

**THE ROLE OF CONSUMER SPENDING SELF-CONTROL IN THE
RELATIONSHIP BETWEEN PSYCHOLOGICAL NEEDS AND
WELL-BEING**

By

**LAUREANE DU PLESSIS
98194616**

Submitted in fulfilment of the requirements for the degree
Philosophiae Doctor with specialisation in Marketing Management

in the

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

at the

UNIVERSITY OF PRETORIA

Subject:

Thesis (BEM 995)

Study leaders:

Prof. Y. Jordaan

Prof. L. van der Westhuizen

Date of submission:

July 2023

REMARKS

The reader is informed of the following:

- The thesis is structured in the form of three articles. Article 1 is presented in Chapter 2, Article 2 is presented in Chapter 3, and Article 3 is presented in Chapter 4. A different version of these articles may be published in accredited academic journals with co-authors, following the examination, adaptations, and journal review process.
- The article-based nature of this thesis requires that sufficient information be provided in each article for it to be read as a stand-alone document, as well as part of the thesis. This inevitably results in some duplication of key information mentioned in different parts of the thesis. This duplication of information is most notable in the literature that contextualises the research problem and relevant theory, along with information about the methods used, the main findings and contributions of the study.
- To ensure consistency in referencing, the Harvard referencing style is applied throughout the thesis. A reference list is provided at the end of each chapter. As this study is a PhD written by article, each article contains its own reference list. For this reason, Chapter 1 and Chapter 5 also include a reference list at the end of each.
- The prescribed and signed declaration regarding plagiarism is included in Section 6.1 (Appendix A).
- A letter confirming professional editing is included in Section 6.2 (Appendix B).

ACKNOWLEDGEMENTS

At the end of a 'nervously exciting' journey, I would like to acknowledge and thank a few people who have supported me throughout the process:

- First of all, my Lord, Jesus Christ, who has given me the ability, hope and determination to persevere during tough times and see this project through.
- To my amazing supervisors, Prof. Yolanda Jordaan and Prof. Liezl-Marié van der Westhuizen, for their guidance, advice and encouragement. Thank you for believing in me, your patience with me and your willingness to always assist me.
- To my loving husband, Abraham, for always believing in me. Thank you for all your support, understanding and encouragement throughout the process. Thank you for keeping the household going when I could not.
- To our two beautiful daughters, Amelia and Carla, for always understanding that mom is busy studying and for supporting me throughout this journey. Thank you for every prayer on our way to school every morning, asking the Lord to help me with my PhD. You are the best daughters a mom could ever ask for.
- To my parents and parents-in-law, for all your love and support from the beginning, right through to the end.
- To the rest of my family and all my friends, a big thank you for your understanding, encouragement and support. Thank you for your willingness to assist whenever I needed help.

“... for God gave us a spirit not of fear but of power and love and self-control.”

2 Tim. 1:7

ABSTRACT

Many South African consumers struggle to make ends meet and consequently spend beyond their means. Although consumers try to cut down on their spending in an already challenging economic environment, higher levels of expenditure are still evident, with reports attributing a lack of self-control over spending behaviour as a major culprit. Therefore, consumer spending self-control (CSSC), which regulates spending thoughts and behaviour, served as the primary focus of this study. Consumers differ in terms of their CSSC, with some being better able to control their spending than others, thus influencing their well-being. Determining which factors influence people's CSSC, and the resulting impact on well-being, prompt the need to explore this relationship further.

The self-determination theory (SDT), which is a theory of human motivation, provided the theoretical underpinning for this study and specifically incorporated psychological needs and well-being as SDT elements. The theory examines the interaction between extrinsic forces, intrinsic motivations as well as the way people regulate their motives, emotions and impulses, with the ultimate aim of influencing well-being. Putting it into context for this study, SDT provides the theoretical foundation for understanding how psychological needs, as well as extrinsic and intrinsic sources, influence people's regulatory behaviour (i.e., CSSC in this study), and the resulting influence on people's well-being. Therefore, the primary objective of this study was to explore the role of CSSC in the relationship between psychological needs and well-being.

