ONLINE SHOPPING ADDICTION AND ITS PREDICTORS: TESTING A CONCEPTUAL MODEL

by

BERNADETTE JEAN MUNDY

submitted in accordance with the requirements for
the degree of

MASTER OF ARTS (PSYCHOLOGY)

in the subject

Research Consultation

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR:

Dr. Helena Erasmus

(January 2020 submitted)

DECLARATION

Name: Bernadette Jean Mundy

Student number: 55612849

Degree: MA (Psychology) Research Consultation

Exact wording of the title of the dissertation as appearing on the copies submitted for examination:

Online Shopping Addiction and its Predictors: Testing a Conceptual Model

I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



29 January 2020

SIGNATURE DATE

SUMMARY

As e-commerce rapidly increases in South Africa, online shopping addiction (OSA) looms as a potential issue with dire consequences. It is imperative to better understand its predictors as there is a paucity of literature on the topic. This research aimed to test the Conceptual Model of OSA, as proposed by Rose and Dhandayudham (2014), by associating the levels of predictor variables of OSA specific to addiction, namely self-esteem, negative emotional state, self-regulation and gender, with online shopping addiction. From the results, the conceptual model is successful in predicting the level of OSA. However, self-regulation warrants further investigation. In contrast to traditional shopping, being male is a stronger predictor of OSA than being female. This research helps to corroborate OSA as a unique behavioural addiction. From these results, clinicians can better identify predictors of OSA and develop appropriate treatments. These findings may also help refine the Conceptual Model of OSA for future applications.

KEY TERMS

Behavioural addiction; Compulsive buying; Conceptual model; Gender; Negative emotional state; Online shopping addiction; Predictor variables; Self-esteem; Self-regulation

ACKNOWLEDGEMENTS

Firstly, to my family for having faith in me. Dad, your adage has not failed me yet – cream always rises to the top! Mom, thank you for keeping me sane and level-headed. To my siblings; Christine for leading by example, Tom for proving that nothing is impossible, and Steph for always having my back.

Jeannie and Dawid, thank you for listening to my ramblings and always being truly interested in what I have to say. I appreciate your guidance more than you know.

To my supervisor, Helena Erasmus, words cannot suffice to explain the gratitude I have for your supervision. You allowed me to work at my own pace; juggling work, personal life and academics. Thank you for your endless patience and motivation!

I am indebted to the *University of South Africa* for awarding me a post-graduate bursary. Your generosity and support for your students is greatly appreciated.

And, finally, to my dear husband, David. Thank you for always wanting what's best for me and for loving me even when I'm a gremlin. I couldn't be more blessed.

Contents

SUMMARY 3

KEY TERMS 3

ACKNOWLEDGEMENTS 4

CHAPTER 1 INTRODUCTION 10

1.1 Introduction 10

1.2 Background and context of the study 11

1.3 Statement of the problem 14

1.4 Purpose and aims of the study 14

1.5 Research questions 16

1.6 Overview of the study 17

1.7 Uniqueness of the study 17

1.8 Definition of key terms 18

1.8.1 Affective states 18

1.8.2 Personal states 18

1.8.3 Shopping behaviours 19

1.8.4 Age 19

1.8.5 Statistical terms 20

1.9 Summary and sequence of the research report 20

CHAPTER 2 LITERATURE REVIEW 22

2.1 Introduction 22

2.2 Compulsive buying 22

2.3 Treatment for compulsive buying 24

2.3.1 Cognitive behavioural therapy (CBT) 24

2.3.2 Group therapy 25

2.3.3 Medication 25

2.4 Clinical classification of compulsive buying 26

2.5 Behavioural addiction 27

2.6 The online context 30

2.6.1 Consumer characteristics 32

2.6.1.1 Age 32

2.6.1.2 Differences between online and traditional offline shoppers 32

2.6.2 Characteristics of the online context 33

2.6.2.1 Accessibility 34

2.6.2.2 Environmental stimuli 34
2.6.2.3 Privacy 34
2.6.2.4 Invisible boundaries of the environment 35
2.7 Compulsive online buying as an addiction 35
2.8 Components Model of Behavioural Addiction 36
2.8.1 Salience 37
2.8.2 Withdrawal symptoms 38
2.8.3 Tolerance 38
2.8.4 Mood modification 39
2.8.5 Relapse 40
2.8.6 Conflict 40
2.8.7 The components in context 41
2.9 Conclusion 41
CHAPTER 3 THEORETICAL FRAMEWORK 43
3.1 Introduction 43
3.2 Conceptual Model of Online Shopping Addiction 44
3.2.1 Model for this study 46
3.3 Predictor variables 47
3.3.1 Negative emotional state 47
3.3.2 Self-esteem 50
3.3.3 Self-regulation 53
3.3.4 Gender 56
3.3.5 Interactions between predictor variables 57
3.4 The biopsychosocial theory 57
3.4.1 Social learning theory 58
3.4.2 Trait theory 59
3.4.3 Sociocultural theory 61
3.5 Synopsis of Literature Review and Theoretical Framework 62
3.6 Conclusion 63
CHAPTER 4 RESEARCH DESIGN 64
4.1 Overview of chapter 64
4.2 Problem statement 64
4.3 Research aims and objectives 65
4.4 Research questions and hypotheses 65

4.5 Research paradigm 67
4.6 Methodological approach 68
4.7 Population and sampling 68
4.7.1 Sampling technique and source of participants 68
4.7.2 Facebook and online sampling 69
4.7.3 Sampling in the current study 73
4.8 Data collection 75
4.9 Research instrument for this study 76
4.10 Validity and reliability of research instrument 78
4.10.1 The Positive and Negative Affect Schedule (PANAS) 78
4.10.2 Rosenberg Self- Esteem Scale (RSES) 80
4.10.3 The Self-Regulation Scale (SRS) 81
4.10.4 Bergen Shopping Addiction Scale (BSAS) 82
4.10.5 Validity and reliability of the instruments within the South African context 84
4.10.5.1 Validity and reliability: PANAS scale 84
4.10.5.2 Validity and reliability: RSES scale 84
4.10.5.3 Validity and reliability: SRS scale 85
4.10.5.4 Validity and reliability: BSAS 85
4.11 Data analysis 86
4.11.1 Socio-demographic data 86
4.11.2 Independent samples t-Test 86
4.11.3 Correlations and Multiple Linear Regression 87
4.12 Ethical considerations 89
4.12.1 Beneficence and nonmaleficence 89
4.12.2 Fidelity and responsibility 89
4.12.3 Integrity 90
4.12.4 Justice 90
4.12.5 Respect for people's rights and dignity 91
4.13 Conclusion 91
CHAPTER 5 RESULTS 93
5.1 Overview of chapter 93
5.2 Data cleaning 93
5.3 Frequencies of demographic variables 94
5.4 Reliability of scales 98

5.4.1 The Positive and Negative Affect Schedule (PANAS) 98
5.4.2 Rosenberg Self-Esteem Scale (RSES) 99
5.4.3 The Self-Regulation Scale (SRS) 101
5.4.4 Bergen Shopping Addiction Scale (BSAS) 101
5.5 Descriptive and exploratory statistics 102
5.5.1 The PANAS negative affective state 103
5.5.2 Self-esteem 104
5.5.3 Self-regulation 106
5.5.4 Online shopping addiction 107
5.6 Independent samples t-Test: Gender and online shopping addiction 109
5.7 Correlations between predictor variables and online shopping addiction 111
5.8 Influence of predictor variables on online shopping addiction 115
5.9 Additional exploratory tests 120
5.10 Conclusion 124
CHAPTER 6 DISCUSSION OF RESULTS 126
6.1 Overview of chapter 126
6.2 Discussion 126
6.2.1 Multiple Linear Regression overview 127
6.2.2 Self-esteem 127
6.2.3 Negative emotional state 128
6.2.4 The interplay between self-esteem and negative emotional state 128
6.2.5 Self-regulation 130
6.2.6 Gender 132
6.3 Additional findings 133
6.3.1 Demographics 133
6.3.1.1 Monthly personal income and age 133
6.3.1.2 Age 134
6.3.1.3 Race 134
6.3.2 Reliability of scales 135
6.3.2.1 The Positive and Negative Affect Schedule (PANAS) 135
6.3.2.2 Rosenberg Self-Esteem Scale (RSES) 136
6.3.2.3 The Self-Regulation Scale (SRS) 136
6.3.2.4 Bergen Shopping Addiction Scale (BSAS) 136
6.4 Conclusion 137

CHAPTER 7 CONCLUSION 138
7.1 Overview of chapter 138
7.2 Reflection on research question, model and theoretical framework 138
7.3 Strengths of present study 140
7.4 Limitations 141
7.5 Recommendations 143
7.6 Conclusion 147
REFERENCES 149
APPENDICES 160
Appendix A: Data collection documentation 160
A1. Adverts used 160
A2. Advertisement targeting lists 161
A3. Masters dissertation questionnaire 162
A4. Informed consent 169
Appendix B: Original scales 172
B1. The Positive and Negative Affect Schedule (Watson, Clark & Tellegan, 1988) 172
B2. Self-esteem (Rosenberg, 1965) 173
B3. Self-regulation (Schwarzer, Diehl & Schmitz, 1999; Luszczynska et al., 2004) 174
B4. Shopping addiction (Andreassen et al., 2015) 174
Appendix C: Validity and Reliability of Scales from Literature 176
C1. The Positive and Negative Affect Schedule (PANAS) 176
C2. Rosenberg Self-Esteem Scale (RSES) 179
C3. Self- Regulation Scale (SRS) 183
C4. Bergen Shopping Addition Scale (BSAS) 183
Appendix D: Ethical Clearance 185

CHAPTER 1

INTRODUCTION

1.1 Introduction

Compulsive online shopping or buying, also known as online shopping addiction (OSA), refers to an extreme preoccupation with online behaviour such as buying, recurrent episodic purchasing of unneeded goods, losing control of spending, and continual purchasing despite any negative consequences (Müller & Mitchell, 2014). Due to limited research into the classification of compulsive buying, regardless of it being in traditional shops or online, it is not considered a distinct disorder in the 5th version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013; Horváth et al., 2015; Müller & Mitchell, 2014). As the occurrence of compulsive buying increases in general, particularly the prevalence in young adults, the exclusion of this phenomenon is troubling. Furthermore, whether compulsive online buying is a unique clinical condition or whether it is compulsive buying from the conventional retail environment occurring in another context is yet to be affirmed (Trotzke et al., 2015). It has, though, been proposed that addictions such as compulsive online buying can be categorised as a unique behavioural disorder (Claes, Müller & Luyckx, 2016; Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014).

To investigate compulsive online buying as being either a unique condition or similar to conventional buying, part of Rose and Dhandayudham's (2014) Conceptual Model of Online Shopping Addiction, was tested in the current study. The model includes known predictors of addictive behaviours: *negative emotional state, self-esteem, self-regulation* and *gender*. It also includes predictors of addictive behaviours unique to the online environment: *social anonymity, enjoyment* and *cognitive overload*. This study only tested the predictor variables relating to addictive behaviours in general in order to corroborate the recent proposition of compulsive online

buying as a distinct addiction, and therefore as a behavioural disorder. This study is thus of particular importance as it is, as far as the researcher knows, the first of its kind to use the Bergen Shopping Addiction Scale (BSAS), which was developed by Andreassen et al. (2015), within the online South African context as well as the first of its kind to test the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014). The BSAS was selected as a suitable scale to measure the level of online shopping addiction as it is based on the core addiction criteria as proposed by Griffiths (1995), and thus represents all domains that are considered important to the construct of addiction. The Conceptual Model of Online Shopping Addiction is also based on these same key criteria of addiction, making the scale a theoretically sound fit to test the model.

1.2 Background and context of the study

The decision to embark on this dissertation resulted from the identified need to build knowledge around the potential issue of online shopping addiction and to identify predictors of online shopping addiction of importance to the online youth population living in South Africa. To understand the context within which this current study originated, it is necessary to discuss the background.

The purchasing of goods and services using the Internet has become the norm for many people around the globe. Online shopping is the chosen method of buying for many practical reasons that include convenience and competitive prices. An array of digital resources, such as product reviews and brand emails, may also influence the purchase intention of online shoppers. (eMarketer, 2017).

Regardless of the reason to buy, the number of shoppers purchasing online is ever increasing. It was estimated that 1.61 billion people throughout the world purchased goods online in 2016 with e-retail sales that year amounting to $1.9 trillion in US dollars (eMarketer, 2017). According to

projections by eMarketer (2017), by 2020 e-retail sales are expected to grow to $4.06 trillion. E-retail sales in the Middle East and Africa only accounted for 1.8% of online sales. In the face of this small contribution towards the global sales, South Africa has picked up steam in recent years. It was predicted that by 2018, the amount spent online in South Africa would grow to over R53 billion. Research has indicated that 58% of South African adults who have Internet access completed online purchases in the past year. These purchases amounted to an estimated R37.1 billion (Ipsos PayPal Insights, 2016). Furthermore, according to this annual cross-border commerce report, a continued increase in online spending is predicted with more than half of online adults interviewed stating that over the next 12 months they will increase their online spend (Ipsos PayPal Insights, 2016). Consumers cited the opportunity to save money, convenience of online shopping, as well as a possible change in disposable income as reasons for such an upsurge in online shopping habits (Ipsos PayPal Insights, 2016).

Despite these rapid growth rates in Internet retailing, there is a paucity of research on compulsive buying within the online context globally and within South African literature (Andreassen et al., 2015, Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Rose & Dhandayudham 2014; Trotzke et al., 2015) and studies are only just beginning to appear (Claes, Müller & Luyckx, 2016). However, there is a motivation from the literature to explore compulsive shopping within the unique online context and to place it as a distinct behavioural addiction (Claes, Müller & Luyckx, 2016; Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014). With progressively more shoppers turning to the online environment to purchase goods and the increasing amount spent online, it would seem rational to assume that problematic purchasing behaviours could arise in the online environment now too (Trotzke et al., 2015). By isolating the predictors of online buying as an addiction, awareness could be raised within the medical and e-

commerce industries, as well as within groups of individuals who may be suffering from this emerging behavioural addiction (Rose & Dhandayudham, 2014).

The Internet provides a unique shopping context which may exacerbate one's predisposition to shop online. Compulsive buyers are particularly at risk when using the Internet; having less control over their impulses when buying, which is exacerbated by the *always open* online shopping environment (Kukar-Kinney, Scheinbaum & Schaefers, 2016). With Internet penetration in South Africa sitting at 51.6% of the population, online shoppers may be at risk of developing addictive shopping behaviours (Effective Measure, 2016; Effective Measure, 2017; Internet World Stats, 2017). Various factors have been identified which may affect the development of compulsive buying. However, considering the surge in e-retailing, there is little research identifying the predictive factors of compulsive buying behaviour within this new context (Sohn & Choi, 2013). Recently, low self-esteem and failure of self-control were described as significant predictors of compulsive online shopping (Rose & Dhandayudham, 2014; Horváth et al., 2015; Claes, Müller & Luyckx, 2016). Internet use may also be a means to deal with depression and negative emotions (Dieris-Hirche et al., 2017). Studies also indicate that there may be substantial gender differences in shopping behaviours with females being more inclined to compulsively buy than males (Claes, Müller & Luyckx, 2016). These factors require more research specifically in the online shopping context (Dieris-Hirche et al., 2017).

The phenomenon of online shopping addiction can be viewed as an addiction that affects one in many respects and may be a deeply personal phenomenon. The effects of uncontrolled buying often result in increased negative feelings including depression, guilt, shame and alienation. In addition to causing the individual harm, compulsive buying can put a strain on social, familial and personal relationships (Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014). Individuals who compulsively spend their money may, in fact, damage relationships with family

and friends (Horváth et al., 2015; Lee, Park & Lee, 2016). Finally, compulsive buying behaviour may result in legal and financial stress and problems such as increased debt (Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014).

1.3 Statement of the problem

With more than half of all South Africans who use the Internet to shop online, unregulated purchasing looms as a major issue for consumers (Effective Measure, 2016; Effective Measure, 2017). In addition, according to e-Commerce Industry Reports (Effective Measure, 2016; Effective Measure, 2017), young adults form the largest group of online shoppers in South Africa. Young adults are a specific population of interest as compulsive buying behaviours may have a more pronounced effect due to their lower income (Horváth et al., 2015). They are also at highest risk of developing addictive online behaviours (Müller & Mitchell, 2014). Recent trends suggest that compulsive buying behaviours have been increasing with each generation, thus emphasising the importance of this population (Rose & Dhandayudham, 2014). However, little is known about variables that make people, and young adults in particular, vulnerable to compulsive buying behaviours within the context of online shopping.

1.4 Purpose and aims of the study

The purpose of this study was to investigate the predictors of online shopping addiction for the young adult population of South African online shoppers. More than half of Internet users in South Africa shop online, with the greatest portion of online shoppers being young adults between the ages of 18 and 34 (Effective Measure, 2016; Effective Measure, 2017). The study intended to conduct research on the South African youth population of online shoppers and to use the results to inform later research that may include the whole population of online shoppers in South Africa with the intention of possibly determining age trends.

To this end, the aim of this study was to investigate the associations between the predictor variables of negative emotional state, self-esteem, self-regulation and gender, with online shopping; testing the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014) that demonstrates how the predictors of behavioural addiction manifest in online shopping addiction. The study intended to corroborate online shopping addiction's classification as a behavioural disorder sharing relationships with addictive predictors.

As mentioned before, several variables were proposed by the model as predictors for online shopping addiction, separated into predictors related to the online environment and predictors related to addiction in general (Rose & Dhandayudham, 2014). The addiction predictors include negative emotional state, self-esteem, self-regulation and gender (Rose & Dhandayudham, 2014). For the purpose of this study, the conceptual model was adapted to only include predictors related to addiction. This was done in order to affirm online shopping addiction as a unique addiction that should be considered in future editions of the DSM. It is thus not necessary to include the online shopping predictors as the Internet environment has been shown to be distinct (Duroy, Gorse & Lejoyeux, 2014; Keskin & Günüç, 2017; Zhao, Tian, & Xin, 2017). The impact of these specific predictors may be included in future research.

It is imperative to emphasise that this research places the aetiology of online shopping addiction as a behavioural addiction. This study aimed to confirm the associations between the predictor variables of negative emotional state, self-esteem, self-regulation and gender, and online shopping within the South African youth population of online shoppers. It also sought to correlate each of the aforementioned predictor variables with online shopping addiction. In doing so, this study further determined how these factors, in their totality, contributed towards online shopping addiction. By testing the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014), it could be determined whether the proposed variables are indeed

predictors of online shopping addiction or not and could further cement the proposition of online shopping addiction as a distinct addiction.

With South Africa's richly diverse population, it would be negligent to disregard the many variables upon which we differ and to assume that such an addiction manifests in the same way across all peoples. Instead, in this study variables including race and monthly personal income are represented that highlight the differences in how online shopping addiction is exhibited in the South African population of online shoppers. Therefore, the demographic variables of race, age, gender and monthly personal income were also explored. These variables have shown links to compulsive buying behaviours in literature. According to Claes, Müller and Luyckx (2016), a negative relationship exists between shopping addiction and age, meaning that as age increases, compulsive buying decreases. By looking at the nuances between races, differences in how online shopping addiction manifests between demographic groups can be ascertained – this is especially important in a diverse country like South Africa. Income is of interest as compulsive buying behaviours may have a more pronounced effect on the youth due to their lower income (Horváth et al., 2015). Gender has also been selected as compulsive and addictive buying behaviours have consistently been linked with women (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014).

1.5 Research questions

Through this study, the researcher attempted to answer the following primary research question: Do the predictor variables proposed in the Conceptual Model of Online Shopping Addiction predict the level of online shopping addiction?

The primary question will be answered through the following secondary research questions:
Is there a relationship between negative emotional state and level of online shopping addiction?

Is there a relationship between self-esteem and the level of online shopping addiction?

Is there a relationship between self-regulation and level of online shopping addiction?

Is there a difference between the level of online shopping addiction by gender?

1.6 Overview of the study

The researcher took a positivist stance and embarked on quantitative research in an effort to best answer the research questions listed above. The research aimed to test the Conceptual Model of Online Shopping Addiction by associating the levels of the predictor variables against the level of online shopping addiction. The population of this study included young adults between the ages of 18 to 34 years old. An online survey method was employed for data collection. The questionnaire was administered online via a market research firm. Purposive quota sampling was used and participants who met the inclusion criteria were invited to participate in the study. The researcher analysed the data collected using various statistical techniques, including an independent samples t-test, correlations and multiple linear regression, and aimed to determine whether or not the identified predictors had an association with the level of online shopping addiction or not as proposed by theory. Further to this, the predictor that had the largest effect on the dependent variable was identified and the overall success of the Conceptual Model of Online Shopping Addiction was determined.

1.7 Uniqueness of the study

The classification of compulsive online buying as online shopping addiction may have important repercussions for therapy. The proposed research differs from previous studies by examining how select predictor variables influence compulsive online shopping within the South African context. The results of this research can be used by clinicians to better understand the predictors of compulsive buying within the online context and to develop treatments. It may also be used to add

to existing knowledge and contribute to the recognition of compulsive online buying as being a distinct addiction disorder in the DSM in the future (Manchiraju, Sadachar & Ridgway, 2016). Individuals battling with compulsive online shopping addiction can use this knowledge to improve their well-being and seek help (Kukar-Kinney, Scheinbaum & Schaefers, 2016). Confirmation of the model of online shopping addiction may contribute towards the recognition of the pre-conditions related to the development of this unique phenomenon that may aid clinicians in treatments as well as inform future research and practice.

1.8 Definition of key terms

1.8.1 Affective states

Negative affect (NA) – "A general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness, with low NA being a state of calmness and serenity" (Watson, Clark & Tellegan, 1988, p. 1063).

Negative emotional state – Also referred to as negative affective state, is a state of distress in general that is characterised by various negative moods such as anxiety, depression and stress (Rose & Dhandayudham, 2014).

Positive affect (PA) – "The extent to which a person feels enthusiastic, active, and alert. High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy" (Watson, Clark & Tellegan, 1988, p. 1063).

1.8.2 Personal states

Self-esteem – An individual's evaluation of their own self-worth including positive and negative feelings about the self (Rosenberg, 1965).

Self-control – The capacity to change one's own state or responses to stimuli (Horváth et al., 2015).

Self-regulation – Managing one's self-control by keeping attention focused on the task at hand whilst also maintaining balanced emotions (Schwarzer, Diehl & Schmitz, 1999).

1.8.3 Shopping behaviours

Compulsive buying – Abnormal form of shopping where the individual cannot control the desire to shop, this urge is constantly reoccurring (Trotzke et al., 2015).

Compulsive shopper – An individual who has and acts on an uncontrollable desire to shop and shows repetitive uncontrolled shopping behaviour (Trotzke et al., 2015).

Compulsive online buying – Also referred to as online shopping addiction; a behavioural addiction where the individual has an uncontrollable desire to shop online, with this urge reoccurring constantly (Trotzke et al., 2015).

Online shopping – Form of commerce that occurs via website retailers accessed via the Internet where consumers purchase products (Rose & Dhandayudham, 2014).

Traditional shopping – Form of commerce that takes place offline or in physical retail stores where consumers purchase products (Rose & Dhandayudham, 2014).

Online shopping addiction – A behavioural addiction where the individual is addicted to shopping using the Internet as a means to access the shopping activity (this is the working definition of online shopping addiction for the current study).

1.8.4 Age

Baby Boomers – Typically born from 1946 to 1964. The generation born immediately post-World War II when increased birth rates were observed ("Baby boomer", n.d.).

Generation X – Typically born from the 1960s to 1970s. The generation directly following the Baby Boomers ("Generation X", n.d.).

Millennials – Typically born from the early 1980s to 1990s. Also known as Generation Y ("|Millennial", n.d.).

Generation Z – Typically born from the late 1990s onwards, with no consensus on the end years. The generation born after Millennials ("Generation Z, n.d.").

1.8.5 Statistical terms

Dummy variable – A dummy variable is a variable that is used to represent categorical data, for example gender or race, in a numerical format. Dummy variables are used when calculating regression analyses where categorical variables constitute one or more of the independent variables (Howell, 2012).

R - R is the correlation between the predicted values and the observed values (Howell, 2012)

R^2 - R^2 is the square of the R coefficient. In a linear regression model, the R^2 measures the amount of variation in your dependent variable that can be predicted by your independent variables (Howell, 2012).

Adjusted R^2 - The adjusted R-squared is a modified form of R-squared that is changed to take into account the number of predictor variables used in the model (Howell, 2012).

1.9 Summary and sequence of the research report

This chapter has opened with an introduction to the research, the motivation for the study and the general overview of the research conducted. The second chapter creates insights into each of the key concepts around which this study was built as well as a summary of the available international

and South African research into online shopping addiction and its predictors. Following this, the third chapter discusses the theory behind the study and the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014) that was chosen as the lens of this study. This theory was selected as it recognises online shopping addiction as a distinct disorder and positions it as a behavioural addiction. In the fourth chapter, the practical details of the study were proposed and substantiated. The ethical considerations for this study were also outlined in the fourth chapter. The research results are detailed in the fifth chapter. In the sixth chapter, the results of the study are discussed with the support of the literature. The dissertation is concluded in Chapter 7 that focuses on summarising the study at hand. The research question, model and theoretical framework are reflected upon, a presentation of the strengths and limitations of the current study is made and recommendations for future research are presented in this final chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, compulsive buying is discussed in terms of its definition and clinical classification. The online context is then explored and compulsive buying is discussed in relation to the online context. Thereafter, online shopping addiction is explained as a distinct behavioural addiction.

The literature search was conducted by using several databases accessed through the UNISA Library Portal, namely ScienceDirect, EBSCOhost, PsycINFO, PsycARTICLES, PsycNET, and Sage. The search terms used included: compulsive buying, compulsive shopping, compulsive online buying, compulsive online shopping, shopping addiction, online shopping addiction, online buying, online shopping, and compulsive buying disorder. Only literature from 2012 until the present was included in the search; however, when authors referred to previous authors' work or when a work was considered pivotal, the original work was then obtained and cited where possible. A Google Scholar alert was created for each search term and email notifications of new literature were sent directly to the researcher once a week.

2.2 Compulsive buying

The purchasing of possessions is a widespread human behaviour. As with other common human behaviours, the act of purchasing can be understood along a continuum ranging from normal or adaptive behaviours to extreme or compulsive behaviour (Claes, Müller & Luyckx, 2016). Compulsive buying, shopping addiction, shopaholism and oniomania are all synonymous for a unique phenomenon where an individual is overly preoccupied with shopping, has recurrent uncontrollable urges to shop, and loses control over their buying behaviour (Claes, Müller & Luyckx, 2016; Manchiraju, Sadachar & Ridgway, 2016; Trotzke et al., 2015). Compulsive buying

is defined by O'Guinn and Faber (1989) as "chronic, repetitive purchasing that becomes a primary response to negative events or feelings" (p. 155).

Studies conducted in the United States of America and Germany estimate the prevalence of compulsive buying to range between 5.8 to 8.0% (Claes, Müller & Luyckx, 2016; Horváth et al., 2015; Trotzke et al., 2015). It is possible for compulsive buying behaviours to appear in distinct environments that include traditional in-store purchasing as well as buying online using the Internet (Müller & Mitchell, 2014). The products typically bought by individuals who compulsively buy are shoes, music records such as CD's or vinyls, jewellery, ornaments, cosmetics, and household items (Keskin & Günüç, 2017).

Compulsive buyers' high levels of stress, anxiety and depression may lead to compulsive shopping as a means of escaping such negative emotions (Yüksel & Eroğlu, 2015). This indicates that compulsive buying may be a result or consequence of negative factors in an individual's life. However, engaging in compulsive buying also has a proven relationship with many harmful negative consequences including severe distress, social and occupational difficulties, and financial issues (Claes, Müller & Luyckx, 2016; Horváth et al., 2015; Trotzke et al., 2015). Negative variables thus emerge as both a cause and effect of compulsive buying. Compulsive buying behaviour can lead to grave consequences for individuals and may affect their environment and society. Compulsive buyers' personal relations may be influenced by anxiety, depression, and low self-esteem.

Compulsive buying is thought to improve anxiety rapidly and this can lead to enormous debt, inability to cope with expenses, criticism from associates, or legal and financial repercussions (Keskin & Günüç, 2017). Finally, according to Maraz et al. (2015), the negative consequences of compulsive buying are less likely to be experienced by males than by females, specifically when looking at the youth.

Despite negative consequences such as familial conflicts, psychological distress, guilty feelings, social and occupational difficulties, and financial issues, excessive buying continues. In severe cases, a majorly indebted individual may resort to fraud and other legal issues may arise in the pursuit of satisfying the urge to shop (Müller & Mitchell, 2014). With this in mind, one has to look at the current treatment practices of people who compulsively buy. It is necessary for treatment to be provided to those suffering from compulsive buying behaviours. However, without a proper classification and understanding of online shopping addiction and its predictors, it could be difficult for therapists and medical practitioners to select the correct and most effective approach to treat compulsive buying.

2.3 Treatment for compulsive buying

One approach to the treatment of compulsive buying is that of Griffiths (2013) who suggests that an addiction should not be treated directly, but the underlying cause that triggers the addiction should rather be addressed. For example, if one is compulsively shopping online as a means to relieve depression, then the depression should be treated; resulting in the addiction falling away. However, no standard treatment currently exists for compulsive buying behaviour and, therefore, various treatment methods are used including cognitive behavioural therapy, group therapy, medication, and support groups (Keskin & Günüç, 2017).

2.3.1 Cognitive behavioural therapy (CBT)

CBT is considered the most effective method to treat many kinds of addictions, including shopping addiction. In CBT, a trained therapist engages with a single patient in session-based appointments. The therapist identifies and helps the patient change any negative or obstructive thoughts about themselves that may be causing the urge to buy excessively. This method of therapy tries to diminish the importance placed by the patient on extrinsic goals such as appearance. Instead, one

focuses on improving intrinsic goals like feeling confident in who you are or building stronger relationships with others. This method is popular as it is non-invasive and does not use pharmaceuticals. This allows the patient to be in more control of the treatment and consequently their progress (Mitchell et al., 2006).

2.3.2 Group therapy

With group therapy, multiple patients suffering from the same addiction participate in a group setting, often facilitated by a CBT specialist. One of the main benefits of this therapy is that patients can share the experience of being addicted and not feel like they are struggling alone. This can result in fewer feelings of shame or guilt that can diminish the urge to partake in the addictive behaviour (Mitchell et al., 2006).

2.3.3 Medication

Medication is sometimes used as a means for people to regain control over their buying impulsions. Selective serotonin re-uptake inhibitor antidepressants are the most frequently prescribed medication to stabilise mood. Opioid antagonists, such as naltrexone, are also prescribed to control impulsive behaviour and the urge to shop. There is limited research corroborating that medication is effective in treating shopping addiction. However, medication may be beneficial in treating the underlying causes of shopping addiction (Filomensky et al., 2012).

2.3.4 Support groups

Support groups are another method of dealing with shopping addictions. Similar to group therapy, this is where people with similar experiences meet; creating a community of understanding and upliftment. Members keep each other in check by helping one another avoid lonely feelings that may lead back to abnormal buying habits. The goal is that one can learn to identify the emotions associated with the urge to shop excessively and uncover the underlying needs that must be met.

In doing so, the individual learns to substitute endless shopping with another more fulfilling activity. In time, methods of controlling thoughts about shopping and the associated cravings can be learnt that all curb the addictive behaviour (Keskin & Günüç, 2017).

2.4 Clinical classification of compulsive buying

With the current classification of compulsive buying being unclear, it is necessary to unpack previously proposed classifications as well as different alternatives in order to determine which treatment methods would be most appropriate. Compulsive buying was first described in the early 20th century with textbooks referring to this phenomenon as "buying mania" or "oniomania" that was grouped alongside disorders such as kleptomania and pyromania (Swan-Kremeier, Mitchell & Faber, 2015). Although there are early records, interest in this phenomenon has only piqued in recent years (Keskin & Günüç, 2017). As mentioned earlier, compulsive buying, compulsive buying disorder, pathological buying, buying addiction and oniomania are various terms used to describe the phenomenon of compulsive shopping. This array of terms reflects the ongoing debate on its clinical classification (Müller & Mitchell, 2014; Trotzke et al, 2015).

Some authors contend that an impulse control disorder would be the best classification for compulsive buying (Dell'Osso et al., 2006; Horváth et al., 2015; Pazarlis et al., 2008) because individuals suffering from this addiction tend to lose control over their purchasing behaviour (Trotzke et al., 2015). Black (cited in Keskin & Günüç, 2017) regard compulsive buying as a mood, an obsessive-compulsive disorder and an addiction, all in one. However, in a study by Lawrence, Ciorciari and Kyrios (2014), it was found that compulsive buying can be attributed more to behavioural addiction, and less so to a mood or obsessive-compulsive disorder. This stance has been supported by various authors and, therefore, compulsive buying as a behavioural addiction will be further investigated.

2.5 Behavioural addiction

The parallels between compulsive buying and behavioural addiction have been emphasised by other authors (Brewer & Potenza, 2008; Hollander & Allen, 2006; Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015). Most recently, more authors have proposed that compulsive buying shares numerous core characteristics with behavioural addictions when it is compared to the proposed diagnostic criteria for behavioural addictions (Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015). The similarities include a *"*…preoccupation with the behaviour, diminished control over the behaviour, repeated unsuccessful attempts to cut down or stop the behaviour, tolerance, withdrawal, and adverse psychosocial consequences*"* (Trotzke et al., 2015, p. 2). According to Horváth et al. (2015), the proposed classification of compulsive buying as a behavioural addiction focuses on the psychopathological aspect of the phenomenon. In doing so, the treatment can be directed differently than with other classifications. By categorising individuals as either suffering from this behavioural addiction or not, compulsive buying can be asserted as a distinct disorder rather than just being an extreme form of normal buying (Müller, Mitchell & de Zwaan, 2015).

Some research has revealed that online shopping addiction and compulsive buying may have a large overlap, while other research has proposed that the two concepts are distinct albeit related behaviours (Clark & Calleja, 2008; Lejoyeux & Weinstein, 2010). This same principle applies to online shopping addiction and its relationship with other behavioural addictions, most notably Internet addiction. The similarities between online shopping addiction and other behavioural addictions are evident, while the unique attributions of online shopping addiction are seen as contributors to its distinctiveness (Zhao, Tian & Xin, 2017).

In a study, reward sensitivity was most highly associated with the symptoms of compulsive buying, thus corroborating that compulsive buying shares the characteristic of increased reward sensitivity

as evident in other behavioural addictions such as pathological gambling and substance dependence (Davenport, Houston & Griffiths, 2012). From this association between compulsive buying and heightened reward sensitivity, addiction can be used to explain the deficits in decision-making that an individual suffering from compulsive buying may have. The overall *addictive* component in compulsive buying suggests a lack of control and inability to follow a sequence of logical steps when confronted making decisions. The individual may struggle to weigh up the costs and benefits of making a decision to purchase an item, as well as in everyday activities. Likewise, impaired decision-making by choosing immediate reward despite the harsher long-term consequences is shown in those with substance addictions (Alavi et al., 2012; Lawrence, Ciorciari & Kyrios, 2014). Lawrence, Ciorciari and Kyrios (2014) refer to addiction as follows: "A generalised definition of addiction refers to an attachment to an appetitive activity, so strong that a person finds it difficult to moderate the activity despite the fact that it is causing harm" (p. 1138).

Drugs, gambling, alcohol, sexual behaviour, binge eating, particular forms of exercise and Internet use amongst other behaviours can be included in these activities. The extent to which an individual uses appetitive behaviour is determined by many factors, including ecology, culture, personality, influences from friends, and availability of the behaviour. These determinants may increase or decrease behaviour by providing more appealing incentives or more discouraging disincentives that cause psychological conflict (Lawrence, Ciorciari & Kyrios, 2014).

