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# The Influence of The Big Five Personality Traits on Consumer Impulsive Buying Behaviour

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# **The Influence of The Big Five Personality Traits on Consumer Impulsive Buying Behaviour**

By

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Submitted to the School of Economics and Business in partial fulfilment of the  
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# **The Influence of Personality Traits on Consumer Impulsive Buying Behaviour**

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## **Student Declaration**

This dissertation is all my own work and all other works discussed or referred to have been cited.

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## Acknowledgments

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It must be said that without the aid of my parents Iouri Philippov and Nadezhda Philippova I would not have had the opportunity to study in Cyprus. I hold them in the highest regard and have the utmost respect for them and will be forever grateful to them for providing me with this great opportunity.

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Thank you and best regards to Neapolis University.

## Abstract

Impulsive buying behaviour has been extensively researched over the past seventy years. Over the last decade, there has been an increasing interest into the psychological influence on impulsive buying behaviour. The objective of this quantitative study was: (1) to assess the influence of personality on impulsive buying behaviour, and (2) to assess the role of gender and their personality traits influence on impulsive buying behaviour. Personality was defined and guided by the empirical principles of the big five model of personality traits, openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. A sample of 150 adult participants, were recruited from a convenience sample and divided on the basis of gender; 75 males and 75 females. They completed three self-administered questionnaires, demographic profile, impulsive buying behaviour questionnaire, and the 50-item IPIP representation of the Goldberg (1992) markers for the big five factor structure. The data was analysed using multiple linear regression and Pearson Correlation analysis. The overall results showed that the big five model of personality explained 15.6% of the variance ( $F(5,144) = 6.509, p < .000$ ). Extroversion positively ( $\beta = .322, p = .000$ ) correlated with impulsive buying behaviour while neuroticism was inversely ( $\beta = -.352, p = .00$ ) correlated. These two traits provided the strongest correlation and best predicted impulsive buying behaviour. Agreeableness ( $\beta = .101, p = .234$ ), conscientiousness ( $\beta = -.008, p = .920$ ), and openness to experience ( $\beta = -.070, p = .407$ ) were non-significant traits. The results for the male participants showed that the big five model explained 20.8% of the variance ( $F(5,69) = 4.891, p = < .001$ ). Extroversion, agreeableness and neuroticism were all significant predictors of impulsive buying behaviour in the males whilst conscientiousness and openness to

experience was not significant. The results for the female participants showed that personality in terms of the big five model explained 11.1% of the variance ( $F(5,69) = 2.847, p = <.021$ ). Extroversion and neuroticism were significant personality trait predictors for females impulsive buying behaviour. Whereas, agreeableness conscientiousness and openness to experience were not. In the Pearson correlation analysis, the results mirrored those of the regression analysis. For the overall and female participants extroversion and neuroticism significantly correlated with impulsive buying behaviour whilst the remaining three traits had no significant correlation. For the male participants extroversion, agreeableness and neuroticism significantly correlated with impulsive buying behaviour. Conscientiousness and openness to experience displayed no significant correlation.

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## **Abbreviations Terms Used**

BFF Big Five Factors

CDP Consumer Decision Process

DV dependent Variable

EPS Extended Problem Solving

FFM Five Factor Model

IB Impulse Buying

IBB Impulse Buying Behaviour

IBT Impulse Buying Tendency

IPIP International Personality Inventory Profile

IV Independent Variable

LPS Limited Problem Solving

MPS Mid-range Problem Solving

SPSS Statistical Package for the Social Science

VIF- Variance Inflation Factor



# Chapter 1: Introduction



## Background

A recent survey conducted by Slickdeals.net revealed that consumers in the U.S on average spend up to \$5,400 a year on impulse purchases across a group of product categories including food/groceries, clothing, household, takeout and shoes (O'Brien, 2018). At the time of the survey the U.S Census Bureau estimated the total population to be 327,589,916 with 230,530,000 consisting people aged eighteen and above (Miller and Washington, 2019). Looking at the numbers and taking them at face value one could conclude that on average up to \$1.245 trillion dollars a year are spent on impulse purchases in the U.S alone.

Likewise, in the U.K a study commissioned by a leading online lender MYJAR.com concluded that Brits spend about two hundred pounds a month on impulse buys resulting in close to £144,000 over their lifetime (Hall, 2018). Furthermore, a survey conducted by Whistl one of the UK's leading delivery management companies found that Brits spend over three billion pounds a month on impulse buys (Whistl, 2017).

It is clear from these numbers that impulse buying holds a great deal of economic importance in the retail world and therefore there is a considerable need to investigate consumer impulse buying. Impulse buying can be defined "as an unexpected and immediate purchase with no shopping intentions either to buy the specific product category or to fulfil a particular buying task" (Beatty and Ferrell, 1998, as cited by Hussain and Siddiqui, 2019).

## **Introduction**

In this chapter, I discussed consumer behaviour, impulsive buying behaviour and the Big Five personality traits, personality, the nature of the research, the research questions, and the formulated hypotheses. This chapter also includes sections on the motivation, purpose, and significance of the research. Followed by a section on the proposed research methodology and the disposition of the dissertation.

### **1.1 Introduction to Consumer Behaviour**

Blackwell, Miniard and Engel (2007), define consumer behaviour ‘as activities people undertake when obtaining, consuming, and disposing of products and services’ (p.4).

Armstrong et al (2009), state consumer buyer behaviour ‘refers to the buying behaviour of final consumers – individuals and households who buy goods and services for personal consumption’ (p.148).

In general terms consumer behaviour refers to the study of “why people buy”, the idea being that if a marketer knows the reasons behind the purchase decision of a product or brand, they can consequently implement strategies to influence the consumer’s decision (Blackwell, Miniard and Engel, 2007).

The study of consumer behaviour is critical to marketers, advertisers and any person or entity involved in selling products. This is evidenced by the fact that there are over 490 million people that make up the European Union consumer market consuming trillions of euro on an annual basis. Where as in America the Consumer market consists of over 308 million people who consume more than \$10 trillion worth of goods and services annually. In total the world



consumer market consists of over 6.4 billion people (Blackwell, Miniard and Engel, 2006; Kotler and Keller, 2012).

In order to ensure a slice of the pie one must be familiar with the intricacies and concepts of consumer behaviour, namely the model of consumer behaviour and the characteristics affecting consumer behaviour.

## 1.2 Introduction to Personality

Wittgenstein 1953, as cited by Pervin and Cervone 2010, suggests that instead of looking for a single definition of the word personality, ‘it is useful to learn from philosophers, who teach that if one wants to know what a word means one should ask how the word is used-and, while looking, one should bear in mind that the one word may be used in a number of different ways.’

There is a consensus among all personality psychologists that the term personality may be defined as ‘to refer to psychological qualities that contribute to an individual’s enduring and distinctive patterns of feeling, thinking, and behaving.’ (Pervin and Cervone, 2010).

Dant, Weaven and Baker 2013, discuss personality as a theorized set of small and stable characteristics, categorized as “dimensions” or “factors” that affects the way an individual behaves in different situations. Tommasel et al. 2015, add that psychology theories defined personality as a combination of emotional, interpersonal, and attitudinal processes that stem from within a person, and results in the main and primary factors that influence behaviour, as it controls how people react, behave and interact with others, and remains stable in adulthood.

Blackwell, Miniard, and Engell 2007, add that it is “an individual’s unique psychological makeup, which consistently influences how the person responds to his or her environment.”

Kanna and Latha 2016, extend that personality can be defined as what a person is and involves their thoughts feelings and behaviours, which result from there interaction with society and other humans.

Meanwhile, the American Psychological Association defines personality as “individual differences in characteristic patterns of thinking, feeling, and behaving.”

By analysing the definitions, we can postulate that personality involves the distinct feelings, thoughts and behaviours of a person which can be influenced by the environment to which the person is exposed. These behaviours remain stable and endearing over extended periods of time.

### **1.3 Title of the Research**

The Influence of the Big Five Personality Traits on Consumer Impulsive Buying Behaviour

### **1.4 Aim of the Research**

The following research is based on the work of Gangai and Agrawal 2016. The previous research was carried out in Delhi and NCR region in India. The purpose of this research is to test whether personality traits as defined by the big five factor model extroversion, agreeableness, conscientiousness, neuroticism and openness to experience have an influence and impact on Impulsive Buying Behaviour. Personality traits are therefore taken as the independent variable and Impulsive Buying Behaviour is the dependent variable.

### **1.5 Motivation for this Research**

During the course of study in the MBA certain subjects and topics caught my eye above others. Thesis subjects were: Leadership and organisational behaviour, Business strategy and Marketing management. It was in these subjects that I learned about my own personality and understood that it has a role in the decisions that I make. Therefore, when tasked with coming up with a topic to write for the proposal I immediately began to search for scholarly articles related to these topics and in doing so stumbled upon a study called:

“The Influence of Personality Traits on Consumer Impulsive Buying Behaviour”

Once I had read the article my interest in the subject grew and I found many other articles that asked the same questions. My curiosity peaked to see whether I could replicate the studies in a different setting and see if the results would be the same or differ in some way.

## **1.6 Research Objectives**

The objectives of this research are:

1. To investigate the influence of the big five personality traits on consumer impulsive buying behaviour.
2. To identify the role of gender and their personality traits influence on consumer impulsive buying behaviour.
3. To compare and analyse the results of previous studies and see if they match under different settings.

## **1.7 Proposed Research Methodology**

I used a descriptive method for this research observing and measuring the variables without any manipulation to the data collected. The information collected included both primary and secondary data, primary data was obtained through the survey method which involved participants in the study completing a set of questionnaires.

I distributed three different questionnaires electronically and manually to gather my sample which characterised to be a convenience sample. The surveys were as follows; The impulsive buying behaviour questionnaire; Five factor personality assessment; and Demographic questionnaire.

I collected secondary data through the use of the internet and the universities library electronic databases. The majority of which were scholarly articles accessed through the university library database, google scholar, and academic books related to the subject matter. I narrowed my

searches by linked full-text scholarly journals (peer reviewed), and by date of publication using the year 2010 as a cut off. For example, a search in the university Discovery service database for “*the influence of the big five personality traits on consumer impulsive buying behaviour*” received 689 responses. I used key search terms such as; *big five personality traits, five factor mode, trait theory, impulsive buying behaviour, consumer behaviour, personality, relationship, and influence.*

## **1.8 Disposition of the Dissertation**

The dissertation is broken down into five main chapters providing continuity and ease of navigation. They are hereafter described briefly below:

### **Chapter 1: Introduction (1.1 – 1.8)**

This chapter introduces the terms and concepts used throughout the research. Furthermore, it includes and explains, the aim and purpose of the research, the motivation and rationale for the research, and provides a brief outline for the methodology used in order to reach the stated objectives.

### **Chapter 2: Literature review (2.1 – 2.3)**

The literature review chapter provides a context for the study. Giving information on the history of Personality, Consumer Behaviour. Moreover, provides an analysis of prior research and works done in the same field of study or those that relate to it.

### **Chapter 3: Research Methodology (3.1 – 3.9)**

This chapter provides a game plan as to how the research objectives and questions will be achieved and answered. The research is descriptive in nature and involves the use of surveys to gather primary data. In addition, it involves some comparative analysis with the work it is based on by Ganagai and Agrawal (2016), to measure differences and similarities. Secondary data is collected through Internet and library searches using various databases to collect information on the required fields.

**Chapter 4: Analysis, discussion of results and findings (4.1 – 4.2)**

In this chapter the results from the research collected through the individual surveys, including personality assessment and impulsive buying behaviour will be presented. The data will be analysed using both descriptive and inferential statistics with the aid of SPSS software. Upon which different tables and diagrams will be used to enable easier understanding of the information and results. The chapter will pave the way forward for discussion in the final chapter to conclude and present recommendations on the study.

**Chapter 5: Conclusions and recommendations (5.1 -.5.5)**

The final chapter provides a conclusion to the research presenting a final report of the results and analysing the information in a way that reaches the mentioned objectives. Furthermore, the chapter discusses some recommendations for future research proposals and the limitations drawn upon in the current research.