Three secondary research objectives were set and addressed in article format in three separate chapters. The first secondary objective explored the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. The second secondary objective studied the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. The third secondary objective investigated the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. This descriptive, cross-sectional study collected data using an online self-administered questionnaire distributed to South Africans who were credit active, 18 years or older, either permanently employed or self-employed. Respondents who adhered to these specific boundary conditions were sourced via a Qualtrics online paid-for consumer panel. Although 628 respondents participated in the study, a total of 608 respondents were subject to analysis. Mplus Version 8.3 was used for structural equation modelling, and Hayes' Process Macro for SPSS Version 3.5 was used for testing moderation and mediation effects.

The results showed that psychological need satisfaction was positively associated with CSSC and financial well-being. CSSC also had a partial, complementary mediating effect on the relationship between psychological need satisfaction and financial well-being. Although the relationships between psychological need frustration and CSSC, and psychological need frustration and financial well-being did not show significance, CSSC had a partial, complementary mediating effect on the relationship between psychological need frustration and financial well-being. Furthermore, although CSSC was not significantly related to life satisfaction, financial well-being was partly responsible for the relationship between CSSC and life satisfaction. Finally, relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction, with high levels of relative deprivation having a stronger moderating effect on the relationship between financial well-being and life satisfaction.

The main theoretical contribution of this study is the advancement of CSSC literature, with CSSC acting in a regulating capacity in the SDT context. Based on the study results, several practical recommendations have been suggested. These include using psychological need satisfaction/frustration as segmentation bases, developing product/service offerings to assist consumers with CSSC and designing marketing communication messages emphasising that CSSC contributes to greater financial well-being and overall life satisfaction.

Inspired by the transformative service research (TSR) movement, which encourages service organisations to explore ways in which the well-being of people can be improved, this study strived to provide a better understanding of how CSSC can advance people's well-being. Recognising that many South Africans struggle to control their spending behaviour, financial institutions, retailers and other service organisations can use the insight obtained from this study to develop products/services to assist people with controlling their spending behaviour, subsequently improving their financial well-being and overall life satisfaction.

Keywords: Psychological need satisfaction, psychological need frustration, intrinsic aspirational goals, extrinsic aspirational goals, consumer spending self-control, financial vulnerability, financial well-being, life satisfaction, relative deprivation, well-being

ABBREVIATIONS

χ^2	Chi-square
AHP	Analytic hierarchy process
AVE	Average variance extracted
BPNSFS	Basic Psychological Need Satisfaction and Frustration Scale
CB-SEM	Co-variance-based structural equation modelling
CFI	Comparative fit indices
CSSC	Consumer spending self-control
DF	Degrees of freedom
FV	Financial vulnerability
FWB	Financial well-being
LLCI	Lower-level confidence interval
LS	Life satisfaction
OLS	Ordinary least square
PNF	Psychological need frustration
PNS	Psychological need satisfaction
RMSEA	Root mean square error of approximation
RD	Relative deprivation
SDT	Self-determination theory
SE	Standard error
SRMR	Standardised root mean square residual
SWLS	Satisfaction with Life Scale
TLI	Tucker-Lewis index
TSR	Transformative service research
ULCI	Upper-level confidence interval

TABLE OF CONTENTS

REMARKS.....	II
ACKNOWLEDGEMENTS	III
ABSTRACT	I
ABBREVIATIONS	III
TABLE OF CONTENTS	IV
LIST OF FIGURES	VIII
LIST OF TABLES.....	IX
1 CHAPTER 1: CONTEXTUALISATION OF THE STUDY.....	1
1.1 INTRODUCTION	1
1.2 THE SOUTH AFRICAN CONTEXT.....	5
1.3 PROBLEM STATEMENT.....	7
1.4 THEORETICAL CONTEXT AND LITERATURE REVIEW	11
1.4.1 Self-determination theory.....	11
1.4.2 Psychological needs	12
1.4.3 Aspirational goals	14
1.4.4 Self-control and consumer spending self-control.....	15
1.4.5 Financial well-being	17
1.4.6 Life satisfaction.....	18
1.4.7 Financial vulnerability.....	19
1.4.8 Relative deprivation	20
1.5 STUDY OBJECTIVES	21
1.5.1 Primary research objective	21
1.5.2 Secondary research objectives.....	21
1.5.3 Hypotheses.....	21
1.6 RESEARCH METHODOLOGY.....	22
1.6.1 Secondary data collection.....	22
1.6.2 Primary data collection.....	22
1.6.2.1 Research design and method of data collection	23
1.6.2.2 Target population and sampling plan development	23
1.6.2.3 Measuring instrument.....	24
1.6.2.4 Data analysis.....	25
1.6.2.5 Ethics and data management.....	26
1.7 STUDY CONTRIBUTIONS	26
1.8 STUDY OUTLINE	28