Furthermore, the negative effects associated with compulsive buying are similar to those of other behavioural addictions such as pathological gambling (American Psychiatric Association, 2013; Manchiraju, Sadachar & Ridgway, 2016). Due to limited research into the classification of compulsive buying however, it is not considered a distinct disorder in the DSM-5 (American Psychiatric Association, 2013; Horváth et al., 2015; Müller & Mitchell, 2014). As the occurrence of compulsive buying surges in the population, particularly amongst young adults, the exclusion

of this phenomenon is troubling. Nevertheless, various psychological and psychiatric studies refer to the phenomenon as ‘compulsive buying disorder’, ‘compulsive buying’ or ‘shopping addiction’ (Andreassen et al., 2015; Horváth et al., 2015).

Peele (as cited in Alavi et al., 2012) popularised the idea that *behavioural* addictions can exist, that is, that true addictions are not confined to the use of substances or psychotropic drugs. In his view, individuals suffering from addiction become dependent on a particular set of experiences that are not limited to reactions from chemical substances. Many authors have corroborated Peele’s notion and suggested that addiction does not necessarily need to involve the abuse of substances or drugs (Alavi et al., 2012; Griffiths, 2005; Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015). Many excessive behaviours can be termed as *addictions.* These include Internet use, gambling, playing video games, sex, pathological working and shopping. Such addictions may share similarities with addictions related to substances; however, the individual is addicted to the behaviour or experience of engaging in the behaviour (Alavi et al., 2012; Griffiths & Kuss, 2015). Therefore, due to the similarities between compulsive buying and gambling disorder, the most suitable classification would be behavioural addiction rather than obsessive-compulsive disorder or mood disorder (Keskin & Günüç, 2017; Lawrence, Ciorciari, & Kyrios, 2014).

To further corroborate this classification, Griffiths (2005) contends that addiction is a process where addictive behaviour is placed on a continuum of the severity from normal to excessive. This allows for the flexibility to contain behaviours that include those relate to substances and non-substances as well as the inclusion of a variety of other influencing factors. Griffiths is well-known in the field of behavioural addictions and contends that there are principal features of addiction that make it a unique phenomenon beyond just being termed as problematic behaviour. Although behavioural addictions do not involve substances or drugs, Griffiths proposes core indicators of

behavioural addiction based on the criteria for substance addiction. Most notably, an addictive behaviour needs to have some measure of negative consequences that the individual experiences. It is also proposed that the rewards, both physiological and psychological, in combination with the type of environment, whether social or cultural, linked to the specific behaviour may have a significant influence on the probability of the behaviour or activity becoming excessive (Griffiths, 2005). At the moment, impairments must be evident in social relationships, at work and in other social situations in order to make a diagnosis of a behavioural addiction (Alavi et al., 2012).

2.6 The online context

According to Internet World Stats (2018), 51.7% of the world population has access to the Internet, with much higher rates for developed countries. The Middle East and Africa, however, are experiencing the fastest growth rates and infrastructure is being built-up in cost-effective ways via wireless communications technologies. Fulfilling the roles of both a communication device and as a device to access the Internet, the mobile phone now plays a progressively more significant role in technology-mediated social behaviour. Statistics on Internet usage are most likely underestimations, particularly for developing countries where computer purchases are being outpaced by mobile phone sales. Trade on the Internet can be reached by a large audience and is not limited to the queues and physical space of a traditional store. Internet trade is highly lucrative and is firmly established on the market, particularly for social networks. Private sales sites and applications also have a substantial impact on internet shopping (Duroy, Gorse & Lejoyeux, 2014; Wallace, 2012).

Compulsive online buying is a new phenomenon, born in the wake of rising Internet access and the subsequent growth of e-commerce (Manchiraju, Sadachar & Ridgway, 2016). The advent of Internet access has seen traditional brick-and-mortar stores open shops online that bring a new and positive shopping experience to individuals. Over the past decade, more individuals have been

engaging in both online and traditional shopping, with increased compulsive buying tendencies preferring the Internet shopping environment (Müller & Mitchell, 2014). Despite these rapid growth rates of Internet retailing and the large number of studies on traditional compulsive buying, there is a paucity of research on compulsive buying within the online context (Andreassen et al., 2015; Duroy, Gorse & Lejoyeux, 2014; Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Rose & Dhandayudham, 2014; Trotzke et al., 2015). Notwithstanding, research into the precise factors affecting online purchasing behaviour is scarce (Chen & Zhang, 2015). With an ever-increasing number of individuals using online shopping to purchase goods, it would seem rational to assume that problematic buying behaviours could now occur online as well (Trotzke et al., 2015). The above argument proposes that online buyers may be more susceptible to the enticements of online marketing campaigns (Wallace, 2012). It is noteworthy that popular media first noted the compulsive online shopping before any academic research was done on the phenomenon (Jacques, 2014; Stimson, 2014), yet, limited research has been conducted on this specific topic in recent years (Lee, Park & Lee, 2016; Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014; Trotzke et al., 2015).

Müller and Mitchell (2014) apply the same definition of compulsive buying to compulsive online buying when discussing internet shopping from a psychiatric perspective, namely "…experiencing an extreme preoccupation with buying or shopping, losing control over sending, and continuing buying despite harmful consequences" (p. 386). The difference between these definitions seems to be the preferred shopping environment of the individual. The individual is now preoccupied with the use of the Internet or a mobile device that has access to the Internet as a means to engage in shopping online (Manchiraju, Sadachar & Ridgway, 2016).

To further investigate the online shopping environment, the following sub-sections explore characteristics of both online consumers and the online context.

2.6.1 Consumer characteristics

Age has been selected as a variable in the current study due to its proposed link to online shopping behaviour. In addition, a distinction can be drawn between traditional offline shoppers and online shoppers. Fundamental differences appear between these shopper groups.

2.6.1.1 Age

Due to their high Internet usage, the youth represent an important demographic group. However, it is also vital to recognise how younger and older consumers differ from one another as the age groups diverge in their online shopping tendencies (Zanjani, Milne & Miller, 2015). According to Millward Brown Digital (2015), smartphone usage is most frequently seen in Millennials as opposed to the older generations like Generation X and the Baby Boomers. More time is spent on online entertainment by Millennials, with Baby Boomers being more TV-focused. Generation Xers fall somewhere in-between. Since the advent of Internet access, the time spent on online shopping has increased for Millennials but decreased for Generation Xers (MarketingCharts, 2013). Considering these generational differences, and also taking into account that Millennials form the largest cohort of online shoppers in South Africa, it is important to explore this vulnerable group (Zanjani, Milne & Miller, 2015). It is for this reason that this study focuses on the youth in particular which includes the Millennial and Gen Z age groups. A negative relationship between age and compulsive buying has been demonstrated in various studies (Claes, Müller & Luyckx, 2016). In other words, as age increases, compulsive buying decreases. As the Internet becomes an increasingly significant buying context, it becomes important to conduct studies on variables such as age instead of relying on conventional buying research (Claes, Müller & Luyckx, 2016).

2.6.1.2 Differences between online and traditional offline shoppers

A study by Duroy, Gorse and Lejoyeux (2014) found that compulsive online buyers were not sensitive about avoiding stores and were more sensitive to being tempted by web-based marketing

when shopping online. In contrast, traditional compulsive buyers had higher materialistic value endorsement in that they believed that acquiring material goods was a form of accomplishment. From this, it can be argued that compulsive buying using the Internet is not the online equivalent of traditional compulsive buying.

According to Müller and Mitchell (2014), most patients being treated for compulsive buying prefer shopping in traditional brick-and-mortar stores due to several features, including immediate gratification, to physically touch and examine the products, and the enjoyment of the activity. Individuals who struggle with compulsive buying often have anxious or avoidant personality disorders. The anonymity and easy accessibility that the Internet provides may be preferred over traditional brick-and-mortar stores (Müller & Mitchell, 2014). The Internet does not necessarily provide a different context, which may exacerbate an offline addiction; instead, the distinctiveness of the online environment is proposed to culminate in a unique addiction based on the structure of the Internet and its ease of use (Keskin & Günüç, 2017). It is thus not necessary to include the online shopping predictors as the Internet environment have been shown to be distinct (Duroy, Gorse & Lejoyeux, 2014; Keskin & Günüç, 2017; Zhao, Tian, & Xin, 2017).

2.6.2 Characteristics of the online context

The characteristics of the online context are focussed upon as compulsive online buying is distinct from traditional offline buying. The Internet in itself has many enticing characteristics that could aid in the development of compulsive buying behaviours (Lee, Park & Lee, 2016) and in this regard the next sections will focus on accessibility, environmental stimuli, privacy and the invisible boundaries related to the online environment.

2.6.2.1 Accessibility

The ease of accessibility due to the 24/7 nature of the Internet allows shoppers the opportunity to shop at any time during the day or the night (Lee, Park & Lee, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015). An unending store inventory, attractive online displays, online marketing promotions and payment systems, such as the use of a credit card, may also contribute to uncontrolled buying (Lee, Park & Lee, 2016, Müller & Mitchell, 2014, Trotzke et al., 2015). Another increased risk for compulsive buying may be the ease with which an individual can add a multitude of products to their online shopping cart (Müller & Mitchell, 2014).

2.6.2.2 Environmental stimuli

Black (as cited in Workman & Paper, 2010) found that with regard to environmental stimuli, compulsive shoppers' experiences are enhanced by colours, lights and other visually appealing items typical of the shopping environment. In the online shopping environment, one is also faced with similar colourful environments combined with marketing cues aimed at enticing one to make a purchase.

2.6.2.3 Privacy

The convenience of shopping privately from home may encourage compulsive buying (Müller & Mitchell, 2014). This unique shopping context allows an individual to perform purchasing behaviours without being observed. By shopping online, face-to-face social interactions can be avoided and the individuals are able to hide their buying activities. This lack of identity may exacerbate compulsive online buying (Lee, Park & Lee, 2016; Müller & Mitchell, 2014). On the contrary, some authors propose that this lack of social interaction when using the Internet to buy could be a limitation of this shopping environment (Müller & Mitchell, 2014).

2.6.2.4 Invisible boundaries of the environment

In traditional shopping environments, individuals have the physical reminder of how many items they have purchased, the ability to look into their wallets and see their money or actively reach for a credit card. In the offline shopping environment, shoppers are also subject to time restrictions and may even become physically exhausted. However, with the online shopping environment individuals can shop from anywhere, may not be able to keep track of the items ordered, nor see the immediate effect of their expenditure on their credit cards. In addition, physical exhaustion is eliminated and the time spent shopping may not be recognised by the individual (Keskin & Günüç, 2017).

2.7 Compulsive online buying as an addiction

As discussed before, many authors propose that compulsive buying can be classified as a behavioural addiction (Brewer & Potenza, 2008; Rose & Dhandayudham, 2014; Hollander & Allen, 2006; Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015). In the same sense, online shopping could be linked to problematic behaviours (Rose & Dhandayudham, 2014), that can be considered to fall within a spectrum that, at the extreme, results in online shopping addiction (Griffiths, 2005).

The use of the Internet as a form of addiction to technology has been well-documented, especially within the realms of gaming and gambling (Griffiths, 2009; Wood & Griffiths, 2007). The term *technology addictions* was first coined by Griffiths (1995) and is defined as being "non-chemical (behavioural) addictions which involve human-machine interaction" (p.15). Duroy, Gorse and Lejoyeux (2014) describe the Internet as being *a booster* of numerous behavioural addictions. This is because it permits the resurgence of addictions such as online gaming disorder, pathological gambling, and online compulsive buying (Duroy, Gorse & Lejoyeux, 2014). Technological addictions may merge with different types of addictive behaviour, including sex, gambling, or

shopping. Behaviour addictions related to the use of technology can be passive or active. Passive technological addictions can include watching the television whereas active technological addictions can include playing video games. Furthermore, such behavioural addictions are touted to contain reinforcing features that may aid in the development and sustaining of addiction (Duroy, Gorse & Lejoyeux, 2014).

Griffiths (1995) drew on the clinical criteria for established addictions from the DSM-IV to develop criteria for technological addiction. Ensuing studies have reinforced the application of these criteria to Internet behaviour. More recently, in light of a paucity of research on the topic, online shopping addiction itself has been proposed as a unique behavioural addiction (Andreassen et al., 2015; Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Trotzke et al., 2015).

2.8 Components Model of Behavioural Addiction

The Components Model of Behavioural Addiction, as proposed by Griffiths (1995), laid the foundation for more recent exploration and research on behavioural addiction, with Andreassen et al. (2015), Manchiraju, Sadachar and Ridgway (2016), Müller and Mitchell (2014) and Trotzke et al. (2015) using his classification as the basis of their work.

By comparing behavioural addictions with the clinical criteria for established substance addictions, one can determine that behaviours could indeed be addictive (Griffiths, 2005). Griffiths contends that all addictions have several distinct components, which are salience, mood modification, tolerance, withdrawal, conflict, and relapse. Rose and Dhandayudham (2014) situate online shopping addiction as a behavioural addiction that encompasses Griffiths' components. These components also provide the foundation upon which Rose and Dhandayudham propose their model, namely the Conceptual Model of Online Shopping Addiction.

Griffiths (as cited in Griffiths, 2005) proposed that all the components of online shopping addiction (Figure 2.1) must be present in order to define a behaviour as being addictive. It is important to note that an individual may not necessarily have an addiction even though they may exhibit behaviours that have addictive elements. If someone does not experience any negative withdrawal symptoms after ceasing an excessive behaviour, they cannot be considered addicted. With that being said, if conflict does not arise as a result of extreme behaviour, it may not be considered as an addiction. An addiction is only an addiction when it takes away from that person's life instead of adding to it as a healthy enthusiasm for a specific behaviour would.

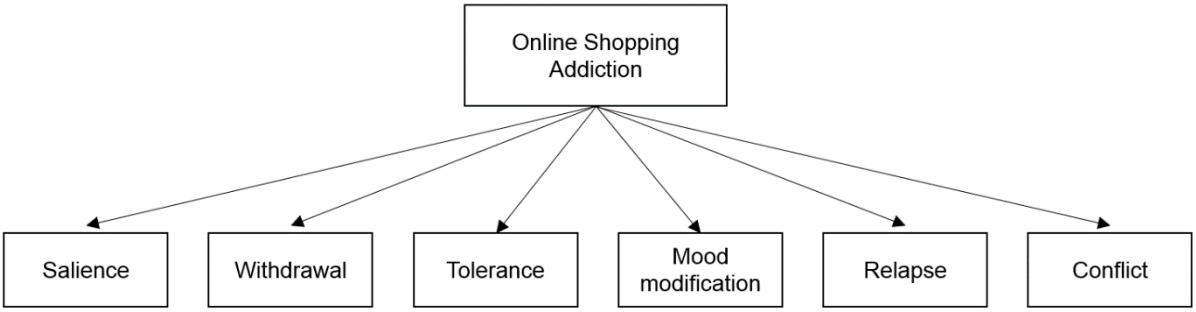


Figure 2.1 Online Shopping Addiction Components Model adapted from Griffiths (2005)

Each of the dimensions which, according to Griffiths (1996), make online shopping a behavioural addiction will be explored briefly.

2.8.1 Salience

Salience refers to a situation where problematic behaviour has become the most important activity in an individual's life. The activity dominates the individual's thinking with preoccupations and cognitive distortions. The activity also dominates their feelings with cravings for the activity, and also dominates their behaviour as their social behaviour deteriorates, for example, the individual will be thinking about the next time that they will be engaged in the activity even when they are not currently able to do it (Andreassen et al., 2012; Griffiths, 2005; Griffiths, 2016).

The following extract uses gambling to highlight what salience is: “If I wasn’t actually gambling I was spending the rest of my time working out clever little schemes to obtain money to feed my habit. These two activities literally took up all my time” (Griffiths, 2005, p. 193).

2.8.2 Withdrawal symptoms

The unpleasant feelings, mood states or physical effects that arise after a specific activity has ceased or decreased can be described as the withdrawal symptoms. These symptoms may be psychological and include extreme irritability or moodiness, or physiological and include nausea, sweats, headaches, insomnia and other reactions related to stress. Again, in drug-related addictions, withdrawal effects are well established; however, there is an increasing amount of research linking withdrawal symptoms to behavioural addictions (Andreassen et al., 2012; Griffiths, 2005; Griffiths, 2016).

According to a study by Rosenthal and Lesieur (1992), almost two thirds of pathological gamblers experienced at minimum one physical withdrawal symptom. Some of these effects included headaches, appetite loss, insomnia, breathing difficulties, chills, and/or physical weakness. These results were then compared to the withdrawal symptoms experienced by the control group who were substance-dependent. The findings showed that pathological gamblers physically felt more withdrawal symptoms when withdrawing from gambling than the control group.

2.8.3 Tolerance

Tolerance refers to an individual needing to increase a certain activity in order to obtain the same effects as before. This can be understood most obviously via the example of heroin addicts’ needs to increase their dosage in order to experience the same feeling or rush that they once got from smaller doses. Tolerance in chemical addictions is well established and evidence of tolerance in behavioural addictions is constantly increasing. When looking at gambling for example, tolerance

may involve the individual increasing the amount bet to attain a similar high felt when smaller bets were previously placed (Andreassen et al., 2012; Griffiths, 2005; Griffiths, 2016).

In an experiment on gambling addiction by Griffiths (as cited in Griffiths, 2005), it was found that the heart rates of both regular and non-regular gamblers increased significantly when engaged in slot machine gambling. However, it was interesting that after ceasing gambling, regular gamblers' heart rates immediately saw a dramatic decrease, whilst the heartbeats of non-regular gamblers remained high. This experiment showed that both regular and non-regular gamblers may experience the physiological *high* associated with the activity of gambling but that the non-regular gamblers stayed aroused for longer. This means that they do not have to gamble as quickly nor as often as regular users in order to achieve the same rush. Regular gamblers were observed to have been building up tolerance towards gambling highs thus having to gamble more often or faster in order to achieve the desired experience (Billieux, et al., 2015; Griffiths, 2005).

2.8.4 Mood modification

Mood modification is the subjective experience or mood shift that individuals report as a consequence of engaging in a particular behaviour, for example, an individual may experience a *buzz* or *high,* or even the destressing feeling of *escape* or *numbing* (Griffiths, 2005; Griffiths, 2016).

According to Griffiths (2005), many addicts engage in behaviours to reliably and consistently achieve a change in their mood with mood-altering experiences being quite prevalent in behavioural addictions. This is done as a coping strategy in order to self-medicate and improve the way they feel at the same time. In gambling addictions, mood-modification has been reported by patients in subjective self-reports, interviews and questionnaires. Further to this, in objective experimental studies, heart rate has been measured as an indicator of arousal and shift in mood.

Griffiths (2005) noted that a person's chosen behaviour or substance could have the capacity to alter moods differently at different times, for example, an individual who is addicted to nicotine may smoke a cigarette in the morning in order to get that *rush* that they need to kickstart the day but by the evening they no longer need the rush and may smoke as a way to relax and destress. Therefore, it can be postulated that psychology may override physiology in such cases because of expectation effects.

2.8.5 Relapse

Relapse can be understood as the tendency to revisit previous patterns of a particular activity repeatedly. It also refers to when the most severe patterns of behaviour recur after many years of control or abstinence, showing behaviour typical to the height of the addiction. When looking at smokers, relapse behaviour can be seen. Some smokers may quit smoking for a period of time and then relapse, returning to their usual smoking habits almost immediately. Even in behavioural addictions, relapses occur highlighting that this is a common trait for all addictions (Andreassen et al., 2012; Griffiths, 2005; Griffiths, 2016).

2.8.6 Conflict

Conflict refers to the clashes endured between the addicted individual and the people in their lives, known as interpersonal conflict. Intrapsychic conflict may also occur where conflict stems from within the individual. The disregard of negative consequences in favour of short-term relief results in long-term adverse effects. These effects then increase the need to use the addictive behaviour to cope. This conflict may result in the individual compromising personal relationships with significant others and social activities, compromising their work or academic lives or compromising recreational activities. Internal conflict may also occur when the addicted individual realises that they are excessively engaged in an activity and attempt to cut back or cease the

behaviour. If they find they are unable to do so, they may experience a personal sense of a loss of control (Griffiths, 2005; Griffiths, 2016).

2.8.7 The components in context

Griffiths' criteria for addiction – as discussed above – have informed various authors' works. Most recently, and relevant to this study, Rose and Dhandayudham (2013) proposed a Conceptual Model of Online Shopping Addiction based on these abovementioned criteria. Within the online context, each of these dimensions has a specific meaning. Salience denotes an individual's fixation on online shopping. Withdrawal refers to the uncomfortable feelings or negative physical effects one experiences when stopping or significantly reducing online buying. Tolerance refers to an increased time spent shopping online in order for the individual to experience mood modification. Mood modification defines online shopping as a coping strategy. Relapse is stated as being the tendency to resume previous online buying patterns after attempts to decrease or cease buying behaviours. Conflict refers to disputes, such as interpersonal conflict, that arise because of excessive online purchasing (Manchiraju, Sadachar & Ridgway, 2016). Finally, this lays the foundation for the theoretical framework of the study that is discussed in the next chapter.

2.9 Conclusion

The Internet provides a unique shopping context that may exacerbate one's predisposition to shop online. With more than half of South African Internet users shopping online, compulsive buying may pose a threat to the well-being of consumers (Effective Measure, 2016; Effective Measure, 2017). The Internet has transformed the shopping landscape by introducing new features to the shopping experience that result in easier, more accessible shopping platforms. Although providing some positive benefits for the shopper, online shopping experiences may also set-off problematic behaviours. Despite research on compulsive online shopping being quite scarce there is reason to

explore compulsive shopping within the unique online context and to place it as a distinct behavioural addiction (Claes, Müller & Luyckx, 2016; Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014).

From the above literature review, many indicators supporting online shopping addiction as a behavioural addiction emerge. However, this area is not well-researched. For the purpose of this study, compulsive online buying is classified as a behavioural addiction, meeting the requirements set out by Griffiths (2005) for behavioural addiction. The theoretical model for this study is based on these same addiction criteria, thus positioning online shopping addiction as a behavioural addiction, in line with the researcher's perspective. Compulsive buying is not limited to the traditional offline environment but can also occur when using the Internet to make purchases (Muller and Mitchell, 2014). This study will focus on compulsive buying as a behavioural addiction within the online environment that will be referred to as online shopping addiction.

The Conceptual Model of Online Shopping Addiction, which is based on the core criteria for behavioural addiction, will be discussed in the next chapter.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Introduction

As indicated in Chapter 2, recent findings suggest that the online shopping environment may lead to problematic online shopping behaviour. Rose and Dhandayudham (2014) proposed a Conceptual Model of Online Shopping Addiction based on a theoretical review of relevant literature. This conceptual model is based on the premise that online shopping addiction is indeed classified as a behavioural addiction. It draws on the Components Model of Behavioural Addiction as proposed by Griffiths (2005) upon which many other researchers have based their addiction research. This components model sets the criteria for identifying behaviour as being addictive whereas the Conceptual Model of Online Shopping Addiction provides a predictive framework for the occurrence of such addictive behaviour based on these criteria. By using this model, the present study can situate online shopping addiction as a behavioural addiction and determine whether in fact the proposed predictors are in line with those of addictions and the criteria laid out.

In this chapter, the Conceptual Model of Online Shopping Addiction, as chosen for the study, will be discussed. Each predictor variable being studied will be defined and explained in terms of current literature and previous studies. The predictor variables of online shopping addiction will be discussed with supporting theories to substantiate their inclusion. Addictions can be situated within a biopsychosocial theoretical framework. This theoretical framework was chosen for the current study as it supports the inclusion of a variety of theories that explain the predictors of online shopping addiction.

3.2 Conceptual Model of Online Shopping Addiction

In developing the Conceptual Model of Online Shopping Addiction, Rose and Dhandayudham (2014) reviewed present views on problematic behaviour relative to online shopping with a specific focus on addictive behaviour. This review of the literature aimed to extend existing knowledge of online shopping addiction in which there is sparse reliable information available. The model was established with theoretical backing for the inclusion of seven predictor variables pertaining to both addiction and the online environment. Within this model, online shopping addiction as a construct is described as being a behavioural addiction and is based on the established behavioural addiction component criteria by Griffiths (2005). These criteria include the dimensions of salience, mood modification, tolerance, withdrawal, conflict, relapse, and resulting problems, specific to the online context (Andreassen et al., 2015). This is of particular importance as there has been ongoing debate as to whether compulsive buying should be classified as an addiction or not. Despite the scarcity of literature on compulsive online shopping, there is some convincing research that places compulsive online shopping as a distinct behavioural addiction (Claes, Müller & Luyckx, 2016; Manchiraju, Sadachar & Ridgway, 2016; Rose & Dhandayudham, 2014). With this in mind, the researcher has selected this model specifically as it supports online shopping addiction as being a distinct behavioural addiction. This model is supported by biopsychosocial theory that will be explained in more detail at the end of this section.

Considering that there is currently paucity in research on the predictors of online shopping addiction, Rose and Dhandayudham (2014) proposed that delving into current literature on behavioural addiction and compulsive buying, as well as the detailed characteristics of the online shopping environment that may fuel this addiction, may aid in explaining and understanding online shopping addiction. The proposed conceptual model includes known predictors of *addictive* behaviours: *self-esteem, self-regulation, negative emotional state*, and *gender*. It also includes

predictors *specific* to the online shopping environment: *enjoyment*, *social anonymity* and c*ognitive overload*. The Conceptual Model of Online Shopping Addiction and the hypothesised relationships between online shopping addiction and the seven proposed predictors are presented in Figure 3.1.

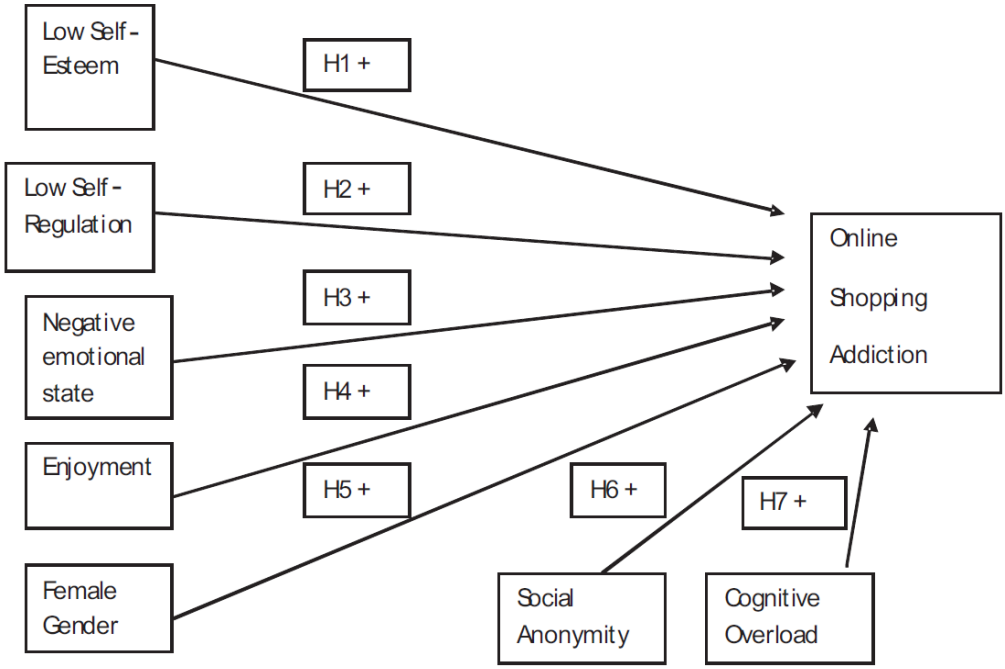


Figure 3.1 The Conceptual Model of Online Shopping Addiction (Rose and Dhandayudham, 2014, p. 86)

The first hypothesis (H1+) states that "individuals with low self-esteem will find the process of online shopping provides relief from such feelings" (Rose & Dhandayudham, 2014, p.86). The second hypothesis (H2+) states that there is "a direct relationship between deficient self-regulation and online shopping activity" (Rose & Dhandayudham, 2014, p.86). The third hypothesis (H3+) states that the "ease of access and instant gratification of the e-retail medium provides an ideal environment for reduction of negative emotional state" (Rose & Dhandayudham, 2014, p.86). The fourth hypothesis (H4+) states that an increase in "enjoyment is a key factor in the development of OSA" (Rose & Dhandayudham, 2014, p.86). The fifth hypothesis (H5+) states that "the female gender variable is likely to be a stronger predictor of OSA than being male" (Rose & Dhandayudham, 2014, p.87). The sixth hypothesis (H6+) states that "social anonymity of the

online environment and subsequent disinhibition encourages inappropriate excessive shopping behaviour" (Rose & Dhandayudham, 2014, p.87). The seventh hypothesis (H7+) states that the "cognitive stimulation of online retail websites will increase cognitive load leading to lack of self-control" thereby having an effect on online shopping addiction (Rose & Dhandayudham, 2014, p.87).

3.2.1 Model for this study

The development of the Conceptual Model for Online Shopping Addiction sets the foundation for future testing and measurement of the proposed predictor variables and the resultant variable of online shopping addiction. As this study is the first application of this model to the researcher's knowledge, there is a dearth of information on the predictors of online shopping addiction and provides a starting point to contribute towards and refine theories around this unique phenomenon.

As mentioned before, online shopping addiction has neither been confirmed as compulsive buying nor as a behavioural addiction (see Section 2.5). Despite sharing several characteristics with both concepts, there is stronger supporting evidence, as presented in Chapter 3, which situates online shopping addiction as a unique behavioural addiction. For the purpose of this study, the conceptual model has been adapted to only include the predictors related to behavioural addiction. This decision was based on the previous literature that supports this positioning of online shopping addiction as an addiction worthy of inclusion in future editions of the DSM. Figure 3.2 shows the model used for the current study.

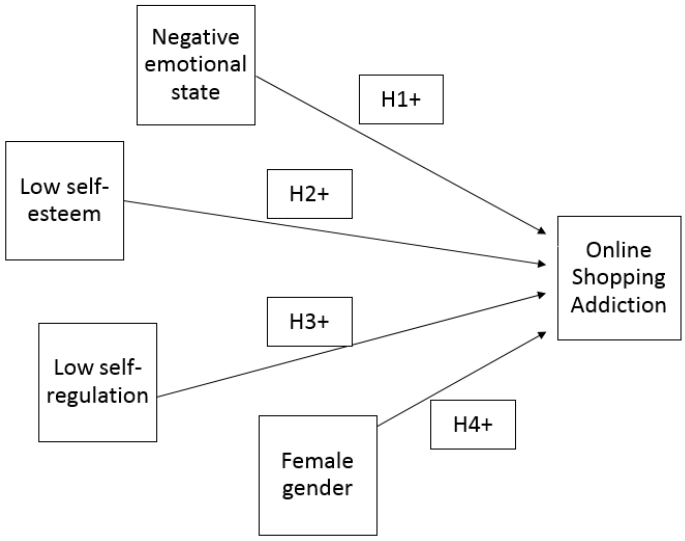


Figure 3.2 An Adapted Model of Online Shopping Addiction: The addictive predictors from the Conceptual Model of Online Shopping Addiction (adapted from Rose and Dhandayudham, 2014)

3.3 Predictor variables

The predictor variables as proposed in the Adapted Model of Online Shopping Addiction have been found to predict addictive behaviour and, therefore, are proposed by the model to also predict online shopping addiction. Below, the relationship between each predictor and online shopping addiction is discussed, while the research hypothesis for each is proposed.

3.3.1 Negative emotional state

A variety of characteristics and disorders that impact on emotional state have been associated with compulsive online shopping including high trait impulsivity, endorsing materialistic values, and depression (Müller et al., 2011; Müller & Mitchell, 2014).

Individuals with compulsive buying issues tend to experience increased levels of anxiety, depression, stress and negative feelings when compared to the general population (Sohn & Choi, 2013). Such individuals often have a pessimistic outlook, a low self-esteem, and are frustrated,

leading to purchasing behaviours as a form of retail therapy (Clark & Calleja, 2008; Sohn & Choi, 2013).

Uncontrolled buying has been shown to be demonstrated by patients with symptoms of depression. Furthermore, increased levels of stress and anxiety due to financial worries are associated with increased compulsive buying (Keskin & Günüç, 2017). Studies are yet to conclusively discover how negative emotions contribute to compulsive purchasing activities. Some studies have proposed that compulsive buying behaviours could be encouraged or perpetuated by negative affect (Harvanko et al., 2013; Rodriguez-Villarino et al., 2006).

When the need to spend money constantly ensues after stress or anxiety, compulsive buying may turn into addictive buying. The behaviour of buying may have an antidepressant effect on those suffering from depression who spend significant amounts of time shopping to relieve such feelings of intense unhappiness (Keskin & Günüç, 2017).

When an individual makes a purchase in order to decrease negative feelings, an emotional value is attached to the bought items and increases feelings of attachment to them. Usually, the more emotionally invested the individual is in the item, the more attached they are to it. This creates positive short-term consequences as purchasing these items is gratifying. These positive effects are short-lived as they become negative in the medium and longer-term due to shame, guilt, despair, and regret. This in turn leads to continued compulsive buying in order to relieve such negative affect (Lawrence, Ciorciari & Kyrios, 2014).

Compulsive buying is linked to the thought that purchasing an item compensates, rewards or diminishes negative affect. Accordingly, those who suffer with intense compulsive buying urges place more importance on potential purchases, fear that they may lose a purchase, and also

rationalise the buying of items. Concerns over regulating their buying behaviour are also more pronounced (Lawrence, Ciorciari & Kyrios, 2014).

It has been shown that a key motivating factor in compulsive buying is mood enhancement. Actions and behaviours can be considered by cognitive theory as being rooted in thoughts, with negative thoughts possibly fuelling compulsive buying behaviours (Sohn & Choi, 2013). Individuals can try to fill emptiness inside by buying items that are neither needed nor wanted Such empty feelings may be testament to consistent emotional deprivation, for instance, the individual fears that there is never enough, whether it be "money, material objects, recognition, or love" (Sohn & Choi, 2013 p.250). The endorsement of materialistic values increases the risk for compulsive online shopping (Müller & Mitchell, 2014).

In a study by Sohn and Choi (2013), it was found that compulsive buyers engage in retail therapy by replacing feelings of loneliness and emptiness with shopping. Individuals reported feelings of loneliness, low self-confidence, and deprivation. In order to compensate for these negative feelings, they shopped online. This was seen as an easy way to block out negative feelings or to bolster low self-esteem. However, this relief was fleeting and soon traded for regret. Some participants felt victimised; life events such as marriage or child birth removed them from their previously autonomous lives and required personal sacrifice. Without being able to fulfil their own needs, individuals developed a sense of deprivation and became more inclined to shop in order to make up for this feeling.

As compulsive online buying can be thought of as a behavioural addiction, shopping can thus be termed a conditioned stimulus because one engages in purchasing behaviour whenever they experience a negative affective state (Sohn & Choi, 2013). The positive rewards gained by shopping, albeit short-term, fuel the addictive consumption. Long-term effects of such compulsive

buying, such as debt and familial problems, may not be immediate and as such the behaviour can become an addiction (O'Guinn & Faber, 1989).

Negative emotional state is hypothesised as being a driver of online shopping addiction by Rose and Dhandayudham (2014), given how easily accessible the Internet is and how its use results in instant gratification, the online environment can provide an immediate decrease in negative feelings.

For the purpose of this study negative emotional state will be examined as a proposed predictor of compulsive online buying addiction. Negative affect was selected as a study variable as it is assumed that an individual who experiences a greater level of negative affect may also be experiencing a more intense degree of compulsive buying addiction. With that being said, the following hypothesis is stated:

H_1: Negative emotional state has a significant positive association with levels of online shopping addiction

3.3.2 Self-esteem

Self-esteem can be described as an individual's evaluation of themselves and the degree to which they feel that they are valuable or worthy. Individuals who possess a low self-esteem are more inclined to see themselves in a negative light. They are also more likely to pay attention to evaluations of themselves made by others, frequently being distrusting any positive comments (Lee, Park & Lee, 2016).