## Chapter 2: Literature Review



## **Chapter 2: Literature Review**

### **2.1 Theories of personality**

There are a number of theories and approaches used in the study of personality. They are influenced by different schools of thought (Blackwell, Miniard, and Engell, 2007). Lee, 2009 states that these theories were developed “to explain the structure, process and development of human behaviour” (p.3). They include: psychoanalytic theory, sociopsychological theory, and trait-factor theory. Several other theories exist however for the purposes of this paper only the three mentioned are discussed. As a number of consumer behaviour analysts have found them to be the most useful (Blackwell, Miniard, and Engell, 2007; Schiffman and Kanuk, 2010).

#### **2.1.1 Psychoanalytic theory**

The psychoanalytic theory is credited to Sigmund Freud, who describes the human personality system as consisting of three theoretical constructs: the id, the superego, and the ego (Udo-Imeh, 2015). The id is the basis of psychic energy and pursues immediate gratification for biological and instrumental needs such as sex and aggression (Blackwell, Miniard, and Engell, 2007; Schiffman and Kanuk, 2010). The superego contrasts the id and functions on the moral aspects of behaviour. The superego represents societal or personal norms and ideals that we strive for, as well as setting boundaries that cause guilt if we violate them (Blackwell, Miniard, and Engell, 2007; Pervin and Cervone, 2010). Lastly the ego acts as a balance to the id and superego, whereas the id operates on the pleasure principle and the superego seeks perfection, the ego seeks reality (Pervin and Cervone, 2010). The ego “considers the cost and benefits of

an action in terms of what is socially acceptable before deciding to act upon or abandon impulses” (Udo-Imeh, 2015). It is said to act on the principle of reality.

### **2.1.2 Sociopsychological theory**

Sociopsychological theory contends that there exists an interdependence between the individual and society. The individual seeks to satisfy the needs of society, whilst society aids the individual in achieving their own personal goals. The theory differs from psychoanalytic theory in two main respects. Firstly, social factors rather than biological instincts are defined as the most important determinants in forming personality. Secondly, needs are achieved through behavioural motivation. (Blackwell, Miniard, and Engell, 2007).

### **2.1.3 Trait factor theory**

Pervin and Cervone 2010, define a trait “as an enduring psychological characteristic of an individual; or a type of psychological construct that refers to such characteristics.” Blackwell, Miniard, and Engell 2007, state that a trait is “any distinguishable, relatively enduring way in which one individual differs from another.” Thus, it is said that the trait theory is a quantitative approach to personality, which suggests that an individual’s personality comprises of predisposition attributes known as traits (Blackwell, Miniard, and Engell, 2007).

Through the history of personality, theorists have identified thousands of traits exhibited by individuals such as gentle, trustful, and timid etc. However, these theorists have been able to come to agreement and reduce the number to just five basic traits. They are now the most

famous and widely used approach towards measuring personality traits, known as the “Big Five” personality traits or “Five Factor Model” (Wolf and Kim, 2012).

This study focuses on trait factor theory as it has been recognized as the primary basis of marketing personality research (Blackwell, Miniard, and Engell, 2007).

### **2.1.4 The Big Five Factors of Personality**

The Big Five Factors of Personality are credited to the work of Costa and McCrae they envision five main personality traits that and individual exhibits. These are:

1. Openness to Experience
2. Conscientiousness
3. Extraversion
4. Agreeableness
5. Neuroticism / emotional stability

Migliore 2011, described the ‘Big Five’ as providing a reasonably comprehensive taxonomy of personality traits, while Larsen & Buss 2010, credited the Big Five’ with “achieving the greatest degree of consensus of all traits taxonomy.” The traits have enjoyed a wide range of application and have been found to be both valid and reliable.

People high in Openness to Experience are describes as being intellectually curious, open to new ideas, having creative and imaginative styles of cognition (Migliore, 2011). Bozionelos

2004, adds that they exhibit such characteristics as having a wideness of interests, open-mindedness and are adventure seeking.

Conscientiousness describes people as having a tendency towards productivity, achievement oriented, obedient and disciplined (Bozionelos, 2004). People ranking high in conscientiousness are described as being organized, careful, serious and dependable (Bozionelos, 2004; Tommasel et al., 2015; Wolff and Kim, 2012).

Extroversion is described by Wolff and Kim 2012, as the tendency of an individual to seek and approach social situations. People high in extraversion are said to exhibit such traits as having high energy, sociability, and exuding confidence (Bozionelos, 2014).

According to Migliore 2011, agreeableness refers to an individual's display of concern towards social harmony and cooperation with others. People high in agreeableness are described as having the following traits; selflessness, friendliness, modesty and trust (Bozionelos, 2014).

Migliore 2011, described neuroticism as excessive worry which leads towards mental distress, inability in coping with daily activities, and emotional suffering. The traits exhibited by people ranking high in neuroticism are; pessimism, experience of negative emotions, excessive worry and anxiety (Bozionelos, 2014; Tommasel et al., 2015).

## 2.2 Consumer behaviour

Sarker et al 2013, define consumer behaviour as the decision process and acts of people involved in buying and using products. In other words, it involves the purchasing and consumption activities of people involved in the exchange process. Alternatively, consumer behaviour may be defined as a “field of study that focuses on consumer activities.” (Blackwell, Miniard, and Engel 2007, p4).

The activities of the consumer are motivated in some way or have some sense of purpose, the behaviour is targeted towards a goal of obtaining products or using services. (Sarker et al 2013)

Consumer behaviour is the core focus of a firms marketing program. The success of the firm is heavily reliant upon how well it understands its consumers. Therefore, knowledge of consumer behaviour provides for an increased advantage in the planning and implementing of marketing strategies. As well as, being central to the marketing concept – “the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives.” (Blackwell, Miniard, and Engel 2007, p4).

The knowledge of consumers should focus on how people make their decisions to spend their available resources (time, money, effort), this involves answering the questions of;

What they buy? Why they buy? When they buy? How often they buy? How often they use it? How they evaluate it after the purchase? How they dispose of it? (Singh, Dhayal, and Shamim, 2014).

### **2.2.1 Factors Affecting Consumer Behaviour**

A popular coined phrase is that of “the consumer is king”. To translate this in the context of business, would be to say that businesses ignorant of consumer’s preferences are unable to fulfil their obligations in a meaningful and responsive manner. (Schiffman and Kanuk, 2010).

There are four main factors that influence a person’s buying behaviour. These are:

- Cultural factors - include a consumer’s culture, subculture and social class. Certain behaviours, values, perceptions and wants are heredity and instilled from a young age by family and other important groups.
- Social factors - include groups such as reference groups, family, roles and status. A customer’s behaviour may be affected from the outside influence they receive from certain groups they associate with.
- Personal factors - include variables such as age and lifecycle stage, occupation, economic status, lifestyle, personality and self-concept. Such variables can explain changing consumer preferences as one’s situation changes.
- Psychological factors - include motivation, perception, learning, beliefs and attitudes. Customers have inherent beliefs and attitudes towards certain products, these help to develop product and brand preferences. (Singh, Dhayal, Shamim, 2014; Sarker et al, 2013).

•

### 2.2.2 Consumer Decision Process (CDP)

The CDP refers to the process a consumer goes through when purchasing a product or using a service. It acts as a road map of “consumer’s minds that marketers and managers can use to help guide product mix, communication, and sales strategies.” (Blackwell, Miniard, and Engel 2007, p70).

The process involves seven stages: Need recognition, search for alternatives, pre-purchase evaluation of alternatives, purchase, consumption, post-consumption evaluation, and divestment.

**Figure 1:** Consumer Decision Process (CDP)

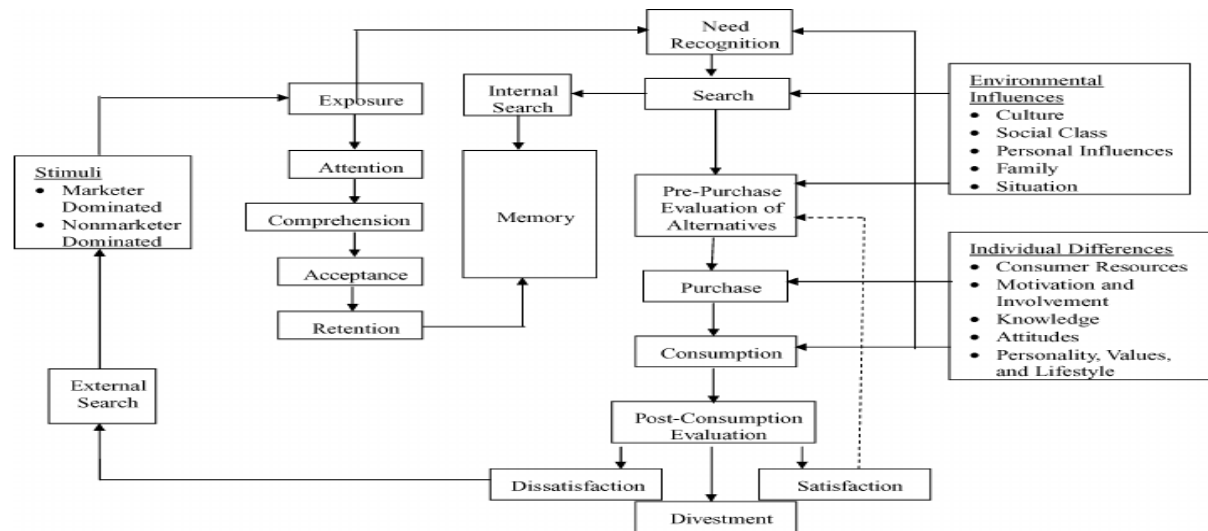


Source: (Blackwell, Miniard and Engell, 2007)



A more comprehensive framework of the CDP is depicted in the figure below:

**Figure 2:** Comprehensive Framework of the Consumer Decision Process (CDP)



Source: (Blackwell, Miniard and Engell, 2007)

N.B: (For the purposes of this research the concentration is focused on the individual differences namely personality and its effect on consumers decisions.)

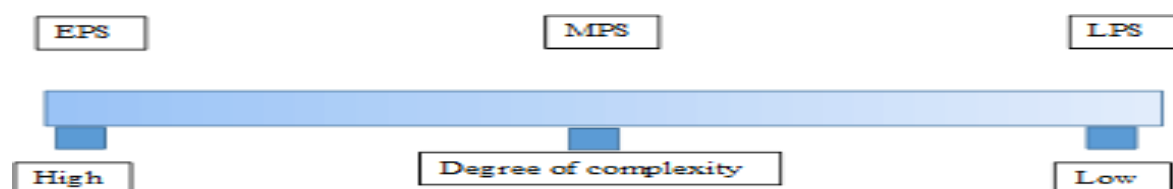
### 2.2.3 Types of Decision Process

There are three decision making processes for initial purchases. These are:

- Extended Problem Solving (EPS). EPS occurs when the decision process involves a high degree of complexity. It is often used for products that have a high cost attached to them such as cars and personal computers.
- Limited Problem Solving (LPS). LPS occurs when the decision process involves a low degree of complexity. It often occurs in situations where the time available to make a decision is limited as well as the possibility to search for alternatives.
- Midrange Problem Solving (MPS). MPS falls between EPS and LPS the degree of complexity is neither high nor low. An example of which is the decision to watch a movie. It takes little time to find out what is playing and where however there are several alternatives from which to choose from.

The diagram below illustrates the types of decision-making processes:

**Figure 3:** Types of Decision-Making Processes



Adapted from: (Blackwell, Miniard and Engell, 2007 p,89)

## 2.2.4 Impulsive Buying Behaviour

An impulse purchase refers to “an unplanned, spur-of-the-moment action triggered by product display or point-of-sale promotion.” (Piron, 1991)

Impulse purchases fall into the category of LPS as by definition they are unplanned and hence involve a low degree of complexity in the decision process.

Impulse purchasing has five main characteristics:

1. A sudden and spontaneous desire to act accompanied by urgency.
2. A state of psychological disequilibrium in which a person can feel temporarily out of control.
3. The onset of conflict and struggle that is resolved by an immediate action.
4. Minimal objective evaluation, with emotional consideration dominating.
5. A lack of regard of consequences.

(Rook and Hoch, 1985).