1.8.1	Chapter 1: Contextualisation of the study.....	28
1.8.2	Chapter 2: Article 1	28
1.8.3	Chapter 3: Article 2	29
1.8.4	Chapter 4: Article 3	30
1.8.5	Chapter 5: Conclusions and recommendations.....	30
1.9	CONCLUSION.....	30
1.10	LIST OF REFERENCES.....	32
2	CHAPTER 2: ARTICLE 1	48
	ABSTRACT	48
2.1	INTRODUCTION	49
2.2	LITERATURE OVERVIEW	51
2.2.1	Psychological needs	52
2.2.1.1	Psychological need satisfaction.....	53
2.2.1.2	Psychological need frustration.....	54
2.2.2	Self-control and consumer spending self-control.....	55
2.2.3	Aspirational goals	57
2.2.3.1	Intrinsic aspirational goals	58
2.2.3.2	Extrinsic aspirational goals	59
2.3	CONCEPTUAL FRAMEWORK.....	60
2.4	METHODOLOGY	63
2.4.1	Sampling, measurement and data collection design	63
2.4.2	Data analysis	65
2.5	RESULTS.....	66
2.5.1	Sample profile.....	66
2.5.2	Linear hypothesised relationships.....	66
2.5.2.1	Assessment of the measurement model.....	66
2.5.2.2	Assessment of the structural model.....	70
2.5.3	Moderation hypothesised relationships	71
2.5.3.1	Using the analytic hierarchy process to determine criteria weights	71
2.5.3.2	Determining an intrinsic and extrinsic aspirational goal criteria weight per respondent	72
2.5.3.3	Moderation effects.....	72
2.6	GENERAL DISCUSSION AND IMPLICATIONS	74
2.7	STUDY CONTRIBUTIONS	75
2.8	LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES	77
2.9	CONCLUSION.....	78
2.10	LIST OF REFERENCES.....	79

3	CHAPTER 3: ARTICLE 2	89
	ABSTRACT	89
3.1	INTRODUCTION	90
3.2	LITERATURE OVERVIEW	92
3.2.1	Psychological needs	92
3.2.1.1	Psychological need satisfaction	94
3.2.1.2	Psychological need frustration	95
3.2.2	Financial well-being	96
3.2.3	Self-control and consumer spending self-control	98
3.2.4	Financial vulnerability	100
3.3	CONCEPTUAL FRAMEWORK	103
3.4	METHODOLOGY	106
3.4.1	Sampling, measurement and data collection	106
3.4.2	Data analysis	107
3.5	RESULTS	109
3.5.1	Sample profile	109
3.5.2	Descriptive statistics	110
3.5.3	Financial vulnerability	110
3.5.4	Linear hypothesised relationships	112
3.5.4.1	Assessment of the measurement model	112
3.5.4.2	Assessment of the structural model	116
3.5.5	Mediation hypothesised relationship	117
3.5.6	Moderation hypothesised relationship	119
3.6	GENERAL DISCUSSION AND IMPLICATIONS	120
3.7	STUDY CONTRIBUTIONS	122
3.8	LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES	123
3.9	CONCLUSION	124
3.10	LIST OF REFERENCES	125
4	CHAPTER 4: ARTICLE 3	138
	ABSTRACT	138
4.1	INTRODUCTION	139
4.2	LITERATURE OVERVIEW	141
4.2.1	Self-control and consumer spending self-control	142
4.2.2	Life satisfaction	143
4.2.3	Financial well-being	145
4.2.4	Relative deprivation	147