Becoming addicted to a substance or behaviour is more likely to occur in people with certain personality characteristics rather than others, according to addiction theories. Among other variables, lower levels of self-esteem are linked to addictive behaviours. In literature on consumer

behaviour, lower levels of self-esteem have consistently been associated with compulsive buying. Specifically, low levels of self-esteem have been shown to increase compulsive buying. In an attempt to relieve these feelings, an individual may engage in compulsive buying. However, this may actually lead to distress as the individual is unable to regulate their buying behaviour (Lee, Park & Lee, 2016; Sevelko et al., 2018).

Self-esteem is regarded as being the most frequently cited personality characteristic related to compulsive buying (Workman & Paper, 2010). Apart from being a method of reducing negative feelings, compulsive buying is also associated frequently with a diminished sense of self-worth (O'Guinn & Faber, 1989). This could be because the buying of material products could be a way to gain self-esteem (Sohn & Choi, 2013). Individuals relieve distress and improve their self-esteem by compulsively shopping.

Individuals with compulsive buying addiction may feel that they are successful if they believe that they look that way. Thus, they gain self-esteem by obtaining goods that make them 'look' successful. With regard to self-esteem, shopping is not considered as buying but is rather about being. It has been suggested that materialistic attitudes may encourage individuals to attain items perceived with the intention of increasing self-esteem or social status. This is done in an attempt to make up for the perceived divide between one's desired and actual self (Sohn & Choi, 2013).

Throughout the literature on compulsive and addictive behaviour, self-esteem is consistently mentioned as having an effect on such behaviours (Davenport, Houston & Griffiths, 2012; O'Guinn & Faber, 1989; Rose & Dhandayudham, 2014). According to Rose and Dhandayudham (2014) feelings of poor self-esteem are relieved by the act of engaging in shopping repetitively. Therefore, the material goods purchased do not relieve feelings of low self-esteem themselves, but rather the involvement in the buying process (Davenport, Houston & Griffiths, 2012).

The need to actually own the specific item is surpassed by the self-esteem needs of the individual. By looking at the work of O'Guinn and Faber (1989), it can be assumed that individuals with a diminished self-esteem are more likely to engage in compulsive shopping than those who have a high self-esteem.

As addiction is proposed to fill interpersonal self-esteem needs, it could be argued that low self-esteem may not affect compulsive online buying as the online shopping context does not provide the same social interactions as the traditional offline buying setting. Purchasing online is usually a solitary act done without shoppers having contact with one another (Lee, Park & Lee, 2016).

Individuals with a low self-esteem are more susceptible to social cues (Kukar-Kinney, Scheinbaum & Schaefers, 2016). However, the online context could exacerbate the effects of low self-esteem on compulsive online buying. Drawing on social comparison theory (Lennox & Wolfe, 1984), the ability of online shoppers to compare deals with other consumers, to bid on products against others, and to purchase because only a few items are said to be left are all factors that may exacerbate compulsive online buying (Kukar-Kinney, Scheinbaum & Schaefers, 2016).

By completing a purchase, negative emotional states can be relieved and self-esteem can be momentarily improved for a compulsive shopper. Such transactions provide positive short-term consequences that become conditioned responses leading to an elevated mood when feeling down. After this high comes an immediate down for the individual, suggesting that there is a cycle for shopping addiction. The buyer experiences positive reinforcement from the act of shopping by way of mood elevation albeit temporary. However, in the long term, negative feelings are reintroduced when mood is dampened, feeding the cycle as it repeats (Workman & Paper, 2010).

Another proposition is that the Internet provides a barrier behind which compulsive shoppers can hide. By purchasing online, an individual with a low self-esteem does not need to leave the comfort

of their own home. In doing so, they are not exposed to the interpersonal interactions found at a traditional offline store. This may exacerbate compulsive buying as the individual can avoid the glare of others in public and thus avoid a threat to their own self-esteem. One of only a few studies carried out on customers of an Internet retailer, was carried out on an American apparel store for women. The study found a high prevalence of compulsive shopping at 17.7%, proposing that there may be a positive association between motivations and consumers' compulsive buying tendencies when buying online. These results showed that compulsive buyers preferred to buy unobserved, avoiding social interaction and to buy in order to obtain positive feelings quickly (Duroy, Gorse & Lejoyeux, 2014).

For the purpose of this study, it is hypothesised that individuals with low self-esteem will gain feelings of relief by engaging in the online shopping process, as such low self-esteem will have a direct effect on online shopping addiction. Thus, H2 is stated as follows:

H_2: Self- esteem has a significant negative association with levels of online shopping addiction

3.3.3 Self-regulation

Self-control can be described as the capacity of an individual to change their own state or responses to stimuli. Some researchers use this term interchangeably with self-regulation. There are a "limited set of resources that the individual draws on to control their responses" (Rose & Dhandayudham, 2014, p. 86), including emotions and behaviours one uses to self-regulate. It is proposed that whenever self-control is exerted, these resources are reduced and subsequently decreases an individual's ability to self-regulate overall (Rose & Dhandayudham, 2014).

"At the heart of compulsive buying lies a failure of self-control: consumers engage in behaviour that brings immediate, but small, rewards, and forgo delayed, but larger, returns" (Horváth et al., 2015, p.121). Compulsive and addictive behaviours have been shown to have a strong link with

difficulties with control (Rose & Dhandayudham, 2014). While most individuals fail to control their buying behaviour from time to time these momentary lapses are distinct from compulsive buying. Compulsive buyers are extremely unsuccessful in maintaining control over their buying behaviours (Horváth et al., 2015). Compulsive buyers engage in chronic, repetitive and excessive purchasing (O'Guinn & Faber, 1989, Horváth et al., 2015).

In a study by Sohn and Choi (2014), compulsive buyers drive themselves to hasty buying. Participants from the study expressed being obsessed with shopping, which was usually done with urgency. The compulsive buyers were anxious about losing the opportunity to buy, viewing this as a huge loss, thinking that they may never get the chance to buy the item again. By not buying the item, they felt disadvantaged. In particular, limited edition items or fashion items blinded them. After the purchases, individuals felt regret and realised that their buying behaviour was unreasonable and reckless. The patients, however, recognised that their shopping behaviour was their only coping mechanism to deal with negative feelings of anxiety, stress and loneliness. In spite of this knowledge of their own behaviour, the cycle would still continue. Participants also admitted that they felt addicted to shopping and battled to comprehend this addiction. If they were unable to buy something, they felt out of control and unable to focus on anything else. Participants recalled visiting online shopping websites daily and feeling the urge to buy. Shopping was a crucial part of their everyday routine and participants battled to self-regulate their purchasing intentions.

A relationship between lack of self-control and Internet addiction suggests that being exposed to the online environment continuously encourages diminished self-control that in turn exhausts the self-regulatory capacity of an individual (Sun & Wu, 2011). This unique environment may thus provide the ideal foundation for a behavioural addiction such as online shopping addiction to manifest. As it is known that this online environment is distinct from traditional shopping

environments, it is imperative that the predictors of online shopping addiction are explored within this context.

There are many specific motivations for purchasing items online such as the variety of products and the immediate positive feelings associated with the purchase. The impulsive aspect of the behaviour is highlighted by the need to quickly get positive feelings. Impulsivity is renowned for being an important dimension of behavioural dependence (Duroy, Gorse & Lejoyeux, 2014)

Compulsive online buying is time-consuming, as it can happen at any time of the day and night. The *always on* characteristic of the Internet makes it possible to complete a purchase at any time, even at night. Compulsive buyers cannot regulate the urge to shop with many sitting long into the night on the Internet, resulting in a sleep deprivation (Duroy, Gorse & Lejoyeux, 2014).

According to Rose and Dhandayudham (2014), online shopping websites include features that promote self-regulation such as shopping carts into which to load products that gives the shopper time to weigh up options, search engines to search for and compare product information, and purchase history that may trigger buying behaviour awareness. However, there were some features that far outweighed the ones just mentioned. Certain marketing cues have been shown to represent a trigger that encourages compulsive buying and addiction (Duroy, Gorse & Lejoyeux, 2014, Kukar-Kinney, Scheinbaum & Schaefers, 2016; Martin et al., 2013). Pop-up advertisements, discounted offers with time limits, interactive product displays, and ease of ‘one click’ purchasing all contribute towards the weakening of self-regulation. Daily-deal settings in particular create time pressure and may also display how many items are left in stock for that short period of time. A countdown timer combined with a number showing the shopper that others have been purchasing the product and that not many are left can cause both time and social pressure. This combination may be harmful if the individual has high compulsive buying tendencies and may

make those with lower self-regulatory abilities more susceptible to online shopping addiction (Kukar-Kinney, Scheinbaum & Schaefers, 2016). Thus, H3 is stated as follows:

H_3: Self-regulation has a significant negative association with levels of online shopping addiction

3.3.4 Gender

Specific addictions may differ by gender (Rose & Dhandayudham, 2014). Compulsive and addictive buying behaviours have consistently been linked to women (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014). In Westernised countries, this may be explained by women being socialised into the role of 'household shopper'. Another explanation would be that of 'retail therapy': females are taught from an early age that buying or shopping makes one feel better and thus relieves negative affect (Rose & Dhandayudham, 2014). In contrast, the excessive use of the Internet, especially in the areas of gambling and gaming, is dominant in males (Lee, Park & Lee, 2016; Rose & Dhandayudham, 2014; Starcevic, 2015). The online context is unique in that the traditional shopping environment and the Internet environment intersect, and the phenomenon of compulsive online shopping, contextualised as a behavioural addiction, is found. With the above taken into account, two hypotheses emerge. First, it is hypothesised that females will have higher levels of online shopping addiction and, secondly, that females are more inclined to develop an online shopping addiction than males, in line with Rose and Dhandayudham's (2014) contextual model of online shopping addiction. Therefore, H4 is stated as follows:

H_4: Females have a significantly higher level of online shopping addiction than males

At this stage it is important to note that gender is not the only demographic variable that may have a relationship with compulsive buying. Many studies have shown a negative relationship between compulsive buying and age; as age increases, compulsive buying decreases (Claes, Müller &

Luyckx, 2016). As the Internet becomes an increasingly significant buying context, it becomes important to conduct studies on such variables within it instead of relying on conventional buying research (Claes, Müller & Luyckx, 2016).

3.3.5 Interactions between predictor variables

As mentioned previously, compulsive buyers drive themselves to buying impulsively, usually with a sense of urgency and a loss of control. They are especially sensitive to losing the opportunity to buy and feel disadvantaged if they miss out. However, after buying, they were filled with regret and realised that their shopping behaviour was the single way that they could deal with negative feelings. This may point to a way to cope with negative emotional state – an individual realises that they are feeling negative and loses control over their ability to regulate their shopping behaviour in order to relieve such negative emotions (Sohn & Choi, 2013).

When looking at the continuous use of technology, emotion emerges as a factor. According to LaRose and Eastin (2002), when negative mood and poor self-regulation combine, more online buying is the result. When feeling emotionally distressed, an individual is more likely to act impulsively and lower their self-control in order to relieve negative feelings (Rose & Dhandayudham, 2014). Shopping is stated as a method of easing anxiety, stress and negative affect thus an individual who shops when in a negative emotional state has a high likelihood of acting on impulse or in excess (Davenport, Houston & Griffiths, 2012).

3.4 The biopsychosocial theory

According to Griffiths (as cited in Griffiths, 2005), addictions are a product of the interplay between multiple aspects. These include the individual's biological makeup, psychological features such as personality, attitudes and beliefs, situational characteristics like social environment, and the structural characteristics such as what exactly the activity entails. This

multitude of interacting factors highlights how interconnected processes, characteristics and individual differences affect addictive behaviour.

From this, it is clear a single theoretical framework may be inadequate in explaining online shopping addiction as it is a complex and multifaceted phenomenon. It would be best explained by a biopsychosocial perspective that incorporates the best and most appropriate portions of psychology, biology and sociology (Skewes & Gonzalez, 2013). It is for this reason that the researcher has selected an array of theories that fit the unique model proposed by Rose and Dhandayudham (2014).

3.4.1 Social learning theory

Social learning theory, as proposed by Bandura (1971), is a theory that combines both learning and social behaviour and proposes that observation and imitation of others result in new behaviours developed. Through this theory, learning is positioned as a cognitive process that occurs within a social context. Learning can take place via observation only or direct instruction and does not need direct reinforcement to be learnt (Bandura & Walters, 1963). However, in addition to behavioural observation, learning may also take place by observing rewards and punishments. If a behaviour is consistently rewarded, it is more likely that it will persist; however, if it is consistently punished, it is more likely that the behaviour will cease (Renzetti, Curran & Maier, 2014). This theory places emphasis on the importance of cognitive processes in the learning of behaviours (Bandura, 1971).

The online environment does not reflect that of a traditional social context and has been established as being unique, especially due to the anonymity that this environment affords the individual (Keskin & Günüç, 2017). According to Workman and Paper (2010), compulsive shoppers often receive positive feedback on their behaviours. In the online environment, this is seen throughout the shopping process. Often when purchasing online, the individual can see how many items are

left and feel the pressure to conform like the other shoppers who have bought such deals. Some shopping websites display countdown timers showing when specials will expire and others display pop-up messages showing who bought an item recently online. Compulsive buyers would thus feel a sense of accomplishment after buying and may be reinforced by the positive 'thank you' emails sent after the completion of a purchase. It makes sense that one could feel validated or enabled by marketing cues and displays that recreate a social context. Therefore, the shopper would be reinforced to continue engaging in excessive shopping in order to improve mood. Thus, negative emotional state can be explained using the social learning theory.

3.4.2 Trait theory

Trait theory, which seeks to explain human personality, was first developed by Gordon Allport (1961). Supporters of this theory are primarily interested in measuring traits. Traits are described as being habitual patterns of thought, emotion, and behaviours. Through this theory, traits are seen as features of one's personality which are stable over time but vary from individual to individual. Some traits are consistent over various situations and are seen to influence behaviour (Kassin, 2003). Traits are distinct from states – traits are personal, permanent aspects of one's personality whereas states are transient moods (Allport, 1961).

Personality traits provide support for addiction. In drug addiction, and other various expressions of compulsive behaviour, research has found a strong common propensity towards anxiety, depression, and low self-esteem in adolescents. Studies conducted using the Minnesota Multiphase Personality Inventory (MMPI) found that people who were more independent, non-conformist and impulsive than their peers later became alcoholics. There seems to be a tendency amongst compulsive buyers towards compulsive behaviour in general. These individuals exhibit impulsive behaviours and become irritated when they do not get what they want immediately (Workman &

Paper, 2010). Thus, the inability to self-regulate can be explained by this theory as a personality trait contributing to the manifestation of online shopping addiction.

Additionally, compulsive buyers have been found to have trouble creating and sustaining emotional intimacy with other people and often feel isolated or lonely. Compulsive buyers share these same traits with individuals who are addicted to chemical substances, as well as gamblers, excessive cannabis smokers, or those with eating disorders. Furthermore, links relating to obsessive-compulsive disorder, depression, hoarding, amongst other disorders, have been established with compulsive buying (Workman & Paper, 2010).

In particular, negative affective state can be linked to trait theory. Affective traits have been shown to be consistent across time and varying situations. Affective traits have also been proven to have pervasive and enduring effects on behaviours, perceptions and motivations. Negative affective states, including moods or emotions, are usually situation-dependent. Emotions can change from one moment to the next and are extremely dependent on the situation one is in. Moods however, are affective states that can persist for days and may lack specific causes. In contrast to such negative affective states, affective traits can be understood as constant individual differences that continue for years. Negative affective states can be thought to derive from these persistent affective traits such as negative affectivity (Watson, Clark & Tellegan, 1988). It is possible that having a disposition to a negative affective state may impact compulsive buying in that the act of purchasing quells negative feelings of anxiety or depression. Given that this may be personality-linked, the effects may be pervasive over time and re-emerge, leading to a cycle of purchasing to relieve negative emotions or moods (Rhoades, Arnold & Jay, 2001).

Low self-esteem can also be situated within this trait theory. Low self-esteem has been found to be associated with compulsive or addictive buying most consistently. It is thus more probable for individuals suffering from compulsive behaviours who have low self-esteem to experience

negative affect. It has been suggested that compulsive behaviours act to block out or overcome such negative feelings. Episodes of compulsive behaviours can also be triggered by internal prompts, negative emotions and influencing factors from the external environment (Workman & Paper, 2010).

3.4.3 Sociocultural theory

The idea that there are more females than males who are compulsive buyers garners solid support (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014). This is reasonable to expect from sociocultural theory, where females have been socialised to enjoy shopping with others, especially family members, from a young age.

According to sociocultural theory, cultural standards and the negative effects thereof on individual behaviour may result in addiction. This theory proposes the notion that the type of society in which a person lives has an impact on their addictions. Society can be seen to label those who do not conform to social standards as deviants, thereby furthering problems. The focus is on society as a whole instead of on the individual. This addiction should be examined in a wider social context as the solution to addiction may hinge on changing the social environment as opposed to treating the individual (Saunders & Eaton, 2018).

In particular, sociocultural theory suggests that reduced rates of alcoholism are prevalent in some ethnic groups such as Italians and Jews. These groups have particular, defined uses where alcohol is appropriate. For example, ceremonies or festive occasions. Drunkenness and excessive alcohol use are frowned upon. However, other groups, such as the English and the Irish, have a higher rate of alcohol abuse due to the positive sanctioning on alcohol use. When looking at shopping addiction and negative sanctions, it is contended that non-compulsive buyers who may know someone close to them who suffers with such an addiction, such as a friend or relative, are likely to impose sanctions. This then leads to the behaviour becoming a hidden *private pleasure* for fear

that they will be embarrassed or reprimanded for their excessive buying tendencies (Workman & Paper, 2010).

Shopping is held as a major pastime in most developed countries, especially for women (Rose & Dhandayudham, 2014). Gender stereotypes would suggest that a woman's place is to do the shopping and clean the house and so on. However, with women's roles changing in the modern-day world and patriarchy slowly releasing its grip, this may not necessarily be the case anymore. Men who secretly wanted to shop but didn't out of fear of breaking gender norms can now complete purchases anonymously on the Internet without the threat of being negatively sanctioned.

3.5 Synopsis of Literature Review and Theoretical Framework

Despite a plethora of research on compulsive buying, there is a scarcity of literature on the online context specifically. Compulsive buying is not restricted to the offline context but can occur as a distinct behavioural addiction in the online domain. The Internet offers many characteristics that could encourage compulsive buying behaviours and exacerbate this novel behavioural addiction.

By testing the predictor variables chosen for this study, as adapted from the Conceptual Model of Online Shopping Addiction (Rose & Dhandayudham, 2014), online shopping addiction's clinical classification may be further corroborated. A biopsychosocial perspective is best suited to position this phenomenon within; encompassing social learning theory, trait theory and sociocultural theory to explain how the predictor variables influence online shopping addiction.

With e-commerce growing rapidly across the globe, especially within South Africa, compulsive online buying looms as a potential risk to South African consumers. The youth form the largest cohort of online shoppers in South Africa, making this vulnerable group the focus of this research.

3.6 Conclusion

Compulsive buyers reasonably fit into the biopsychosocial model. Addictions are not just limited to substance-related behaviours but are part of a biopsychosocial process. There are many similarities between various kinds of excessive behaviours which may indicate a shared aetiology for behavioural addictions. By creating a conceptual model for online shopping addiction, a foundation for future measurement and testing of suggested predictor variables can be set.

For the purpose of this study, the researcher sees the lack of social interaction that the online environment provides as an enticing characteristic for online shoppers who have lower self-esteem or who use online shopping as a way to deal with negative mood states. This unique online context facilitates shopping addiction, thereby placing emphasis on the importance of exploring online shopping addiction and its predictors within its own context.

CHAPTER 4

RESEARCH DESIGN

4.1 Overview of chapter

In this chapter, the problem statement, aims and objectives of the study are discussed. Furthermore, the research paradigm is described as well as the related research methodology. The reasons for this selection are also explained. The accessible population and the sampling procedure are then described along with the study's sample description. How the information was collected is explained under data collection. The measurement instrument and procedure of implementation are articulated, as well as the validity and reliability thereof. The variables that were measured are named and the related validated scale to measure these variables are justified and explained. The statistical analyses that were used to analyse the data are then stipulated with the corresponding hypotheses they are being used to test. Finally, the ethical issues that arose in the current study are thoroughly discussed.

4.2 Problem statement

With over half of all Internet users in South Africa shopping online, unregulated online buying looms as a major consumer issue (Effective Measure, 2016; 2017). There is a growing online shopping community in South Africa with young adults forming the largest group of online shoppers (Effective Measure, 2016; 2017). Young adults are a specific population of interest as compulsive buying behaviours may have a more pronounced effect due to their lower income (Horváth et al., 2015). They are also at the highest risk of developing addictive online behaviours (Müller & Mitchell, 2014). Recent trends suggest that compulsive buying behaviours have been increasing with each generation, thus further showing the importance of this population (Rose & Dhandayudham, 2014).

As unpacked in the literature review, an increasing number of individuals moving to shop online have heightened the risks posed by online shopping addiction. This places importance on the correct classification of this phenomenon as this impacts the treatment thereof. Little is known about the variables which make individuals vulnerable to compulsive buying behaviour thus it is imperative to explore these within the specific online context as well as the behavioural addiction context in general. One approach to justify its classification is to investigate to what extent predictor variables for behavioural addiction relate to online shopping.

4.3 Research aims and objectives

This study aimed to investigate the predictors of online shopping addiction by exploring the relationship between the predictor variables for behavioural addiction and compulsive online shopping within the South African context. More specifically the aim was to investigate the associations between the predictor variables for addiction, namely negative emotional state, self-esteem, self-regulation and gender, and the level of online shopping addiction within the South African young adult population.

It further aimed to confirm, in part, the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014). The approach followed was to determine how these predictive factors in their totality contribute towards online shopping addiction. By determining whether the model can predict online shopping addiction, online shopping addiction may be proven as a distinct behavioural addiction, whilst simultaneously confirming the Conceptual Model of Online Shopping Addiction.

4.4 Research questions and hypotheses

To address the research problem and the aims of the study, the main research question for this study was:

Do the predictor variables proposed in the Conceptual Model of Online Shopping Addiction predict the level of online shopping addiction?

To answer this question, sub-questions related to the predictor variables of the Conceptual Model of Online Shopping Addiction were investigated using specific hypotheses, namely:

Is there a relationship between negative emotional state and the level of online shopping addiction?

Hypothesis 1

H_0: Negative emotional state has no significant association with levels of online shopping addiction

H_1: Negative emotional state has a significant positive association with levels of online shopping addiction

Is there a relationship between self-esteem and the level of online shopping addiction?

Hypothesis 2

H_0: Self-esteem has no significant association with levels of online shopping addiction

H_2: Self- esteem has a significant negative association with levels of online shopping addiction

Is there a relationship between self-regulation and the level of online shopping addiction?

Hypothesis 3

H_0: Self-regulation has no significant association with levels of online shopping addiction

H_3: Self- regulation has a significant negative association with levels of online shopping addiction

Is there a difference between the level of online shopping addiction by gender?

Hypothesis 4

H_0: There is no significant difference between male and female levels of online shopping addiction

H_4: Females have a significantly higher level of online shopping addiction than males

4.5 Research paradigm

To address the research question, the researcher rooted the study within the positivist paradigm. The positivist paradigm is grounded in the philosophical ideas of the French philosopher August Comte (Bogdan & Biklen, 2007). The positivist position centres around scientific knowledge as comprising facts while the ontology states that reality is independent of social construction (Mertens, 2009). Human behaviour is best understood through observation with our senses as well as with reasoning based on such observations and experimentation. From the positivist ontology, reality is seen as objective and can be measured (Eichelberger, 1989). Scientific methods and the quantification of the knowledge generation process are adopted by positivistic thinkers who aim to uncover the truth by using empirical methods (Mertens, 2009).

The researcher views reality as stable and unchanging and thus adopted an objective positivist perspective with a realist ontology in that there is an objective, real world and an epistemology that perceptions are either true or false and are founded on the premise that knowledge is actual and can be acquired. This is a methodology that depends on the control and measurement of reality (Eichelberger, 1989; Mertens, 2009; Ponterotto, 2005).

4.6 Methodological approach

In line with the positivist paradigm the researcher adopted a quantitative research approach for this study. The study relied on predetermined response categories and standardised data collection instruments. Following the quantitative research approach permitted the conversion of raw data into numbers for analysis. Systematic statistical procedures were used to test the proposed hypotheses. The proposed study was cross-sectional as all participants were studied only at one point in time and not over a longer period of time. A descriptive correlational research design was chosen, specifically to examine the relationship between the predictor variables and online shopping addiction among the South African youth population of online shoppers.

Although the predictor variable of *gender* is not correlational, it was studied as a dummy variable in the Multiple Linear Regression. In this study, gender is the categorical independent variable under study and is therefore the dummy variable. Further exploration on this variable was done in the form of a t-Test. This study did not manipulate the variables, instead examining pre-existing variables.

4.7 Population and sampling

4.7.1 Sampling technique and source of participants

Respondents were recruited through the process of purposive sampling because the research required the inclusion of a specific predefined group in the study population. Purposive sampling was also useful to quickly reach the targeted sample size (Daniel, 2012). The researcher identified the inclusion criteria that respondents had to meet to be included in the sample and specifically used proportional quota sampling, which is a form of purposive sampling. Proportional quota sampling allows for a selected category to be based on the proportions in which it is found in the population. According to Daniel (2012), proportional quota sampling can be used in the selection

of a quota sample from panels of respondents generated via online sampling. Internet users are invited to join a survey panel and complete their demographic and other required details. When respondents are selected for a particular study, a proportional quota sample is recruited so as to match the characteristics of the population or the characteristics (Daniel, 2012, p. 104). Likewise, with Facebook recruitment, the exact sample criteria can be targeted so that the researcher reaches the predefined quota.

In the current study, participants were selected using proportional quota sampling via the Facebook advertising platform. The market research firm contracted for data collection purposes maintains an online Facebook presence that sends out Facebook invitations to participate in online surveys. The firm intentionally sends out invitations to participate in the study to people who meet the inclusion criteria. These variables are predefined when setting up the Facebook advertisement in order to target the desired sample. The characteristic for the purpose of proportional quota sampling was gender. Thus, the sample obtained a proportional amount of both male and female participants. Sampling continued until the fixed quota was met; until 47% male and 53% female responses were captured, that is, 179 male and 204 female participants completed the survey. This ensured that the sample was, in terms of gender, representative of the population.

4.7.2 Facebook and online sampling

The use of web-based survey tools for research is on the rise, with an emergent literature on the use of Facebook in particular to recruit respondents for research studies. This method of recruitment has been successful across psychological, medical and political science fields of study (Zhang et al., 2017). The myPersonality Project is considered as one of the most successful applications of this method whereby over 4 million Facebook users were used as subjects (Kosinski et al., 2015). In the study, a Facebook application was created that gave users a platform to take various psychometric tests. The tests were linked to Facebook accounts which allowed

researcher to analyse social media behaviour and predict both personal attributes and personality traits (Zhang et al., 2017). Similarly, medical researchers have been able to use Facebook to target specific populations of interest, for example, young adults who smoke cigarettes (Ramo et al., 2014). Within the realm of political science, Facebook advertisements have been used in survey experiments. Advertisements were posted by the researchers that informed participants of a lucky draw where a randomly drawn individual would win a free iPad. These researchers targeted users who were 18 years and older. Therefore, targeting can be aimed at other more specific demographics pertinent to whatever research is being conducted.

The results of the online survey yielded similar results to traditional research despite the Facebook sample being less representative of the national sample, especially after weighting through post-stratification. Facebook thus can be seen as a cost-effective method of obtaining quasi-representative samples of respondents (Samuels & Zucco, 2014).

Facebook advertisement-based recruitment is increasingly leveraged as a sampling platform. The quota sampling process has been semi-automated by the recently updated Facebook Marketing Application Program Interface (API). By using this method, Facebook advertisements can be used to cost-effectively recruit respondents to reach sample quota (Zhang et al., 2017).

In order to attain the most representative sample given the financial constraints at Masters level, the researcher employed a proportional quota sampling method to target specific demographic groups via Facebook advertisement-based recruitment. Without setting quotas, convenience sampling may not obtain representative samples. The marketing algorithm used by Facebook maximizes the clicks on an advertisement by sending it to users who are predicted to click on it with high probability (Zhang et al., 2017; Boas, Christenson, & Glick, 2018). Thus, all else being equal, the advertisements are sent to those similar to others who have previously clicked on the ad.

For example, if many young Black females click on an ad when it first launches, Facebook will continue to send the advertisement to mostly young Black females.

It is pertinent for demographic strata to be sampled to avoid the homogenisation of the sample. Fortunately, the same Facebook Marketing API makes it quite easy for precise demographic subgroups to be targeted. Instead of manually setting up ads that target a specific group one at a time, as was the case in the past, the API now allows researchers to write programs that target thousands of pre-specified groups at once. Potential participants adhering to predefined demographic data can be targeted by Facebook advertisements. More subjective information gleaned from users' online behaviour, such as political sympathies, can also be used to target these ads (Boas, Christenson, & Glick, 2018). Thus, the method used in this study allows for the quota sampling of many demographically diverse strata at once (Zhang et al., 2017). The researcher only used one variable, gender, as this was deemed the most important variable for stratification and because it has been identified in both literature and the model that underpins this study as being the key. It is also used as a dummy variable in this study, making it imperative to answer the main research question. As mentioned in the previous chapter, the algorithm allows for those with similar interests and demographics to click on the ad with increasing probability. In the case of the present study, it is ideal for those who share characteristics of online shoppers to click on the ad. This ensures that the sample sees a natural fallout of respondents to be as in line with the population of young online shoppers as possible.

According to Zhang et al. (2017), Facebook advertisement-based quota sampling generates results similar to those of high-quality probability-based surveys. However, some considerations do need to be taken into account when using this method.

First, the researcher needs to creating an advertisement that attracts potential respondents to the online survey (Boas, Christenson, & Glick, 2018). By advertising the content of the survey, the

researchers may inadvertently recruit a particular type of respondent (Zhang et al., 2017). This results in self-selection bias. It is for this reason that the researcher decided to use vague language when advertising the survey so as not to reveal the core content of the survey. In order to make up for this potential loss in interested subjects, the researcher advertised a visually-appealing advertisement with the promise of a lucky-draw prize to persuade the curious to open the survey and decide whether to participate in it or not (see Appendix A1).

Secondly, recruiting via Facebook has no built-in mechanism to directly compensate participants. Offering a raffle or lucky draw prize is a common incentive for participation. Once respondents complete the survey, they are given the option to provide their contact information in the event that they are a prize winner (Boas, Christenson, & Glick, 2018).

Thirdly, translating the survey into multiple languages may aid in greater participation from Facebook users. In this study, this was considered but not pursued as the online survey was administered in English which is a frequently used language online as most who are computer literate can understand English (Boas, Christenson, & Glick, 2018).

Using Facebook advertisements to recruit participants is a practicable choice for researchers who seek to resemble population norms at significantly lower cost. Targeted recruitment is based on age, or virtually any data Facebook has about its users. Sampling via Facebook can be achieved quickly and simply (Boas, Christenson, & Glick, 2018). Furthermore, it is particularly useful in targeting specific samples of demographic or geographic subpopulations where national panels may not be able to obtain representative samples. Facebook firmly cements itself as an emerging sampling platform, considering its wide global penetration and ease of accessibility, specifically via mobile phone. South Africa is estimated to have 16 million Facebook users and a smartphone penetration rate of 35,47% (Internet World Stats, 2018), thus making Facebook recruitment a

viable option for researchers. Facebook recruitment allows for the drawing of samples that are varied in terms of demographics and geography (Zhang et al., 2017).

4.7.3 Sampling in the current study

The population for this study was the South African youth of online shoppers as they represent the greatest portion of online shoppers in South Africa. Youth are considered as being between the ages of 18 and 34 years old. Of all online shoppers, 54% are between the ages of 18 to 34 (AMPS, 2016). In order for the sample to be representative of the youth population of online shoppers, the following requirements had to be met:

- All the respondents had to be online shoppers
- The sample had to consist of 47% male 53% female (AMPS, 2016)
- All the respondents had to be between the ages of 18 and 34
- Respondents had to be residents of South Africa
- Respondents had to have completed an online transaction in the past 6 months

Respondents were required to be South African residents and not necessarily citizens. Provided they had access to and were recently active in the South African e-commerce landscape, they qualified as representing the portion of people in South Africa who shop online. According to the "Online Retail in South Africa 2016: Executive Summary" (2016), the estimated number of online shoppers in South Africa is 3,225 million. If 54% of online shoppers are between the ages of 18 to 34 (AMPS, 2016), then the estimated population size of the youth online shoppers is 1,7415 million. The sample size, calculated at a 95% confidence level and a 5% margin of error, for a population of 1 741 500 is 384. Thus, the total sample must comprise at least 384 participants. This sample size represents the youth online shopper population.

Facebook advertisements were targeted at the youth – adults between the ages of 18 and 34 years old – and to both males and females within that age range. Furthermore, the advertisement also targeted the page 'likes' of those who were interested in online shops (see Appendix A2 for the list of targeted pages). By adding in targeted keywords, the advertisement was only shown to those whose interests match the key terms and resulted in a higher click-rate than if targeted at the general online population. The advertisement targeted all devices capable of Facebook, that is, laptop or desktop computers, tablets and mobile devices. The advertisement included a visually appealing picture as well as a short blurb of text to accompany it. This text stated "Enjoy shopping online? Complete our quick survey and you could WIN a Samsung Galaxy Tab E 9.6!" as a means to capture the interest of the population of interest, namely online shoppers. By clicking on the ad, subjects were redirected to the survey portal. The survey was administered in English only as that is the common language used on social media and among the computer literate. Instead of individual rewards for respondents' participation, a lucky prize draw of a tablet device was used. Participants had the option to fill in their contact details at the end of the survey if they wished to be entered into the lucky draw or if they wished to receive feedback on the results of the study.

Gender was selected as the proportional quota variable because the subgroups, male and female, were of great interest to the study and its hypotheses. According to literature, female gender is a stronger predictor of online shopping addiction, making this variable important to include in this study (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014). By selecting gender, the level of online shopping addiction could be investigated between the two subgroups.

Although race was included in the study as a demographic question, there is no literature, to the researcher's knowledge, that indicates racial differences in levels of online shopping addiction thus this variable was not included as a quota when sampling.

An online sample, representative by gender, was selected using a private market research firm from Johannesburg, South Africa. This firm was contracted to set up targeted Facebook advertisements and collect the data on behalf of the researcher. The researcher, acting as both a client and the researcher, instructed and gave input along the way. The researcher monitored live tables to ensure that the sampling quota was met. Once females received 204 completes, the ad setting was changed to only target males. This ad was left open until the male sample reached the target of 179 completes.

4.8 Data collection

The researcher employed the survey method as the method of data collection. After clicking on the advert, the respondents were redirected to the online questionnaire. The first page was an introductory and informational page before the actual questionnaire commenced. This page contained a brief overview of the study that included the purpose as well as instructions on how to complete the questionnaire. Within this introductory information page was a link to detailed informed consent that could either be clicked on to open in an Internet browser or be copied and pasted into the preferred browser and opened. This informed consent page was based on the UNISA informed consent template for online surveys. Respondents could close this window after reading and answering the question at the bottom of the introductory page in order to continue. By clicking "Yes" to the statement "I have read the informed consent and give permission to participate in this study", respondents gave informed consent, albeit virtually, and could continue to the first questions. If the respondent selected "No" the questionnaire terminated and the respondent was not able to continue to the questions. On this same introductory page was a *second* tick box that respondents could select if they wanted to opt in to receive feedback on the study's results. It was not compulsory for respondents to select this tick box; respondents could continue with the survey if they did not consent to receiving feedback.