Sofi and Nika 2016, describe IB as being an instantaneous decision-making process that takes fairly little time and is similar to grabbing an item without cautiously selecting it. Furthermore, they add that it is emotionally oriented, with reckless sentiments persuading consumers to instantaneously buy a specific product. Kanna and Latha 2016, submit that IBB involves a sudden urge to make an unplanned purchase after seeing a product in a retail outlet.

Kacen and Lee 2002, describe IB as being more arousing, less deliberate, and more irresistible buying behaviour as compared to planned purchasing behaviour.

Studies have shown that IB accounts for up to 80% of all purchases in certain product categories (Kacen and Lee, 2002).

### **2.3 Previous research and studies on personality and impulse buying behaviour**

Gangai and Agrawal 2016, conducted a similar study on the influence of personality traits on consumer IBB, using Delhi and NCR region in India as a sample pool. The objectives of their research were twofold: (1) to investigate the influence of personality traits on consumer IBB, and (2) to identify the role of gender and their personality traits influence on IBB. In order to achieve their objectives, the researchers randomly collected a sample of 120 individuals dividing them into two groups based on gender; 60 males and 60 females.

The research procedure involved two sets of standardized questionnaires: (1) Impulsive Buying Behaviour Questionnaire, and (2) Eysenck's Personality Questionnaire-R (EPQ-R).

The IBB questionnaire was used to determine the inclination of the individual's tendency towards IBB, classifying them as either prone to IBB or not. The second EPQ-R questionnaire was used to identify the personality traits most exhibited by the individual. These traits consist of four parameters such as E (Extraversion); N (Neuroticism); P (Psychoticism) and lie scale. The scoring for the EPQ-R followed the procedure and scoring key for the respective form used.

In order to analyse the data descriptive and inferential statistics were used taking into account Mean, SD, Correlation, and Student's 't' test to divide the data for male and female participants.

SPSS 16.0 was used for the analysis and the data compared between male and female for each of the personality factors with IBB.

The results of the study proved that for both males and females the variables of psychoticism and neuroticism had a high correlation with the variable of IBB. Revealing for males a significant relationship of ( $r=0.481$ ) between psychoticism and IBB, and ( $r=0.520$ ) between neuroticism and IBB. Whereas for females the relationship revealed was ( $r=0.373$ ) between psychoticism and IBB, and ( $r=0.282$ ) between neuroticism and IBB.

On the other hand, the study revealed that there was no significant correlation for both males and females between the variable of extraversion and IBB. Providing a result of ( $r=0.193$ ) between extraversion and IBB for males, and ( $r=-0.31$ ) for females. Thus, the third hypotheses of the current study formulated as: There is no significant relationship between extraversion and IBB.

Thus, the study concluded that the major personality traits influence on IBB where those of psychoticism and neuroticism. Explaining that individuals exhibiting neuroticism are characterised as being depressed, low self-esteem, and moody which leads to them trying to change their emotions through the act of shopping, and consequently results in IBB (Sneath, Lacey and Kennett-Hensel, 2009 as cited by Gangai and Agrawal, 2016). For this reason, the fourth hypotheses formulated for the current study as: There is a significant relationship between Neuroticism and IBB.

Furthermore, it proved that the role of gender plays a role between personality traits and their influence on IBB, as the results exhibited a significant difference between the males and

females. Concluding that males exhibiting psychoticism and neuroticism are more likely to partake in impulsive buying than females that have the same traits.

Udo-Imeh 2015, conducted a study on the “Influence of Personality on the Buying Behaviour of Undergraduate Students” the study was conducted in Cross River State, Nigeria. Although it did not focus directly on IBB the results of the study proved useful in the context of consumer behaviour. The purpose of the study was to assess the effect of personality on buying behaviour. To achieve this the Big Five was used to measure personality and a sample of 323 undergraduate students was used. The methodology involved three questionnaires: (1) BFF test; (2) Buying behaviour questionnaire consisting of 10 statements; and (3) Demographic questionnaire.

The research involved using the BFF traits OCEAN as the independent variable and buying behaviour as the dependent variable to conduct a regression analysis. The results concluded that personality indeed significantly influences buying behaviour indicating that agreeableness is the strongest of the five predictor variables whilst neuroticism is the weakest. Additionally, the study revealed the socio-demographic variables have a significant effect on the influence of personality on buying behaviour. Essentially the study proved that knowledge of the BFF can be used by marketers to predict the buying behaviour of individuals and thus better create marketing programmes for their products.

In their own study in Nigeria Onu, Akhemien, and Orji 2014, found similar results confirming those of Udo-Imeh. Their study concurred Udo-Imeh’s indicating that personality plays a

significant role in the consumer buying behaviour. They attributed this to the fact that consumers have different personality traits which reflects upon their buying behaviour.

Shehzadi et al, 2016 conducted a study titled “Impact of Personality Traits on Compulsive Buying Behaviour: Mediating Role of Impulsive Buying”.

The purpose of the study was to investigate the relationship between personality traits and compulsive buying behaviour with a mediating role of impulsive buying. However, in doing so still tested the relationship between personality traits and impulsive buying. To achieve this a quantitative research approach using convenience sampling method was used. The data was analysed in terms of correlation coefficient and multiple regressions to analyse the directions of strength between the variables. The total sample size was 300 out of which 200 responses were accepted and used in analysis. The results revealed the following:

- Extroversion and impulsive buying are not significantly correlated displaying a correlation coefficient value 0.128 and  $p = 0.070$ .
- Agreeableness and impulsive buying are significantly correlated as the correlation coefficient value is 0.254 and significant because  $p = 0.000$ .
- Conscientiousness is not significantly correlated with impulsive buying as the value of correlation is 0.109 and  $p = 0.124$ .
- Neuroticism is positively correlated with impulsive buying as the value of correlation coefficient is 0.539 and the  $p$  value = 0.000.
- Openness to experience is significantly correlated with a coefficient value of 0.328 and  $p = 0.000$ .

Furthermore, regression analysis confirmed the results concluding that there is a relationship between agreeableness and impulsive buying as well as, neuroticism and openness to experience with impulsive buying. The results of the analysis can be viewed in the table below.

Table Regression results.

	Impulsive buying	
Predictors main effects:	R <sup>2</sup>	$\beta$
Agreeableness	0.065***	0.254***
Openness to experience	0.107***	0.328***
Neuroticism	0.214***	0.330***

\*\*\* represents significant relationship.

(Source: Taken from Shehzadi et al, 2016).

The results indicate R<sup>2</sup> 0.065 which means that 6.5% variation in impulsive buying behaviour can be attributed to agreeableness trait of a customer and is significant as p value = 0.000. This is significant as a p value less than  $\alpha = 0.05$  is considered significant. The  $\beta$  value 0.254 means that if the agreeableness trait of a customer changes in value by one unit, then impulsive buying will increase or decrease by 0.254 units depending on the direction of the change. Moreover, the results display that openness to experience explains 10.7% of the variation in impulsive buying behaviour, while neuroticism explains 21.4%.

Kanna and Latha 2016, found similar as well as contradicting results in their study titled

“The Influence of External Factors in Impulse Buying Behaviour with Respect to Personality Traits”. Their study revealed that there does exist a relationship between personality traits and



impulsive buying. However, their test results concluded that people with extroverted personality traits are more likely to make impulse purchases than others. This result differs from that of Shehzadi et al 2016.

On the whole the literature concludes that there is a general consensus that there exists a relationship between personality traits and impulsive buying behaviour. However, the results of the different studies differ in terms of which traits are the main predictors or explaining variables of impulsive buying behaviour. The current study takes into account the previous literature and studies for the formulation of the hypotheses discussed in the methodology chapter of the paper.

### **2.3.1 Gender and Impulse Buying Behaviour**

One of the objectives of the present research is to identify the role of gender and their personality traits influence on consumer IBB as such a brief review of previous literature is discussed below.

Literature has proven to be inconsistent to whether there is any significance between the role of gender and IBB. Several studies have proved that there is in fact a significance however others have also concluded that there is no significance or relationship.

Mitchell and Walsh 2004, found that there are differences between genders in the consumer decision making process. Lin and Lin 2005, concluded that there is indeed a relationship between gender and impulsive buying tendency. Gandhi, Vajpayee and Gautam 2014, found that gender had a significant impact on impulse purchases of customers, with results proving

that female shoppers tended to make more impulse purchases than males. Similarly, Lin and Lin 2005, results indicated that females impulsive buying was significantly higher than males. On the other hand, in relation to gender and personality Gangai and Agrawal 2016, found that males exhibiting the same traits as females were more likely to make impulse purchases.

By contrast, studies that prove to indicate no significance between gender and IBB include that of Verplanken and Herabadi 2001. They conducted two studies one in the Netherlands and a second in Norway to investigate individual differences in IBT. The study in the Netherlands indicated that females IBT was statistically higher than for males, whereas the same study in Norway proved that there were no statistical differences between females and males IBT. Furthermore, similar study conducted by Geetha and Bharadhwaa 2016, indicated that gender does not have an effect on impulse buying. Whereas, Prajapati and Rathod 2013, found no statistical significance in differences between male and females in relation to IBB.

In order to provide some conclusive evidence as to whether gender has a significant role further studies and analysis is required. At the moment previous research and literature appears to be divided.



## Chapter 3: Research Methodology



## **Chapter 3: Research Methodology**

### **3.1 Research approach**

The research approach is that of replication which draws from the literature reviewed and elements of duplication, generalisation and extension are used. Replication is associated with duplication which involves taking a piece of published research and repeating it, typically in an identical fashion to see if the results obtained are the same as the original authors. In this case the primary research being replicated is that of Gangai and Agrawal 2016, “The Influence of Personality Traits on Consumer Impulsive Buying Behaviour” and as a secondary source Udo-Imeh 2015, “Influence of Personality on the Buying Behaviour of Undergraduate students in Universities in Cross River State, Nigeria”. Although other authors studies are also incorporated. However, the research does not replicate that of the afore mentioned identically. It aims to draw generalisations from those studies and examine whether their findings hold across a different population, setting/contexts, and time. Furthermore, the research extends upon the previous authors to analyse different variables which have been recommended by those authors for future research and provides a unique original perspective to the topic.

This approach is suitable for the current research as the afore mentioned studies as well as the majority of the studies reviewed in the literature have clearly set out research strategies. Meaning that the research design, sampling strategies, methods, measurement procedures and measures used were clearly defined and described as well as the data analysis techniques used in those researches. Thereby allowing for them to be replicated to a certain extent.

Furthermore, by drawing generalisations and extending upon previous studies this research will add to the field of study. Firstly, by drawing generalisations across populations if the current

research confirms the results of the previous studies to the sample population used in this study it will solidify the theories. On the other hand, if the results differ it may indicate that further investigation and research is required to back up the theories. Secondly, if this study confirms the prior studies results then it can be concluded that those theories are universal or by the very least provide evidence towards that conclusion as the setting and context of this study ultimately differs. Moreover, it can answer the question of whether or not the results hold over time? By being able to make such a generalisation the theories are further solidified and backed up by additional evidence. Lastly, by extending upon the previous researches the current study adds a great deal of originality to the field of study by adding towards the topic of discussion and provides a basis for further research.

The remainder of this chapter will discuss the research strategy, aims and objectives and the hypotheses that will be tested. The previous chapter discussed the literature and touched upon the strategy used by previous researchers. Therefore, the similarities and differences will become evident moving along this chapter and a deeper understanding of the research approach will be achieved.

### **3.2 Research Objectives**

As the research approach selected is that of replication the primary objective is to analyse whether or not the results of the previous studies are the same. Thus, the objectives of this research are:

1. To investigate the influence of personality traits on consumer impulsive buying behaviour.
2. To identify the role of gender and their personality traits influence on consumer impulsive buying behaviour.
3. To identify whether the results of the previous studies can be generalised across populations, different settings/context and time.

### **3.3 Research Questions**

Q: 1) Do the big five personality traits influence consumer impulsive buying behaviour?

Q: 2) What is the role of gender and their personality traits with respect to influence on consumer impulsive buying behaviour? (Do males and females with the same personality traits exhibit different results in impulsive buying behaviour?)