4.3	CONCEPTUAL FRAMEWORK.....	149
4.4	METHODOLOGY	152
4.4.1	Sampling, measurement and data collection.....	152
4.4.2	Data analysis	153
4.5	RESULTS	154
4.5.1	Sample profile.....	154
4.5.2	Descriptive statistics	155
4.5.3	Linear hypothesised relationships.....	156
4.5.3.1	Assessment of the measurement model.....	156
4.5.3.2	Assessment of the structural model.....	159
4.5.4	Mediation hypothesised relationship	160
4.5.5	Moderation hypothesised relationship.....	161
4.6	GENERAL DISCUSSION AND IMPLICATIONS	163
4.7	STUDY CONTRIBUTIONS	165
4.8	LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES	166
4.9	CONCLUSION.....	168
4.10	LIST OF REFERENCES.....	169
5	CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	184
5.1	INTRODUCTION	184
5.2	PROBLEM STATEMENT AND OBJECTIVES	185
5.3	SUMMARY OF MAIN FINDINGS.....	192
5.3.1	Main findings relating to the sample.....	192
5.3.2	Main findings of the overall study.....	194
5.4	THEORETICAL CONTRIBUTIONS	197
5.5	PRACTICAL CONTRIBUTIONS AND RECOMMENDATIONS	198
5.6	LIMITATIONS AND FUTURE RESEARCH DIRECTIONS	201
5.7	CONCLUSION.....	203
5.8	LIST OF REFERENCES.....	205
6	APPENDICES.....	213
6.1	APPENDIX A	213
6.2	APPENDIX B	215
6.3	APPENDIX C.....	217
6.4	APPENDIX D.....	229

LIST OF FIGURES

Figure 1.1: Complete conceptual framework based on the theoretical model of the SDT	10
Figure 1.2: The application of the SDT mini-theories to the study	12
Figure 1.3: Conceptual framework for Article 1	28
Figure 1.4: Conceptual framework for Article 2	29
Figure 1.5: Conceptual framework for Article 3	30
Figure 2.1: Conceptual framework for Article 1	60
Figure 2.2: Standardised estimate results of the conceptual framework for Article 1	73
Figure 3.1: Conceptual framework for Article 2	103
Figure 3.2: Standardised estimate results of the conceptual framework for Article 2	119
Figure 4.1: Conceptual framework for Article 3	149
Figure 4.2: Simple slope analyses of the conditional effects of financial well-being on life satisfaction at different levels of relative deprivation.....	162
Figure 4.3: Standardised estimate results of the conceptual framework for Article 3.....	163
Figure 5.1: Complete conceptual framework based on the theoretical model of the SDT	191

LIST OF TABLES

Table 1.1: Hypotheses per article.....	21
Table 2.1: An example of the pairwise comparison question.....	64
Table 2.2: Model fit indices for final re-estimated measurement model.....	67
Table 2.3: Convergent validity for the re-estimated measurement model.....	68
Table 2.4: Reliabilities and discriminant validity for the re-estimated measurement model.....	69
Table 2.5: Model fit indices for structural model.....	70
Table 2.6: Standardised estimates of the structural paths in the structural model.....	70
Table 2.7: Summary of moderation interaction effects.....	73
Table 3.1: Credit behaviour of respondents.....	109
Table 3.2: Descriptive statistics of constructs.....	110
Table 3.3: Results of the financial vulnerability questions.....	110
Table 3.4: Model fit indices for original measurement model.....	113
Table 3.5: Convergent validity for final re-estimated measurement model.....	114
Table 3.6: Reliabilities and discriminant validity for the re-estimated measurement model.....	115
Table 3.7: Model fit indices for structural model.....	116
Table 3.8: Standardised estimates of the structural paths in the structural model.....	117
Table 3.9: Summary of mediation interaction effects.....	118
Table 3.10: Summary of moderation interaction effect.....	119
Table 4.1: Credit behaviour of respondents.....	155
Table 4.2: Descriptive statistics of constructs.....	155
Table 4.3: Model fit indices for the re-estimated measurement model.....	157
Table 4.4: Convergent validity for the re-estimated measurement model.....	157
Table 4.5: Reliabilities and discriminant validity for the re-estimated measurement model.....	158
Table 4.6: Model fit indices for structural model.....	159
Table 4.7: Standardised estimates of the structural paths in the structural model.....	160
Table 4.8: Summary of mediation interaction effects.....	160
Table 4.9: Summary of moderation interaction effects.....	161
Table 5.1: Outline of objectives and hypotheses per article.....	189
Table 5.2: Demographic characteristics of the sample.....	192
Table 5.3: Credit behaviour of respondents.....	192
Table 5.4: Results of the financial vulnerability questions.....	193
Table 5.5: Standardised estimates of the structural paths in the structural model.....	194
Table 5.6: Summary of mediation interaction effects.....	195
Table 5.7: Summary of moderation interaction effect.....	196