Upon informed consent being given, the survey began with screener questions. Screener questions on country, age, gender and shopping habits were asked upfront. These screener questions acted as a filter to ensure that the targeted sample continued to the survey. Any person who did not meet the criteria was not allowed to continue completing the questionnaire. However, they could still fill in their contact details to enter the lucky draw or to receive feedback on the study.

Data collection commenced on the 7th of August 2018 and closed on the 2nd of October 2018. The researcher had originally aimed for data collection to run for 3 weeks but the response rate was low and the advert stayed active longer than anticipated in order to reach the sample target. In light of this unforeseen extended duration in field, the researcher had to increase budget accordingly. The total cost to reach the quota sample was R11200.00, which was R29.17 per complete response. Once the researcher obtained 384 completions, the study was closed. There was one completed response that the researcher removed from the dataset as the respondent had selected the same response option for each and every item in the survey. The total sample used for data analysis was 383 participants.

4.9 Research instrument for this study

The survey consisted of an initial screener section where country of residence and age were asked. If participants were not South African or did not meet the age criteria, they were disqualified from the survey. Participants were then asked for gender and were screened for recent online purchasing behaviour. After completing the screener section and meeting the inclusion criteria, participants were shown the main questionnaire section in which the constructs were measured. Thereafter demographic questions were asked.

The variables under study are quantifiable and were measured using psychological scales. The predictor variables were also the independent variables and were negative emotional state, self-

esteem, self-regulation and gender. For each of these variables except gender, the researcher selected a short, validated scale that is free to use for research purposes. Each of these variables could be measured using a scale because they encompass the respondent having various levels of the construct of which can then be measured.

The dependent variable was the level of online shopping addiction. Online shopping behaviour can be considered as a variable along a continuum "from normal behaviour, where purchase is according to the individual's needs and wants, through to addictive with a severe lack of control" (Rose & Dhandayudham, 2014, p.85). For this reason, the researcher identified an instrument specifically designed to measure the level of shopping addiction; the Bergen Shopping Addiction Scale developed by Andreassen et al. (2015).

The main questionnaire section of the survey consisted of standardised scales and a total of 44 items (see Appendix A3). These scales were randomly rotated for respondents to control for order effects. Data was only collected once participants chose to *submit* their survey responses at the end of the questionnaire. Completed survey data was collected by the market research firm and responses tabulated. These tables were exported and sent to the researcher for cleaning and analysis to take place.

After the main questionnaire was completed, respondents were asked the demographic details of monthly personal income and race. Both questions were optional and were inserted for the descriptive value they would add to the study. Thereafter, respondents were asked for their contact details that were also optional and only necessary for those interested in the lucky draw or the study feedback.

4.10 Validity and reliability of research instrument

4.10.1 The Positive and Negative Affect Schedule (PANAS)

Questions regarding negative affective state comprised the first section of the main questionnaire of the current study. The PANAS scale (Watson, Clark & Tellegan, 1988; Appendix B1), consisting of 20 items, was used for this purpose. Each item on this scale is a different word that describes a feeling or an emotion. Items are answered on a 5-point Likert scale with response options of "Very slightly or Not at all", "A little", "Moderately", "Quite a bit", and "Extremely". The PANAS scale was developed using undergraduate respondents who were asked to score each mood listed on the scale in terms of the degree each mood had been experienced within a predefined period of time.

The PANAS scale's inter-correlations and internal consistency reliabilities can be found in Table 1, Appendix C1. Both the Positive Affect (PA) and the Negative Affect (NA) see high intercorrelations and reliabilities. The PA intercorrelations range from 0.86 to 0.90 and the NA from 0.84 to 0.87. The correlation between these two sub-scales is low, and ranges from -0.12 to -0.23, sharing between 1 % and 5% of their variance. The alpha reliability of the PA sub-scale was 0.86 and for the NA sub-scale it was 0.87. The correlation between the two scales was -0.09. Considering this data, the PANAS scale can be seen as providing valuable information in adult samples (Watson, Clark & Tellegan, 1988).

Following an 8-week intermission, each scale was retested. The stability values for the PA and NA sub-scales were compared at each time frame using the reliability data, with $p>0.05$ no significant differences were found. Numerous comparisons across these time periods were then made for both PA and NA separately ($p < 0.002$) (Table 2, Appendix C1). Considering that in the moment ratings were stable, alongside ratings from across multiple time frames, it is suggested that momentary

moods may be an accurate representation of general levels of affect, albeit to a degree (Watson, Clark & Tellegan, 1988).

In order to show that the PANAS scales adequately capture the underlying mood scales, Zevon and Tellegen (1982) conducted a principal factor analysis on the ratings of the 60 mood descriptors in each data set. Both sub-scales correlate highly with their corresponding regression-based factor scores and see convergent and discriminant correlations which range from 0.89 to 0.95 and 0.02 to -0.18 respectively (Watson, Clark & Tellegan, 1988) as shown in Table 3 Appendix C1. These results are in line with the expected convergent and discriminant patterns.

The factorial validity and median varimax loadings for the items included in the two constructs of PA and NA are shown in Table 4, Appendix C1. Almost all of the variance can be accounted for by two dimensions; 87.4% and 96.1% when looking at the moment data and general ratings respectively. The primary loadings for all descriptors are strong on the appropriate factor (0.50 or higher). Secondary loadings were shown to be acceptably low. It can be concluded that the PANAS items represent their corresponding factors well (Watson, Clark & Tellegan, 1988).

With the exception of the Bradburn scales, the PANAS scales were comparable with other measures of affect. Good convergent correlations were found between all mood scales and their corresponding factors, making these scales appropriate for measuring the constructs they represent. These correlations ranged from 0.76 to 0.92 (Table 5, Appendix C1). The following scales all show high convergent correlations with both the positive and negative factors of the PANAS scale: Diener and Emmons; McAdams and Constantian; Stone, Hedges, Nel, and Satin; and the Warr, Barter and Brownbridge scale. However, some scales are more accurate than others; the PANAS shows the highest corresponding values for convergent correlations. When looking at the discriminant correlations, the PANAS is the only measure which sees discriminant correlations

that are constantly below -0.20. The PANAS scale is thus considered the strongest scale to measure PA and NA (Watson, Clark & Tellegan, 1988).

4.10.2 Rosenberg Self- Esteem Scale (RSES)

The second scale in the questionnaire was the RSES (Rosenberg, 1965; Appendix B2). This scale consists of 10 items which are used to assess levels of self-esteem. Each of these items is answered on a 4-point Likert scale with the response options of "Strongly agree (1)", "Agree (2)", "Disagree (3)" and "Strongly disagree (4)". The higher the score, the higher the self-esteem (Rosenberg, 1965).

Swenson (2003) provided a review of the psychometric properties of the RSES. The study examined the reliability of various scales including the internal consistency, factor analyses, homogeneity and validity of the test as well as t-tests to determine differences between genders.

The scale was originally developed for use with adolescents; however, studies have consistently reported high levels of reliability across diverse age groups. Reliability was consistently shown over 23 different studies across a diverse array of ages (Table 6, Appendix C2). Evidence of convergent validity can also be seen in comparisons between the RSES and self-esteem measures. There are significant positive relationships between the scores on the other scales and the scores on the RSES. Thus, the RSES is congruent with other scales, such as the Coopersmith Self-Esteem Inventory and the Minnesota Multiphasic Personality Inventory (MMPI) Low Self-Esteem Subtest, and shows convergent validity (Table 7, Appendix C2) (Swenson, 2003).

In her study, Swenson (2003) found the reliability of the RSES to have a coefficient alpha of 0.86, making it highly reliable. For females, the reliability was 0.87 and for males it was 0.84. The scores for the sample were subjected to a principle component analysis. This indicated that 44.8% of the variance could be accounted for by a single large Eigenvalue which was identified after a factor

analysis of the RSES scores. Essentially, these results show that the RSES measures one variable thus supporting the notion that the test is unidimensional. For each of the ten items, factor loadings are exhibited in Table 8, Appendix C2. To further corroborate this scale as being unidimensional, the scree plot representing the data shows one factor loading as displayed in Table 9 (Appendix C2) (Swenson, 2003).

4.10.3 The Self-Regulation Scale (SRS)

The third scale in the research instrument included questions pertaining to self-regulation from the 7 item SRS developed by Luszczynska et al. (2004; Appendix B3). The Self-Regulation Scale refers to "cognitions and behaviours that appear *after an individual has formulated the intention* to pursue a specific goal" (Luszczynska et al., 2004, p. 557). The scale items are scored on a 4-point Likert scale ranging from "Not at all true (1)", "Barely true (2)", "Moderately true (3)" and "Exactly true (4)". Higher scores reflect a higher capacity of an anividual to control and sustain attention. Lower scores indicate lower self-regulation.

The psychometric properties of the SRS were examined in five cross-cultural samples by Luszczynska et al. (2004). An analysis of internal structure of the SRS as well as the item-level statistics were conducted and included the reliability. Confirmatory factor analysis was used to test whether this was a unidimensional measure. This was done to substantiate the one-factor nature of the construct across different countries. The study also examined the criterion-related validity. A sample size of 2297 people from five countries was used. The sample nations were Finland, Germany, Poland, Costa Rica and the United States of America (USA). For each language adaptation an item analysis was done. Moderate item-total correlation coefficients were obtained. The internal consistency coefficient for the overall sample was 0.76. The German and USA samples saw the highest coefficients (α =0.77), and the lowest was obtained by the Polish sample (α= 0.73), as shown in Table 10, Appendix C3 (Luszczynska et al., 2004).

In addition, the stability of the SRS was analysed in sub-samples of Costa Rican workers, German teacher and undergraduate students from Colorado in the United States of America. Respectively, these samples achieved retest stabilities of 0.57 (after six months), 0.73 (after one year) and 0.62 (after six weeks) ($p<0.001$).

As mentioned earlier, the original version of this scale had been designed to be unidimensional. However, statistical analyses failed to replicate this in later studies, prompting the development of the current 7-item SRS. A confirmatory factor analysis was performed across the sample groups. The unweighted least squares estimation procedure was used to analyse the model. Using the factor loadings for the items, all seven were shown to be indicators of a single variable, that is self-regulation. The scale met difficult psychometric criteria and demonstrated identical factor loadings across-cultures thus making it appropriate for cross-cultural research. The study also showed that the SRS has high criterion-related reliability. When comparing measures of coping and self-efficacy with the SRS, positive correlations were found (Luszczynska et al., 2004).

It was found that the SRS is a "viable instrument to assess a relatively stable individual difference variable that facilitates a person's exercising of control over actions by means of focusing his or her attention on the current task and avoiding distractions" (Luszczynska et al., 2004, p.562) in other words, self-regulation.

4.10.4 Bergen Shopping Addiction Scale (BSAS)

The fourth and final scale used in the questionnaire was the BSAS that measures the level of buying addiction. (Appendix B4). The BSAS consists of 7 items and the answer selections are "Completely disagree (0)", "Disagree (1)", "Neither disagree nor agree (2)", "Agree (3)", and "Completely Agree (4)". There is no set cut-off that a score must meet for one to be classified as a shopping addict. However, Andreasson et al. (2015) suggest that one may be considered if they

score a 3 or 4 (agree or completely agree) on four or more items. For the purpose of this study, participants were not classified as addicted or not. The scale was, however, used to indicate the level of shopping addiction within the online context. This level was determined by creating a construct score that is the mean of all the items. The researcher is not certified to diagnose disorders nor is it part of the aim of the study. It is noted, however, that this could be done using logistical regression whereby being addicted or not are discrete categories in which individuals can be classified (Sperandei, 2014).

When developing the BSAS, Andreassen et al. (2015) demonstrated that the BSAS has "good psychometrics, structure, content, convergent validity, and discriminative validity, which should encourage researchers to consider using it in epidemiological studies and treatment settings" (p.9) for excessive shopping behaviour and scored a Cronbach's α of 0.867.

The second-order factor structure of the original 28 items from Table 11, Appendix C4 were reduced until all loadings in this scale were above 0.60. The standardised factor loadings ranged from 0.616 to 0.812, as shown in Table 12, Appendix C4. All the factor loadings were significant at a level of $p<0.001$. The Comparative Fit Index exceeded 0.98, the Root Mean Square Error of Approximation was 0.06, and the Tucker Lewis Index was 0.96 which indicates a good fit. As the first two items both reflected inner thoughts or states, their error terms were allowed to correlate. The correlation coefficient was 0.280. Thus, a one-dimensional factor structure was proven (Andreassen et al., 2015).

The one-factor structure of the BSAS is further supported by the satisfactory internal consistency of 0.87 and the mean inter-item correlation of 0.43. For each of the seven items, the corrected item-total correlation coefficients ranged from 0.62 to 0.74, also supporting this unidimensional property of the scale. The BSAS also has high convergent validity. With a correlation coefficient of 0.80, scores from the BSAS correlated highly with those of the Compulsive Buying

Measurement Scale (Valence, d'Astous & Fortier, 1988). Further to this, each of these scales displayed comparable correlational patterns across other variables (Andreassen et al., 2015).

4.10.5 Validity and reliability of the instruments within the South African context

4.10.5.1 Validity and reliability: PANAS scale

Within South African literature, to the researcher's knowledge, there is little research to be found that validates the PANAS scale for the South African context. In its development and validation, the PANAS scale compared favourably with other short affect measures. All mood scales included obtained decent convergent correlations which ranged from .76 to .92 with the appropriate factor, except for the Bradburn scales. However, none of the mood scales scored higher than the PANAS scales. This may indicate that the scale measures mood quite accurately and may be suitable for use in the South African context as mood is a universal human attribute that can be measured (Watson, Clark & Tellegan, 1988).

4.10.5.2 Validity and reliability: RSES scale

The RSES has been used within the South African context numerous times. In particular, a study was conducted where the RSES was administered across 53 countries, South Africa included. In this study, the RSES was translated into 28 different languages and a sample size of 16998 was obtained (Schmitt & Allik, 2005). The factor structure of the RSES was mostly invariant across all nations. This study provided support for the cross-cultural relevance of the RSES and can be used within the South African context as the RSES is a global, unidimensional measure of self-esteem (Schmitt & Allik, 2005). In addition, it is congruent with other self-esteem scales and shows convergent validity (Swenson, 2003). The RSES was proven to be reliable across multiple studies which each used samples of varying ages (see Table 6, Appendix C3). This indicates that the RSES has a wide application and is suitable for the current study (Swenson, 2003).

4.10.5.3 Validity and reliability: SRS scale

The SRS was used in a South African study titled *Validation of the Short Self-Regulation Questionnaire in a group of Black teachers: the SABPA study*. The study aimed to "investigate the psychometric properties of the Short Self-Regulation Questionnaire (SSRQ) when used in a South African context" (Vosloo et al., 2013, p. 1). The participants completed the SSRQ as well as other measures of self-regulation, including the SRS. Significant correlations were found between the SSRQ and the SRS, thus establishing concurrent validity (Vosloo et al., 2013). It can therefore be assumed that the SRS would be an adequate measure within the South African context. In addition to this, the psychometric properties of the SRS were examined in five cross-cultural samples by Luszczynska et al. (2004). The countries were Costa Rica, Poland, Germany, Finland and the USA. Being a third world country with cultural and economic splits, Costa Rica can be seen as the closest comparison to South Africa. With that being said, the instrument has been proven to have validity across all of the countries sampled indicating that it may be valid within the South African context.

4.10.5.4 Validity and reliability: BSAS

The BSAS has not been specifically validated for use within the South African context. Being a fairly recent scale, developed in 2015, there is a paucity of research available to corroborate its validity specifically within South Africa. The BSAS showed high convergent validity because scores on the BSAS correlated highly (r=0.80) with scores of the Compulsive Buying Measurement Scale (Andreassen et al., 2015). The scale was also shown to be unidimensional when compared to other scales. Despite the lack of research within the South African context, the fact that the BSAS shows strong convergent validity with other scales measuring the same construct may indicate its suitability for use across contexts.

4.11 Data analysis

Socio-demographic data was analysed using descriptive statistics. Various statistical techniques were used in order to test the proposed hypotheses. As an exploratory test, an independent samples t-Test was done in order to determine whether there is a difference between males and females on the dependent variable of online shopping addiction. The independent variables of negative emotional state, self-esteem, and self-regulation were each correlated with the dependent variable of online shopping addiction using the Pearson Correlation in order to determine associations with one another. A Multiple Linear Regression using all the independent variables was performed, with *gender* being the dummy variable, in order to determine the overall effect of the Conceptual Model of Online Shopping Addiction as well as the most influential independent variables (Howell, 2012).

4.11.1 Socio-demographic data

Sample percentages and frequencies were calculated and tabulated. This included the sample information regarding gender, monthly personal income and that of race. These descriptive statistics were supplemented with graphical representations i.e. pie charts for gender. The means for each construct were calculated.

4.11.2 Independent samples t-Test

The relationship between a nominal or ordinal variable with two independent categories and a continuous variable can be assessed with the independent t-Test (Howell, 2012). The t-Test performed compared the relationship between level of online shopping addiction (the continuous variable) and gender (the nominal variable) to see whether there was a significant difference between the two genders.

4.11.3 Correlations and Multiple Linear Regression

A Multiple Linear Regression (MLR) can be used to assess the relationship between a continuous dependent variable and multiple independent variables (Howell, 2012). In this study, an MLR was used to determine how all the predictor variables influence online shopping addiction.

The dependent variable is online shopping addiction and is a continuous variable. The independent or predictor variables are all continuous with the exception of *gender* that is dichotomous and was thus used as a dummy variable in the regression. In order to do a regression analysis, a minimum sample size of n>50 + 8m (where *n* is the number of participants and *m* is the number of independent variables) is needed (Howell, 2012). With four independent variables in this study, a minimum sample size of 82 participants was needed to meet the requirements to perform the analysis. The final sample size of 383 participants, as indicated earlier, far exceeds this requirement and, thus, it was possible to perform a regression analysis on the collected data.

The first stage of the MLR was exploratory. Correlations between each independent variable and the dependent variable were performed by the researcher. Scatter plots for each correlation were also created to show how online shopping addiction was affected by each predictor variable. Histograms for each variable were made in order to check for normality. The direction and strength of the relationship between two continuous variables can be assessed with a Pearson Correlation analysis (Howell, 2012). For this reason, a Pearson's Correlation analysis was used to determine the strength and direction of relationships between the predictor variables (independent variables) and online shopping addiction (dependent variable). A Spearman's Correlation analysis was also run to corroborate the findings from the Pearson Correlation analysis. The hypotheses, as indicated in Section 4.4, that were tested included:

H_0: Negative emotional state has no significant association with levels of online shopping addiction

H_1: Negative emotional state has a significant positive association with levels of online shopping addiction

H_0: Self-esteem has no significant association with levels of online shopping addiction

H_2: Self-esteem has a significant negative association with levels of online shopping addiction

H_0: Self-regulation has no significant association with levels of online shopping addiction

H_3: Self-regulation has a significant negative association with levels of online shopping addiction

H_0: There is no significant difference between male and female levels of online shopping addiction

H_4: Females have a significantly higher level of online shopping addiction than males

The researcher then proceeded with the MLR. The model summary output indicates the R, $R^{2,}$ and adjusted R^2 values. The adjusted R^2 value was used to determine the effect size, that is, how much of the variance can be accounted for by that model. The ANOVA gave an F-value that indicated the significance of the models for each stage. The coefficients produced a t-value that indicated the individual significance of each variable. The standardised coefficient indicated which variable is the most important (Howell, 2012). The assumption of no multicollinearity was checked by looking at the coefficients: tolerance>2 and the Variance Inflation Factor <5.

4.12 Ethical considerations

4.12.1 Beneficence and nonmaleficence

To achieve beneficence and nonmaleficence, before beginning the survey, participants were shown a brief summary of the research in the form of an introductory page. On this page was a link to the informed consent (see Appendix A4). The purpose of the research, the researcher's details, and the terms and conditions of participation were contained in this document as well as information on accessing mental health services such as in the event that the questions asked evoked strong negative emotions (LifeLine, SADAG etc.). The participants were also informed that there would be no direct benefit for their participation in this study except that the findings could contribute to the understanding of the psychological relationships involved in online shopping addiction.

4.12.2 Fidelity and responsibility

Before the commencement of this study, Ethical Clearance was applied for and was obtained from The Ethics Committee of the Department of Psychology at Unisa (see Appendix D). Inclusion of the Ethical Clearance in the informed consent aimed to build a trusting relationship between the participants and the researcher. Furthermore, in the ethos of transparency and accountability, participants were encouraged to report any unethical behaviour or concerns to the Unisa hotline. The researcher was also honest and open about the possible psychological risks of participation in this study. All information was included to ensure that the participant could make an informed decision and could also seek help if needed. Participants were also given the option to withdraw from the study. In giving the participant this option, trust was established. Those who exited the survey could do so without their information being captured, unless they chose to submit personal details for study feedback or lucky draw purposes, resulting in better quality data.

4.12.3 Integrity

Although no explicit incentive was offered for completion of this particular questionnaire, the market research firm did do monthly lucky draws where participants who had completed surveys were entered and stood a chance to win. The lucky draw item was a Samsung tablet worth R2790.00.

It is important to note that no deception took place in this study – participants were fully aware of the contents of the survey and were able to give informed consent. There was no need to deceive participants into completing the survey and thus no debriefing was needed.

Further to this, valid and reliable research instruments were used in this study as well as the most appropriate statistical techniques to analyse the data that was collected. This was done to obtain accurate and honest results.

The collected data is stored on an external hard-drive as well as a secure Dropbox account for 5 years after the study. The data files are zipped and password encrypted to ensure that even if the files are hacked, they cannot be opened.

4.12.4 Justice

All participants who met the sample criteria were allowed to participate at their own will, thus, all who participated were able to benefit from being involved in the research. Further to this, the participants were between the ages of 18 and 34 years old and had the capacity to give consent.

All respondents were entitled to view the result of this study and were invited to opt in to receive feedback if they chose to. Regardless of whether they met the inclusion criteria or not, all who were interested and attempted to complete the survey were given the opportunity to opt in, ensuring that the advances made by this study are inclusive of all who are interested.

4.12.5 Respect for people's rights and dignity

The sample was obtained through Facebook recruitment by a market research firm. By using Facebook, the desired sample was purposefully selected. Respondents had the option to divulge their personal contact details but this was not mandatory. In the event that the respondent did fill in their details, the researcher had access to them as they came in. However, confidentiality was assured by removing, or replacing with a number, all data that could assist in identifying an individual. Email addresses were collected if the respondent opted for feedback to be sent after the study had been completed and/or if the respondent chose to be included in the lucky draw. A separate document was extracted that included only the contact information of participants without their answers.

Respondents could exit the survey at any point without any of their data being recorded; however, once they clicked submit, they could not remove their response from the data set.

4.13 Conclusion

In attempting to gain insight into the relationships between the predictor variables and online shopping, the researcher took a positivist stance and strove to determine the objective truth. Quantitative research was conducted in order to answer each research question. The researcher adopted the purposive quota sampling method to target the desired population. Sample recruitment was done using Facebook as an online advertising platform with a link to an external online survey being advertised. A sample of 383 complete responses was reached. The online survey consisted of four sections each using a validated scale to measure the levels of the study variables namely negative emotional state, self-esteem, self-regulation and online shopping addiction. All scales selected show reliability and validity that can be extrapolated to the South African context. In terms of demographics, this study met its quota for 47% male and 53% female participation.

Socio-demographic data was collected and analysed. An independent samples t-Test was conducted to determine whether there were any significant differences in terms of online shopping addiction by gender. The main research question was answered by means of a Multiple Linear Regression that determined the influence of the predictor variable on online shopping addiction. Finally, ethical considerations were discussed in line with the general ethical principles of the American Psychological Association. The following chapter will display the results of the abovementioned statistical analyses.

CHAPTER 5

RESULTS

5.1 Overview of chapter

In this chapter, findings from the statistical analysis of the data collected for the current study are presented. The chapter covers an explanation of the data cleaning. The chapter then details the frequencies of demographic data and presents graphical representations thereof. The reliabilities of the validated scales used are then presented. Following on from this are the descriptive and exploratory statistics for each variable. An independent samples t-Test is then shown. Correlations for each predictor variable against online shopping addiction are presented one by one, followed by a Multiple Linear Regression analysis. Additional exploratory tests are then presented. The chapter ends with a conclusion of the results.

It is important to note that a statistician was consulted during the research process of this study. During the design phase, the researcher elected to consult a statistician to ensure that the correct statistical techniques had been selected to answer the research question. The statistician was made available to students at the University of South Africa for assistance. After the data had been collected, the researcher performed the analysis and interpretation of the results independently, whereafter, the output was verified by the statistician.

5.2 Data cleaning

As there were two targeted advertisements for recruitment via Facebook, it was possible that an individual could see and respond to both advertisements, thus, completing the survey twice. Each link was anonymous, meaning that a respondent could complete the survey more than once if they so wished. Duplicate responses were continuously looked for within the live dataset by searching

for duplicate email addresses. These responses were removed whilst still in field. By removing duplicated completions, the target sample of 384 unique respondents was met and the researcher could end the field work knowing that a sample of 384 would not need any duplicates to be removed.

However, it came to the researcher's attention that one response had to be removed. After analysing the demographics, it became evident that one respondent had selected the top-most answer for each and every single item in the survey. The researcher decided to remove this respondent from the sample as this outlier could skew the data. A sample size of 383 was used for the remainder of the analysis as a difference of only one response would not impact the representativeness of the sample.

5.3 Frequencies of demographic variables

This section presents the demographic information of the collected sample. For these demographic variables both frequency tables and the corresponding graphical representation are presented.

The monthly personal income for the respondents ranged from no income to more than R40 000 (Figure 5.1 and Table 5.1). The highest percentage of the youth have lower incomes with the majority (n=91; 23.8%) having no income.



Figure 5.1 Bar chart for Monthly Personal Income

Table 5.1 Descriptive Table for Monthly Personal Income

		Frequency	Percent	Cumulative Percent
Valid	No income	91	23.8	23.8
	R2000 or less	77	20.1	43.9
	R2001-R4000	52	13.6	57.4
	R4001-R6000	42	11.0	68.4
	R6001-R8000	33	8.6	77.0
	R8001-R10000	27	7.0	84.1
	R10001-R16000	26	6.8	90.9
	R16001-R20000	11	2.9	93.7
	R20001-R25000	7	1.8	95.6
	R25001-R30000	2	.5	96.1
	R30001-R40000	3	.8	96.9
	R40001 or more	5	1.3	98.2
	Don't know / Not sure	7	1.8	100.0
	Total	383	100.0	

The sample consisted of 46.7% males (n=179) and 53.3% females (n=204) (Table 5.2). This demographic is exactly in line with the ideal sample quota as given in Section 4.7.3.

Table 5.2 Descriptive table for gender

	Gender	Frequency	Percent	Cumulative Percent
Valid	Male	179	46.7	46.7
	Female	204	53.3	100.0
	Total	383	100.0	

The question on race was not a forced question and only one participant declined to comment and skipped the question. The sample was most representative of the Black community (n=263; 68.7%) followed by the White (n=54; 14.1%), Coloured (n=34; 8.9%) and Indian communities (n=27; 7.0%) (Figure 5.2 and Table 5.3). Race was not a quota variable; so, the natural fallout of respondents for this study was slightly skewed, most notably, with Black being over-represented and White being under-represented. According to the AMPS (2016), the online shopping population comprises of 54% Black people, 36% White people, 5% Coloured people and 5% Indian people.

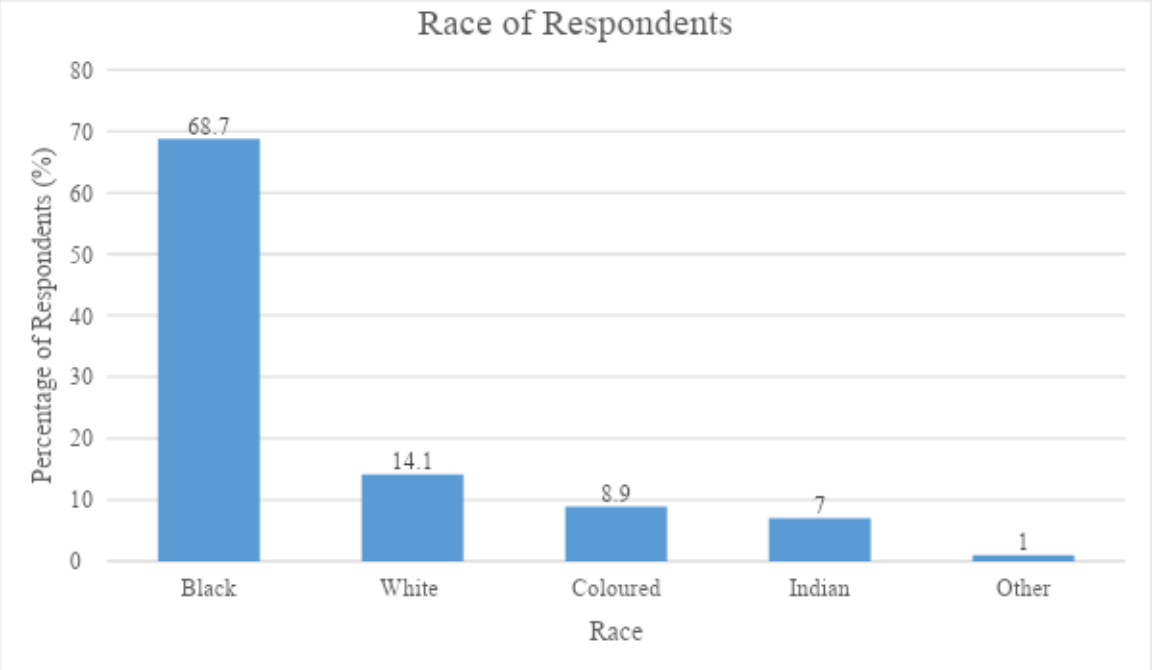


Figure 5.2 Bar chart for Race of Respondents

Table 5.3 Descriptive Table of Race

	Race	Frequency	Percent	Cumulative Percent
Valid	Black	263	68.7	68.7
	Coloured	34	8.9	77.5
	Indian	27	7.0	84.6
	White	54	14.1	98.7
	Other	4	1.0	99.7
	Total	382	99.7	
Missing	System	1	.3	
Total		383	100.0	

Although not included as a quota variable, the age range of the respondents is similar to the ideal age parameters of 42% and 58% for 18-24 and 25-34 years respectively (AMPS, 2016). The 18-24 years old group (n=182; 47.5%) is just over 5% higher than the population demographic. With the age groups 25-29 years (n=115; 30.0%) and 30-34 years (n=86; 22.5%) combined, the older grouping scores 52.6%, 5% lower than the ideal demographic for this population (Figure 5.3 and Table 5.4).

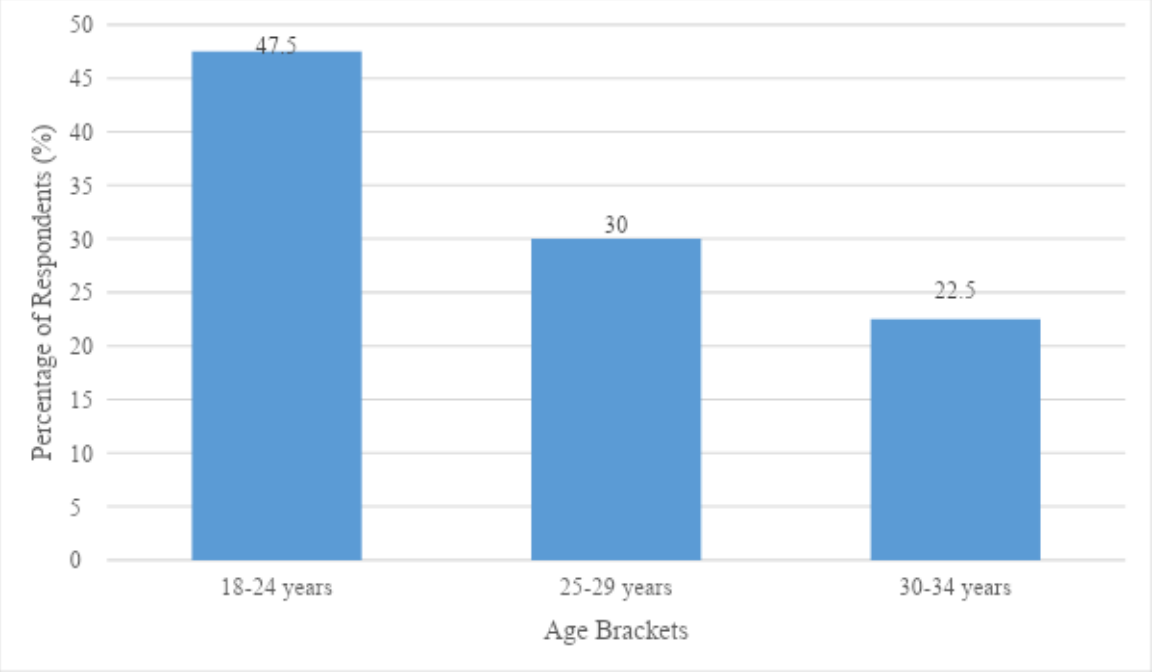


Figure 5.3 Bar Chart showing Age of Respondents

Table 5.4 Descriptive Table of Ages

Age range		Frequency	Percent	Cumulative Percent
Valid	18-24 years	182	47.5	47.5
	25-29 years	115	30.0	77.5
	30-34 years	86	22.5	100.0
	Total	383	100.0	

5.4 Reliability of scales

Although the scales used in this study had their reliability corroborated by research when being selected (see Section 4.10), the researcher decided to test their reliability in the current study to determine whether they would in fact prove to be reliable in the South African context.

5.4.1 The Positive and Negative Affect Schedule (PANAS)

The PANAS contains two subscales – one that measures positive affect and the other that measures negative affect. The negative subscale was selected for the analysis as it measures negative emotional state. The reliability of the PANAS negative subscale was analysed using items 4, 6, 7, 8, 11, 13, 15, 18 and 20 as these items measured the construct of negative affective state. This scale had a Cronbach alpha value of 0.809 ($p<0.05$) indicating a good reliability at the 0.05 alpha level.

The Corrected Item-Total Correlation coefficient values are all positive and moderate, ranging from 0.359 to 0.605, showing that each individual item has a positive relationship with the rest of the items (Table 5.5). This implies that the subscale measures negative affective state, and that all items contributed towards the reliability of the scale.

Table 5.5 Item-Total Statistics of the PANAS Scale (Negative)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1_PANAS_Item 2 (Negative)	20.65	50.092	0.359	0.806
Q1_PANAS_Item 4 (Negative)	20.84	47.600	0.482	0.793
Q1_PANAS_Item 6 (Negative)	21.34	48.940	0.436	0.798
Q1_PANAS_Item 7 (Negative)	20.93	45.515	0.605	0.779
Q1_PANAS_Item 8 (Negative)	21.21	49.102	0.468	0.795
Q1_PANAS_Item 11 (Negative)	20.51	48.402	0.434	0.799
Q1_PANAS_Item 13 (Negative)	21.34	47.218	0.530	0.788
Q1_PANAS_Item 15 (Negative)	20.63	46.463	0.563	0.784
Q1_PANAS_Item 18 (Negative)	20.82	49.430	0.430	0.799
Q1_PANAS_Item 20 (Negative)	21.08	46.855	0.557	0.785

5.4.2 Rosenberg Self-Esteem Scale (RSES)

The positively stated items in the RSES were originally scored from “Strongly agree”, “Agree”, “Disagree” and “Strongly disagree”. In order for the Multiple Linear Regression to correctly analyse the data, all variables must be scored from negative to positive. With this in mind, the scale would need to be scored from “Strongly disagree (1)”, “Disagree (2)”, “Agree (3)” and “Strongly agree (4)” for all scales to be laid out from negative to positive. In the original instructions for this scale, items 2, 5, 6, 8 and 9 originally had to be reversed as they were inversely phrased. Given that all items need to be reversed in order to change the order of the scale, these 5 items were not recoded. Instead, items 1, 3, 4, 7 and 10 were reversed and recoded.