### 3.4 Hypotheses

The following hypothesis are formulated for the study:

**H1<sub>0</sub>:** There is no significant relationship between BFF personality traits and consumer IBB.

**H1<sub>a</sub>:** There is a significant relationship between BFF personality traits and consumer IBB

**H2:** There is a significant difference of personality traits between gender and their impulsive buying behaviour.

**H3<sub>0</sub>:** = There is no significant relationship between Extroversion and IBB.

**H3<sub>a</sub>:** = There is a significant relationship between Extroversion and Impulsive IBB.

**H4<sub>0</sub>:** = There is no significant relationship between Agreeableness and IBB.

**H4<sub>a</sub>:** = There is a significant relationship between Agreeableness and IBB.

**H5<sub>0</sub>:** = There is no significant relationship between Conscientiousness and IBB.

**H5<sub>a</sub>:** = There is a significant relationship between Conscientiousness and IBB

**H6<sub>0</sub>:** = There is no significant relationship between Neuroticism and IBB

**H6<sub>a</sub>:** = There is a significant relationship between Neuroticism and IBB

**H7<sub>0</sub>:** = There is no significant relationship between Openness to Experience and IBB

**H7<sub>a</sub>:** = There is a significant relationship between Openness to Experience and IBB

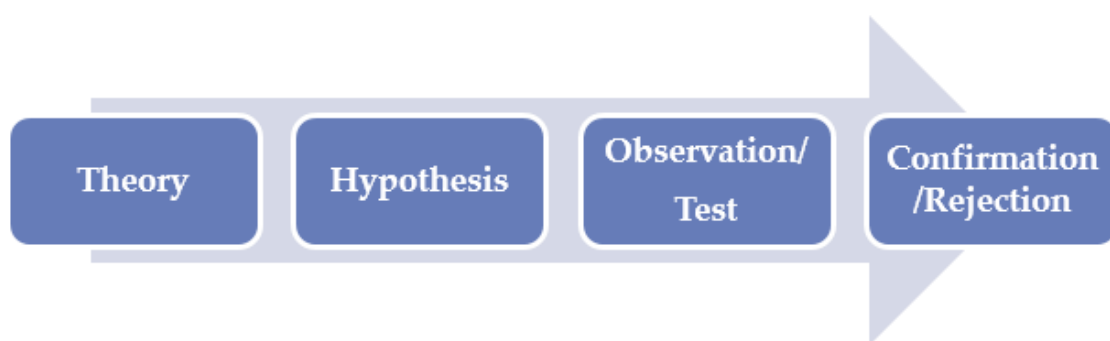
### 3.5 Research Design

There are two main approaches used in business research: Deductive approach (Deductive reasoning), this approach is concerned with “developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis” (Wilson, 2010).

Alternative to the deductive approach is inductive, this method firstly collects data and follows by developing theory based on the data. The focus of which is to explain the data so as to form a model or framework for recommendation (Saunders, Lewis and Thornhill, 2003).

The following research adopts the deductive approach whereby the researcher formulates a set of hypotheses at the start of the research. Then, relevant research methods are chosen and applied to test the hypotheses in order to prove them right or wrong.

**Figure 4:** Deductive Research Approach



(Source: <https://research-methodology.net>, 2020)

In this case the theory is taken from an extensive literature review suggesting that there is a relationship between two variables, that of the dependent (Impulsive buying) and the



independent (Personality traits). The hypotheses were then formulated and relevant tests carried out to determine confirmation or rejection of the theory.

### **3.6 Type of Research**

Both qualitative and quantitative data are important in the research of social and behavioural sciences, and are essential to understanding behaviour and advancing the sciences (Wienclaw, 2017).

Quantitative research is described of comprising studies in which observations are measured in numerical form, using methods such as physical dimensions and rating scales. It deals with numbers, logic and an objective stance. The results from quantitative research are often analysed through the use of inferential statistics.

Qualitative research enables the researcher to look deeper into the data however gives less control over the research, the observations in the studies cannot be quantified, that is, expressed in numerical form as opposed to quantitative research (Wienclaw, 2017).

As the research aims to measure and analyse the relationship between two different variables the dependent (Impulsive buying behaviour) and the independent (personality traits), in terms of Extroversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience, the research is quantitative in nature. Both variables can be measured in terms of numerical data using a scale to define the constructs. Further it is descriptive as the study only establishes associations between the variables as opposed to causal relationships and uses the survey method in order to gather data.

### **3.7 Research Process**

Convenience sampling a type of Non-Probability sampling was used to conduct the research. This is when individuals are selected due to their convenient accessibility and closeness to the researcher. Respondents were selected based by two key demographic variables namely proficiency in the English language and age.

Age was chosen as a variable as previous studies have already come to consensus that a respondent must have easy access to money and it is assumed that those who are dependent on their parents do not qualify as being Impulse Buyers.

An extensive review of the literature on personality research and buying behaviour studies was carried out to select the best instruments that have proven to be both reliable and valid. These were namely three questionnaires:

- A. The Big Five Factor personality test
- B. The Impulsive Buying Behaviour questionnaire
- C. Demographic questionnaire

### 3.7.1 The Questionnaires

Questionnaires were uploaded onto an account on google forms which allowed the researcher to collect samples by sending links of the questionnaire to a network of people throughout the university and surrounding area. Additionally, the researcher collected samples in person by handing out hard copy tests to respondents. Only completed questionnaires were accepted for the research, a total of 150 complete responses was collected.

- A. The BFF personality test measured personality traits of respondents. This test was selected as it is regarded by past researchers as providing evidence to a relationship between certain traits exhibiting a describable personality characteristic. This test was taken from the International Personality Pool (IPIP), which assess personality based on the Big Five model created by Costa et al. The IPIP version of the test further increases the probability of the test having valid responses. This is due to the fact that it uses both +keyed and – Keyed item selection encouraging respondents to pay attention when answering. Furthermore, the items that measure each of the five factors are displayed randomly not in a row. This aide's validity as respondents cannot easily see which item is measuring which factor thus providing differentiated results. As opposed to respondents seeing the items measuring each construct listed together and answering the same on the scale e.g. Very Inaccurate to Very Accurate, so as, to get the score that they want or factor they wish to describe themselves (<http://ipip.ori.org>, 2020).
- B. The Impulsive Buying Behaviour questionnaire was taken from the study of Gangai and Agrawal 2016, who had created 11 questions that acknowledge the impulsive purchase and buying behaviour of consumers. The questions had empirical support

from prior researchers and responses were measured using a five-point Likert scale, which ranged from Never= 1 to Very Frequently= 5.

- C. Demographic questionnaire, this section uses multiple choice questions to measure six socio-demographical information. These are: gender, age, marital status, income, level of education, and nationality.

(N.B: Refer to appendices to view illustration of how the questionnaires were administered)

**Figure 5:** Empirical Support for the Impulsive Buying Behaviour Questionnaire

	Questions	Empirical Support (Question Number)
1	I often buy things spontaneously.	Taushif and Gupta, 2013; Rook and Fisher (1995) (1-6)
2	“Just do it” describe the way I buy the thing.	
3	I often buy things without thinking.	
4	Sometimes I feel like buying things on the spur of the moment.	
5	Sometimes I am a bit reckless about what I buy.	
6	If I see something I want, I buy it.	
7	I go shopping to change my mood.	Youn and Faber, 2000 (7-9)
8	I feel a sense of excitement when I make an extra purchase.	Han et al., 1991; Rook and Hoch, 1985; Weun et al., 1998; Youn & Faber, 2000 (10)
9	After I make an extra purchase I feel regret.	Beatty & Ferrel, 1998; Youn & Faber 2000 (11)
10	I have difficulty controlling my urge to buy when I see a good offer.	
11	When I see a good deal, I tend to buy more than that I intended to buy.	

(Taken from: Gangai and Agrawal, 2016)

### 3.8 Reliability and Validity

In order for research data to be of value and use, the measuring device or instrument used as part of the data collection process must be both reliable and valid.

Reliability refers to the degree of which the results obtained by a measurement and procedure can be replicated (Bolarinwa, 2015). In other words, if the test were performed a second time would the results be the same or similar to the degree there is no large change. Reliability is an important contributor to the validity of a questionnaire however it is not sufficient condition for the validity of a questionnaire.

Validity refers to the degree of which a measurement tool measures what it aims to measure. For example, do the questions relating to Extroversion actually measure the factor in consideration? If so then they are deemed to be valid. There are several types of validity including face validity, construct validity, content validity and criterion validity. These validity tests are categorised into two broad components namely; internal and external validity (Bolarinwa, 2015). Internal validity refers to how accurately the measures obtained from the research was actually quantifying what it was designed to measure whereas external validity refers to how accurately the measures obtained from the study sample described the reference population from which the study sample was drawn (Wong, Ong and Kuek, 2012). It is said that tests that are valid are also reliable however reliable tests are not always valid.

The most commonly used measure of internal reliability is Cronbach's alpha. It is used in cases when a questionnaire has a Likert scale and the researcher wishes to determine if the scale is reliable. According to Tavakol and Dennick 2011, there are different reports about the acceptable values of alpha, ranging from .70 to .95. Udo-Imeh 2015, states that Cronbach's

alpha above .70 indicates high reliability, Cronbach's alpha in the range of .55 - .70 is acceptable and below .54 is not. The table below shows the Cronbach's alpha coefficient was above .650 across all the dimensions of the measurement instruments and variables measured and thus considered sufficient and adequate for the study.

**Table 1:** Reliability of the BFF Questionnaire

Cronbach's alpha and mean item intercorrelations for the Big Five personality traits and research scores

Personality Trait	Number of Items + -	Cronbach's Alpha	Cronbach's Alpha Research Score	Mean Item Intercorrelation	Mean Item Intercorrelation Research Score
Extroversion	5+5 = 10	.87	.85	.40	.36
Agreeableness	6+4 = 10	.82	.77	.31	.26
Conscientiousness	6+4 = 10	.79	.74	.29	.23
Neuroticism	2+8 = 10	.86	.81	.38	.30
Openness	7+3 = 10	.84	.78	.34	.27
Total/Mean	26+24 = 50	.84	.79	.34	.28

Note. Cronbach's alpha and item intercorrelations sourced from

<https://ipip.ori.org/newBigFive5broadTable.htm>, 2020

The numbers under the “+ -“ heading indicate the number of positively and negatively items in the scale. For example, “2+8 = 10” indicates that there are 2 positively keyed items and 8 negatively keyed items, for 10 total items.

**Table 2:** Reliability of the IBB Questionnaire

Research scores for Cronbach’s alpha and mean item intercorrelations for Impulsive Buying Behaviour

IBB Number of Items	Cronbach’s Alpha	Mean Item Intercorrelation
11	.88	.40

### 3.9 Data Analysis and Collection

IBM SPSS Software was used to test the hypotheses. This software was selected as it offers advanced statistical analysis and is easy to use for users of all skill levels.

Once all the responses to the questionnaires were collected, they were transferred into the SPSS software in the appropriate manner. This involved creating columns and rows to input the data for the dependent variable (IBB) and the independents variables (BFF). The data was coded using a number system and according to the type of variable and descriptions of each variable were given. For example, in the demographic questionnaire the first question what is your gender? There are two options male and female. In this case male was coded as 1 and female was coded as 2. This same method was used for the rest of the demographic questions.



In the case of the IBB and BFF questionnaires the answers were coded according to the Likert scale whereby 1 = Never and 5 = Very frequently, and respectfully 1 = Disagree and 5 Agree. However, for the BFF questionnaire certain questions are worded negatively and thus required reverse coding to provide the correct and required result.

For example, in the Neuroticism variable of the BFF the fourth statement “I get stressed out easily” an answer of 5 (Agree) indicates that the person is high in neuroticism and is consequently reversed to 1 (Disagree). This is done in accordance with the scoring instructions on calculating the results for the BFF test. (Please refer to appendices 4 for detailed instructions on the calculations) Thus in order to display the data correctly I transformed the data by recoding into the same variable for those scores that were reversed scored. Following that I computed the variables extroversion, agreeableness, conscientiousness, neuroticism, and openness to experiences as per the instructions set out in the IPIP.

Furthermore, the data was characterized as nominal, ordinal or scale variables.

