female.

Results

Investigating demographic variables, we found no significant differences between gender groups ($t = 1.23$, $p > 0.05$) and correlations between different age groups ($r = .12$, $p > 0.05$). A correlation analysis (Freedman et al., 2007) between three types of extraversion personality and three categories of IBT (including total IBT) was then conducted (Table 2). As shown in the table, assertiveness significantly correlated with affective IBT ($r = .37$, $p < 0.01$) and total IBT ($r = .48$, $p < 0.001$), whereas energy level had significant positive correlations with all three IBTs (cognitive: $r = .28$, $p < 0.01$; affective: $r = .29$, $p < 0.01$; total: $r = .37$, $p < 0.001$). Meanwhile, Sociality had no significant correlation with any of the IBTs. Thus, individuals with higher assertiveness will be more likely to purchase based on affective reasons impulsively; individuals who have higher energy levels will tend to purchase impulsively for both affective and cognitive reasons.

Table 2 Correlations of impulse buying tendency with sociability, assertiveness, and energy level

	SC	AS	EL
IBT-cognitive	-.07	.11	.28**
IBT-affective	-.17	.37**	.29**
IBT-total	-.10	.48***	.37***

Note: * $p < .05$. ** $p < .01$. *** $p < 0.0001$

SA - Sociability, AS - Assertiveness, EL - Energy level, IBT-total - number of impulsive products purchased, IBT-cognitive - cognitive aspect scores, IBT-affective - affective aspect scores.

It was hypothesized that IBT would be linked to a combination of assertiveness and energy level. Two linear regression models were constructed concerning these variables to test the hypothesis— (AS - Assertiveness, EL - Energy level, IBT-total - number of impulsive products). The result table is presented in Appendix B.

$$\text{Model 1 (reduced): } IBT_{total} = \beta_0 + \beta_1 AS + \beta_2 EL$$

$$\text{Model 2 (full): } IBT_{total} = \beta_0 + \beta_1 AS + \beta_2 EL + \beta_3 AS * EL$$

- *Assertiveness*: once other variables were held constant, individuals with higher assertiveness were significantly more likely to anticipate impulse purchasing; in other words, they tend to purchase more products impulsively
- *Energy level*: individuals who have purchased impulsively tend to have a higher energy level, given that the level of assertiveness was constant.

From statistically analyzing the first model, we knew that assertiveness and energy level had the main effects on IBT. Then, we would like to compare the first model with the full model, including the interaction term, to see if assertiveness and energy level combined significantly affect IBT. By conducting regression coefficients with F statistics, the interaction term (Assertiveness * Energy level) was significantly negatively correlated with total IBT ($F = 40.23$, $p < 0.05$).

Discussion

The study aims to speculate closely on the relationship between individuals' impulse buying tendencies and the focused definition of extraversion. We gathered data from 1200 individuals who engaged in online shopping and observed their impulse buying tendencies by evaluating their extraverted personality facets.

In the study, correlation and linear regression analyses yield an intriguing pattern of influences; some of them were unexpected. Assertiveness and energy level are found to be significantly correlated to IBT. However, assertiveness has no significant relationship with the cognitive aspect of IBT (Hypothesis 1). Unlike our hypothesis, sociability has no significant relationship with any aspects of IBT (Hypothesis 2). Energy level correlates significantly with both the affective (Hypothesis 3) and cognitive facets of IBT. At last, the effect on IBT from the interaction combination of assertiveness and energy level is significant, as we hypothesized (Hypothesis 4) but inversely. There are no significant influences from demographic factors upon impulse buying tendency. In general, extraversion still correlates significantly positively with IBT in the present study, replicating Verplanken and Herabadi's (2001) study result; the scale we obtained from their study shows a similar predictive power. The measure of individual extraversion facets was invented and used for the first time, but it still obtains a high alpha

coefficient. We, in addition, have a relatively large sample size for the study, providing a higher power for the analysis. Hence, we confidently state that our study is robust and reliable.