The Cronbach's alpha value of 0.795 ($p<0.05$) demonstrates that this scale has an acceptable reliability at the 0.05 level of significance.

The Item-Total Statistics shows that the only item that would improve the reliability of this scale if deleted is Item 8 (Table 5.6). This item has the lowest corrected item-total correlation coefficient of 0.255, which shows it is weakly related to the other items in this construct. If removed, the reliability would increase to 0.806. Given that this increase is minimal and that this scale is already validated, the researcher decided to proceed without removing this item.

Table 5.6 Item-Total Statistics of the Self-Esteem Scale

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q2_SELF_ESTEEM_Item 1 (recode)	26.6927	22.172	0.502	0.773
Q2_SELF_ESTEEM_Item 2 (Original)	27.1354	21.668	0.502	0.773
Q2_SELF_ESTEEM_Item 3 (recode)	26.4375	23.364	0.475	0.778
Q2_SELF_ESTEEM_Item 4 (recode)	26.5313	23.900	0.377	0.787
Q2_SELF_ESTEEM_Item 5 (Original)	26.8125	20.805	0.577	0.762
Q2_SELF_ESTEEM_Item 6 (Original)	26.9870	20.394	0.625	0.756
Q2_SELF_ESTEEM_Item 7 (recode)	26.7135	23.646	0.380	0.786
Q2_SELF_ESTEEM_Item 8 (Original)	27.6797	23.461	0.255	0.806
Q2_SELF_ESTEEM_Item 9 (Original)	26.6979	21.809	0.499	0.773
Q2_SELF_ESTEEM_Item 10 (recode)	26.5078	22.219	0.512	0.772

5.4.3 The Self-Regulation Scale (SRS)

A Cronbach's alpha value of 0.789 ($p<0.05$) for the SRS is positive and indicates that the scale has an acceptable reliability at the 0.05 level of significance.

The item-total correlations for this scale were moderate to strong and ranged from 0.430 to 0.662. This scale consists of 7 items that all have positive correlation coefficients showing that each individual item is related to the others to form this construct (Table 5.7). No items had to be deleted to improve the reliability of the scale.

Table 5.7 Item-Total Statistics for the Self-Regulation Scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q3_SELF_REGULATION_ Item 1	19.28	11.815	0.430	0.779
Q3_SELF_REGULATION_ Item 2	19.42	11.471	0.480	0.770
Q3_SELF_REGULATION_ Item 3	19.28	11.927	0.466	0.771
Q3_SELF_REGULATION_ Item 4	19.09	12.132	0.471	0.770
Q3_SELF_REGULATION_ Item 5	19.32	10.958	0.622	0.741
Q3_SELF_REGULATION_ Item 6	19.27	11.028	0.606	0.744
Q3_SELF_REGULATION_ Item 7	19.23	11.510	0.545	0.757

5.4.4 Bergen Shopping Addiction Scale (BSAS)

The Bergen Shopping Addiction Scale has a Cronbach's alpha value of 0.798 ($p<0.05$) indicating that this scale is reliable within the online context at the 0.05 level of significance.

The item-total statistics of the 7 items were moderate and ranged from 0.334 to 0.661. Only Item 1, if deleted, would increase the overall reliability of the scale (Table 5.8). However, in relation to

the other items, the correlation coefficient of 0.334 is acceptable. As this scale already has a high reliability and is validated by the original authors, the researcher decided to keep Item 1 in the analysis.

Table 5.8 Item-Total Statistics for the Bergen Shopping Addiction Scale

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q4_SHOPPING_ADDICTION_Item 1	9.67	28.878	0.334	0.804
Q4_SHOPPING_ADDICTION_Item 2	10.25	26.176	0.517	0.774
Q4_SHOPPING_ADDICTION_Item 3	11.23	27.223	0.530	0.773
Q4_SHOPPING_ADDICTION_Item 4	10.72	24.469	0.661	0.746
Q4_SHOPPING_ADDICTION_Item 5	10.52	25.832	0.521	0.773
Q4_SHOPPING_ADDICTION_Item 6	10.40	25.406	0.546	0.769
Q4_SHOPPING_ADDICTION_Item 7	10.95	24.724	0.594	0.759

5.5 Descriptive and exploratory statistics

The researcher ran exploratory and descriptive analyses on the full dataset of 384 participants. It was evident from the initial outputs that there was one participant who completed the whole survey by filling in the top score for each question. This extreme resulted in this participant being an outlier. It was decided to remove this participant from the dataset completely and continue the analysis with 383 participants. The researcher selected a 95% confidence interval to work with because this level is acceptable for studies within the social sciences; providing a comfortable certainty that the population estimates are truthful. The researcher's hypotheses are all one-directional and, therefore, either one-tailed analyses were performed or the p-values obtained were divided by two.

5.5.1 The PANAS negative affective state

The PANAS scale used to measure negative affective state was a Likert-type scale. The PANAS scale is measured using the responses “Very slightly or not at all (1)”, “A little (2)”, “Moderately (3)”, “Quite a bit (4)”, and “Extremely (5)”. Therefore, a composite construct score was created by calculating the average of the items in the construct that were all reliable (items 4, 6, 7, 8, 11, 13, 15, 18 and 20). The mean for the negative affective state was 2.32% (Table 5.9). This indicates that the average response was slightly higher than “A little”, which holds a score of 2. Also shown in this table is the skewness of this distribution; with a value of 0.510 this is within range of the permissible range of -2 and +2 in order to prove normal univariate distribution and is thus acceptable.

Table 5.9 Descriptive Statistics for Negative Affective State

			Statistic	Std. Error
PANAS_Negative	Mean		2.3191	0.03833
	95% Confidence Interval for Mean	Lower Bound	2.2437	
		Upper Bound	2.3944	
	5% Trimmed Mean		2.2909	
	Median		2.2000	
	Variance		0.563	
	Std. Deviation		0.75006	
	Minimum		1.00	
	Maximum		4.60	
	Range		3.60	
	Interquartile Range		1.00	
	Skewness		0.510	0.125
	Kurtosis		-0.252	0.249

The normal distribution for Negative Affective State is reflected in the histogram in Figure 5.4. For this normal distribution the mean is 2.3191 and the standard deviation is 0.75006. The distribution for negative emotional state is skewed slightly to the right with more respondents feeling “A little (2)” or slightly towards “Moderately (3)” in terms of negative affect. Despite the

normal distribution showing a slight skewness to the right, the skewness value (0.510) is still statistically within range. Robust measures for normality were used and an outlier was removed from the dataset as previously mentioned.

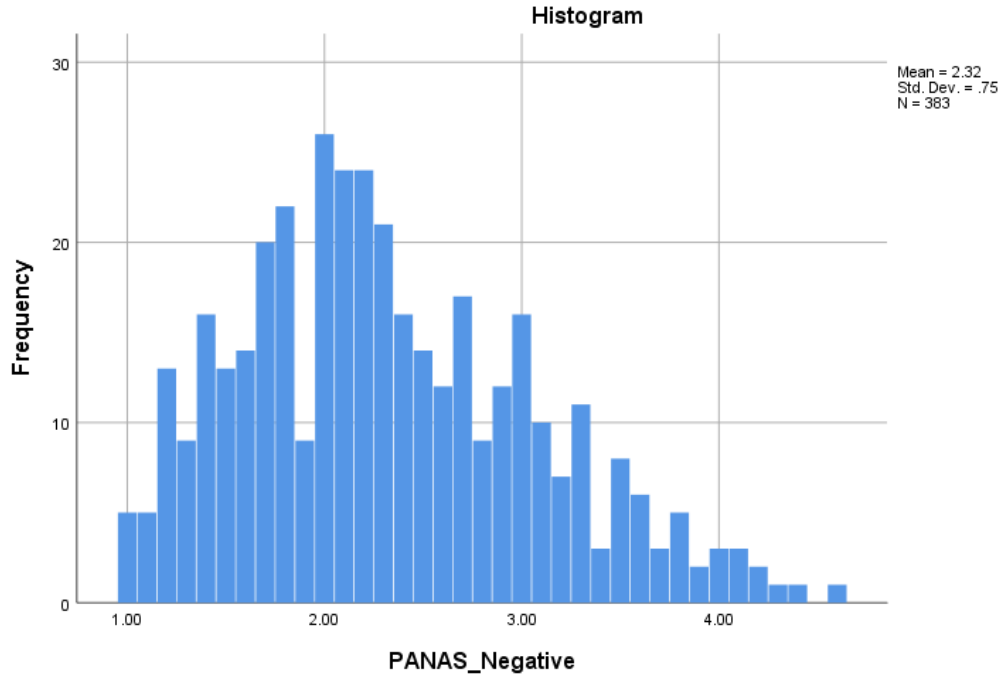


Figure 5.4 Histogram showing normality distribution of the PANAS Negative scale

5.5.2 Self-esteem

As with the PANAS Negative Affect scale, the self-esteem scale used a Likert-type scale. A composite construct score was similarly created by calculating the average of the reliable items in the construct. On a scale where “Strongly disagree (1)”, “Disagree (2)”, “Agree (3)” and “Strongly agree (4)”, self-esteem scores a mean of 2.89, which translates to an average response towards agreeing that is a 3 on this scale (Table 5.10). The skewness value is -0.379, which places this distribution within the acceptable range of -2 and +2. Normality and homogenous variances are met for this construct.

Table 5.10 Descriptive Statistics for Self-Esteem

			Statistic	Std. Error
Self-Esteem	Mean		2.9812	0.02654
	95% Confidence Interval for Mean	Lower Bound	2.9290	
		Upper Bound	3.0334	
	5% Trimmed Mean		2.9946	
	Median		3.0000	
	Variance		0.270	
	Std. Deviation		0.51943	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		0.80	
	Skewness		-0.379	0.125
	Kurtosis		0.155	0.249

The normality distribution for self-esteem has a mean of 2.9812 and standard deviation of 0.51943 (Figure 5.5). The distribution looks slightly skewed to the left however the skewness value of -0.379 is within the acceptable range of -2 and +2.

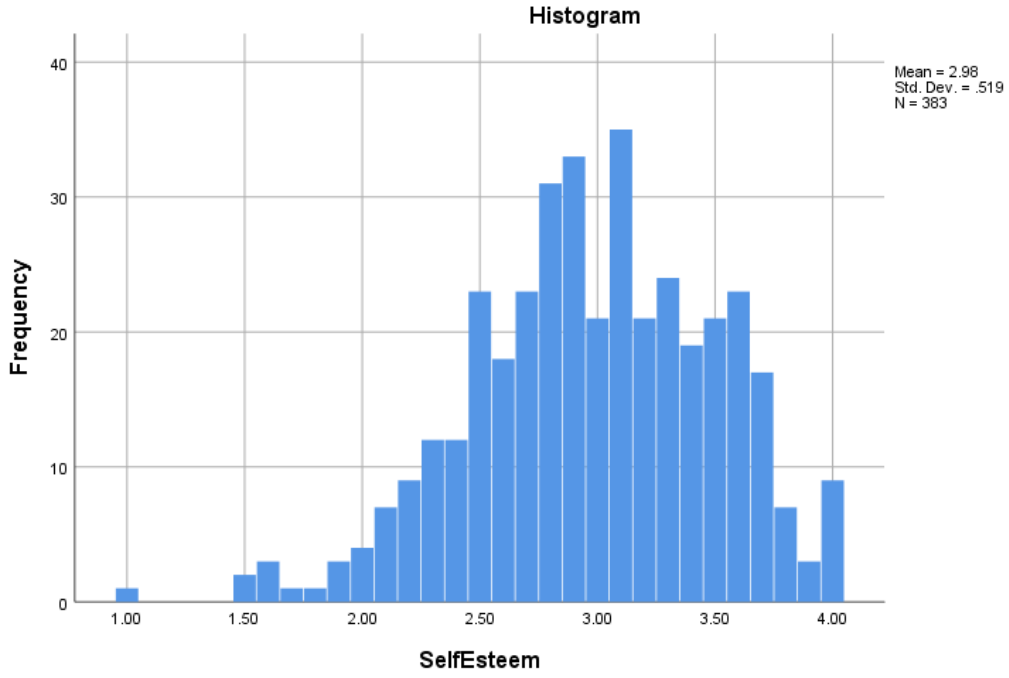


Figure 5.5 Histogram showing normality distribution of Self-Esteem

5.5.3 Self-regulation

As the scale used was a Likert-type scale, a composite construct score was created by calculating the average of the reliable items in the construct. Table 5.15 shows the descriptive statistics for self-regulation. This scale is scored from “Not at all true (1)”,” Barely true (2)”, “Moderately true (3)” to “Exactly true (4)”. The average score on the self-regulation items is 3.21, which indicates “Moderately true”, represented by 3 on the scale. A skewness of -0.67 indicates that this variable’s distribution is within the acceptable parameters of -2 and +2 (Table 5.11). Normality and homogenous variances were met.

Table 5.11 Descriptive Statistics for Self-Regulation

			Statistic	Std. Error
Self-Regulation	Mean		3.2096	0.02841
	95% Confidence Interval for Mean	Lower Bound	3.1538	
		Upper Bound	3.2655	
	5% Trimmed Mean		3.2403	
	Median		3.2857	
	Variance		0.309	
	Std. Deviation		0.55595	
	Minimum		1.29	
	Maximum		4.00	
	Range		2.71	
	Interquartile Range		0.86	
	Skewness		-0.666	0.125
	Kurtosis		0.278	0.249

The normal distribution of self-regulation has a mean of 3.2096 and a standard deviation of 0.55595 (Figure 5.6). From the histogram, the distribution looks like it may be skewed to the left meaning that most agree that they have high self-regulation. However as mentioned in the previous paragraph, this skewness is still within the acceptable parameters.

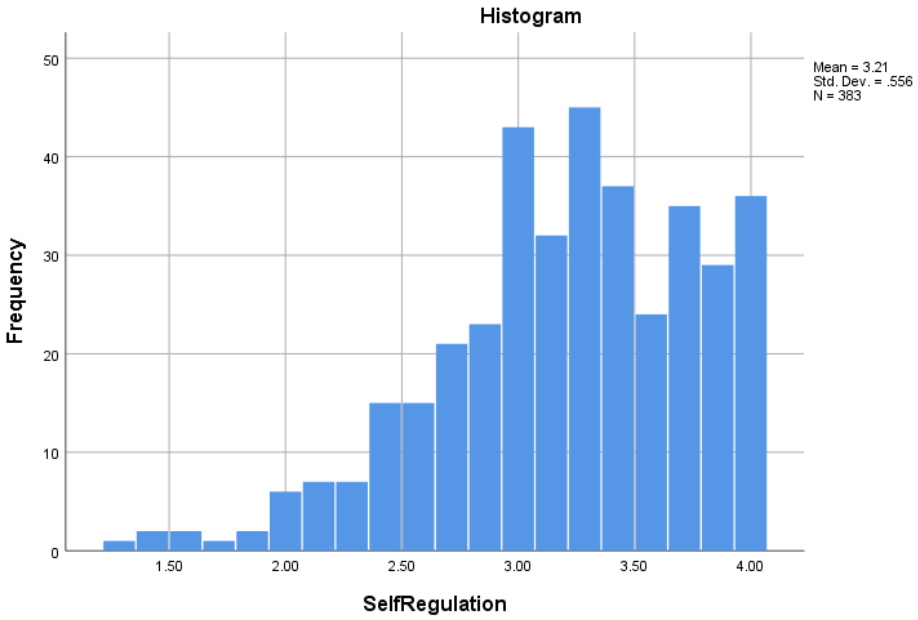


Figure 5.6 Histogram showing Normality Distribution of Self-Regulation

5.5.4 Online shopping addiction

As the scale used was a Likert-type scale, a composite construct score was created by calculating the average of the reliable items in the construct. Shopping addiction scores 1.75 on average meaning that the average response was closer towards being neutral that scores a response of "Neither disagree nor agree (2)" on the scale (Table 5.16). The construct of shopping addiction is fairly normally distributed with a skewness score of 0.26 as seen in Table 5.12. Normality and homogenous variances are met for this variable.

Table 5.12 Descriptive Statistics for Online Shopping Addiction

Shopping Addiction	Mean		1.7501	0.04245
	95% Confidence Interval for Mean	Lower Bound	1.6666	
		Upper Bound	1.8335	
	5% Trimmed Mean		1.7425	
	Median		1.8571	
	Variance		0.690	
	Std. Deviation		0.83068	
	Minimum		0.00	
	Maximum		4.00	
	Range		4.00	
	Interquartile Range		1.14	
	Skewness		0.026	0.125
	Kurtosis		-0.572	0.249

The histogram representing the distribution for online shopping addiction has a mean of 1.7501 and a standard deviation of 0.83068 (Figure 5.7). When looking at the histogram it is evident that this variable is normally distributed with most scoring neutrally on online shopping addiction.

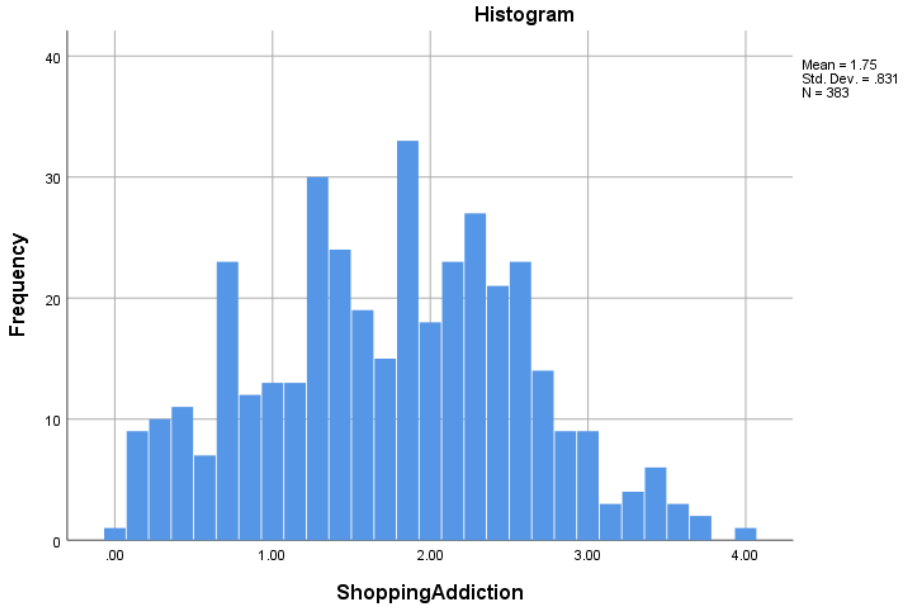


Figure 5.7 Histogram showing Normality Distribution for Shopping Addiction

5.6 Independent samples t-Test: Gender and online shopping addiction

An independent samples t-Test was performed to determine the relationship between the level of online shopping addiction and gender. Table 5.14 shows the Levene's test result that has a significance value of p=0.595.

The variances of the two groups, namely male and female, do not differ significantly because the p-value of the Levene's test is above 0.05. Normality is also evident, as seen by the stem and leaf plot (Figure 5.8) that shows no significant noticeable difference between the spread, thus both assumptions for the Independent t-Test are met.

When looking at the t-Test results, the significance value of 0.139 shows that the difference between the level of online shopping addiction by gender is not significant (Table 5.14). The t value (t=1.484) is not significant at the 0.05 alpha level as the p-value of 0.139 is greater than 0.05.

In order to determine the practical effect size, Cohen's *d* was calculated using the group statistics (Table 5.13). The calculation was performed using the following equation:

$$Cohen's\ d = \frac{(M_2 - M_1)}{SD_{pooled}} = \frac{1.6912 - 1.8172}{0.8283} = 0.1521$$

Where SD_{pooled} is calculated as follows, and SD_x is the standard deviation of each group:

$$SD_{pooled} = \sqrt{\frac{(SD_1)^2 + (SD_2)^2}{2}}$$

Cohen's effect size value (d =0.1521) suggested a low practical significance. The variances between gender scores of online shopping addiction do not differ significantly so the assumption of equal variance holds. The researcher thus rejects the research hypothesis (H_4) and accepts the below-mentioned null hypothesis:

H_0: There is no significant difference between male and female levels of online shopping addiction.

Table 5.13 Group Statistics for the Independent Samples Test

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Shopping Addiction	Male	179	1.8172	0.81195	0.06069
	Female	204	1.6912	0.84436	0.05912

Table 5.14 Independent Samples Levene's Test and t-Test

		Levene's Test for Equality of Variances		t-Test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Shopping Addiction	Equal variances assumed	0.283	0.595	1.484	381	**0.139**
	Equal variances not assumed			1.488	377.800	0.138

Table 5.15 Independent Samples t-Test

		t-test for Equality of Means			
		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Shopping Addiction	Equal variances assumed	0.12606	0.08494	-0.04095	0.29307
	Equal variances not assumed	0.12606	0.08472	-0.04052	0.29265

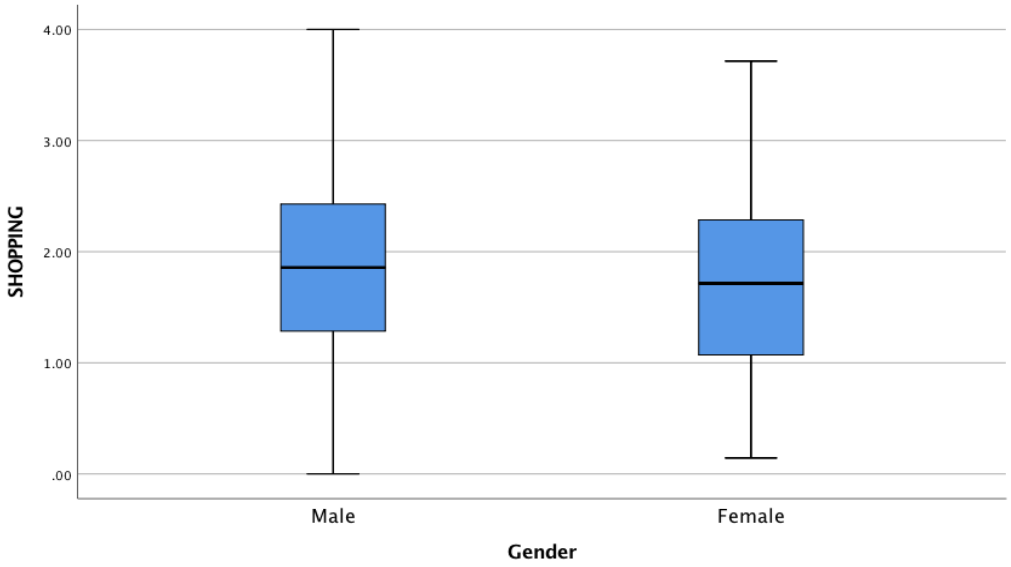


Figure 5.8 Stem and Leaf plot showing online shopping addiction by gender

5.7 Correlations between predictor variables and online shopping addiction

Correlations between each independent variable and the dependent variable were run by the researcher to explore the relationship between the predictor variables and online shopping addiction. For this purpose, a Pearson Correlation analysis was run to determine the strength and direction of relationships between the predictor variables and online shopping addiction (Table 5.16).

Table 5.16 Pearson Correlation Analysis Results

		Shopping addiction	Negative affective state	Self-esteem	Self-regulation
Shopping addiction	Pearson Correlation	1	**0.284****	**-0.271****	**-0.060**
	Sig. (2-tailed)		0.000	0.000	0.242
	N	383	383	383	383
Negative affective state	Pearson Correlation	**0.284****	1	-0.457**	-0.248**
	Sig. (2-tailed)	0.000		0.000	0.000
	N	383	383	383	383
Self-esteem	Pearson Correlation	**-0.271****	-0.457**	1	0.481**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	383	383	383	383
Self-regulation	Pearson Correlation	**-0.060**	-0.248**	0.481**	1
	Sig. (2-tailed)	0.242	0.000	0.000	
	N	383	383	383	383

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

To account for the possible skewness in the factor self-regulation, Spearman correlations were also calculated (Table 5.17). The results from the Pearson Correlation analysis show that negative affective state and self-esteem both have significant correlations at the 0.05 alpha level (Table 5.16). The findings of the Spearman analysis are in line with those of the Pearson Correlation analysis – it also finds negative affective state and self-esteem to have statistically significant relationships with online shopping addiction at the 0.05 alpha level (Table 5.17).

Table 5.17 Spearman Correlation Analysis Results

			Shopping Addiction	PANAS_ Negative	Self-Esteem	Self-Regulation
Spearman's rho	Shopping Addiction	Correlation Coefficient	1.000	0.305**	-0.271**	-0.052
		Sig. (2-tailed)	.	0.000	0.000	0.314
		N	383	383	383	383
	PANAS_Negative	Correlation Coefficient	0.305**	1.000	-0.450**	-0.256**
		Sig. (2-tailed)	0.000	.	0.000	0.000
		N	383	383	383	383
	Self-Esteem	Correlation Coefficient	-0.271**	-0.450**	1.000	0.442**
		Sig. (2-tailed)	0.000	0.000	.	0.000
		N	383	383	383	383
	Self-Regulation	Correlation Coefficient	-0.052	-0.256**	0.442**	1.000
		Sig. (2-tailed)	0.314	0.000	0.000	.
		N	383	383	383	383

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

There is a weak, positive relationship between negative affective state and online shopping addiction with a correlation coefficient of 0.284 (Figure 5.9; Table 5.16). The square of the correlation coefficient measures the effect size or proportion of variance the variables have in common. The squared correlation, r^2= 0.080, implies that negative affective state and online shopping addiction share about 8% of their variance and can be considered a medium effect (Figure 5.9). As the level of negative affective state increases so does that of online shopping addiction.

With a p-value of 0.000, this relationship is significant at the 0.05 alpha level (Table 5.16), thus the researcher rejects the null-hypothesis and accepts the alternative hypothesis below:

> H_1: Negative emotional state has a significant positive association with levels of online shopping addiction.

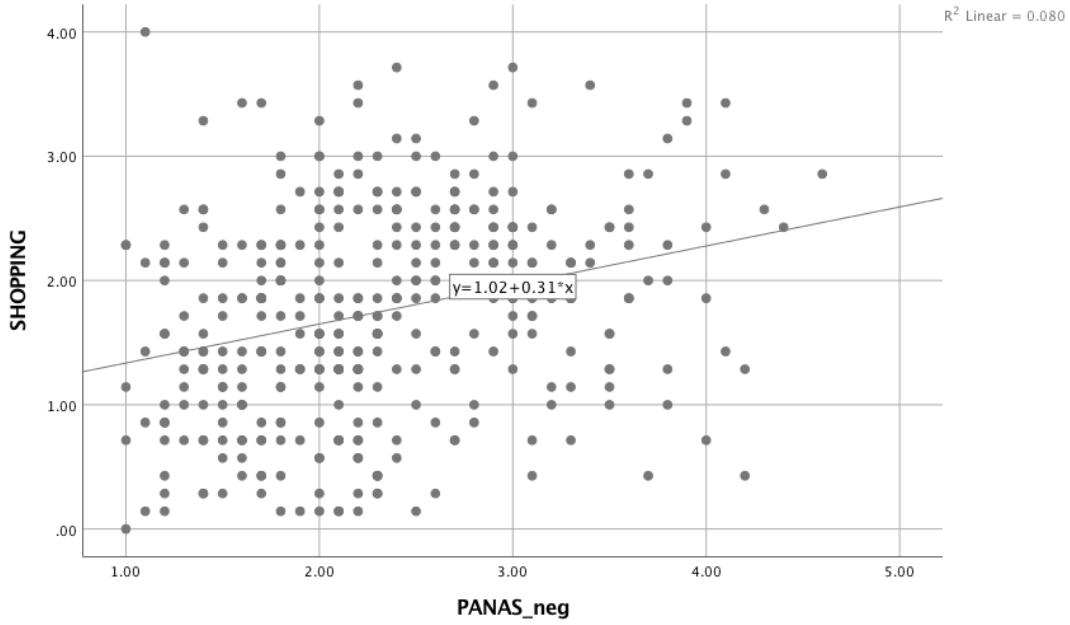


Figure 5.9 Scatterplot of Negative Affect and Online Shopping Addiction

Self-esteem has a negative, moderate relationship with online shopping addiction (Figure 5.10) and obtains a correlation coefficient of -0.271. With a squared correlation of r^2= 0.073, about 7.3% of variance is shared between self-esteem and online shopping addiction, indicating a medium effect size (Figure 5.10). As the level of positive self-esteem increases, the level of online shopping addiction decreases. With a correlation coefficient of -0.271 and a p-value of 0.000, self-esteem has a significant negative relationship with online shopping addiction at the 0.05 alpha level (Table 5.16). From these results, the researcher rejects the null hypothesis and accepts the following research hypothesis:

H_2: Self- esteem has a significant negative association with levels of online shopping addiction

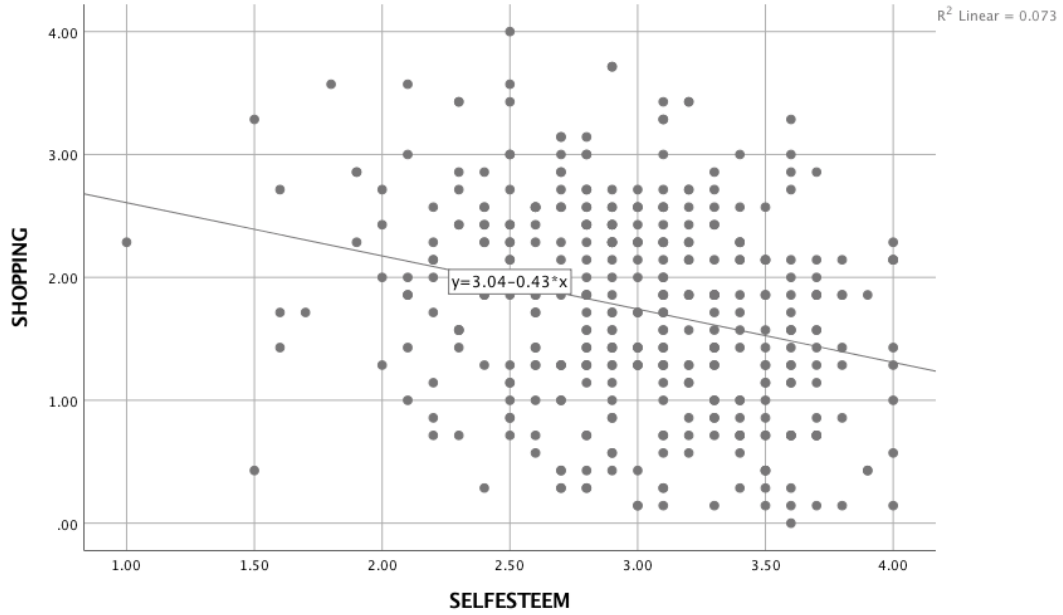


Figure 5.10 Scatterplot of Self-esteem and Online Shopping Addiction

Self-regulation has a weak correlation coefficient of -0.060 with online shopping addiction (Table 5.16). With an r^2 value of 0.004, less than 1% of variance is shared between self-regulation and online shopping addiction, showing a very small effect size (Figure 5.11). The p-value of -0.121 is not significant at the 0.05 alpha level, indicating that there is no significant relationship between self-regulation and online shopping addiction (Table 5.16). The scatterplot shows an almost flat line, reiterating that there is no relationship between the variables (Figure 5.11). With this in mind, the researcher rejects the research hypothesis (H_3) and accepts the null hypothesis below:

H_0: Self-regulation has no significant association with levels of online shopping addiction

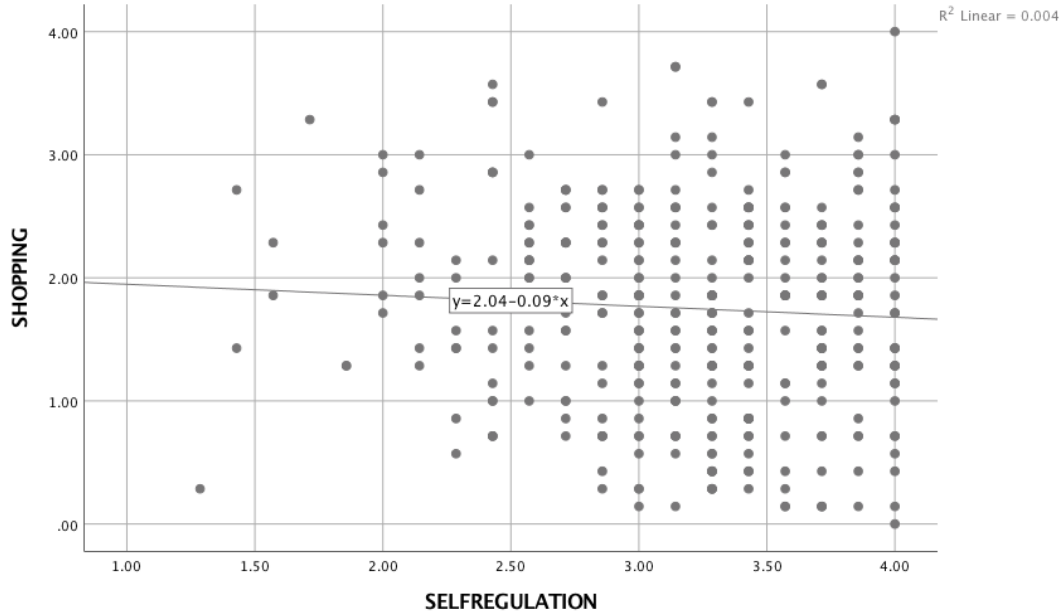


Figure 5.11 Scatterplot of Self-Regulation and Online Shopping Addiction

5.8 Influence of predictor variables on online shopping addiction

To assess the influence of the predictor variables on online shopping addiction, a Multiple Linear Regression was conducted. The variables entered into the model were negative affective state, self-esteem, self-regulation and the dummy variable of gender. The researcher took the decision to include both self-regulation and gender despite no significant relationships being found with online shopping addiction. The Conceptual Model of Online Shopping Addiction upon which this study is based proposes that these variables contribute to online shopping addiction hence why these were retained.

With a significance value of p=0.000, the ANOVA indicates that overall, the model is statistically significant (Table 5.18).

Table 5.18 ANOVA Significance Test for the Multiple Linear Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	32.430	4	8.107	13.257	**0.000**[b]
	Residual	231.161	378	0.612		
	Total	263.591	382			

a. Dependent Variable: SHOPPING
b. Predictors: (Constant), Self-Regulation, rGender, PANAS_Negative, Self-Esteem

As seen by the R Square value of 0.123, 12% of the variation in adoption is explained by this model (Table 5.19).

Table 5.19 Model Summary for Multiple Linear Regression (a)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	0.351[a]	**0.123**	0.114	0.78201	0.123	13.257	4	378

The analysis results in a Durbin-Watson test value of 2.228 (Table 5.20). This value shows that there is no autocorrelation as it is close to 2.

Table 5.20 Model Summary for Multiple Linear Regression (b)

Model	Change Statistics	Durbin-Watson
	Sig. F Change	
1	0.000	**2.228**

a. Predictors: (Constant), Self-Regulation, rGender, PANAS_Negative, Self-Esteem
b. Dependent Variable: SHOPPING

The t-value indicates the individual significance of each independent or predictor variable. All the variables except for self-regulation are significant at the 0.05 alpha level. Self-regulation has a t-value of 1.769 with a p-value of 0.078, which is greater than 0.05, thus making it insignificant (Table 5.21).