Following the coding and input of the data into the software I ran a regression analysis and Pearson correlation, using the F test and P value approach to test the hypothesis. In order to test the differences between the male and female respondents I split the data to compare groups based on gender and reran the regression analysis and Pearson correlation.

The P-value approach involves determining “likely” or “unlikely” by determining the probability – assuming the null hypothesis were true – of observing a more extreme test statistic in the direction of the alternative hypothesis than the one observed (Field, 2013)

If the P-value is small, say less than or equal to  $\alpha$ , then it is unlikely. And, if the P-value is large, say more than  $\alpha$ , then it is likely (Field, 2013)

If the P-value is less than or equal to  $\alpha$ , then the null hypothesis is rejected in favour of the alternative hypothesis. And if the P-value is greater than  $\alpha$ , then the null hypothesis is not rejected. The null hypotheses may be stated as  $H_0: p = 0$ , and alternate hypotheses  $H_a: p \neq 0$ .

The statistical settings for this study was  $\alpha = 0.05$  for all hypotheses. Using G\*Power 3.1.9.7 I conducted a power analysis using a statistical power  $= .80$ , a medium effect size or  $f^2 = .15$  and five predictors or IVS (the BFF traits). The results of the power analysis indicated that the sample size should be 92 participants. This study's sample size was 150 participants and this met the statistical settings. However, the research further split the sample group by gender to test their differences and as such two further separate sample sizes of 75 participants was used. The purpose of the power test is to determine the needed sample size in order to ascertain the probability that the tests will find an effect in the population assuming one exists (Field, 2013).

Prior to testing the hypotheses, I checked the data to ensure that all the assumptions for multiple linear regression were met.

The data met the assumption of independent errors (Durbin-Watson value = 1.798 total participants; 1.831 male participants; 1.785 female participants) The Durbin-Watson test statistic is used to test the assumption of independent errors, values significantly differing from 2 are considered to be problematic (Field, 2013) I concluded that the above values were close to 2 and definitely not significantly different to 2 that the assumption was met and I could move on with my analysis.

The histogram of standardised residuals indicated that the data contained approximately normally distributed errors, as did the normal P-P plot of standardised residuals, which showed points that were not completely on the line but close. To view the histograms and P-P plots please refer to the figures 7,8,10,11,13, and 14 in the appendices.

Table 3 displays the results for tolerance and VIF used to test that the data met the assumption of collinearity. The results indicated that multicollinearity was not a concern as all the tolerance levels were above 0.2 and the VIF values were well below 10. Field 2013, cites Bowerman & O'Connell,1990; Myers, 1990 stating that “if the largest VIF is greater than 10 then there is a cause for concern.” Field 2013, further cites Menard 1995, that “Tolerance below 0.2 indicates a potential problem”.

**Table 3:** Collinearity Statistics VIF

	Total Participants		Male Participants		Female Participants	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
Extroversion	.836	1.197	.710	1.408	.899	1.112
Agreeableness	.801	1.248	.719	1.391	.819	1.221
Conscientiousness	.871	1.148	.772	1.296	.905	1.104
Neuroticism	.903	1.107	.790	1.266	.918	1.089
Openness to experience	.798	1.252	.763	1.310	.794	1.259

Lastly the scatterplots of standardised residuals showed that the data met the assumptions of homogeneity of variance and linearity as the dots are scattered randomly with no clear pattern indicated that the variances if the residuals are constant. Please refer to figures 9, 12, and 15 in the appendices to view the scatterplots.



## Chapter 4: Analysis, Discussion of Results and Findings



## Chapter 4: Analysis, Discussion of Results and Findings

### 4.1 Results

A total of 150 responses to the questionnaires were received from participants fully and correctly completed with the exception of 11 unanswered responses to the question what is your nationality. This was deemed adequate as all the other questions were fully completed and provided the basis for the workable sample for this study. The distribution of each of the social and demographic factors in terms of frequency and percentage is presented in table 1.

**Table 4:** Frequencies and percentages for Sex, Age, Education Level, Nationality, Marital Status, and Level of Income

Demographic	No. of Participants <i>N</i> = 150	%
Sex		
Male	75	75.0
Female	75	75.0
Total	150	100.0
Age		
18-29 years old	123	82.0
30-49 years old	24	16.0
50-64 years old	3	2.0
Total	150	100.0
Education Level		

Less than a high school diploma	5	3.3
High School degree or equivalent (e.g. GED)	14	9.3
	10	6.7
Some college, no degree	2	1.3
Associates degree (e.g. AA, AS)	73	48.7
Bachelor's degree (e.g. BA, BS)	44	29.3
Master's degree (e.g. MA, MS, Med)	2	1.3
Doctorate (e.g. PhD, EdD)	150	100.0
Total		
Nationality		
American	4	2.7
Australian	5	3.3
Austrian	3	2.0
Belgian	1	.7
Brazilian	1	.7
British	22	14.7
Canadian	4	2.7
Chilean	2	1.3
Chinese	1	.7
Cypriot	4	2.7
Czech	1	.7
Danish	1	.7
Dutch	8	5.3

French	7	4.7
German	16	10.7
Greek	6	4.0
Hungarian	1	.7
Indian	3	2.0
Indonesian	1	.7
Italian	1	.7
Japanese	1	.7
Jordanian	1	.7
Kazakh	1	.7
Kenyan	7	4.7
Lithuanian	2	1.3
Malaysian	1	.7
Nepali	1	.7
Nigerian	1	.7
Polish	6	4.0
Romanian	1	.7
Russian	17	11.3
Singaporean	1	.7
Slovak	1	.7
Slovenian	1	.7
South African	2	1.3
Spanish	1	.7
Taiwanese	1	.7

Zimbabwean	1	.7
Unanswered	11	7.3
Total	150	100
Marital Status		
Single (never married)	118	78.7
Married, or in a domestic partnership	27	18.0
Divorced	5	3.3
Total	150	100
Level of Income		
Under €20,000	111	74.0
Over €20,000	39	26.0
Total	150	100.0

To test the relationship between the BFF personality traits and IBB a Pearson correlation test was run. The test for the male participants (Table 2) revealed that there is a significant positive relationship between the variable of extroversion with IBB ( $r=0.236$ ) and the variable agreeableness with IBB ( $r=0.292$ ), but in the case of neuroticism with IBB it revealed a significant negative relationship ( $r=-0.250$ ). The other two variables of conscientiousness and



openness did not exhibit any significant relationship. In this regard it can be said that extroversion, agreeableness, neuroticism and IBB are highly correlated among the male consumers whereas, conscientiousness and openness are not. The impulsive buying behaviour of male consumers indicated in this study that the major influence personality traits are extroversion, agreeableness and neuroticism.

**Table 5:** Pearson Correlation for the BFF and IBB of Male Participants (n1=75)

Variable	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness	IBB
Extroversion	1	.448**	.302**	.330**	.345**	.236*
Agreeableness		1	.234*	.249*	.402**	.292*
Conscientiousness			1	.384**	.312**	-.021
Neuroticism				1	.131	-.250*
Openness					1	.897
IBB						1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

Similarly, the Pearson correlation test for the female participants (Table 3) revealed that there is a significant positive relationship between the variable extroversion with IBB ( $r=0.269$ ) and a significant negative relationship between the variable neuroticism with IBB ( $r=-0.252$ ). However, in the case of the female participants agreeableness did not show any significant relationship with IBB as was the case for the male participants. Interestingly it displayed a negative relationship ( $r=-0.105$ ) with IBB, whereas for the males there was a positive significant relationship. Likewise, conscientiousness and openness did not reveal any significant relationship with IBB. In this regard it can be said that extroversion, neuroticism and IBB are highly correlated among the female consumers whereas agreeableness, conscientiousness, and openness are not. The impulsive buying behaviour of female consumers indicated in this study that the major influence personality traits are extroversion and neuroticism.

**Table 6:** Pearson Correlation for the BFF and IBB of Female Participants ( $n=75$ )

Variable	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness	IBB
Extroversion	1	.154	.146	.137	.278*	.269*
Agreeableness		1	.207	.173	.374**	-.105
Conscientiousness			1	.212	.181	-.064
Neuroticism				1	.007	-.252*
Openness					1	.080
IBB						1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

Overall, the Pearson correlation test for the total participants (N=150) is shown in table 4. The results indicate that there is a significant positive relationship between the variables extroversion with IBB ( $r=0.252$ ) and a significant negative relationship between neuroticism with IBB ( $r=-0.272$ ). The remaining variables did not display and significance with IBB.

**Table 7:** Pearson Correlation for the BFF and IBB of Total Participants (N=150)

Variable	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness	IBB
Extroversion	1	.287**	.217**	.215**	.308**	.252**
Agreeableness		1	.236**	.174*	.377**	.103
Conscientiousness			1	.243**	.230**	-.016
Neuroticism				1	.070	-.272**
Openness					1	.040
IBB						1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

To further test the hypothesis a multiple regression analysis was run at the 0.05 level of significance. The independent variable in this hypothesis is consumers personality in terms of the BFF, extroversion, agreeableness, conscientiousness, neuroticism and openness. While the dependent variable is consumers impulsive buying behaviour.

The results of the analysis are presented in table 5. The table shows that a combination of consumers personality in terms of the BFF yielded a coefficient of multiple regression (R) of .429, a multiple regression R-square (R<sup>2</sup>) .184, and adjusted R. square .156. The adjusted R. square of .156 implies that the independent variables consumers personality in terms of the BFF jointly explain 15.6% of the variance in consumers impulsive buying behaviour. The results also show that analysis of the variance for the multiple regression data produced an F-ratio of 6.509 and was significant at the 0.05 level [F-statistic (5, 144) = 6.509 compared to F<sub>0.05</sub> (5, 144) = 2.28].

To find out the relative contributions of the individual factors, a test of regression weights was carried out. The results show that the standardized regression weights (Beta) ranged from -.008 to .322 and t – ratio from -.101 to 3.908. The Beta weights of two of the predictor variables were significant at the .05 level extroversion and neuroticism, while the other three predictor variables were not significant at .05 level. This result implies that when the variables were taken individually, only extroversion and neuroticism significantly predict consumers buying behaviour. Further the results show that neuroticism (t = -4.443) made the greatest contribution to consumer impulsive buying behaviour, followed by extroversion (t = 3.908).

The results show that as extroversion (t = 3.908, p = .000), increased by one-unit, impulsive buying behaviour increased by .348 units holding that all the other predictor variables are held constant. As neuroticism (t = -4.443, p = .000) increases by one-unit impulsive buying behaviour increases by .432 units holding that all other predictor variables are held constant. It is important to note here that neuroticism is also labelled as emotional stability. In this case a high score indicates that an individual is emotionally stable where as a low score indicates they

are more neurotic. Individuals low in emotional stability are also described as being high in neuroticism as the two terms are thought of being opposites hence interpretations for them are inverted. In other words, it can also be said that as emotional stability ( $t = -4.443$ ,  $p = .000$ ) increases by one-unit impulsive buying behaviour decreases by .432 units holding that all other predictor variables are held constant. The results indicate that individuals high in neuroticism are more prone to impulsive buying behaviour whereas individual's high in emotional stability are the opposite.

**Table 8:** Results for Multiple Linear Regression Total participants (BFF predicting IBB) N = 150

Model	R	R. square	Adjusted R. square	Std error of the estimate		
1	.429a	.184	.156	7.73864		
Model	Sum of square	df	Mean square	F	p-value	
Regression	1948.930	5	389.786	6.509*	.000b	
Residual	8623.663	144	59.887			
Total	10572.593	149				
Personality Trait	B	SE	$\beta$	t	P	Significant Predictor
(Constant)	31.645	5.822		5.436*	.000	
Extroversion	.348	.089	.322	3.908*	.000	Yes
Agreeableness	.152	.127	.101	1.195	.234	No
Conscientiousness	-.012	.118	-.008	-.101	.920	No
Neuroticism	-.432	.097	-.352	-4.443*	.000	Yes
Openness	-.103	.124	-.070	-.832	.407	No

\*Significant at .05 level. Critical F – value = 2.28

I further ran two separate multiple regression analysis for the male participants and female participants. The results for the male participants are presented in table 6. The table shows that a combination of male's personality in terms of the BFF yielded a coefficient of multiple regression (R) of .512, a multiple regression R-square (R<sup>2</sup>) .262, and adjusted R. square .208.