Many limitations of the study could be resolved in the future. For instance, the two main scales we used for collecting data were in a self-report manner, meaning many biases (such as Social-desirability bias) could occur as confounding variables. On the other hand, the list of filter and impulse-buying products we created through pilot interviews could fail to represent IBT: concern types of products might be missed out. The study only collected two demographic variables, age and gender, as controlling variables; more commonly used demographic variables could help explain variances in the model.

The negative relationship between the interaction combination and the IBT score still requires explanation. Due to a lack of time and resources, we did not analyze other interactions (such as sociability and assertiveness) in the present study; those interactions could be essential predictors of IBT. Since most of the variables used in the analyses were collected via similar methods (i.e., self-report measure), the result could be affected by the problem of common method variance. Further studies and better data collection designs on the research question are needed to enhance understanding of the relationship between interactions and individuals' impulse buying tendencies. Due to the fact that the sample was recruited only from North America, replications with participants from different cultural backgrounds would be valuable.

In closing, statistical evidence from the present study shows a partial answer to the focused relationship between extraversion and impulse buying tendencies, even though the design requires further improvements. The actual relationship could be much more complex compared to only three facets of extraversion. Still, the research could stress the importance of considering extraversion less generally regarding impulse buying tendencies.

Appendix A: Items from the Two Scales Used in the Investigation.

The Impulse Buying Tendency Scale (Coefficient $\alpha = .83$)

A. Cognitive items

1. I usually think carefully before I buy something. (R)
2. I usually only buy things that I intended to buy. (R)
3. If I buy something, I usually do that spontaneously.
4. Most of my purchases are planned in advance. (R)
5. I only buy things that I really need. (R)
6. It is not my style to just buy things. (R)
7. I like to compare different brands before I buy one. (R)
8. Before I buy something I always carefully consider whether I need it. (R)
9. I am used to buying things 'on the spot'.
10. I often buy things without thinking.

B. Affective Items

11. It is a struggle to leave nice things I see in a shop.

12. I sometimes cannot suppress the feeling of wanting to buy something.
13. I sometimes feel guilty after having bought something.
14. I am not the kind of person who 'falls in love at first sight' with things I see in shops. (R)
15. I can become very excited if I see something I would like to buy.
16. I always see something nice whenever I pass by shops.
17. I find it difficult to pass up a bargain.
18. If I see something new, I want to buy it.
19. I am a bit reckless in buying things.
20. I sometimes buy things because I like buying things, rather than because I need them.

Extraversion Facets Scale (Coefficient $\alpha = .82$)

A. Sociability

1. I enjoy engaging with different types of people and in social activities.
2. I like staying by myself most of the time. (R)
3. Most of the time, I need to take a break after a social interaction. (R)

B. Assertiveness

1. I usually announce my next life goal with my family.
2. When I decide on something, I prefer to keep it to myself. (R)
3. I am willing to publicly express my thoughts.

C. Energy level

1. I often feel energetic doing things.
2. I feel tired most of the time. (R)
3. Things I like motivate me to act.

Note: (R) indicates item is reverse scored.

Appendix B.

Perceived extraversion facets	B	SE	<i>t</i>	sig
CONSTANT	2.162	.581	8.444	.000 **
Assertiveness	.268	.115	2.324	.021 **
Energy Level	.109	.132	2.09	0.037 **

*significant at the 5% level; **significant at the 1% level

$R^2 = 0.236$

Perceived extraversion facets	B	SE	<i>t</i>	sig
CONSTANT	2.000	.531	8.423	.000 **
Assertiveness	.223	.141	2.314	.018 **
Energy Level	.099	0.136	2.12	0.029 **
AS*EL (interaction)	-.535	.009	-5.059	.000 **

*significant at the 5% level; **significant at the 1% level

$R^2 = 0.320$

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