CHAPTER 1: CONTEXTUALISATION OF THE STUDY

THE ROLE OF CONSUMER SPENDING SELF-CONTROL IN THE RELATIONSHIP BETWEEN PSYCHOLOGICAL NEEDS AND WELL-BEING

1.1 INTRODUCTION

At the end of September 2019, South Africa had 25.14 million credit-active individuals, of which 57.06% were in good standing, compared to 62.65% at the end of September 2018. Similarly, 42.95% had impaired records at the end of September 2019, compared to 37.35% at the end of September 2018 (National Credit Regulator, 2019). With the decreasing number of accounts in good standing and the increasing number of impaired records, it seems South Africans are facing financial strain. Many struggle to make ends meet and, in some circumstances, take on more credit to support their lifestyles (Hatting, Magnus & Ramlakan, 2016; News24, 2018; TransUnion, 2019). Although a study by McKinsey & Company reveals that more than 60% of South African consumers try to cut back on spending to cope with financial pressures (Hatting & Ramlakan, 2022; Hatting *et al.*, 2016), high levels of expenditure are still evident (Momentum, 2021). Furthermore, a study by Momentum and Unisa shows that South African consumers struggle to control their spending behaviour, subsequently causing them to spend beyond their means (Momentum, 2021).

Further complicating the situation is a lack of saving. According to Buthelezi (2021), South African households do not save. Although some households 'save' by contributing to pension funds, retirement endowments, trusts and making investments in properties and homes, South African households are generally not saving, that is, setting money aside that is available immediately in case of unforeseen circumstances. Thus, with South African consumers increasingly turning to credit to sustain a lifestyle, high levels of expenditure still evident and a lack of savings, South African consumers are at risk of becoming financially vulnerable (Momentum, 2021). Unless a degree of consumer spending self-control (CSSC), whereby people regulate spending thoughts, behaviour and decisions (Haws, Bearden & Nenkov, 2012), is instilled, this unfavourable financial behaviour (e.g.: increased credit, high expenditure, lack in saving) can have detrimental effects on consumers' well-being.

Even though financial crises are regarded as a key factor contributing to the rising concern on well-being (Rosenbaum, Corus, Ostrom, Anderson, Fisk, Gallan, Giraldo, Mende, Mulder, Rayburn,

Shirahada & Williams, 2011), many strides have been made through the transformative service research (TSR) movement. Through TSR, service organisations are encouraged to engage in research investigating ways to improve the well-being of people and, consequently, society (Rosenbaum *et al.*, 2011). Since financial institutions influence people's daily lives, they are in a fortunate position to engage in TSR in an attempt to enhance people's well-being (Anderson, Ostrom, Corus, Fisk, Gallan, Giraldo, Mende, Mulder, Rayburn, Rosenbaum, Shirahada & Williams, 2013). Knowing more about consumers' spending behaviour can equip financial institutions to develop products, services and/or programmes that motivate people to engage in healthy spending behaviour (Brüggen, Hogueve, Holmlund, Kabadayi & Löfgren, 2017; Mende & van Doorn, 2015; Winterich & Nenkov, 2015). This study aimed to shed light on this topic by investigating the role of CSSC in the relationship between psychological needs and well-being. The self-determination theory (SDT), developed during the mid-1980s by Edward Deci and Richard Ryan (Deci & Ryan, 2000), provided the theoretical underpinning for this study, as it provided parameters to explore the interrelationships between psychological motivators, regulation behaviour (i.e., CSSC in this study) and well-being.

The SDT differentiates between three basic psychological needs: autonomy, competence and relatedness (Deci & Ryan, 2000). When these three psychological needs are satisfied, it leads to positive outcomes and consequences; the opposite is true when any of the needs are thwarted. On a more extreme level, psychological need thwarting can lead to frustration, resulting in even more intense problematic behaviour and psychological issues (Universiteit Gent, 2019). It is a human tendency to want to maintain a state of psychological need satisfaction and avoid a state of psychological need frustration. However, it is not always possible; therefore, people are regularly challenged with psychological need frustrations.