The adjusted R. square of .208 implies that the independent variables consumers personality in terms of the BFF jointly explain 20.8% of the variance in consumers impulsive buying behaviour. The results also show that analysis of the variance for the multiple regression data produced an F-ratio of 4.891 and was significant at the 0.05 level [F-statistic (5, 74) = 4.891 compared to F<sub>0.05</sub> (5, 74) = 2.35].

The test of regression weights shows that the standardized regression weights (Beta) ranged from -.413 to .334 and t – ratio from -3.545 to 2.737. The Beta weights for three of the predictor variables were significant at the 0.05 level namely extroversion, agreeableness and neuroticism. Conscientiousness and openness were not significant predictors. Yet again neuroticism made the largest contribution (t= -3.545) followed by agreeableness (t=2.737) and extroversion (t= 2.211). The results imply that for males as neuroticism (t= -3.545, p = .001) increases by one-unit impulsive buying behaviour decreases by 3.545 units holding that all other predictor variables are held constant. As agreeableness (t = 2.737, p = .008) increases by one-unit impulsive buying behaviour increases by 2.737 units holding all other predictors constant. As extroversion (t= 2.211, p = .030) increases by one-unit impulsive buying behaviour increases by 2.211 units likewise holding all other predictor variables constant.

**Table 9:** Results for multiple linear regression male participants (BFF predicting IBB) n = 75

Model	R	R. square	Adjusted R. square	Std error of the estimate		
1	.512a	.262	.208	7.59581		
Model	Sum of square	df	Mean square	F	p-value	
Regression	1410.876	5	282.175	4.891*	.001b	
Residual	3981.044	69	57.696			
Total	5391.920	74				
Personality Trait	B	SE	$\beta$	t	P	Significant Predictor
(Constant)	25.900	8.197		3.160*	.002	
Extroversion	.307	.139	.271	2.211*	.030	Yes
Agreeableness	.547	.200	.334	2.737*	.008	Yes
Conscientiousness	.047	.183	.030	.254	.800	No
Neuroticism	-.570	.161	-.413	-3.545*	.001	Yes
Openness	-.259	.182	-.168	-1.420	.160	No

\*Significant at .05 level. Critical F – value = 2.35



The results of the multiple regression for the female participants are displayed in table 7. The table shows that a combination of female's participants personality in terms of the BFF yielded a coefficient of multiple regression (R) of .414, a multiple regression R-square (R<sup>2</sup>) .171, and adjusted R-square .111. Indicating that the independent variables female's personality in terms of the BFF jointly explain 11.1% of the variance in the consumers impulsive buying behaviour. The analysis of the variance for the multiple regression produced an F-ratio of 2.847 and was significant at the 0.05 level [F-statistic (5, 74) = 2.847 compared to F 0.05 (5, 74) = 2.35]. The standardized regression weights (Beta) ranged from -.268 to .317 and t – ratio from -2.339 to 2.742. The Beta weights for extroversion and neuroticism were significant at the 0.05 level whereas the other predictors were not. Extroversion (t = 2.742) made the largest contribution followed by neuroticism (t = -2.339). The results illustrate that for females as extroversion (t = 2.742, p = .008) increases by one-unit IBB increases by 2.742 units. Whereas if neuroticism (t = -2.339, p = .022) increases by one-unit females IBB decreases by 2.339 units.

**Table 10:** Results for multiple linear regression female participants (BFF predicting IBB) n = 75

Model	R	R. square	Adjusted R. square	Std error of the estimate		
1	.414c	.171	.111	7.70986		
Model	Sum of square	df	Mean square	F	p-value	
Regression	846.058	5	169.212	2.847*	.021c	
Residual	4101.489	69	59.442			
Total	4947.547	74				
Personality Trait	B	SE	$\beta$	t	P	Significant Predictor
(Constant)	36.809	8.246		4.464*	.000	
Extroversion	.320	.117	.317	2.742*	.008	Yes
Agreeableness	-.163	.169	-.117	-.965	.338	No
Conscientiousness	-.052	.161	-.038	-.326	.745	No
Neuroticism	-.302	.129	-.268	-2.339*	.022	Yes
Openness	.062	.170	.045	.364	.717	No

\*Significant at .05 level. Critical F – value = 2.35

## 4.2 Test of Hypotheses

To test all the hypotheses except for H2 the multiple linear regression for total participants is taken in to account table 7. The hypotheses for H2 is tested by comparing the regression models of both female and male participants.

**H1<sub>0</sub>:** There is no significant relationship between BFF personality traits and consumer IBB.

**H1<sub>a</sub>:** There is a significant relationship between BFF personality traits and consumer IBB

Since the p-value, .000, is less than  $\alpha = 0.05$ , the null hypotheses is rejected in favour of the alternate hypotheses. The results reveal there is a significant relationship between BFF personality traits and consumer IBB.

**H2:** There is a significant difference of personality traits between gender and their impulsive buying behaviour.

When the data was split on the grouping bases of gender both the regression analysis and Pearson correlation revealed that both groups had a significant relationship with the traits of neuroticism, extroversion and IBB. However, it revealed that for the males there was also a significant relationship between the trait agreeableness and IBB which was not present in the female group. Furthermore, the regression analysis demonstrated that for the males the BFF model explained 20.8% of the variance in IBB as opposed to 11.1% in females. The results conclude that males are more prone to IBB when they exhibit the traits of neuroticism, extroversion, and agreeableness. Additionally, personality influences there IBB to a far greater extent than females. This suggests that females are able to better control there urges than males and that other factors contribute more to their impulse purchases. Such as deals and discounts.

**H3<sub>0</sub>:** = There is no significant relationship between Extroversion and IBB.

**H3<sub>a</sub>:** = There is a significant relationship between Extroversion and Impulsive IBB.

Since the p-value, .000 is less than  $\alpha = 0.05$  the null hypotheses is rejected in favour of the alternate hypotheses. The results reveal there is a significant relationship between extroversion and consumer IBB. This result agrees with those of Kanna and Latha, 2016 findings as well as, Udo Imeh, 2015.

**H4<sub>0</sub>:** = There is no significant relationship between Agreeableness and IBB.

**H4<sub>a</sub>:** = There is a significant relationship between Agreeableness and IBB.

Since the p-value, .234 is greater than  $\alpha = 0.05$  the null hypotheses is accepted over the alternate. Thus, the study found no relationship between agreeableness and IBB in contrast to the findings of Udo Imeh, 2015 and Shehzadi et al 2016. Although when analysing only for males the study did find that there was a significant relationship between agreeableness and IBB.

**H5<sub>0</sub>:** = There is no significant relationship between Conscientiousness and IBB.

**H5<sub>a</sub>:** = There is a significant relationship between Conscientiousness and IBB

Since the p-value, .920 is greater than  $\alpha = 0.05$  the null hypotheses is accepted over the alternate. This result agreed with that of Shehzadi et al, 2016 but was in contrast to the results of Udo-Imeh, 2015.

**H6<sub>0</sub>:** = There is no significant relationship between Neuroticism and IBB

**H6<sub>a</sub>:** = There is a significant relationship between Neuroticism and IBB

Since the p-value, .000 is less than  $\alpha = 0.05$  the null hypotheses is rejected in favour of the alternate hypotheses. The results found that there is a significant relationship between neuroticism and IBB as such were in line with the findings of Gangai and Agrawal, 2016; Shehzadi et al, 2016. Although, did not align with the results of Udo Imeh, 2015.

**H7<sub>0</sub>:** = There is no significant relationship between Openness to Experience and IBB

**H7<sub>a</sub>:** = There is a significant relationship between Openness to Experience and IBB

Since the p-value, .407 is greater than  $\alpha = 0.05$  the null hypotheses is accepted over the alternate hypotheses. The results conclude that there is no relationship between openness to experience and IBB. This is in agreement with the Udo Imeh 2015, study and in contrast to Shehzadi et al, 2016 study.



## Chapter 5: Conclusion and Recommendations



## **Chapter 5: Conclusion and Recommendations**

### **5.1 Conclusion to research**

This study met my objectives as the data showed that there is a relationship between the big five personality traits and impulsive buying behaviour. In certain aspects my results concurred with those of other researchers in the field thus proving that under different settings those results hold true. However, while finding agreement with other researchers studies, simultaneously there was disagreement as is the case amongst those research works themselves. For example, I found that neuroticism and extroversion had a significant influence on IBB, this matches Gangai and Agrawal 2016 and Shehzadi et al 2016 only in the trait of neuroticism as both their studies did not find extroversion to have a significant influence on IBB. Likewise, I found that agreeableness was significant only when looking at the male sample, in some part this confirms Udo Imeh 2015 study as it resulted in agreeableness displaying the strongest influence. Although considering that his study looked at both genders, I cannot conclude that my result is in complete agreement with his study. Additionally, it is of note that his study found no relationship with neuroticism and IBB whereas neuroticism provided for the greatest relationship with IBB in my study.

## 5.2 Limitations of the research

Time constraints and cost prohibition lead to the data being collected via a convenience sample as such the results yielded a lack of clear generalizability. It is possible that the sample estimates do not reflect the true effect among the target population (Jager, Putnick and Bornstein, 2017)

The questionnaires used are self-report tools whereby the respondent assess themselves. While this provides insight into the respondent's personality and buying behaviour, they are vulnerable to manipulation and it cannot be ruled out that the respondents would not provide answers to that which they deemed were more desirable.

However, the IPIP questionnaire is designed in a way that attempts to mitigate manipulation by spreading out questions which measure the same construct. Additionally, by having the respondents simply answer the questionnaire and scoring the results myself I attempted to ameliorate the issue of manipulation. Unless the respondents self-administered the test online prior to completing my questionnaire which I believe is highly unlikely there is little chance that they would attempt to manipulate their answers to score a certain way for a certain construct.

Furthermore, the questionnaires used the English language but the majority of respondents approximately 75% were of a nationality where English is not their first language. Although the survey cover sheet set knowledge of the English language as a requirement for taking part. Therefore, it was assumed that participants understand English at an intermediate level and could comprehend and relate to the questions asked. However, Badgaiyan, Verma and Dixit 2016, argue that the majority of existing scales use the English language and as thus it is questionable whether or not they can capture the real essence of the phenomenon in



cultures and contexts. In this context I concede and agree with Badgaiyan, Verma and Dixit 2016 conclusion that it is a possible limitation to the study as there is the possibility that certain respondents could have misinterpreted some of the questions.

### **5.3 Suggestions for further research**

Although the BFF model is considered the most accurate and comprehensive body of work in trait factor theory, I believe in regards to determining relationship between IBB the dimensions are too broad. I present this as a possible explanation as to why prior research analysis have so far been inconclusive with researchers finding varying results as to which of the five domains best explain impulsive buying. Marketers should look for specific traits that are associated with IBB for example self-control. With mass data collection and monitoring through websites and social media there has arguably never been such a time as the present to gather the full picture of who the consumer is. Using psychographic analysis may be the optimal method to understanding impulsive buying behaviour.

Further, I recommend that any research in the field adhere to the ethics of personality marketing. Graves and Matz 2018, state that the gathering and use of personality traits must follow the general guidelines for other behavioural science research. Which include clearly defining the intent of usage, abiding by privacy laws, and positioning researcher/marketer interests with those of the respondents. Meaning that the work should aim to help rather than exploit people.

## **5.4 Significance of the findings**

This research is important as it adds to the current literature in the field of study and in certain cases concurs with the results of prior research providing further credibility to those conclusions. The significance of the findings is twofold, firstly for marketers as it demonstrates a method of segmentation in target marketing. Secondly, for consumers and consumer rights groups as it provides them with the knowledge and information on how to protect from excessive impulse buying. As the questionnaires used to conduct the study are open source material any person can take a personality test to see what their dominant personality traits are as defined by the BFF. Or take the IBB test to identify their level of impulsiveness. By doing so they can therefore identify if their personality type is more prone to impulse buying and therefore through the process of awareness and identification be able to protect against it.