The predictor variable of gender was used as a dummy variable where the variable takes only one of two values. By using a dummy variable, the sample was split into two distinct groups and

assigned their own code. Male was assigned a code of 1 and female was assigned a code of 0. The coefficients of the dummy variables measure the average difference between the group coded with the value 1 (male) and the group coded with the value 0 (female). The Coefficient Standardised Beta (β) values indicate which variables are most important. These Beta values provide a measure of the influence of the independent variables, in the case of the dummy variable of gender the coefficient reflects how much larger or smaller the expected value will be for men. The Coefficient Standardised Beta value for the male gender is 0.100 and is significant at the 0.05 level of significance (Table 5.21). This coefficient indicates that males are more inclined to be addicted to online shopping than females – an unexpected finding that is discussed in the following chapter.

The Coefficient Standardised Beta value for Negative Affective state is 0.209 with a p-value of 0.000 and is significant at the 0.05 alpha level. Self-esteem obtains a Beta value of -0.229 and a p-value of 0.000 which also makes this a significant predictor variable in this model at the 0.05 alpha level.

The Variance Inflation Factor (VIF) values are all below 3 thus the assumption of no multicollinearity is met, statistically speaking (Table 5.21).

Table 5.21 Coefficients of Predictor Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.758	0.378		4.651	0.000		
	PANAS_Negtive	0.232	0.060	**0.209**	3.862	**0.000**	0.789	**1.268**
	Self-Esteem	-0.366	0.096	**-0.229**	-3.816	**0.000**	0.646	**1.547**
	Self-Regulation	0.145	0.082	**0.097**	**1.769**	**0.078**	0.768	**1.303**
	Gender	0.167	0.080	**0.100**	2.074	**0.039**	0.994	**1.006**

a. Dependent Variable: Online Shopping Addiction

Despite the overall significance of the model, the correlational matrix shows some multicollinearity (Table 5.22). The VIF is however less than 5, which is the acceptable range for the VIF.

Table 5.22 Correlational Matrix for Multiple Linear Regression

		Shopping Addiction	PANAS_Negative	Self-Esteem	Self-Regulation	Gender
Pearson Correlation	Shopping Addiction	1.000	0.284	-0.271	-0.060	0.076
	PANAS_Negative	0.284	1.000	-0.457	-0.248	-0.063
	Self-Esteem	-0.271	-0.457	1.000	0.481	0.069
	Self-Regulation	-0.060	-0.248	0.481	1.000	0.048
	Gender	0.076	-0.063	0.069	0.048	1.000
Sig. (1-tailed)	Shopping Addiction	.	0.000	0.000	0.121	0.069
	PANAS_Negative	0.000	.	0.000	0.000	0.109
	Self-Esteem	0.000	0.000	.	0.000	0.088
	Self-Regulation	0.121	0.000	0.000	.	0.177
	Gender	0.069	0.109	0.088	0.177	.
N	Shopping Addiction	383	383	383	383	383
	PANAS_Negative	383	383	383	383	383
	Self-Esteem	383	383	383	383	383
	Self-Regulation	383	383	383	383	383
	Gender	383	383	383	383	383

When looking at the histogram of the residuals, it is evident that they are normally distributed (Figure 5.12). Residuals are the differences between the observed values of the dependent variable and the predicted value. By analysing the residuals, the regression model can be considered valid or not. As seen in Figure 5.13, the plot of the residuals creates a straight line with all residuals fitting on or just about the line. The scatter plot of the regression standardised residuals shows no pattern as the data is symmetrically distributed and tends to cluster in the middle of the plot (Figure 5.14). This indicates that the model has an acceptable fit as a measure of online shopping addiction.

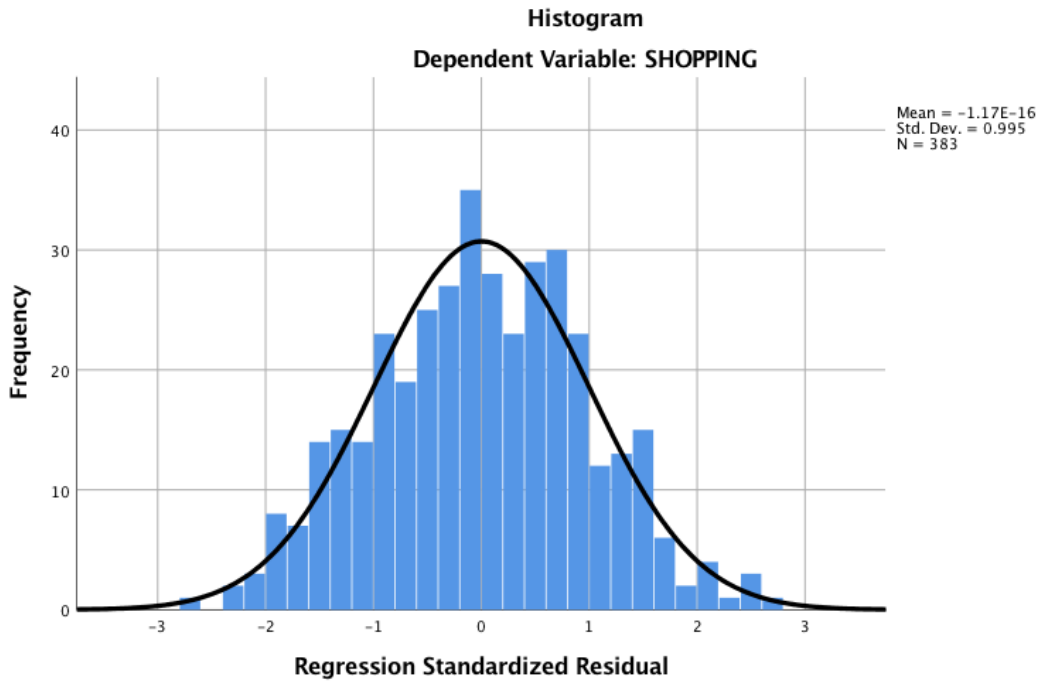


Figure 5.12 Histogram of Regression Standardised Residuals

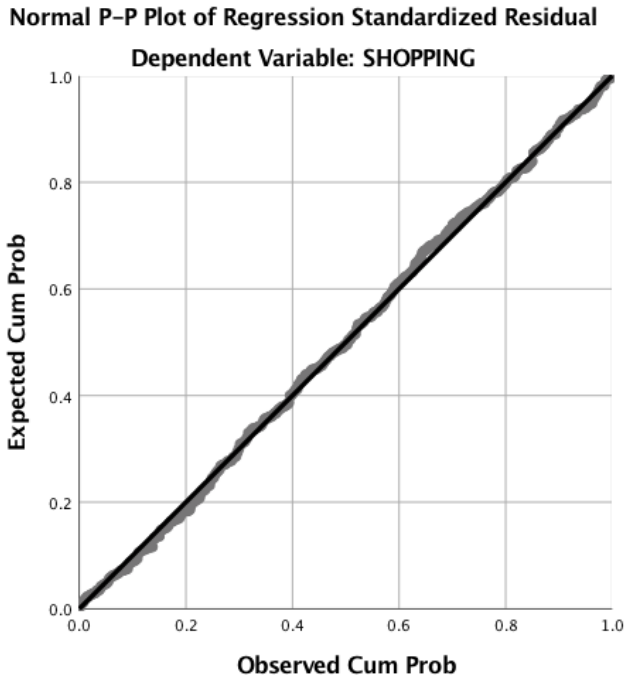


Figure 5.13 Plot Showing Regression Standardised Residuals

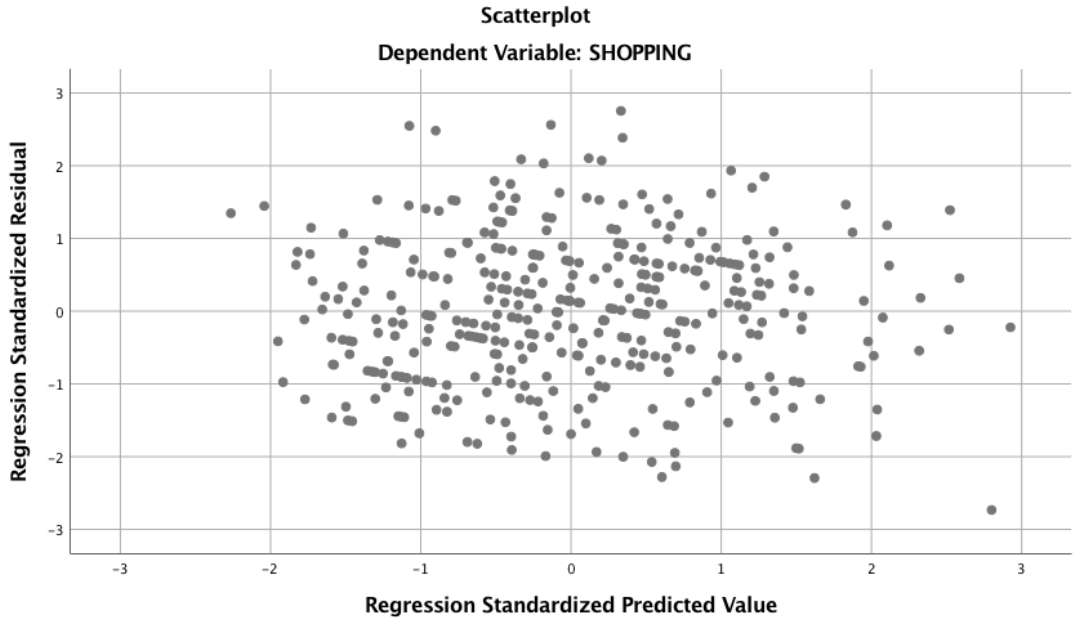


Figure 5.14 Scatterplot for Regression Residual Predicted Value

5.9 Additional exploratory tests

This section delves into additional analyses that were done out of interest and for the purpose of exploration. Although not part of the original model, the researcher felt that within the South African context some of these results could inform future research. In addition, during the literature review the researcher found conflicting theories on the relationship between age and online shopping addiction. It was thus thought to be appropriate to explore this variable.

A correlation between online shopping addiction and age was performed to explore the relationship between these two variables. The exact date of birth was asked in the questionnaire; thus, age was turned into a continuous variable and rounded down to full years. A Pearson Correlation analysis was performed to determine the strength and direction of the relationship. A correlation coefficient of -.080 shows no relationship between the variables (Table 5.23) for the age range of 18 to 35 years.

Table 5.23 Pearson Correlation Analysis of Age versus Online Shopping Addiction

		Shopping Addiction	Age (Years)
Shopping Addiction	Pearson Correlation	1	**-0.080**
	Sig. (2-tailed)		**0.120**
	N	383	383
Age (Years)	Pearson Correlation	**-0.080**	1
	Sig. (2-tailed)	**0.120**	
	N	383	383

A One-Way Analysis of Variance (ANOVA) was run to determine whether there are any significant differences in the level of online shopping addiction between distinct racial groups. The Test of Homogeneity of Variances, where the Levene's Test tests for statistically significant differences between the variances, shows that the Levene's Test is not significant at the 0.05 alpha level for all groups (Table 5.24). This indicates that the assumption of homogeneity of variance is met for this sample.

Table 5.24 Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Shopping Addiction	Based on Mean	0.329	3	374	**0.804**
	Based on Median	0.286	3	374	**0.836**
	Based on Median and with adjusted df	0.286	3	373.044	**0.836**
	Based on trimmed mean	0.329	3	374	**0.804**

There is a statistically significant difference between the race groups when looking at the level of online shopping addiction as determined by the One-Way ANOVA ($F(3,374) = 8.381$; $p = 0.000$) (Table 5.25). However, as there are more than three racial groups, a post hoc test was needed to determine which specific pairs of means are significantly different.

Table 5.25 One-Way Analysis of Variance Test

		Sum of Squares	df	Mean Square	F	Sig.
Shopping Addiction	Between Groups	16.307	3	5.436	**8.381**	**0.000**
	Within Groups	242.566	374	0.649		
	Total	258.873	377			

A Bonferroni post hoc test revealed that the level of online shopping addiction was statistically significantly higher for Black participants when compared to all other racial groups (Table 5.27). There is a mean difference of 0.41208 between the online shopping addiction scores of Black and Coloured participants while the Black participants have a higher mean score of 1.8827 (SD=0.80719) for online shopping addiction when compared with the Coloured group's score of 1.4706 (SD=0.81082) (Table 5.26). A p-value of 0.032 shows a statistically significant difference between the Black and Coloured race groups at the 0.05 alpha level, indicating that the Black group has a significantly higher level of online shopping addiction than the Coloured group (Table 5.27).

A mean difference of 0.45410 can be seen between the Black and Indian groups (Table 5.27). The Black group has a higher mean score of 1.8827 (SD=0.80719) for online shopping addiction than the Indian group's score of 1.4286 (SD=0.76007) (Table 5.26). With a p-value of 0.033 at the 0.05 alpha level, there is a statistically significant difference between the Black and Indian groups (Table 5.27). This indicates that the Black group has a significantly higher score for online shopping addiction than the Indian group.

Finally, there is a mean difference of 0.47262 between the Black and White race groups. Black has a mean score of 1.8827 (SD=0.80719) and White has a mean score of 1.4101 (SD=1.4101) (Table 5.26). With a p-value of p=0.001, there is a statistically significant difference between the Black and White groups at the 0.05 alpha level (Table 5.27). This indicates that the Black group has a significantly higher score for online shopping addiction than the White group. There are no statistically significant differences between the any of the other racial groups with one another.

Table 5.26 Means and Standard Deviations of Race groups for Online Shopping Addiction

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Shopping Addiction	Black	263	**1.8827**	**0.80719**	0.04977	1.7847	1.9807
	Coloured	34	**1.4706**	**0.81082**	0.13905	1.1877	1.7535
	Indian	27	**1.4286**	**0.76007**	0.14628	1.1279	1.7292
	White	54	**1.4101**	**0.81431**	0.11081	1.1878	1.6323
	Total	378	**1.7457**	**0.82865**	0.04262	1.6618	1.8295

Table 5.27 Post Hoc Test Showing Multiple Comparisons

Bonferroni							
Dependent Variable	(I) Race2	(J) Race2	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Shopping Addiction	Black	Coloured	**0.41208***	0.14677	**0.032**	0.0228	0.8014
		Indian	**0.45410***	0.16275	**0.033**	0.0224	0.8858
		White	**0.47262***	0.12032	**0.001**	0.1535	0.7917
	Coloured	Black	**-0.41208***	0.14677	**0.032**	-0.8014	-0.0228
		Indian	0.04202	0.20760	1.000	-0.5086	0.5926
		White	0.06054	0.17631	1.000	-0.4071	0.5282
	Indian	Black	**-0.45410***	0.16275	**0.033**	-0.8858	-0.0224
		Coloured	-0.04202	0.20760	1.000	-0.5926	0.5086
		White	0.01852	0.18982	1.000	-0.4850	0.5220
	White	Black	**-0.47262***	0.12032	**0.001**	-0.7917	-0.1535
		Coloured	-0.06054	0.17631	1.000	-0.5282	0.4071
		Indian	-0.01852	0.18982	1.000	-0.5220	0.4850

*. The mean difference is significant at the 0.05 level.

There is a noticeable difference in scores of online shopping addiction between the race groups with the Black group seeing significantly higher levels of online shopping addiction than all the other race groups tested (Figure 5.15). However, there are a few outliers in both the Indian and White race groups who score highly in terms of online shopping addiction.

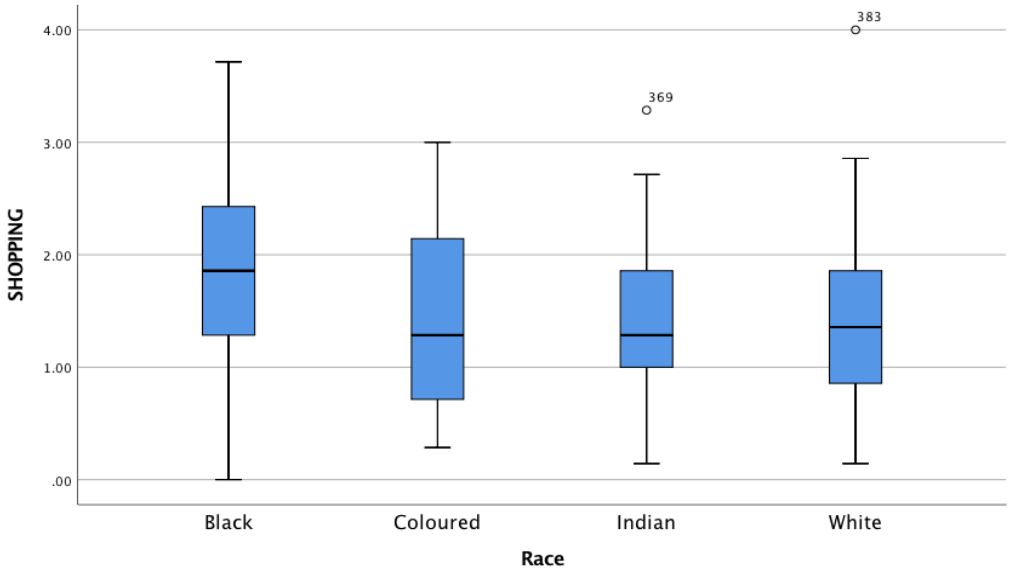


Figure 5.15 Stem and Leaf Plot showing Distribution of Online Shopping Addiction Scores for Each Race Group

5.10 Conclusion

This chapter presented the results obtained during the data analysis phase of this dissertation. In summary, a weak positive, yet significant, relationship was found between negative emotional state and online shopping addiction. Therefore, the researcher rejects the null hypothesis and accepts research hypothesis H_1.

A moderate, negative and significant relationship was found between self-esteem and online shopping addiction, in line with the proposed research hypothesis. The researcher made the decision to reject the null hypothesis and accept research hypothesis H_2.

The researcher found that there was no significant relationship between self-regulation and online shopping addiction. With this in mind, the research hypothesis H_3 is rejected while its associated null hypothesis is accepted.

By conducting an independent samples t-Test, it was determined that there is no significant difference in online shopping addiction levels between males and females. From the Multiple Linear Regression however, it is evident that, although there are no differences in level of online

shopping addiction by gender, gender still has a significant role in the occurrence of online shopping addiction as males are more inclined to be addicted to online shopping than females. This stands in stark contrast to Rose and Dhandayudham's (2014) proposition that the female gender is more likely to be a predictor of online shopping addiction than the male gender.

Overall, the Multiple Linear Regression shows that the model is in fact significant and explains the predictors' influence on online shopping addiction successfully. The researcher thus has enough information to answer the following research question:

> Do the predictor variables proposed in the Conceptual Model of Online Shopping Addiction predict the level of online shopping addiction?

Despite answering the main research question, a few notable observations were made by the researcher. The predictor of self-regulation in itself is not significant within the model. Although the independent samples t-Test revealed no difference between males and females in terms of online shopping addiction, when used in the Multiple Linear Regression gender is revealed as possibly contributing towards the Conceptual Model of Online Shopping Addiction. This may be due to a combined effect with the other variables in the model. From this, it is evident that each variable cannot be interpreted in isolation as these variables may have effects on one another.

The researcher also conducted some exploratory analyses and determined that the Black race group has significantly higher levels of online shopping addiction than all other race groups. Further to this, the researcher determined that there is no relationship between age and online shopping addiction.

These results will be discussed in detail in the following chapter. The researcher will aim to use these findings to answer the research questions with the support of literature. Further recommendations will also be suggested.

CHAPTER 6

DISCUSSION OF RESULTS

6.1 Overview of chapter

This chapter discusses the results obtained in Chapter 5. In order to address the paucity of research on the topic and build knowledge, especially within the South African context, this study investigated the factors that could predict online shopping addiction among the youth of South Africa. The Conceptual Model of Online Shopping Addiction was used as a theoretical basis for this study with international literature highlighting the importance of the proposed predictor variables. This chapter aims to answer the research questions by discussing the results from Chapter 5 while situating the results within the context of previously discussed literature.

6.2 Discussion

An existing model of online shopping addiction, namely the Conceptual Model of Online Shopping Addiction by Rose and Dhandayudham (2014), was used, in which negative emotional state, self-esteem, self-regulation and gender were proposed as the predictor variables for online shopping addiction. From the results, it emerged that negative emotional state and self-esteem have a significant effect on online shopping addiction. This is in line with previous literature that highlights the importance of these factors (Rose & Dhandayudham, 2014; Sohn & Choi, 2013). It is interesting that gender is also a significant variable, but the significant gender is opposite to that suggested by the model. The model proposes that being female is a predictor of online shopping addiction. However, from the results, it appears that males are more inclined to be addicted to online shopping than females. Self-regulation is-the only variable that does not have a significant relationship with online shopping addiction (Horváth et al., 2015). This stands in contrast to

previous research stating that a lack of self-control is central, if not essential, to addiction. It was an option to rerun the MLR and eliminate self-regulation from the predictors, but this was not pursued as it would change the proposed model. The researcher's aim was to test the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014). By retaining the variable of self-regulation, this model's effectiveness in explaining levels of online shopping addiction in terms of addiction could be analysed.

6.2.1 Multiple Linear Regression overview

Overall, the Multiple Linear Regression (MLR) shows that the model is in fact significant and explains the predictors' influence on online shopping addiction successfully. Instead of discussing this MLR result at an overall level, the researcher decided to unpack each predictor and how it fits within the regression model in detail. Each of the variables are discussed in order of importance, as derived from the MLR. Note that the results for negative emotional state and self-esteem were in line with the literature presented in Chapter 2. Therefore, the discussion below places more emphasis on the interplay between negative emotional state and self-esteem. The discussion also includes self-regulation and gender, for which the findings were not in accordance with what could be expected based on the review of existing literature. It is important to note that each variable cannot be interpreted in isolation as they may have effects on one another.

6.2.2 Self-esteem

Self-esteem was significantly correlated with online shopping addiction and emerged as having a significant impact in the regression model. With a significant negative correlation coefficient ($r=-0.271$, $p<0.001$) and a beta value of -0.229, self-esteem is the most important predictor variable. This result confirms that individuals with low self-esteem probably gain feelings of relief or a perception of improved self-esteem by engaging in the online shopping process, as proposed by literature (Davenport, Houston & Griffiths, 2012). It can be assumed that individuals with low

self-esteem are more likely to engage in compulsive shopping than those whose self-esteem is high (Davenport, Houston & Griffiths, 2012; Rose and Dhandayudham, 2014). The findings, therefore, support the hypothesis that self-esteem has a significant negative association with the level of online shopping addiction, and therefore the null hypothesis is rejected.

6.2.3 Negative emotional state

Negative emotional state follows on from self-esteem as the second most important predictor variable. With a significant, positive correlation coefficient of 0.284, and a beta value of 0.209, it is evident that negative emotional state has a relationship with online shopping addiction. Negative emotional state refers to feelings of anxiety, stress and negative emotion (Müller & Mitchell, 2014; Sohn & Choi, 2013). From the results, it makes sense that when shopping online, these feelings are eased, making those suffering from strained emotions vulnerable to excessive or impulsive shopping as a release. Mood enhancement is a key motivator when feeling negative affect and can be found by completing online purchases (Sohn & Choi, 2013). From these significant results and literature, for example Müller et al. (2011), Müller & Mitchell (2014) and Keskin & Günüç, (2017), it can be reasonably assumed that higher levels of online shopping addiction may be experienced by those who experience a higher frequency of negative affect, such as depression. These results support the research hypothesis that negative emotional state has a significant positive association with the level of online shopping addiction; therefore, the null hypothesis is rejected.

6.2.4 The interplay between self-esteem and negative emotional state

The fact that self-esteem has a greater impact on online shopping addiction than negative emotional state warrants discussion. A person with low self-esteem may not have the confidence to reach out for help; high self-esteem is regarded by some authors as being a protecting factor and low self-esteem, in contrast, is regarded as a risk factor to developing addictive behaviours (Sevelko et al., 2018). Low self-esteem may not be as noticeable as negative emotional state which includes

depression, anxiety and stress, amongst other sometimes more tangible and visible states (Keskin & Günüç, 2017). If one experiences low self-esteem, these feelings of inadequacy and worthlessness may hinder help-seeking behaviour and exacerbate an online shopping addiction (Lee, Park & Lee, 2016). However, it is also important to note that despite the VIF values being within range, there is some multicollinearity between these predictor variables. According to literature, low self-esteem has been most consistently associated with compulsive or addictive buying (Workman & Paper, 2010). It is also more probable for an individual suffering from an addictive behaviour, such as compulsive buying, who has low self-esteem to experience negative affective states such as depression (Sevelko et al., 2018; Workman & Paper, 2010). It is thus understood by the current researcher that the act of compulsive buying blocks out or overcomes such negative emotions.

The act of completing a purchase relieves negative emotional states, elevating one's mood in the short term. These positive consequences become conditioned and the shopper engages in buying activities to improve their mood. Such a high is followed by an immediate down, starting the buying cycle again to relieve negative feelings and improve mood. This explains how online shopping addiction may be influenced by self-esteem and negative emotional state (Workman & Paper, 2010). By bolstering one's image without the assistance of a compensatory purchase to make one feel good, the cycle of reinforcement can be broken.

Considering the impact that self-esteem has on online shopping addiction, it is imperative that psychologists, clinicians and those suffering from an addiction are made aware of the importance of building self-esteem. Addiction organisations and facilities can implement strategies aimed at improving awareness of online shopping addiction as an addiction; thus, removing doubt or stigma attached to this unique condition and creating the platform for help-seeking.

6.2.5 Self-regulation

Although self-regulation was identified as a key predictor of online shopping addiction in the literature by Duroy, Gorse and Lejoyeux (2014), Rose and Dhandayudham (2014) and Horváth et al. (2015) for example, it failed to attain a significant correlation with online shopping addiction. In fact, a correlation coefficient of -0.060 indicates that there is no relationship with online shopping. Further to this, it was the only variable that did not have a significant impact in the regression model with a beta coefficient of 0.097. These results are in direct contradiction to literature stating that compulsive buying is essentially a result of a failure of self-control (Horváth et al., 2015). From this finding, the null hypothesis is accepted as self-regulation has no significant association with level of online shopping addiction.

Self-regulation refers to the capacity to change one's own state or responses to stimuli (Rose & Dhandayudham, 2014). The consumer gains immediate, small rewards instead of using self-regulation methods to wait for a larger return, which would be expected given that most literature on behavioural addictions indicates that at the core they are associated with a lack of control (Horváth et al., 2015; Sun & Wu, 2011). Continuous exposure to the online environment has also been proposed as encouraging a lack of self-control which in turn depletes the self-regulatory capacity of an individual; meaning that shopping online may result in a lack of self-control and increase in uncontrolled shopping behaviour (Sun & Wu, 2011).

It is possible that because this survey was based on self-report measures, these figures were underreported by the participants. Participants may not have reported accurately on items indicating a loss of self-control in an attempt to avoid reporting behaviour they perceive as being as socially undesirable (Fuchs, 2008; Höglinger, Ben, & Diekman, 2016). This is especially common in survey questions, however online surveys do provide a degree of privacy to protect the participant (Höglinger, Ben, & Diekman, 2016). It is possible that there may be stigma attached to

low self-regulation which makes the participant less willing to divulge their true experiences. However, it is not necessarily a deliberate decision for the participant to underreport these measures, but may be a sub-conscious response when answering sensitive questions (Fuchs, 2008).

Another possibility is that issues of self-control may not be generalised but context-specific. Literature cites pop-up advertisements, discounted offers with time limits, interactive product displays, and ease of 'one click' purchasing all contributing towards the weakening of self-regulation for online shopping in particular (Kukar-Kinney, Scheinbaum & Schaefers, 2016). The scale used to measure this construct is a general scale and denotes self-regulation as being the "cognitions and behaviours that appear *after an individual has formulated the intention* to pursue a specific goal" (Luszczynska et al., 2004, p. 557).

The researcher decided to keep self-regulation in the model as it is a key predictor variable according to the Conceptual Model of Online Shopping Addiction, making it theoretically important to include. As the focus of this current study was to specifically test the predictors that were proposed by this theory as being essential for a behavioural addiction to occur, the researcher felt it meaningful to keep self-regulation in the model. In addition to this, the notion that other researchers have strongly linked self-regulation to compulsive buying makes this lack of effect interesting, opening up avenues for future studies.

Griffiths (2013) raises the question of whether a loss of control is always necessarily associated with addiction or not. This stands in stark contrast to most literature which agrees that self-regulation is a key component of addiction (Duroy, Gorse & Lejoyeux, 2014; Horváth et al., 2015; Rose & Dhandayudham, 2014; Sohn & Choi, 2014). There may be some individuals who are addicted to a behaviour, such as online shopping addiction, but do not lose control as they are acutely aware of what they are doing and want to be engaged in that activity. If a behavioural

addiction was influenced by a person's inability to self-regulate then it is expected that they would lose control in other aspects of their life (Griffiths, 2013).

Rose and Dhandayudham (2014) based their Conceptual Model of Online Shopping Addiction on the premise that online shopping addiction is in fact a behavioural addiction that meets Griffiths' components for an addiction. With this in mind, the proposed predictor of self-regulation in the model can be positioned under the 'conflict' component (see Section 2.8.6) with an individual feeling a sense of a loss of control when engaging in the problematic behaviour. However, it is important to consider that someone with online shopping addiction may be feeling conflict in other areas of life such as social life, work or hobbies; therefore, this criterion could still be met (Griffiths, 2013).

6.2.6 Gender

The relationship between gender and online shopping addiction is complex. When only comparing genders by the level of online shopping addiction there is no significant difference in the results of the t-Test ($t=1.484$, $df=381$, $p=0.139$). From this result, the hypothesis stating that females have a significantly higher level of online shopping addiction than males is rejected and the null hypothesis is accepted. Interestingly, when gender is included as part of the prediction model, there is a significant negative effect on gender. According to the model output, it appears that males are more inclined to be addicted to online shopping than females.

This finding is contrary to the notion proposed by the theoretical model that female gender is a stronger predictor of online shopping addiction (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014). Given the literature on gender in relation to online shopping addiction, authors are divided. Some argue that women would have higher levels of online shopping addiction due to the link between problematic purchasing

behaviours and being female (Claes, Müller & Luyckx, 2016). Conventionally, women drive household shopping spend or are socialised into seeing shopping as retail therapy, which may contribute to the position that women have a higher likelihood of being addicted to shopping. Others contend that men are more prone to online shopping addiction as they are more likely to use the Internet excessively to facilitate other addictive behaviours such as gambling and gaming (Lee, Park & Lee, 2016; Starcevic, 2015).

This result may be also explained because the Internet provides a barrier behind which compulsive buyers can hide. Men who enjoy shopping may relish the anonymity that comes with online shopping. It may be seen as taboo to be associated with shopping activities linked to female gender-norms so in order to avoid the stigma, men may use the online platform without fear of judgement (Duroy, Gorse & Lejoyeux, 2014). It is also possible that men prefer to stay at home rather than going out to the shops. A report by Schlossberg (2016) states that most men aged 18 to 34 years would prefer to buy everything online. However, women still hold an affection for shopping traditionally. This preference, combined with the ease of access of the Internet, may exacerbate a man's predisposition to become addicted to online shopping.

6.3 Additional findings

In addition to the research questions answered above, various demographic variables were explored. The researcher also determined the reliability of the scales used that provides evidence for future use within the South African context.

6.3.1 Demographics

6.3.1.1 Monthly personal income and age

When looking at monthly personal income (Figure 5.1), the majority of the respondents had lower incomes. In line with literature (Horváth et al., 2015); it could be expected that suffering from

online shopping addiction could have a more pronounced effect on the youth due to their lower incomes. Their technological savvy gives them access to online shopping; however, one should not discount those who fall outside the parameters of youth. No hypothesis was made regarding income, but one could argue that as age increases, so does income that could facilitate online shopping addiction. This does not necessarily mean that because the youth have lower incomes they are not shopping online or to excess. It is possible that even the little income that is attained may be spent, compounding the damage in both psychological and monetary terms. All participants were screened to see if they completed a purchase online in the past 6 months so despite the lower incomes, all participants qualified for the sample.

6.3.1.2 Age

Literature shows a negative relationship between shopping addiction and age. As age increases, compulsive buying decreases (Claes, Müller & Luyckx, 2016). As the Internet becomes an increasingly significant buying context, it becomes important to conduct studies on such variables within it instead of relying on conventional buying research (Zanjani, Milne & Miller, 2015). The results of the Pearson Correlation between age and online shopping addiction does not indicate any significant relationship between these variables, despite recent trends suggesting that compulsive buying behaviours have been increasing with each generation (Rose & Dhandayudham, 2014). It is possible that by restricting the ages to the youth, that this limited the results.

6.3.1.3 Race

Race was not a quota variable so the natural fallout of respondents was slightly skewed for the racial demographics for the South African youth portion of online shoppers. Race was over-represented for Black respondents and under-represented for the White race group, with Black being the highest proportion of participants followed by the White, Coloured and Indian race

groups respectively. A One-Way Analysis of Variance (ANOVA) was conducted to identify if there were any significant differences between the race groups of the participants in regard to level of online shopping addiction. From the results, it is clear that there is a difference between the Black group of participants when compared to all other race groups. The Black group scores a significantly higher mean for online shopping addiction than the Coloured, Indian and White groups. It is interesting to note that level of online shopping addiction did not have any significant differences between the other race groups (Coloured, Indian and White). From this research it is evident that this phenomenon may be more prevalent in the Black race group amongst South Africans. Further research is needed to confirm this finding. The researcher was unable locate any literature to support this finding, reiterating the call for additional research to determine and understand the reasons for this difference.

6.3.2 Reliability of scales

This section aims to compare the reliabilities of the scales obtained from literature to those obtained from the current study. The goal of this comparison is to determine the reliability of these scales within the South African context.

6.3.2.1 The Positive and Negative Affect Schedule (PANAS)

Internal consistencies for the Negative Affect scale ranged from .84 to .87 in the development and validation study of the scale as conducted by Watson, Clark and Tellegan (1988). The scale also scored an alpha reliability of 0.87. In the present study, the item-total correlation coefficients were moderate and positive, with the internal consistency of the scale being 0.809 (Table 5.5). These similarities in findings indicate that the PANAS Negative Affect scale measures the intended construct reliably and is suitable for use in the South African context, in line with the researcher's predictions in Chapter 4.

6.3.2.2 Rosenberg Self-Esteem Scale (RSES)

Although originally developed for use with adolescents, the high level of reliability of this scale using a youth sample (18-34 years old) corroborates this scale's reliability across diverse age groups. In her review of the psychometric properties, Swenson (2003) found the reliability of this scale to be high (α =0.86). In this present study, the reliability coefficient is 0.795, which is also considered to be high; indicating the cross-cultural equivalence of this scale and unidimensional property thereof (Table 5.7). If Item 8, "I wish I could have more respect for myself.", was removed from the scale, the reliability for the present study would increase to 0.806. The researcher decided to retain this item as the increase in reliability was minute and the scale was already validated.

6.3.2.3 The Self-Regulation Scale (SRS)

From the present study's results, the internal consistency of the total sample was 0.789. This reliability is similar to those reported by the author of the scale (Luszczynska et al., 2004). In the development and validation of the SRS across different countries, the German and US samples shared the highest coefficient (α =0.77), whilst the Polish sample scored lowest (α= 0.73) (Luszczynska et al., 2004). The results in Chapter 5 present findings which support the proposition of the seven-item SRS being a reliable scale to measure the construct of self-regulation within the South African context, validating the cross-cultural property of this unidimensional scale.

6.3.2.4 Bergen Shopping Addiction Scale (BSAS)

This scale saw a high internal consistency in the present study (α =0.798). When developed, the authors found the internal consistency of this scale to be 0.87, with a mean inter-item correlation of 0.43 (Andreassen et al., 2015). The results of the current study's tests for reliability indicate that this scale is indeed reliable within the South African context. Furthermore, the BSAS's items are successful in measuring online shopping addiction as a unidimensional construct.