## 5.5 Research ethics

Adams et al 2007, state that in conducting any research there is an ethical responsibility by the researcher to conduct the work honestly and with integrity. Highlighting the fact that if not done this way the research is doomed to fail. Essentially if the work is not honestly undertaken it is deemed fraudulent and fraud must be avoided in research as it does not contribute in any meaningful way to the academic field. Several forms of fraud a described by Adams et al 2007, listed below:

- Being selective in sampling.
- Not reporting survey response/participation rates.
- Deliberately biasing the data collection instruments – e.g. leading questions in surveys.
- Making up data.
- Falsifying results – to make them fit your conclusion
- Trimming – removing data that does not fit in with the analysis.
- Biased or inappropriate analysis.

The research was conducted with strict compliance to the mentioned rules above, additionally the anonymity of survey respondents was guaranteed. Furthermore, the Harvard author date style of referencing was used to cite any sources and materials that were not my original workings.

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## **Appendices**

### **Appendix 1: Survey Cover Sheet**

Hello, my name is George Philippov, I would like to invite you to participate in my research project I am conducting as part of my Master's Dissertation.

The questionnaire should take no longer than 15 minutes to complete.

The Purpose of this research is to investigate whether personality traits in terms of the big five factor model influence impulsive buying behaviour.

In order to complete this questionnaire, you must be over 18 years old and have a basic understanding of the English language.

Your participation in this study is voluntary and you may cut short the questionnaire at any time if you do not wish to further participate.

All the information provided is anonymous and your personal information will not be passed on to third parties under any circumstances.

For any questions or inquiries, you may contact me at [g.philippov.1@nup.ac.cy](mailto:g.philippov.1@nup.ac.cy)

Thank you for your time!

## Appendix 2: Demographic Questionnaire

1. **What is your gender?** Male Female
2. **What is your age?**
  - 18-29 years old
  - 30-49 years old
  - 50-64 years old
  - 65 years and over
3. **What is the highest level of education you have completed?**
  - Less than a high school diploma
  - High school degree or equivalent (e.g. GED)
  - Some college, no degree
  - Associate degree (e.g. AA, AS)
  - Bachelor's degree (e.g. BA, BS)
  - Master's degree (e.g. MA, MS, MEd)
  - Professional degree (e.g. MD, DDS, DVM)
  - Doctorate (e.g. PhD, EdD)
4. **What nationality are you?** \_\_\_\_\_.
5. **What is your marital status?**
  - Single (never married)
  - Married, or in a domestic partnership
  - Widowed
  - Divorced
  - Separated
6. **Is your total annual income before taxes €20,000 or more, or is it less than €20,000?**
  - Under €20,000
  - Over €20,000

### Appendix 3: The Impulsive Buying Behaviour Questionnaire

Please answer the following statements to the best of your ability using the key below.

#### Key

1 = Never 2 = Very rarely 3 = Rarely 4 = Occasionally 5 = Very frequently

1	I often buy things spontaneously.	1	2	3	4	5
2	“Just do it” describe the way I buy the thing.	1	2	3	4	5
3	I often buy things without thinking.	1	2	3	4	5
4	Sometimes I feel like buying things on the spur of the moment.	1	2	3	4	5
5	Sometimes I am a bit reckless about what I buy.	1	2	3	4	5
6	If I see something I want, I buy it.	1	2	3	4	5
7	I go shopping to change my mood.	1	2	3	4	5
8	I feel a sense of excitement when I make an extra purchase.	1	2	3	4	5
9	After I make an extra purchase I feel regret.	1	2	3	4	5
10	I have difficulty controlling my urge to buy when I see a good offer.	1	2	3	4	5
11	When I see a good deal, I tend to buy more than that I intended to buy.	1	2	3	4	5

## Appendix 4: The Big Five Personality Test

### Instructions and Test

In the table below, for each statement 1-50 mark how much you agree with on the scale 1-5, where 1=disagree, 2=slightly disagree, 3=neutral, 4=slightly agree and 5=agree, in the box to the left of it.

Rating	I....	Rating	I....
	1. Am the life of the party.		26. Have little to say.
	2. Feel little concern for others.		27. Have a soft heart.
	3. Am always prepared.		28. Often forget to put things back in their proper place.
	4. Get stressed out easily.		29. Get upset easily.
	5. Have a rich vocabulary.		30. Do not have a good imagination.
	6. Don't talk a lot.		31. Talk to a lot of different people at parties.
	7. Am interested in people.		32. Am not really interested in others.
	8. Leave my belongings around.		33. Like order.
	9. Am relaxed most of the time.		34. Change my mood a lot.
	10. Have difficulty understanding abstract ideas.		35. Am quick to understand things.
	11. Feel comfortable around people.		36. Don't like to draw attention to myself.
	12. Insult people.		37. Take time out for others.
	13. Pay attention to details.		38. Shirk my duties.
	14. Worry about things.		39. Have frequent mood swings.
	15. Have a vivid imagination.		40. Use difficult words.
	16. Keep in the background.		41. Don't mind being the center of attention.
	17. Sympathize with others' feelings.		42. Feel others' emotions.
	18. Make a mess of things.		43. Follow a schedule.
	19. Seldom feel blue.		44. Get irritated easily.
	20. Am not interested in abstract ideas.		45. Spend time reflecting on things.
	21. Start conversations.		46. Am quiet around strangers.
	22. Am not interested in other people's problems.		47. Make people feel at ease.
	23. Get chores done right away.		48. Am exacting in my work.
	24. Am easily disturbed.		49. Often feel blue.
	25. Have excellent ideas.		50. Am full of ideas.

## Appendix 5: Instructions on Calculation of Results for the Big Five Personality Test

### Extroversion

$$= 20 + (1) \text{ ___} - (6) \text{ ___} + (11) \text{ ___} - (16) \text{ ___} + (21) \text{ ___} - (26) \text{ ___} + (31) \text{ ___} - (36) \text{ ___} + (41) \text{ ___} - (46) \text{ ___} = \text{_____}.$$

### Agreeableness

$$= 14 - (2) \text{ ___} + (7) \text{ ___} - (12) \text{ ___} + (17) \text{ ___} - (22) \text{ ___} + (27) \text{ ___} - (32) \text{ ___} + (37) \text{ ___} + (42) \text{ ___} + (47) \text{ ___} = \text{_____}.$$

### Conscientiousness

$$= 14 + (3) \text{ ___} - (8) \text{ ___} + (13) \text{ ___} - (18) \text{ ___} + (23) \text{ ___} - (28) \text{ ___} + (33) \text{ ___} - (38) \text{ ___} + (43) \text{ ___} + (48) \text{ ___} = \text{_____}.$$

### Neuroticism

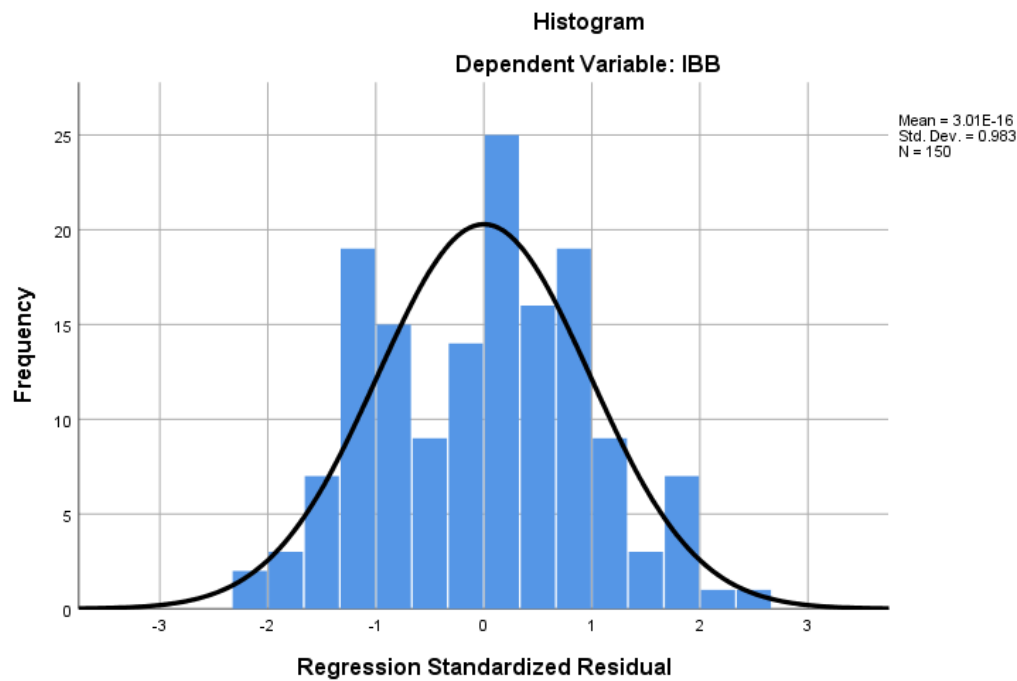
$$= 38 - (4) \text{ ___} + (9) \text{ ___} - (14) \text{ ___} + (19) \text{ ___} - (24) \text{ ___} - (29) \text{ ___} - (34) \text{ ___} - (39) \text{ ___} - (44) \text{ ___} - (49) \text{ ___} = \text{_____}.$$

### Openness to experience

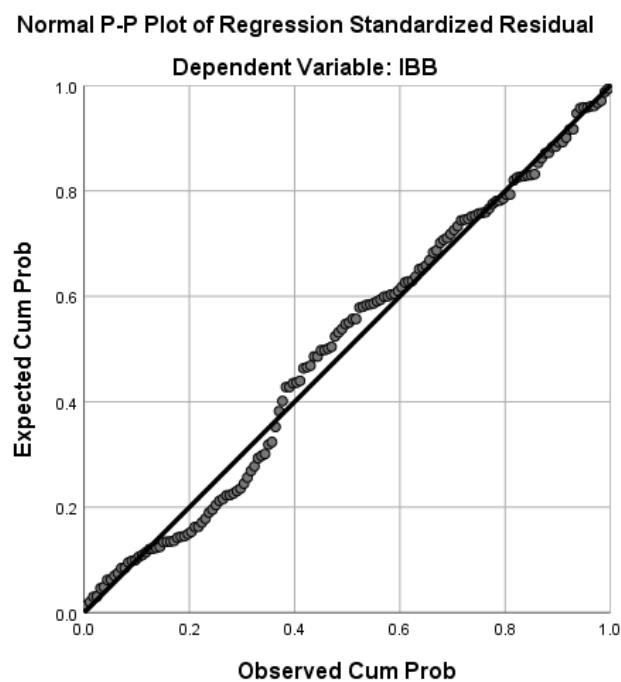
$$= 8 + (5) \text{ ___} - (10) \text{ ___} + (15) \text{ ___} - (20) \text{ ___} + (25) \text{ ___} - (30) \text{ ___} + (35) \text{ ___} + (40) \text{ ___} + (45) \text{ ___} + (50) \text{ ___} =$$

## Appendix 6: Graphs and Plots to Support Normality and Homoscedasticity

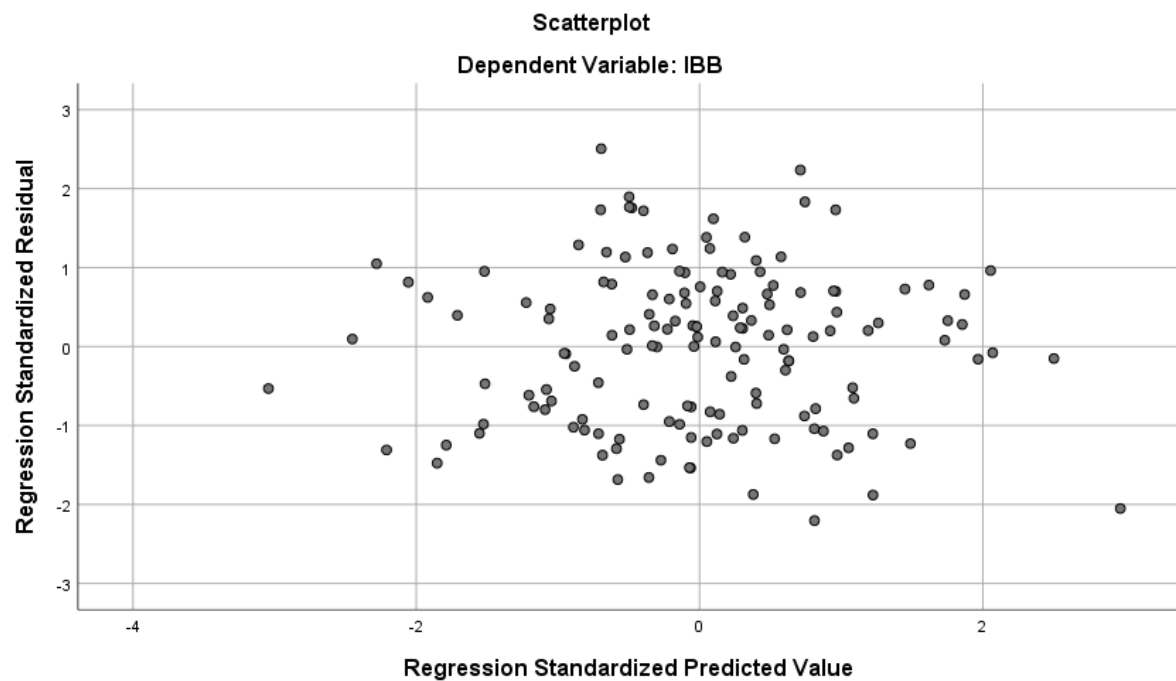
**Figure 6:** Histogram Regression Standardized Residual Total Participants



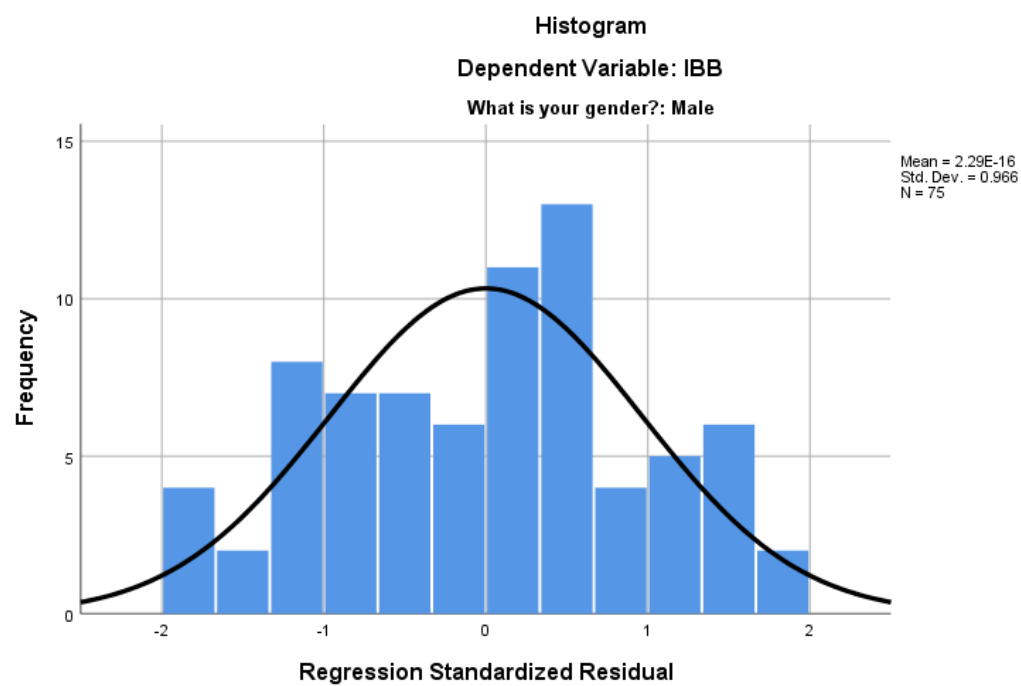
**Figure 7:** Normal P-P Plot for Impulsive Buying Behaviour as a Function of the Predictors in the Multiple Linear Regression Model of Total Participants



**Figure 8:** Scatterplot Between the Big Five Personality Traits and Impulsive Buying Behaviour of Total Participants

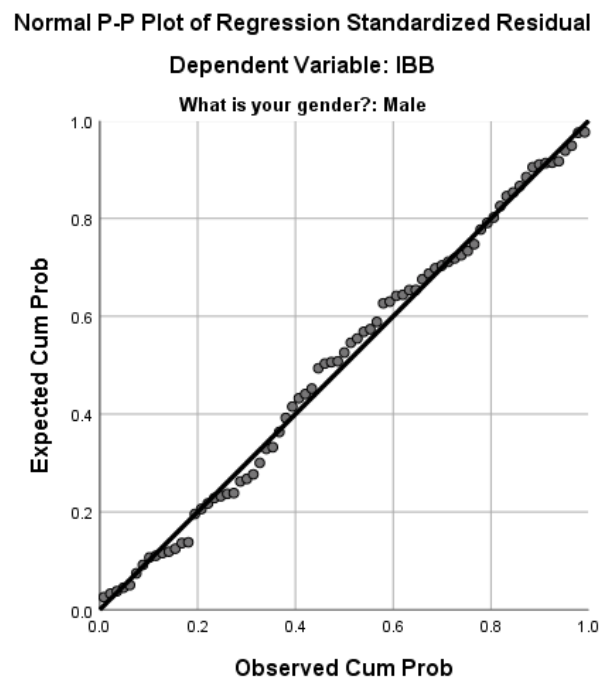


**Figure 9:** Histogram Regression Standardized Residual Male Participants

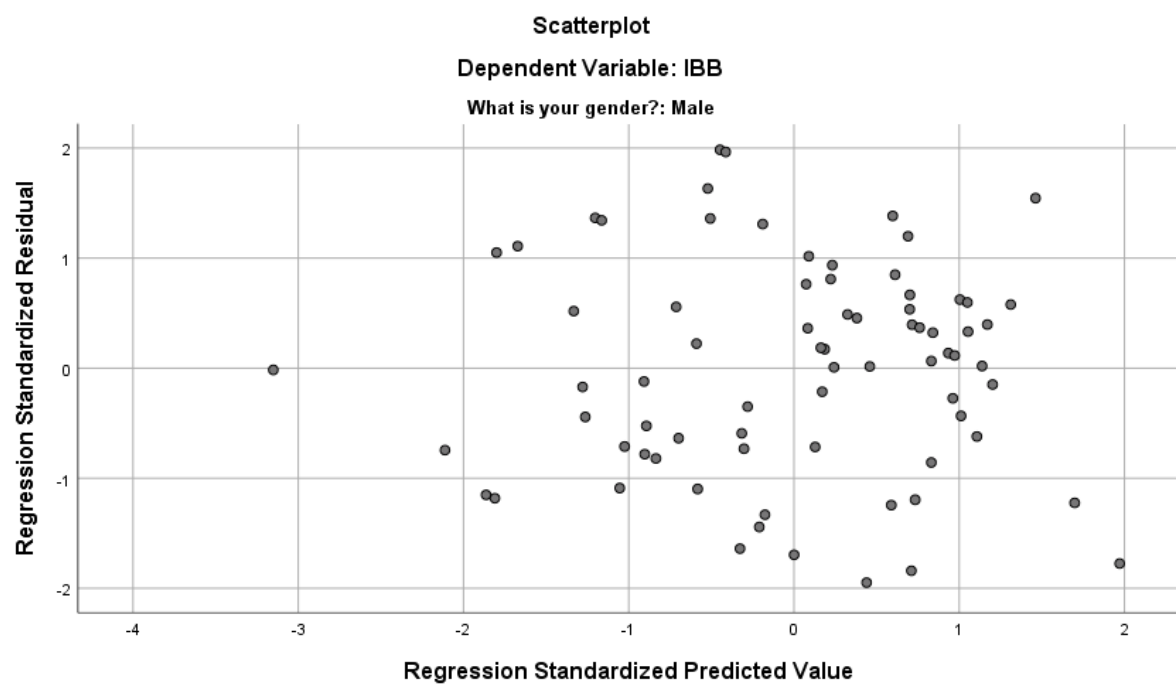


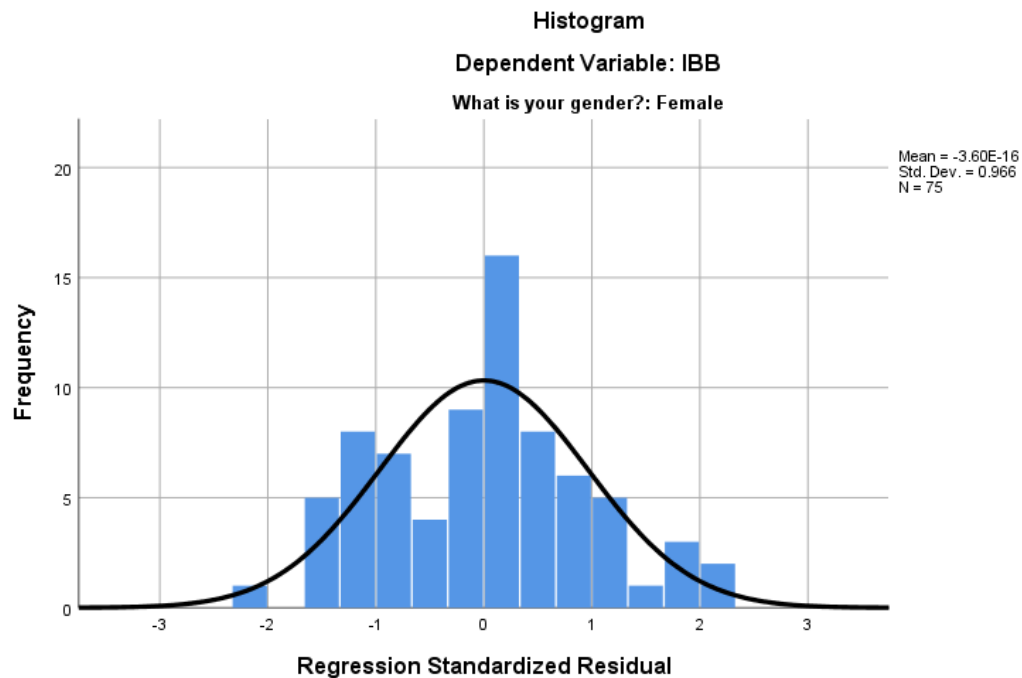
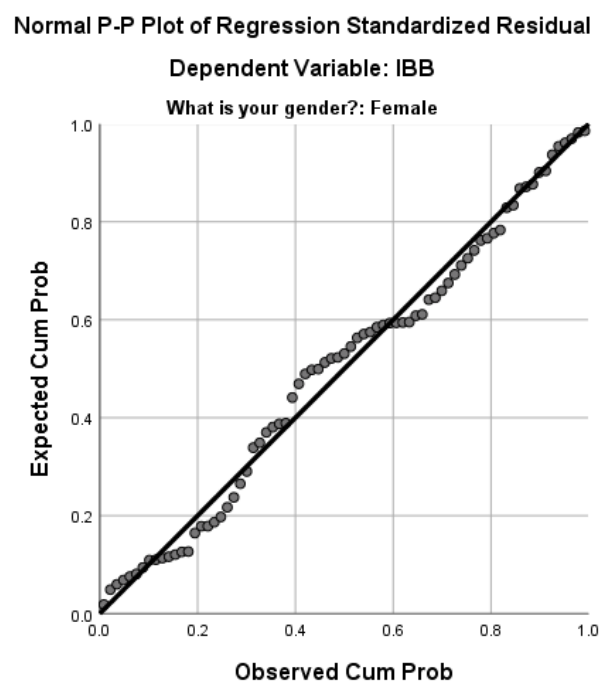


**Figure 10:** Normal P-P Plot for Impulsive Buying Behaviour as a Function of the Predictors in the Multiple Linear Regression Model of Male Participants



**Figure 11:** Scatterplot Between the Big Five Personality Traits and Impulsive Buying Behaviour of Male Participants



**Figure 12:** Histogram Regression Standardized Residual Female Participants**Figure 13:** Normal P-P Plot for Impulsive Buying Behaviour as a Function of the Predictors in the Multiple Linear Regression Model of Female Participant

**Figure 14:** Scatterplot Between the Big Five Personality Traits and Impulsive Buying Behaviour of Female Participants