6.4 Conclusion

Negative emotional state, low self-esteem, low self-regulation and being female were all purported by the literature to be key components of this unique behavioural addiction. From the results obtained in the present study, it is evident that negative emotional state and self-esteem have significant relationships with online shopping addiction. Contrary to the proposed literature, females do not evidence a higher occurrence of online shopping addiction. Gender is only significant when included in the MLR model, indicating that it is an effective predictor of online shopping addiction. Self-regulation is the only insignificant predictor variable. This result indicates that there may be another area of conflict contributing towards online shopping addiction. Overall, it was found that the model was predictive of online shopping addiction.

All four scales used in this study showed excellent reliability, indicating their suitability for use within the South African context. As the scales have already been validated, the researcher did not conduct an exploratory factor analysis on them but this may be done in future uses of these scales in order to corroborate the researcher's proposition of their suitability.

In addition, the researcher also investigated other variables of interest and their relationships with online shopping addiction. It was found that the youth have lower incomes, possibly making the effects of an addiction like online shopping more dire. There was also no relationship between age and level on online shopping addiction, but a broader sample age could possibly result in different results. Furthermore, the researcher determined that those in the Black race group had significantly higher levels of online shopping addiction than any other race group. This finding is important as South African society is broad, as are the possible ways of online shopping addiction manifesting in its citizens.

CHAPTER 7

CONCLUSION

7.1 Overview of chapter

In this last chapter, the culmination of findings presented throughout the previous chapters is summarised. The present study is concluded by reflecting on the research question, the model and theoretical framework followed. The strengths and limitations of the study are also unpacked. Recommendations for future research are presented to lay the foundation for further studies on the topic of online shopping addiction. Finally, concluding thoughts are presented to close the chapter.

7.2 Reflection on research question, model and theoretical framework

Little is known about the variables that make people, or young adults in particular, vulnerable to problematic purchasing behaviours (Andreassen et al., 2015, Manchiraju, Sadachar & Ridgway, 2016; Müller & Mitchell, 2014; Rose & Dhandayudham, 2014; Trotzke et al., 2015). The model upon which this current study was based, situated compulsive buying as a unique behavioural addiction (Rose & Dhandayudham, 2014). It cemented online shopping addiction firmly in literature that supported the inclusion of each predictor variable and thus the Conceptual Model of Online Shopping Addiction was born (Rose & Dhandayudham, 2014). Despite a plethora of literature to support the inclusion of these predictors (Harvanko et al., 2013; Keskin & Günüç, 2017; Lawrence, Ciorciari & Kyrios, 2014; Müller & Mitchell, 2014; Sohn & Choi, 2013), a major shortcoming of this model is that the variables are limited to whichever predictors are cited in the literature rather than exploring this unique phenomenon qualitatively and building a theory from the concepts that emerge. Literature around this specific addiction are, however, in their infancy, making this model a solid start-point. In the present study, the researcher's results diverted from

the model's theory. Such differences may be used to further refine the model, improving its adaptability and suitability for use.

The results indicate that the model is successful in predicting the level of online shopping addiction. Results highlight the impact that self-esteem, negative emotional state, self-regulation and gender have on online shopping addiction, and have also opened up avenues for future research. Self-regulation was identified as the only proposed predictor variable of online shopping addiction that was not significant in the overall model. Gender was proposed as a predictor and this was proven to be true. However, the results of the present study show that males are more likely to suffer from online shopping addiction, and not females as the literature, on which this model is based, proposes (Claes, Müller & Luyckx, 2016; Davenport, Houston & Griffiths, 2012, Rose & Dhandayudham, 2014).

Looking at the sub-questions, the null hypotheses were rejected for self-esteem and negative emotional state. The null hypothesis was accepted for self-regulation as the findings showed no relationship with online shopping addiction. Although the null hypothesis for gender was accepted, gender played a significant role in the Multiple Linear Regression model, indicating that males are more inclined to be addicted to online shopping than females. The researcher was able to answer the main research question (Do the predictor variables proposed in the Conceptual Model of Online Shopping Addiction predict the level of online shopping addiction?) as it was indicated through MLR that the Conceptual Model of Online Shopping Addiction does indeed predict the levels of online shopping addiction. In other words, as a collective model with all the theoretically proposed predictors specific to addiction included, this model is successful in predicting the level of online shopping addiction even though self-regulation alone did not.

It is important to note that the model, upon which this study is based, had two distinct parts; one that positioned online shopping addiction as a behavioural addiction, and another that linked

specific features of the online environment to online shopping addiction. Although the literature corroborates the researcher's view of the online environment as being distinct, there may be other relationships between the predictor variables and the online environment that are worth exploring.

South Africa has been sitting on the cusp of immense growth in terms of e-commerce for the past few years. There has been consistent growth in online retail over those years, but there has not been a massive increase in sales or customers. With an improving economy and increased user-adoption, the South African online retail sector will continue to grow (Tucker, 2019). Unregulated buying may yet surface as a major consumer issue in coming years. From the current study's results, online shopping addiction does not seem to be a common occurrence amongst the South African population of youth overall.

7.3 Strengths of present study

To the knowledge of the researcher, the current study is the first large scale study conducted in South Africa focusing on online shopping addiction. It is also, to the researcher's knowledge, the first of its kind to use the Bergen Shopping Addiction Scale developed by Andreassen et al. (2015) within the online South African context and to test the Conceptual Model of Online Shopping Addiction as proposed by Rose and Dhandayudham (2014).

An existing model was used in part to validate the model but also to aid in positioning online shopping addiction as a distinct behavioural addiction. In essence, the proposed variables do predict online shopping with the model having a significant fit. However, it cannot be said with certainty that online shopping addiction meets the requirements to be categorised as a unique behavioural addiction. There is a possibility that self-regulation is not an aspect of addiction that is present in this phenomenon. There may be another aspect of conflict that characterises online shopping addiction.

The findings of the current research study can be used as an understanding of the predictors of online shopping addiction that adds to the existing body of knowledge. It also questions existing literature and invites others to contribute towards the growth of this field of research. This study contributes towards the testing and refinement of the Conceptual Model of Online Shopping Addiction in order to make it more acceptable and accurate, especially within the South African context.

The results are useful in that they are likely to benefit society. Clinicians and other professionals may use these results to better understand and formulate treatments and interventions aimed at those suffering from problematic compulsive buying. This research may also aid in uncovering the root of the problem in order to treat the addiction and lower the risk that it will return later in life. These findings can also empower individuals battling with online shopping addiction, no matter to what degree, with the knowledge to improve their well-being and seek help.

This study used a large sample and was conducted over a short time frame, implying that the results are replicable and not arduous to obtain. Furthermore, robust statistical techniques were used for the analysis of the data.

7.4 Limitations

A limitation of the research was that the questionnaire was available in English only. Conducting research in a country that has 11 official languages presented the researcher with a challenge: what language/s should be used? English was chosen as it is the most common medium that is used universally. It is also assumed that those who shop online understand English so as to be able to use the websites. It is possible that those with a weaker command of English may not have understood the scale items correctly. As this research shows a need for future research in particular

areas, the questionnaire may be translated into relevant languages, alternatively simpler and more user-friendly scales could be used.

As the sample of this study used the non-probability quota sampling method it is not generalisable to all online shoppers in South Africa and external validity is compromised. The study was representative of gender, with age falling closely in line with expected population parameters. As race was slightly skewed, it is suggested that a probability method of sampling is used to improve external validity and make the findings generalisable.

As data was gathered using a single self-report survey, which was completed in full by one participant at only one point in time, and the survey measured both the dependent and independent predictor variables, common method bias may be present. There is a possibility that by measuring multiple different constructs in one survey, the relationships between the constructs under study may be biased due to spurious variance attributable to the survey instrument itself (Schaller, Patil & Malhorta, 2015). The researcher did not consider this in the design phase of the current study, however, future research on this topic could include measures to minimise common method bias.

The prize for this study, a Samsung tablet valued at R2790, and the lucky draw method were chosen specifically to counteract any coercive effects that large prizes may have on participants. This is a relatively small prize when compared to other prizes such as smartphones or lump sums of money that are used in surveys. Considering the required samples, a tablet is both relevant to online shoppers and to the youth. Furthermore, there were very few risks associated with participation in this study; thus, no harm would come of participation in the lucky draw. When deciding on this prize, the researcher also considered whether it would be comparable to what another reputable source would offer as incentive. Given that it is morally questionable to offer shopping vouchers when online shopping addiction is a variable under study, the researcher opted for an attractive, relevant and small prize. Respondents were also fully informed and could freely

give consent, with some not opting to enter the lucky draw at all – showing an altruistic motivation to participate. There is still, however, a risk of respondents giving unreliable answers when an incentive is offered. It is suggested that future studies decrease the value of the prize and increase the number of prizes offered. This maximises the opportunity to win and is more equitable. By providing more chances to win one of many smaller prizes, there is less chance of coercion.

The researcher aimed to not only look at the correlates between the predictor variables and online shopping addiction, but also to determine the influence of all of these variables together on the addiction. It was possible to do a multiple regression analysis as the Variance Inflation Factors were within range, indicating no collinearity between the variables. However, the correlational matrix showed some multicollinearity between the predictor variables that the researcher feels needs further investigation. It is also suggested to test the full model, including the variables specific to the online context, namely *enjoyment*, *social anonymity* and *cognitive overload*.

Although the researcher did discuss the psychometric properties of the measures used in the research instrument, confirmatory factory analysis of the overall measurement instrument could have been conducted too. In doing so, discriminant validity could have been determined and potential issues of multicollinearity could have been evaluated. If this additional step was taken, the quality of the analysis in this study may have been enhanced.

7.5 Recommendations

It would be prudent for interventions targeted at improving negative emotional state and low self-esteem to be implemented when taking into account the impact that these variables have on online shopping addiction. There are already organisations aimed at addressing depression, anxiety, and suicide ideation; however, promotion of such resources to online shoppers may find an increase in help-seeking from this portion. Online shoppers, those at risk of online shopping addiction and

those already addicted to online shopping are using the Internet to access their habit. It could be assumed that their exposure to the Internet could be a positive avenue to provide helpful resources. It provides a direct link to the shoppers; information on how to access help can be posted on blogs, social media pages, or even as online adverts. The environment of the Internet creates an anonymous online platform for those who suffer from mental illness to reach out without the fear of victimisation. It is suggested that the integration of technology be used by existing organisations to spread awareness to others and to reach those who need help.

As online shopping addiction can be viewed as a behavioural addiction, the first course of action for practical treatment should be aimed at behavioural modification. The behavioural triggers that activate the urge to shop need to be identified and should focus on the significant predictors of negative affective state and low self-esteem. Cognitive behavioural therapy is a non-invasive way to treat online shopping addiction and does not require the use of prescribed medications. It can be done in individual sessions or in a group setting. Support groups or group therapy provide a platform where patients share their addiction with others and know that they are not going through this addiction alone. This may be greatly beneficial in reducing feelings of shame, guilt and negativity which can exacerbate negative affective states and low self-esteem, ultimately leading to a reduction in excessive online buying. However, if an underlying disorder causing such triggers is discovered, medical drug treatments could be considered to help manage the addiction and treat the underlying disorder.

Given the possibility of multicollinearity, it is imperative that future researchers explore the relationship between self-esteem and negative emotional state in order to determine firmly whether their contribution towards online shopping addiction is distinct or not. As a lack of self-regulation may be context specific to the addictive behaviour, it is suggested that future research develops and validates a scale for this context. Future research could use an alternative measure of self-

regulation to test the current finding and to determine whether self-regulation could in fact be a predictor of online shopping or not. In specific reference to online shopping addiction, a low self-regulation may not be a predictor. It is suggested that self-regulation is examined more thoroughly through empirical testing.

It is recommended that future research is conducted on the role of self-regulation specifically within the online context. Development of a new scale to measure self-regulation within this context could be tested. The present study used the Self-Regulation Scale developed by Luszczynska et al. (2004) where self-regulation is defined as "cognitions and behaviours that appear *after an individual has formulated the intention* to pursue a specific goal" (p. 557). This definition may be limiting in its description of what self-regulation is, therefore, this study may not include all the self-regulatory mechanisms or processes related to this construct. This further necessitates that a different, more robust measure of self-regulation be developed or used in future studies.

It is also a possibility that self-regulation is not a predictor and can be removed from the model, which may increase the predictive value of the model. However, future research would also need to determine whether there is another form of conflict that arises from online shopping addiction and whether that can be measured in place of self-regulation. Further studies on this topic could also consider using self-regulation as a moderating variable to determine whether it may have an effect on the strength of the relationship between the predictor variables and the level of online shopping addiction.

The online context is unique in that the traditional shopping environment and the Internet environment intersect, and the phenomenon of online shopping addiction is found. It is suggested to explore the various variables proposed by the literature and how they interact with defining characteristics of the unique online environment. For example, social anonymity, which is

proposed as a predictor of the online context in the Conceptual Model of Online Shopping Addiction, may link to gender. In the present study, men have higher propensities towards online shopping addiction, which may have a relationship with the socially anonymous aspect of the Internet. As previously discussed, the stigma of a man enjoying shopping may be removed when his identity is hidden thus increasing vulnerability to compulsive buying behaviours. Given the results of this study being contrary to those proposed by the theoretical model, it would be beneficial for future research to focus on the possible reasons for such a difference between the genders. Refining the model may result in the corroboration of literature proposing males as more susceptible to online shopping addiction and the reasons for it.

Future research should try to get a more representative sample across multiple quota including gender, age and race. Conducting research in a culturally diverse country like South Africa denotes a certain amount of attention to cultural nuances that may be of importance when assessing which groups are affected by a phenomenon like online shopping addiction and to what degree this phenomenon may affect society.

It is also suggested that future research opens the age brackets further to explore the relationship between age and online shopping addiction in depth to determine whether age trends exist or not. The youth are at the highest risk of developing addictive online behaviours so such knowledge could aid in the understanding and focus of treatments (Müller & Mitchell, 2014).

Future research could also look at the difference in income levels and online shopping addiction. The youth were a population of interest as online shopping addiction is proposed to have a more pronounced effect due to their low income. However, a higher income may facilitate problematic buying behaviours.

Additionally, the similarities and distinctions between compulsive buying and other anxiety disorders, such as general anxiety disorder, obsessive compulsive disorder and hoarding, could be explored in more detail by future research.

Lastly, the researcher recommends that a qualitative study on the predictors of online shopping addiction is conducted. Such a study may allow for proposed predictors to emerge from participants' experiences rather than relying on models rooted in literature. A qualitative study may also aid in understanding the holistic picture of online shopping addiction within the South African context.

7.6 Conclusion

In conclusion, this study shows that, as a collective, the predictor variables proposed in the Conceptual Model of Online Shopping Addiction do successfully predict the level of online shopping addiction when looking at the youth population of South African shoppers.

Essentially, the results of this study indicate that the Conceptual Model of Online Shopping Addiction, as proposed by Rose and Dhandayudham (2014), is successful in identifying the predictor variables for online shopping addiction as the model output is significant in explaining the variance in the levels of online shopping addiction. This also indicates that this model may in fact successfully categorise online shopping addiction as a behavioural addiction because the variables were proposed in line with the components model of addiction.

A successful model that has a significant fit may indicate a successful link to addiction, however, this is not yet definitive as one variable, self-regulation, is not significant within the model. This variable is theoretically important as it was included in the Conceptual Model of Online Shopping Addiction to represent the conflict stage of online shopping addiction as proposed by Griffiths (2005; 2013). Given the insignificant effect for this specific variable, it is possible that the person

suffering from online shopping addiction is experiencing a different sort of conflict rather than that of conflicting self-regulation. However, with few authors citing this as a probable cause, this variable needs future investigation to affirm online shopping addiction as a unique addiction that should be considered in future editions of the DSM. As it stands, self-regulation does not hinder the model's overall ability to predict online shopping addiction.

REFERENCES

Alavi, S. S., Ferdosi, M., Jannatifard, F., Eslami, M., Alaghemandan, H., & Setare, M. (2012). Behavioral addiction versus substance addiction: Correspondence of psychiatric and psychological views. *International Journal of Preventive Medicine, 3*(4), 290-294. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3354400/

Allport, G. W. (1961). *Pattern and growth in personality* (14th ed.). Holt, NY: Rinehart and Winston.

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Association.

Andreassen C. S., Torsheim T., Brunborg G. S., Pallesen S. (2012). Development of a Facebook addiction scale. *Psychol. Rep, 110,* 501–517. doi: 10.2466/02.09.18.PR0.110.2.501-517

Andreassen, C. S., Griffiths, M. D., Pallesen, S., Bilder, R. M., Torsheim, T., & Aboujaoude, E. (2015). The Bergen Shopping Addiction Scale: Reliability and validity of a brief screening test. *Frontiers in Psychology, 6*. doi:10.3389/fpsyg.2015.01374

Baby boomer. (n.d.). In *The Merriam-Webster.com Dictionary*. Retrieved December 18, 2019, from https://www.merriam-webster.com/dictionary/baby%20boomer

Bandura, A. (1971). *Social learning theory.* New York: General Learning Press. Retrieved from https://web.archive.org/web/20131024214846/http://www.jku.at/org/content/e54521/e54528/e54529/e178059/Bandura_SocialLearningTheory_ger.pdf

Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York: Holt, Rinehart & Winston

Billieux, J., Maurage, P., Lopez-Fernandez, O., Kuss, D. J. & Griffiths, M.D. (2015). Can disordered mobile phone use be considered a behavioral addiction? An update on current evidence and a comprehensive model for future research. *Current Addiction Reports, 2*, 154-162

Boas, T., Christenson, D. P., & Glick, D. M. (2018). *Recruiting large online samples in the United States and India: Facebook, Mechanical Turk and Qualtrics*. Retrieved from: http://people.bu.edu/tboas/fb_mturk_v39.pdf

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods*. Upper Saddle River, NJ: Prentice Hall.

Brewer, J. A., & Potenza, M. N. (2008). The neurobiology and genetics of impulse control disorders: Relationship to drug addictions. *Biochemical Pharmacology, 75,* 63–75

Chen, Y., & Zhang, L. (2015). Influential factors for online impulse buying in China: A model and its empirical analysis. *International Management Review, 11*(2), 57–69

Claes, L., Müller, A., & Luyckx, K. (2016). Compulsive buying and hoarding as identity substitutes: The role of materialistic value endorsement and depression. *Comprehensive Psychiatry*, *68*, 65-71. doi:10.1016/j.comppsych.2016.04.005

Clark, M., & Calleja, K. (2008). Shopping addiction: A preliminary investigation among Maltese university students. *Addiction Research & Theory, 16*(6), 633-649. doi:10.1080/16066350801890050

Daniel, J. (2012). Chapter 4: Choosing the type of nonprobability sampling. In *Sampling essentials: Practical guidelines for making sampling choices* (p. 104). Thousand Oaks, CA: Sage Publications

Davenport, K., Houston, J. E., & Griffiths, M. D. (2012). Excessive eating and compulsive buying behaviours in women: An empirical pilot study examining reward sensitivity, anxiety, impulsivity, self-esteem and social desirability. *International Journal of Mental Health and Addiction, 10*(4), 474-489. doi:10.1007/s11469-011-9332-7

Dell'Osso, B., Altamura, A. C., Allen, A., Marazziti, D., & Hollander, E. (2006). Epidemiologic and clinical updates on impulse control disorders: A critical review. *European Archives of Psychiatry Clinical Neuroscience, 256*, 464–475

Dieris-Hirche, J., Bottel, L., Bielefeld, M., Steinbüchel, T., Kehyayan, A., Dieris, B., & Te Wildt, B. (2017). Media use and internet addiction in adult depression: A case-control study. *Computers in Human Behaviour*, 68, 96-103. Retrieved from http://dx.doi.org/10.1016/j.chb.2016.11.016

Duroy, D., Gorse, P., & Lejoyeux, M. (2014). Characteristics of online compulsive buying in Parisian students. *Addictive Behaviors, 39*(12), 1827-1830. doi:10.1016/j.addbeh.2014.07.028

Effective Measure. (2016). *2016 E-Commerce Industry Report South Africa.* Retrieved from http://blog.effectivemeasure.com/south-africa-ecommerce-2016

Effective Measure. (2017). *2017 E-Commerce Industry Report South Africa.* Retrieved from http://blog.effectivemeasure.com/south-africa-ecommerce-2017

Eichelberger, R. T. (1989). *Disciplined inquiry: Understanding and doing educational research*. Boston, MA: Addison-Wesley Longman.

eMarketer. (2017, July). *Number of digital buyers worldwide from 2014 to 2021 (in billions).* Retrieved from: https://www.statista.com/statistics/251666/number-of-digital-buyers-worldwide/

Filomensky, T. Z., Almeida, K.M., Nougueira, M. C., Diniz, J. B., Borcato, S., & Tavares, H. (2012). Neither bipolar nor obsessive-compulsive disorder: compulsive buyers are impulsive acquirers. *Comprehensive Psychiatry*, *53*(5), 554-561. doi: 10.1016/j.comppsych.2011.09.005

Fuchs, M. (2008). Underreporting. In P. J. Lavrakas (Ed.), *Encyclopedia of Survey Research Methods*, 923, doi: http://dx.doi.org/10.4135/9781412963947

Generation X. (n.d.). In *The Merriam-Webster.com Dictionary*. Retrieved December 18, 2019, from https://www.merriam-webster.com/dictionary/Generation%20X

Generation Z. (n.d.). In *The Merriam-Webster.com Dictionary*. Retrieved December 18, 2019, from https://www.merriam-webster.com/dictionary/Generation%20Z

Griffiths, M. D. (1995). Technological addictions. *Clinical Psychology Forum*, February, 14–19.

Griffiths, M. D. (1996). Nicotine, tobacco and addiction. *Nature, 384*, 18.

Griffiths, M. D. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*(4), 191-197. doi:10.1080/14659890500114359

Griffiths, M. D. (2009). The use of online methodologies in data collection for gambling and gaming addictions. *International Journal of Mental Health Addiction*. doi:10.1007/s11469-009- 9209-1

Griffiths, M. D. (2013). Is "loss of control" always a consequence of addiction? *Frontiers in Psychiatry*, *4*(36). doi:10.3389/fpsyt.2013.00036

Griffiths, M. D., & Kuss, D. J. (2015). Online addictions: Gambling, video gaming, and social networking. In S. S. Sundar (Eds.), The Handbook of the Psychology of Communication Technology, 384-403. Chichester: John Wiley & Sons. doi: https://doi.org/10.1002/9781118426456.ch17

Harvanko, A., Lust, K., Odlaug, B. L., Schreiber, L. R., Derbyshire, K., Christenson, G., & Grant, J. E. (2013). Prevalence and characteristics of compulsive buying in college students. *Psychiatry Research*, *210*(3), 1079-1085. doi:10.1016/j.psychres.2013.08.048

Höglinger, M., Ben, J., & Diekman, A. (2016). Sensitive questions in online surveys: An experimental evaluation of different implementations of the Randomized Response Technique and the Crosswise Model. *Survey Research Methods, 10*, 171-187. doi:10.18148/srm/2016.v10i3.6703

Hollander, E., & Allen, A. (2006). Is compulsive buying a real disorder, and is it really compulsive? *The American Journal of Psychiatry, 163*(10), 1670–1672.

Horváth, C., Büttner, O. B., Belei, N., & Adıgüzel, F. (2015). Balancing the balance: Self-control mechanisms and compulsive buying. *Journal of Economic Psychology*, *49*, 120-132. doi:10.1016/j.joep.2015.05.004

Howell, D. C. (2012). *Statistical methods for psychology*. Boston, MA: Cengage Learning.

Internet World Stats. (2018, January). *Africa Internet Users, Population and Facebook 2018 Statistics.* Retrieved from http://internetworldstats.com/stats1.htm#africa

Ipsos PayPal Insights (2016). *PayPal Cross-Border Consumer Research 2016*. Retrieved from: https://www.ipsos.com/sites/default/files/migrations/en-uk/files/Assets/Docs/Polls/ipsos-paypal-cross-border-consumer-research-2016.pdf

Jacques, R. (2014). 15 signs you are hopelessly addicted to online shopping. *The Huffington Post*. Retrieved from: http://www.huffingtonpost.com

Keskin, A. D., & Günüç, S. (2017). Testing models regarding online shopping addiction. *Addicta: The Turkish Journal on Addictions*, *4*(2). doi:10.15805/addicta.2017.4.2.0010

Kosinski, M., Matz, S., Gosling, S., Popov, V., & Stillwell, D. (2015). Facebook as a research tool for the social sciences. *The American Psychologist*, *70*(6), 543-556. doi:10.1037/a0039210.

Kukar-Kinney, M., Scheinbaum, A. C., & Schaefers, T. (2016). Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements. *Journal of Business Research*, *69*(2), 691-699. doi:10.1016/j.jbusres.2015.08.021

LaRose, R., & Eastin, M. S. (2002). Is online buying out of control? Electronic commerce and consumer self-regulation. *Journal of Broadcasting & Electronic Media*, *46*(4), 549-564. doi:10.1207/s15506878jobem4604_4

Lawrence, L. M., Ciorciari, J., & Kyrios, M. (2014). Relationships that compulsive buying has with addiction, obsessive-compulsiveness, hoarding, and depression. *Comprehensive Psychiatry*, *55*(5), 1137-1145. doi:10.1016/j.comppsych.2014.03.005

Lee, S., Park, J., & Bryan Lee, S. (2016). The interplay of Internet addiction and compulsive shopping behaviors. *Social Behavior and Personality: an international journal*, *44*(11), 1901-1912. doi:10.2224/sbp.2016.44.11.1901

Lennox, R. D., & Wolfe, R. N. (1984). Revision of the self-monitoring scale. *Journal of Personality and Social Psychology, 46*(6), 1349–1369

Luszczynska, A., Diehl, M., Gutiérrez-Doña, B., Kuusinen, P., & Schwarzer, R. (2004). Measuring one component of dispositional self-regulation: Attention control in goal pursuit. *Personality and Individual Differences, 37*(3), 555-566. doi:10.1016/j.paid.2003.09.026

Manchiraju, S., Sadachar, A., & Ridgway, J. L. (2016). The Compulsive Online Shopping Scale (COSS): Development and validation using panel data. *International Journal of Mental Health and Addiction*, *15*(1), 209-223. doi:10.1007/s11469-016-9662-6

Maraz, A., Eisinger, A., Hende, B., Urbán, R., Paksi, B., Kun, B., & Demetrovics, Z. (2015). Measuring compulsive buying behaviour: Psychometric validity of three different scales and prevalence in the general population and in shopping centres. *Psychiatry Research, 225*(3), 326-334. doi:10.1016/j.psychres.2014.11.080

Martin, I. M., Kamins, M. A., Pirouz, D. M., Davis, S. W., Haws, K. L., Mirabito, A. M., … Grover, A. (2013). On the road to addiction: The facilitative and preventive roles of marketing cues. *Journal of Business Research, 66*(8), 1219-1226. doi:10.1016/j.jbusres.2012.08.015

Mertens, D. (2009). *Transformative research and evaluation*. New York: The Guilford Press.

Millennial. (n.d.). In *The Merriam-Webster.com Dictionary*. Retrieved December 18, 2019, from https://www.merriam-webster.com/dictionary/millennials

Millward Brown Digital. (2015, April). *Getting audiences right.* Retrieved from: http://www.millwardbrown.com/global-navigation/news/press-releases/fullrelease/2015/02/06/generations-divided-on-device-preferences

Mitchell, J. E., Burgard, M., Faber, R., Crosby, R. D., & de Zwaan, M. (2006). Cognitive behavioral therapy for compulsive buying disorder. *Behaviour Research and Therapy, 44*(12), 1859-1865. Doi: https://doi.org/10.1016/j.brat.2005.12.009

Müller, A., Mitchell, J. E., Peterson, L. A., Faber, R. J., Steffen, K. J., Crosby, R. D., & Claes, L. (2011). Depression, materialism, and excessive Internet use in relation to compulsive buying. *Comprehensive Psychiatry, 52*(4), 420-424. doi:10.1016/j.comppsych.2010.09.001

Müller, A., Mitchell, J. E., & de Zwaan, M. (2015). Compulsive buying. *The American Journal on Addictions*, *24*, 132–137

Müller, A., & Mitchell, J. E. (2014). Internet shopping from a psychiatric perspective. *Psychiatric Annals*, *44*(8), 384-387. doi:10.3928/00485713-20140806-06

O'Guinn, T. C., & Faber, R. J. (1989). Compulsive buying: A phenomenological exploration. *Journal of Consumer Research*, *16*, 147–157

Online Retail in South Africa 2016: Executive Summary. (2016). Retrieved from World Wide Worx website: http://www.worldwideworx.com/wp-content/uploads/2016/04/Exec-Summary-Online-Retail-in-SA-2016.docx

Pazarlis, P., Katsigiannopoulos, K., Papazisis, G., Bolimou, S., & Garyfallos, G. (2008). Compulsive buying: A review. *Annals of General Psychiatry*, *7*(1), 273.

Ponterotto, J. G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. *Journal of Counseling Psychology*, *52*(2), 126-136

Ramo, D. E., Rodriguez, T. M. S., Chavez, K, Sommer, M. J., and Prochaska , J. J. (2014). Facebook recruitment of young adult smokers for a cessation trial: methods, metrics, and lessons learned. *Internet Interventions 1*(2): 58–64

Renzetti, C. M., Curran, D. J., & Maier, S. L. (2014). The great communicators: Language and the media. *Women, men, and society, 6,* 145-149. Retrieved from https://files.pearsoned.de/inf/ext/9781292055091

Rhoades, J. A., Arnold, J., & Jay, C. (2001). The role of affective traits and affective states in disputants' motivation and behavior during episodes of organizational conflict. *Journal of Organizational Behavior*, *22*(3), 329-345. doi:10.1002/job.72

Rodriguez-Villarino, R., Gonzalez-Lorenzo, M., Fernandez-Gonzalez, A., Lameiras-Fernandez, M., Foltz, M. L. (2006). Individual factors associated with buying addiction: An empirical study. *Addiction Research and Theory*, *14*(5), 511-525

Rose, S., & Dhandayudham, A. (2014). Towards an understanding of Internet-based problem shopping behaviour: The concept of online shopping addiction and its proposed predictors. *Journal of Behavioral Addictions*, *3(*2), 83-89. doi:10.1556/jba.3.2014.003

Rosenberg, M. (1965). *Society and the Adolescent Self-Image.* Princeton, NJ: Princeton University Press

Rosenthal, R., & Lesieur, H. (1992). Self-reported withdrawal symptoms and pathological gambling. *American Journal of the Addictions, 1*, 150–154

Samuels, D. J., and Zucco, C. (2014). The power of partisanship in Brazil: Evidence from survey experiments. *American Journal of Political Science, 58*(1), 212–225

Saunders, J.F., and Eaton, A. A. (2018). Snaps, selfies, and shares: how three popular social media platforms contribute to the sociocultural model of disordered eating among young women. *Cyberpsychology, Behavior, and Social Networking 21*(6). http://doi.org/10.1089/cyber.2017.0713

Schaller, T. K., Patil, A., & Malhotra, N. K. (2014). Alternative techniques for assessing common method variance. *Organizational Research Methods*, *18*(2), 177-206. doi:10.1177/1094428114554398

Schlossberg, M. (2016, February 27). *Men are twisting the knife that's already killing shopping malls*. Retrieved from https://www.businessinsider.com/men-shop-online-more-frequently-than-women-2016-2?IR=T

Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89*(4), 623-642. doi:10.1037/0022-3514.89.4.623

Schwarzer, R., Diehl, M., & Schmitz, G.S. (1999). *Self-Regulation Scale.* Retrieved April 26, 2017, from http://userpage.fu-berlin.de/health/selfreg_e.htm

Sevelko, K., Bischof, G., Bischof, A., Besser, B., John, U., Meyer, C., & Rumpf, H. (2018). The role of self-esteem in Internet addiction within the context of comorbid mental disorders: Findings from a general population-based sample. *Journal of Behavioral Addictions, 7*(4), 976-984. doi:10.1556/2006.7.2018.130

Skewes, M. C., & Gonzalez, V. M. (2013). The biopsychosocial model of addiction. In P.M. Miller (Ed.), *Principles of addiction: Comprehensive addictive behaviors and disorders*, 62-68. San Diego, CA: Academic Press

Sohn, S., & Choi, Y. (2013). Phases of shopping addiction evidenced by experiences of compulsive buyers. *International Journal of Mental Health and Addiction, 12*(3), 243-254. doi:10.1007/s11469-013-9449-y

Sperandei, S. (2014). Understanding logistic regression analysis. *Biochemia Medica*, 12-18. doi:10.11613/bm.2014.003

Starcevic, V. (2015). Problematic Internet use, reward sensitivity and decision making. *Australian & New Zealand Journal of Psychiatry, 49*(10), 937-938. doi:10.1177/0004867415600077

Stimson, T. (2014). How adding up the cost of my clothes cured my shopping addiction. *Daily Mail.* Retrieved from: http://www.dailymail.co.uk.

Sun, T., & Wu, G. (2011). Trait predictors of online impulsive buying tendency: A hierarchical approach. *The Journal of Marketing Theory and Practice*, *19*(3), 337-346. doi:10.2753/mtp1069-6679190307

Swan-Kremeier, L. A., Mitchell, J. E., & Faber, R. J. (2005). Compulsive buying: A disorder of compulsivity or impulsivity? In J. S. Abramowitz & A. C. Houts (Eds.), *Concepts and Controversies in Obsessive-Compulsive Disorder*, 185-190. Boston, MA: Springer. doi:10.1007/0-387-23370-9_10

Swenson, P. L. (2003). A psychometric study of the Rosenberg self-esteem scale: an investigation of gender dif (Master's thesis). Retrieved from https://open.library.ubc.ca/cIRcle/collections/ubctheses/831/items/1.0053822

Trotzke, P., Starcke, K., Müller, A., & Brand, M. (2015). Pathological buying online as a specific form of Internet addiction: A model-based experimental investigation. *PLOS ONE*, *10*(10), e0140296. doi:10.1371/journal.pone.0140296

Tucker, K. (2019, July 1). #BizTrends2019: *Will South African e-commerce take the step up in 2019?* Retrieved from: https://www.bizcommunity.com/Article/196/731/185892.html

Valence, G., d'Astous, A., and Fortier, L.(1988). Compulsive buying: concept and measurement. *Journal of Consumer Policy*, *11*, 419–433. doi:10.1007/BF00411854

Vosloo, M., Potgieter, J., Temane, M., Ellis, S., & Khumalo, T. (2013). Validation of the Short Self-Regulation Questionnaire in a group of black teachers: The SABPA study. *SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde*, *39*(1), 1-10. doi: 10.4102/sajip.v39i1.1157

Wallace, P. (2012). Internet behavior. *Encyclopedia of Human Behavior*, *1*(2), 458-464. doi:10.1016/b978-0-12-375000-6.00384-0

Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070

Wood, R. T. A. & Griffiths, M. D. (2007). Online data collection from gamblers: Methodological issues. *International Journal of Mental Health Addiction*, *5*, 151–163

Workman, L., & Paper, D. (2010). Compulsive buying: A theoretical framework. *The Journal of Business Inquiry, 9*(1), 89-126. Retrieved from https://www.researchgate.net/publication/228424038_Compulsive_Buying_A_Theoretical_Framework

Yüksel, C. A., & Eroğlu, F. (2015). The effects of personal factors and attitudes towards advertising on compulsive buying tendency. *Pazarlama ve Pazarlama Araştırmaları Dergisi, 16,* 43–70

Zanjani, S. H., Milne, G. R., & Miller, E. G. (2015). Procrastinators' online experience and purchase behavior. *Journal of the Academy of Marketing Science, 44*(5), 568-585. doi:10.1007/s11747-015-0458-1

Zevon, M. A., & Tellegen, A. (1982). The structure of mood change: An idiographic/nomothetic analysis. *Journal of Personality and Social Psychology*, *43*(1), 111–122. doi:10.1037/0022-3514.43.1.111

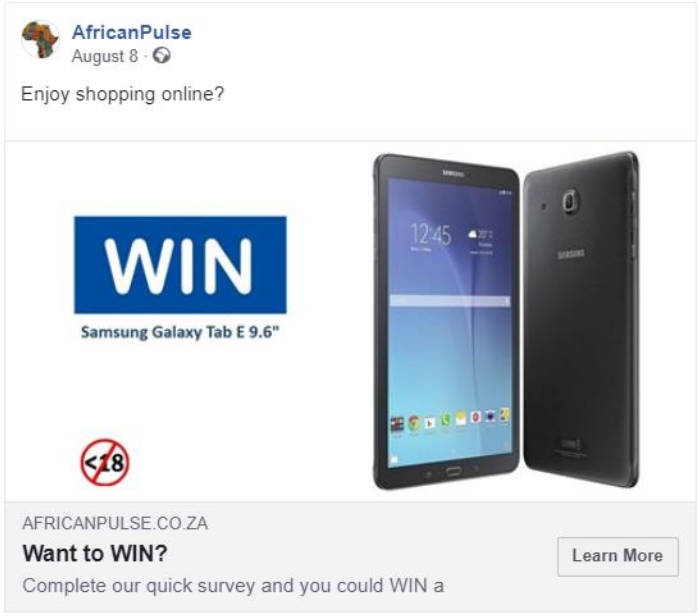
Zhao, H., Tian, W., & Xin, T. (2017). The development and validation of the Online Shopping Addiction Scale. *Frontiers in Psychology*, *8.* doi:10.3389/fpsyg.2017.00735

Zhang, B., Mildenberger, M., Howe, P. D., Marlon, J., Rosenthal, S., & Leiserowitz, A. (2017). *Quota Sampling Using Facebook Advertisements Can Generate Nationally Representative Opinion Estimates*. Retrieved from: http://qssi.psu.edu/new-faces-papers-2017/zhang-quota-sampling-using-facebook-advertisements

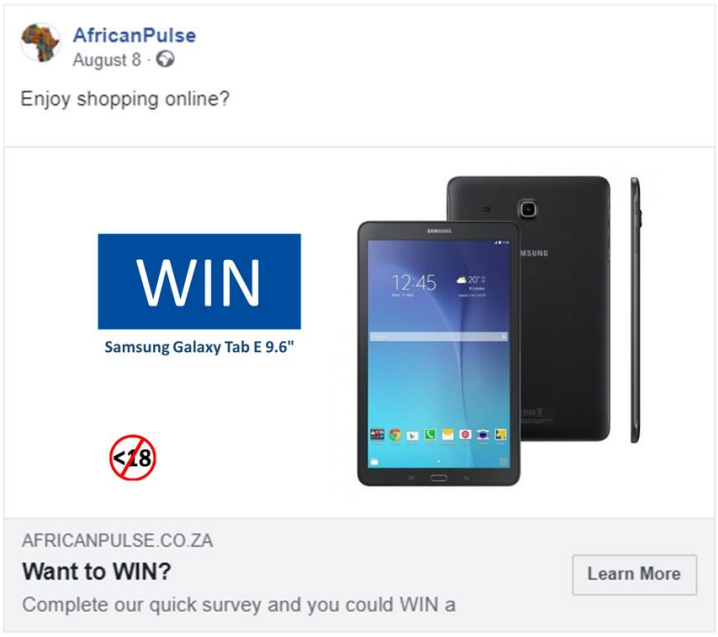
APPENDICES

Appendix A: Data collection documentation

A1. Adverts used



Advertisement 1: Targeted



Advertisement 2: General

A2. Advertisement targeting lists

Targeting List for Facebook recruitment adverts

	Text	Heading	Details	Images	Target*
1	Enjoy shopping online?	Want to WIN?	Complete our quick survey and you could WIN a Samsung Galaxy Tab E 9.6"!	Advertisement 1	South Africa 18 – 34 Year olds Male and Female Targeted page likes: Takealot, Loot, Spree, Zando, OneDayOnly, Bid Or Buy, Wish, Daddy's Deals, Yuppiechef, H&M, Forever New, Mr. Price, Mr. Price Home, Amazon, eBay, The Body Shop, Makro, SassyChic, Big Blue, MyBroadband, Aliexpress, Woolworths, Wantitall
2	Enjoy shopping online?	Want to WIN?	Complete our quick survey and you could WIN a Samsung Galaxy Tab E 9.6"!	Advertisement 2	South Africa 18 – 34 Year olds Male and Female

A3. Masters dissertation questionnaire

INTRO:

Hello

You are invited to participate in an interesting survey on online shopping and psychological constructs. By completing this survey, you will be entered into a lucky draw where you stand a chance to **win a Samsung Galaxy Tab E 9.6"!**

INSERT IMAGE OF PRIZE

If you choose to participate in this survey it should take no more than **10 minutes** of your time. Please read the terms and conditions of participating in this study before you proceed.

TERMS AND CONDITIONS <INSERT HYPERLINK TO INFORMED CONSENT PDF>

ADD TICK BOX 1 "I have read the terms and conditions and give my informed consent to participate in this study"**. IF TICK BOX 1 NOT SELECTED, CLOSE**

ADD TICK BOX 2 "I do not give my informed consent and do not wish to proceed with this study"**. CLOSE**

TERMINATION TEXT: You need to read the terms and conditions and give consent to be able to participate in this study. Thank you for your interest!

SCREENER:

S1. **COUNTRY:** Do you currently live in South Africa?

Yes	**CONTINUE**
No	**SKIP TO CONTACT DETAILS**

S2. **DATE OF BIRTH:** What is your date of birth?

YEAR					MONTH			DAY		

[POPULATE AGE QUESTION FROM DATE OF BIRTH AND HIDE S2.1]

S2.1 **AGE:** **ASK TO ALL** How old are you? **SINGLE VISUAL CHOICE**

Less than 18 years	0	**SKIP TO CONTACT DETAILS**
18-24 years	1	**CONTINUE**
25-29 years	2	
30-34 years	3	
35-39 years	4	**SKIP TO CONTACT DETAILS**
40-44 years	5	
45-49 years	6	
50-54 years	7	
55-59 years	8	
60-64 years	9	
65 years or above	10	

S3. **GENDER**: Are you…? **SINGLE VISUAL CHOICE.**

Male	1
Female	2

S4. **SHOPPING:** Online shopping is the action of buying or paying for goods or services over the Internet. This is not limited to physical items and can include things such as movie tickets, travel offers, books, subscriptions, lotto tickets and much more.

Have you bought or paid for something ONLINE in the past 6 months?

Yes	**CONTINUE**
No	**SKIP TO CONTACT DETAILS**

MAIN QUESTIONNAIRE:

ROTATE Q1-Q4 RANDOMLY

Q1. **NEGATIVE EMOTIONAL STATE:** This scale consists of a number of words that describe different feelings and emotions. Read each item and then select the appropriate response. **Indicate to what extent you have felt this way during the past week. SINGLE VISUAL CHOICE GRID.**

		Very slightly / Not at all	A little	Moderately	Quite a bit	Extremely
1	Interested	1	2	3	4	5
2	Distressed	1	2	3	4	5
3	Excited	1	2	3	4	5
4	Upset	1	2	3	4	5
5	Strong	1	2	3	4	5
6	Guilty	1	2	3	4	5
7	Scared	1	2	3	4	5
8	Hostile	1	2	3	4	5
9	Enthusiastic	1	2	3	4	5
10	Proud	1	2	3	4	5
11	Irritable	1	2	3	4	5
12	Alert	1	2	3	4	5
13	Ashamed	1	2	3	4	5
14	Inspired	1	2	3	4	5
15	Nervous	1	2	3	4	5

16	Determined	1	2	3	4	5
17	Attentive	1	2	3	4	5
18	Jittery	1	2	3	4	5
19	Active	1	2	3	4	5
20	Afraid	1	2	3	4	5

Q2. **SELF ESTEEM:** Below is a list of statements dealing with your general feelings about yourself. **Please indicate how strongly you agree or disagree with each statement SINGLE VISUAL CHOICE GRID. ITEMS 2, 5, 6, 8, AND 9 HAVE BEEN REVERSED.**

		Strongly agree	Agree	Disagree	Strongly disagree
1	On the whole, I am satisfied with myself.	1	2	3	4
2*	At times I think I am no good at all.	4	3	2	1
3	I feel that I have a number of good qualities.	1	2	3	4
4	I am able to do things as well as most other people.	1	2	3	4
5*	I feel I do not have much to be proud of.	4	3	2	1
6*	I certainly feel useless at times.	4	3	2	1
7	I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8*	I wish I could have more respect for myself.	4	3	2	1
9*	All in all, I am inclined to feel that I am a failure.	4	3	2	1
10	I take a positive attitude toward myself.	1	2	3	4

Q3. **SELF REGULATION:** Below is a list of statements dealing with your general feelings about yourself. **Please indicate how true or untrue each statement is for you**. **SINGLE VISUAL CHOICE GRID.**

		Not at all true	Barely true	Moderately true	Exactly true
1	I can concentrate on one activity for a long time, if necessary.	1	2	3	4
2	If I am distracted from an activity, I don't have any problem coming back to the topic quickly.	1	2	3	4
3	If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.	1	2	3	4
4	If an activity requires a problem-oriented attitude, I can control my feelings.	1	2	3	4
5	I can control my thoughts from distracting me from the task at hand.	1	2	3	4
6	After an interruption, I don't have any problem resuming my concentrated style of working.	1	2	3	4
7	I stay focused on my goal and don’t allow anything to distract me from my plan of action.	1	2	3	4

Q4. **ONLINE SHOPPING ADDICTION:** The following questions relate to your online shopping habits. **Please answer them truthfully.** **SINGLE VISUAL CHOICE GRID.**

		Completely disagree	Disagree	Neither agree / disagree	Agree	Completely agree
1	You think about shopping / buying things all the time.	0	1	2	3	4
2	You shop / buy things in order to change your mood.	0	1	2	3	4

3	You shop / buy so much that it negatively affects your daily obligations (e.g., school and work).	0	1	2	3	4
4	You feel you have to shop / buy more and more to obtain the same satisfaction as before.	0	1	2	3	4
5	You have decided to shop / buy less, but have not been able to do so.	0	1	2	3	4
6	You feel bad if you for some reason are prevented from shopping / buying things.	0	1	2	3	4
7	You shop / buy so much that it has impaired your well-being.	0	1	2	3	4

We have just a couple more questions for you and then you are all done!

DEMOGRAPHICS:

D1. **MONTHLY PERSONAL INCOME:** **ASK ALL:** We would like to get an idea of your monthly personal income, before tax and other deductions, so please can you indicate in which category you fall? We use this information for **classification purposes only** and will **not share with anyone**. **SINGLE RESPONSE. ALLOW SKIPS**

No income	1
R2 000 or less	2
R2 001-R4 000	3
R4 001-R6 000	4
R6 001-R8 000	5
R8 001-R10 000	6
R10 001-R16 000	7
R16 001-R20 000	8
R20 001-R25 000	9
R25 001-R30 000	10
R30 001-R40 000	11
R40 001 or more	12

Don’t know / Not sure	99

D2. **RACE:** How would you describe your race? **SINGLE VISUAL CHOICE. ALLOW SKIPS**

Black	1
Coloured	2
Indian	3
White	4
Other (please specify)	5

Kindly share your contact details. We will need this information to contact you if you are the prize winner or if you opt to receive study feedback. You do not have to share this information!

ADD TICK BOX “I would like to receive feedback on the results of the study”

ADD TICK BOX “I would like to enter the lucky draw”

Please give us your full name and surname

Mobile Phone Number [PHONE NUMBER VALIDATION: MUST HAVE AT LEAST 8 DIGITS. ALLOW A SKIP]

Email_Address [OPEN END] [EMAIL VALIDATION MUST INCLUDE @ AND .]

Thank you for your time and input. We really value your participation and contribution towards this field of knowledge!

A4. Informed consent

Hello

You have been invited to participate in an academic survey, conducted by Bernadette Mundy, in fulfilment towards a Master's degree in Psychological Research Consultation at the University of South Africa. The dissertation is being supervised by Helena Erasmus, a senior lecturer at the Department of Psychology at UNISA.

This survey has been designed to study the relationship between online shopping addiction and psychological constructs. You were selected to participate in this survey because you represent the population of South African youth between the age of 18 to 34 years old or have shown interest in online retailers on Facebook. By completing this survey, you agree that the information you provide may be used for research purposes, including peer-reviewed articles and conference presentations.

You are under no obligation to complete the survey and you can withdraw from the study prior to submitting the survey by simply closing the survey link.

You will not benefit from your participation as an individual, however, the findings of this study may contribute to our understanding of the psychological relationships involved in online shopping addiction. The information collected from this survey will be used to help verify a proposed theory of online shopping addiction as well as provide insight into the prevalence of such a phenomenon amongst South African online shoppers. You will not be reimbursed or receive any direct incentive for your participation in the survey. There is a lucky draw where a prize will be randomly allocated to one participant, provided they enter their contact details.

You will not be required to provide any personal details about yourself that will make it possible for us to identify you. Consequently, you will not be able to withdraw from the study once you have clicked the submit button. You may opt to enter the lucky draw or to be provided with study feedback in which case you will fill in contact details. These personal details will be extracted from the results, and the data will be scrubbed, replacing personal details with numbers and leaving the responses anonymous. There will be no way of connecting your responses to your personal details. All information kept for feedback purposes will be kept confidential and only used for their intended purpose.

The records will be kept for five years for audit purposes after which records will be permanently destroyed. Electronic copies of data will be encrypted on the researcher's personal password-protected computer. Electronic versions will be permanently deleted from the hard drive of the computer after the 5 years have passed. No hard copies will be created. As this is an online study, there are potential risks to data security. Data intrusion by means of malware, hackers or theft of electronic devices for example, may result in data being compromised. To prevent such an occurrence, the researcher will store the collected data in a password protected folder stored on the researcher's computer which is also protect by a strong password .

This research has been approved by the Ethics Committee of the Department of Psychology at Unisa (Reference number: PERC-17040). The researcher, Bernadette Mundy, can be contacted during office hours at 55612849@mylife.unisa.ac.za. Her supervisor, Helena Erasmus, can be contacted during office hours at erasmhc@unisa.ac.za. Should you have any queries around the ethical aspects of the study, you can contact the chairperson of the Ethics Committee, Prof. Piet Kruger, during office hours at krugep@unisa.ac.za. Any serious unethical behaviour can be reported by calling the UNISA toll-free hotline on 0800 86 96 93.

In the unlikely event that your participation in this survey causes you to suffer any negative consequences, you are urged to contact one of the professional bodies listed below for assistance:

LifeLine 24 Hour Counselling Line - 011 422 4242 or 0861 322 322

SADAG Mental Health Line - 011 234 4837

Suicide Crisis Line - 0800 567 567

Appendix B: Original scales

B1. The Positive and Negative Affect Schedule (Watson, Clark & Tellegan, 1988)

Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect.

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect.

Instructions: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way you have felt this way during the past week. Use the following scale to record your answers.

1= Very slightly or not at all 2= A little 3=Moderately 4= Quite a bit 5= Extremely

_____ 1. Interested

_____ 2. Distressed

_____ 3. Excited

_____ 4. Upset

_____ 5. Strong

_____ 6. Guilty

_____ 7. Scared

_____ 11. Irritable

_____ 12. Alert

_____ 13. Ashamed

_____ 14. Inspired

_____ 15. Nervous

_____ 16. Determined

_____ 17. Attentive

_____ 8. Hostile _____ 18. Jittery

_____ 9. Enthusiastic _____ 19. Active

_____ 10. Proud _____ 20. Afraid

B2. Self-esteem (Rosenberg, 1965)

A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

*Items 2, 5, 6, 8, 9 are reverse scored. Give "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Sum scores for all ten items. Keep scores on a continuous scale. Higher scores indicate higher self-esteem.

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1= Strongly Agree 2= Agree 3= Disagree 4= Strongly Disagree

1. On the whole, I am satisfied with myself.

*2. At times I think I am no good at all.

3. I feel that I have a number of good qualities.

4. I am able to do things as well as most other people.

*5. I feel I do not have much to be proud of.

*6. I certainly feel useless at times.

7. I feel that I'm a person of worth, at least on an equal plane with others.

*8. I wish I could have more respect for myself.

*9. All in all, I am inclined to feel that I am a failure.

10. I take a positive attitude toward myself.

B3. Self-regulation (Schwarzer, Diehl & Schmitz, 1999; Luszczynska et al., 2004)

This scale refers to post-intentional self-regulation when individuals are in the phase of goal-pursuit and face difficulties in maintaining their action. In such a maintenance situation it is required to focus attention on the task at hand and to keep a favourable emotional balance. Thus, attention-regulation and emotion-regulation are reflected in these scale items.

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please indicate how true or untrue each statement is for you.

1= Not at all true 2= Barely true 3= Moderately true 4= Exactly true

1. I can concentrate on one activity for a long time, if necessary.
2. If I am distracted from an activity, I don't have any problem coming back to the topic quickly.
3. If an activity arouses my feelings too much, I can calm myself down so that I can continue with the activity soon.
4. If an activity requires a problem-oriented attitude, I can control my feelings.
5. I can control my thoughts from distracting me from the task at hand.
6. After an interruption, I don't have any problem resuming my concentrated style of working.
7. I stay focused on my goal and don’t allow anything to distract me from my plan of action.

B4. Shopping addiction (Andreassen et al., 2015)

The Bergen Shopping Addiction Scale uses seven basic criteria to identify shopping addiction, where all items are scored on the following scale: (0) Completely disagree, (1) Disagree, (2) Neither disagree nor agree, (3) Agree, and (4) Completely agree. Scoring of "agree" or "completely agree" on at least four of the seven items may suggest that an individual has shopping addiction.

Instructions: The following questions relate to your online shopping habits. Please answer them truthfully.

0= Completely disagree 1= Disagree 2= Neither disagree nor agree

3= Agree 4= Completely agree

1. You think about shopping/buying things all the time.
2. You shop/buy things in order to change your mood.
3. You shop/buy so much that it negatively affects your daily obligations (e.g., school and work).
4. You feel you have to shop/buy more and more to obtain the same satisfaction as before.
5. You have decided to shop/buy less, but have not been able to do so.
6. You feel bad if you for some reason are prevented from shopping/buying things.
7. You shop/buy so much that it has impaired your well-being.

Appendix C: Validity and Reliability of Scales from Literature

C1. The Positive and Negative Affect Schedule (PANAS)

Table 1 PANAS scale Internal Consistency Reliabilities and Scale Intercorrelations (Watson et al., 1988, p.1065)

Time instructions	*n*	Alpha reliabilities: PANAS PA scale	Alpha reliabilities: PANAS NA scale	PA–NA intercorrelation
Moment	660	.89	.85	−.15
Today	657	.90	.87	−.12
Past few days	1,002	.88	.85	−.22
Past few weeks	586	.87	.87	−.22
Year	649	.86	.84	−.23
General	663	.88	.87	−.17

Note. PANAS = Positive and Negative Affect Schedule. PA = Positive Affect. NA = Negative Affect.

Table 2 Test-Retest Reliabilities of the PANAS Scales at an 8 Week Retest Interval (Watson et al., 1988, p.1066)

Time instructions	PANAS PA scale	PANAS NA scale
Moment	.54[ab]	.45[b]
Today	.47[b]	.39[b]
Past few days	.48[b]	.42[b]
Past week	.47[b]	.47[b]
Past few weeks	.58[ab]	.48[b]
Year	.63[ab]	.60[ab]
General	.68[a]	.71[a]

Note. n = 101. Coefficients not sharing the same superscript are different at $p < .05$ (two-tailed, Bonferroni corrected for multiple comparisons). PA = Positive Affect. NA = Negative Affect. Significance tests are computed separately for each scale. See text for further details.

Table 3 Correlations Between the PANAS Scales and Scores of the First Two Varimax Factors in Each Sample (Watson et al., 1988, p.1066)

Time instructions	*n*	PANAS PA scale correlations		PANAS NA scale correlations	
		Factor 1	Factor 2	Factor 1	Factor 2
Moment	660	−.02	.95	.91	−.15
Today	657	−.02	.95	.93	−.11
Past few days	1,002	−.15	.92	.93	−.10
Past few weeks	586	−.10	.92	.92	−.18
Year	649	−.17	.89	.93	−.09
General	663	−.08	.94	.93	−.12

Note. Factor analyses are based on the set of 60 mood terms reported in Zevon & Tellegen (1982). PA = Positive Affect. NA = Negative Affect.

Table 4 Factorial Validity and Median Varimax-Rotated Factor Loadings for the PANAS Scales (Watson et al., 1988, p.1067)

PANAS *descriptor*	Loading on	
	Positive *Affect*	Negative *Affect*
Enthusiastic	.75	−.12
Interested	.73	−.07
Determined	.70	−.01
Excited	.68	.00
Inspired	.67	−.02
Alert	.63	−.10
Active	.61	−.07
Strong	.60	−.15
Proud	.57	−.10
Attentive	.52	−.05
Scared	.01	.74
Afraid	.01	.70
Upset	−.12	.67
Distressed	−.16	.67
Jittery	.00	.60
Nervous	−.04	.60
Ashamed	−.12	.59
Guilty	−.06	.55
Irritable	−.14	.55
Hostile	−.07	.52

Table 5 Correlations Between Various Positive Affect and Negative Affect Mood Scales and the Factor Scores from the Extent and Frequency Format Data (Watson et al., 1988, p.1067)

Mood scale	Extent format		Frequency format	
	Factor 1	Factor 2	Factor 1	Factor 2
Positive Affect scales				
PANAS	.92	−.08	.92	−.12
Diener & Emmons (1984)	.89	−.22	.87	−.36
McAdams & Constantian (1983)	.90	−.19	.86	−.31
Stone, Hedges, Neale, & Satin (1985)	.88	−.04	.81	−.20
Warr, Barter, & Brownbridge (1983)	—	—	.81	−.30
Bradburn (1969)	.50	−.18	—	—
Negative Affect scales				
PANAS	−.08	.94	−.16	.91
Diener & Emmons (1984)	−.21	.92	−.35	.89
McAdams & Constantian (1983)	−.20	.81	−.43	.76
Stone, Hedges, Neale, & Satin (1985)	.06	.84	−.11	.81
Warr, Barter, & Brownbridge (1983)	—	—	−.32	.79
Bradburn (1969)	−.21	.51	—	—

Note. *n*s with the extent-format factors ranged from 301 to 413. *n*s with the frequency-format factors ranged from 336 to 338. PANAS = Positive and Negative Affect Schedule.

C2. Rosenberg Self-Esteem Scale (RSES)

Table 6 Reliability of the RSES for Studies Involving Various Participant Age Groups (Swenson, 2003, p.5-6)

	Subjects		Internal	Test-
Source	N	Ages	consistency	retest
Verkuyten (2003)	1070	10-13 year olds	.76*	
Hagborg (1996)	120	grade 5-8 students	.84	
Marcotte et al. (2002)	547	11-18 year olds	.88	
Lane et al. (2002)	91	11-21 year olds	.82	
Yarcheski et al. (2003)	148	12-14 year olds	.87	
Bagley et al. (1997)	2108	12-19 year olds	.85-.90	
Francis & Wilcox (1995)	802	16 year olds	.59	
Feather (1991)	953	grade 11 students	.83	
	361	undergraduates	.86	
Brems & Lloyd (1995)	216	undergraduates	.91	
Feather (1998)	186	undergraduates	.87	
	114	undergraduates	.81	
	310	undergraduates	.87	
Gray-Little et al. (1997)	1234	undergraduates	.88	
Salmela-Aro & Nurmi (1997)	256	undergraduates	.85	
Vispoel et al. (2001)	224	university students	.96**	

Brumfitt & Sheeran (1999)	243	university students	.87	
	14	adults	.91	
Banos & Guillen (1999)	266	adults	.88	
Kingree (1995)	196	adults	.78	
Westaway & Wolmarans (1992)	100	adults	.78	
White & Schweitzer (2000)	88	adults	.87-.89	
Hojat & Lyons (1998)	212	university students	.78	
	12	sub-sample (2 week retest)		.72
Robins et al. (2001)	208	undergraduates (5/7 responses)	.89/.93	
	66	adults	.87	
	508	undergraduates (5 retests at ends of semester 1 & years 1,2,3&4)		.88-.90
Salyers et al. (2001)	202	adults (2 week retest)	.84	.80
Henriques & Calhoun (1999)	395	university students (Whites/Blacks-1 week retest)		.88/.69
Pullman & Allik (1999)	616	197 undergraduates (2 week retest)		.84
		419 adults (5 month/1 year retests)		.67/.62

Note. * Positive RSES items only ** Paper/pencil & computerized versions of RSES

Table 7 Convergent Validity of the RSES with other Global Self-Esteem Measures (Swenson, 2003, p.10-11)

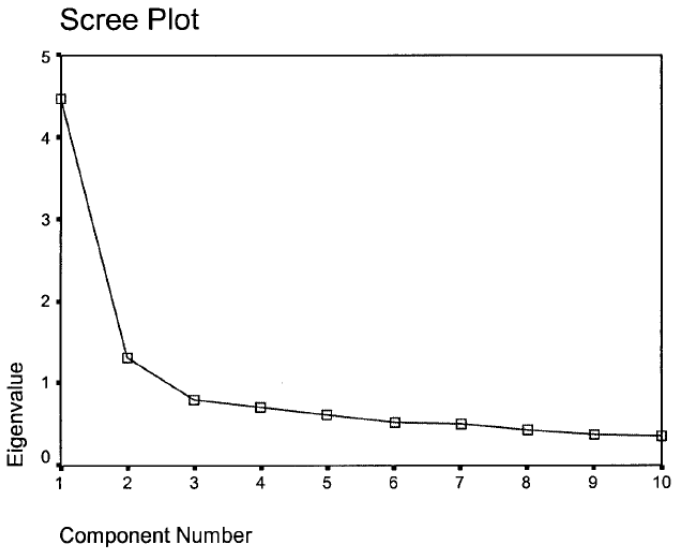
Self-Esteem Scale	RSES (all items)	Source
Coopersmith Self-Esteem Inventory	.52	Francis & Wilcox (1995)
	.60	Griffiths et al.(1999)
	.68	McCurdy & Kelly (1997)
MMPI - 2 Low Self-Esteem Subtest	- .61	McCurdy & Kelly (1997)
Single - Item Self-Esteem Scale	.69	Robins et al. (2001)
Visual Analogue Self-Esteem Scale	.60	Brumfitt & Sheeran (1999)
	RSES (neg items)	
MMPI - 2 Low Self-Esteem Subtest	.69	Brems & Lloyd (1995)

Table 8 Item Analysis and Factor Loadings for the RSES (Swenson, 2003, p.27)

Item #	Item	Corrected Item-Total Correlation	Factor Loading
1P	I feel that I am a person of worth, at least on an equal basis with others.	.497	.614
2P	I feel that I have a number of good qualities.	.460	.576
4P	I am able to do things as well as most people.	.495	.606
6P	I take a positive attitude toward myself.	.690	.782
7P	On the whole, I am satisfied with myself.	.636	.734
3N	All in all, I am inclined to feel that I am a failure.	.599	.688
5N	I feel I do not have much to be proud of.	.547	.646
8N	I wish I could have more respect for myself.	.601	.687
9N	I certainly feel useless at times.	.553	.632
10N	At times I think I am no good at all.	.621	.698

Note. P=positively worded item; N=negatively worded item

Table 9 Scree Plot of Factorial Analysis of RSES Scores (Swenson, 2003, p.28)



C3. Self- Regulation Scale (SRS)

Table 10 Item means and corrected item-total correlations for each nation (Luszczynska et al., 2004, p.561)

Item	Costa Rica		Finland		Germany		Poland		US	
	M (SD)	*r* (it)	*M* (SD)	*r* (it)	*M* (SD)	*r* (it)	*M* (SD)	*r* (it)	*M* (SD)	*r* (it)
1	2.94 (0.82)	0.43	3.15 (0.58)	0.34	3.31 (0.67)	0.44	3.35 (0.70)	0.52	3.19 (0.69)	0.48
2	3.07 (0.73)	0.53	3.00 (0.57)	0.55	2.98 (0.57)	0.61	2.99 (0.58)	0.42	2.90 (0.70)	0.50
3	2.87 (0.78)	0.48	2.85 (0.59)	0.47	3.00 (0.64)	0.37	2.85 (0.89)	0.44	3.02 (0.66)	0.31
4	2.84 (0.75)	0.53	2.96 (0.58)	0.41	3.18 (0.53)	0.42	3.09 (0.73)	0.35	3.18 (0.60)	0.43
5	2.68 (0.89)	0.37	2.87 (0.50)	0.47	3.11 (0.63)	0.54	2.86 (0.73)	0.41	2.82 (0.65)	0.57
6	3.02 (0.74)	0.57	2.91 (0.55)	0.52	3.12 (0.59)	0.62	2.79 (0.65)	0.41	2.91 (0.67)	0.64
7	3.11 (0.69)	0.41	2.73 (0.56)	0.40	3.16 (0.56)	0.46	3.01 (0.86)	0.60	2.95 (0.61)	0.50
α	0.75		0.74		0.77		0.73		0.77	

C4. Bergen Shopping Addition Scale (BSAS)

Table 11 Second-order Factor Structure of the 28 Shopping Addiction Items showing Factor Loadings (Andreassen et al., 2015, p.6)

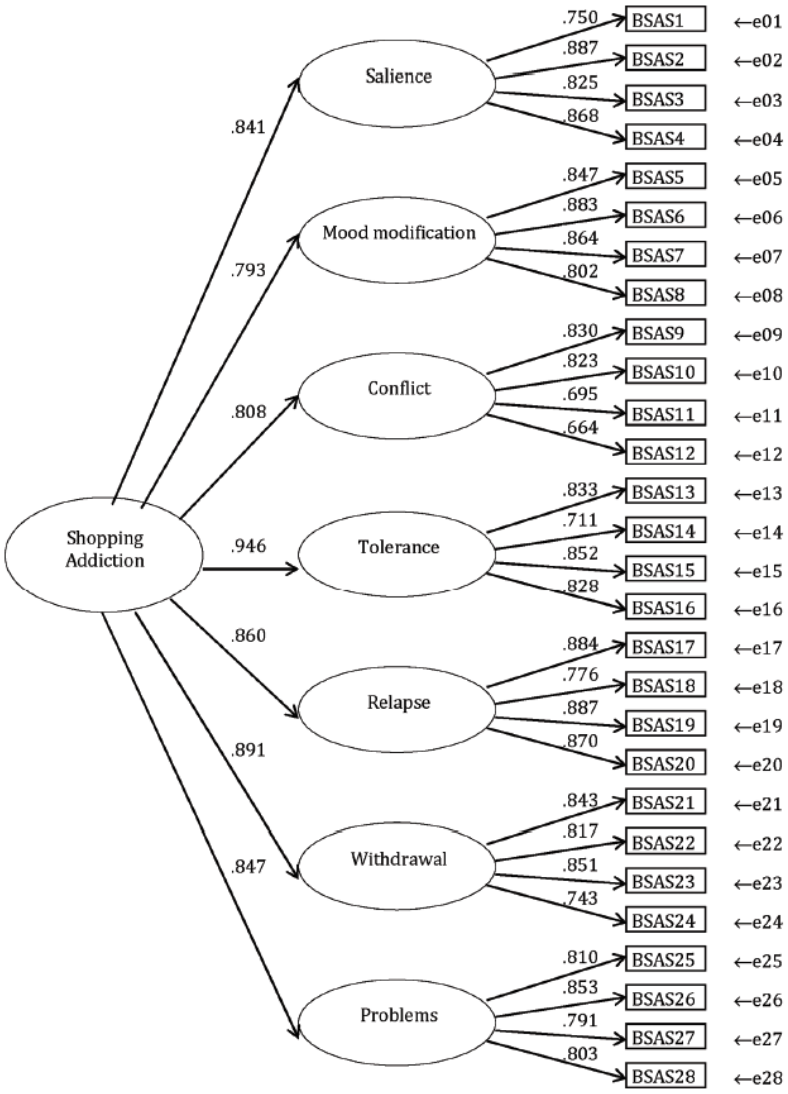
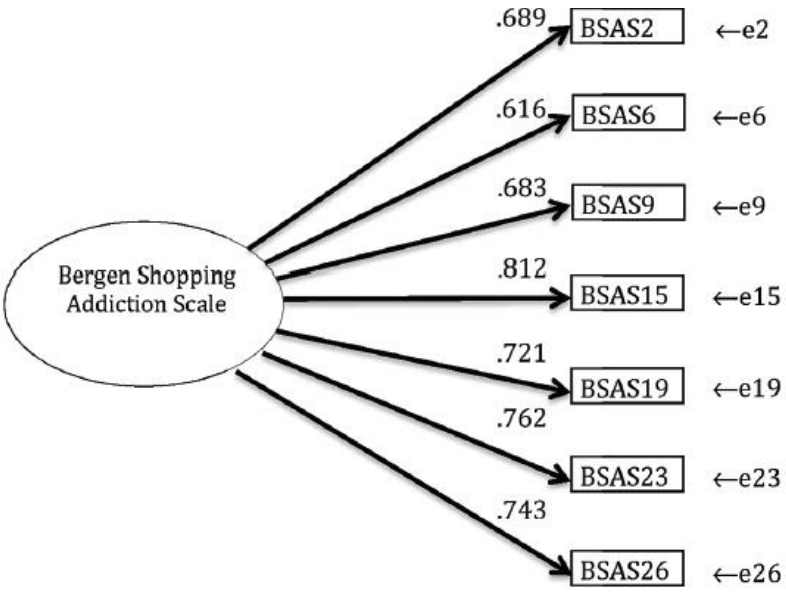


Table 12 Final Factor Structure of the BSAS showing Strandardised Factor Loadings (Andreassen et al., 2015, p.7)



Appendix D: Ethical Clearance

Ref. No: PERC-17040

UNISA university of south africa
Department of Psychology

Ethical Clearance for M/D students: Research on human participants

The Ethics Committee of the Department of Psychology at Unisa has evaluated this research proposal for a Higher Degree in Psychology in light of appropriate ethical requirements, with special reference to the requirements of the Code of Conduct for Psychologists of the HPCSA and the Unisa Policy on Research Ethics.

Student Name: Bernadette Jean Mundy **Student no.** 5561 284 9

Supervisor: Helena Erasmus **Affiliation:** Department of Psychology, UNISA

Title of project:

Online Shopping Addiction and its Predictors: Testing a Conceptual Model

The proposal was evaluated for adherence to appropriate ethical standards as required by the Psychology Department of Unisa. The application was approved by the Ethics Committee of the Department of Psychology on the understanding that –

- All ethical conditions related to voluntary participation, informed consent, anonymity, confidentiality of the information and the right to withdraw from the research must be explained to participants in a way that will be clearly understood and a signed letter of informed consent will be obtained from each of the participants in the study;
- Any formal procedures that may be required to get permission from the institutions from which the participants are to be drawn, and all conditions and procedures regarding access to information for research purposes that may be required by these institutions are to be met;
- Information disclosed in confidence will not be made available to any person or organisation without informed consent.
- If further counseling is required in some cases, the participants will be referred to appropriate counseling services.

Signed:

Prof. M Papaikonomou *Date: 2017-10-25*

[For the Ethics Committee]
[Department of Psychology, Unisa]

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Psychology Department Ethics Review Committee.*
3) *An amended application should be submitted if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*
4) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

Please note that research where participants are drawn from Unisa staff, students or data bases requires permission from the Senate Research and Innovation Committee (SENRIC) before the research commences.