Experiencing psychological need frustration, causes a self-discrepancy within people, that is, a discrepancy between who a person currently is (i.e., the actual self) and who that person would ultimately like to be (i.e., the ideal self) (Kim & Gal, 2014; Mandel, Rucker, Levav & Galinsky, 2017). In response to these self-discrepancies, people often turn to compensatory behaviour to offset the negative feelings and emotions accompanying the psychological need frustration (Mandel *et al.*, 2017). Some of the compensatory behaviours and activities people engage in include need substitutes, eating, shopping, self-gifting, socialising, watching television, consuming alcohol, exercising or going for a haircut (Gould, 1997; Thayer, Newman & McClain, 1994; Woodruffe, 1997; Woodruffe-Burton & Elliott, 2005). Not directly addressing the psychological need frustration can lead to further neglect of psychological need satisfaction, and, consequently, longer-term ill-being (Ryan, Deci, Grolnick & La Guardia, 2006; Vansteenkiste & Ryan, 2013).

Self-control, especially in the form of CSSC, may play a role here by intervening in the psychological need satisfaction/frustration and well-being relationship. In general, self-control is described as a person's ability to adapt to internal reactions and responses to undermine unwanted tendencies before they translate into negative behaviour (Tangney, Baumeister & Boone, 2004). Self-control employs three elements: setting clear standards, monitoring and having the ability to change (Baumeister, 2002). These three elements assist people in ensuring that their behaviour is aligned with what they would like to achieve and, consequently, facilitate the advancement of desirable behaviour (Tangney *et al.*, 2004). Although the concept of self-control can be applied to several behavioural domains (De Ridder, Lensvelt-Mulders, Finkenauer, Stok & Baumeister, 2012; Tangney *et al.*, 2004), this study specifically focused on individuals' ability to control their spending behaviour (i.e., CSSC). Given that many South Africans struggle with debt, spend beyond their means and cannot save, it emphasises the need to better understand consumers' ability to control their spending behaviour. Furthermore, when people face psychological need frustration, and feel the urge to unnecessarily spend money to make themselves feel better, a degree of CSSC may be necessary to ensure a more responsible approach to dealing with the self-discrepancy, while it is expected that less CSSC may be necessary when psychological needs are satisfied. Thus, this study aimed to better understand the relationship between psychological need satisfaction/frustration and CSSC.

Another SDT element possibly influencing the relationship between psychological need satisfaction/frustration and CSSC relates to the goal contents theory, which differentiates between intrinsic and extrinsic aspirational goals (Deci & Ryan, 2000). Whereas intrinsic aspirational goals are pursued for autonomous or personal reasons, extrinsic aspirational goals are more concerned with the opinions and perceptions of others and are, therefore, pursued for reasons outside the individual (Kasser & Ryan, 1993, 1996; Truong, McColl & Kitchen, 2010). Furthermore, intrinsic aspirational goals are positively associated with psychological need satisfaction, while extrinsic aspirational goals are either unconnected or indirectly related to psychological need satisfaction (Deci & Ryan, 2000; Kasser & Ryan, 1993, 1996). When faced with psychological need frustrations, people tend to emphasise extrinsic aspirational goals, while the opposite is true for psychological need satisfaction (Ryan & Deci, 2000; Ryan, Sheldon, Kasser & Deci, 1996). The pursuit of extrinsic aspirational goals is expected to be associated with less self-control over spending behaviour since money must be spent to obtain material possessions, popularity and an attractive image (i.e.: examples of extrinsic aspirational goals). On the other hand, the pursuit of intrinsic aspirational goals is expected to be associated with greater CSSC since intrinsic aspirational goals are associated with better adjustment in specific domains (Vansteenkiste, Soenens & Duriez, 2008). This study has, therefore, proposed that aspirational goals may influence how psychological need satisfaction/frustration relates to CSSC.

A final SDT element incorporated into this study, and closely related to psychological needs, is well-being (Deci & Ryan, 2000). More specifically, this study has focused on subjective well-being, which refers to a person's assessment of their lives based on their own experiences and feelings in relation to several life domains (Angner, 2010; Diener, 1984; Joo, 2008). Subjective well-being consists of two components: affective and cognitive (Diener, 1984; Kuykendall, Tay & Ng, 2015; Larsen & Eid, 2008). Although the initial focus of subjective well-being studies was on the affective component, the cognitive component has been receiving increased attention in recent years (Diaz, Stavradi, Blanc & Gandarillas, 2015; Diener, Emmons, Larsen & Griffin, 1985; Kuykendall *et al.*, 2015; Pavot & Diener, 1993, 2008). Furthermore, since the cognitive component of subjective well-being has stronger relations to economically related concepts (Howell & Howell, 2008), the cognitive component, in the form of life satisfaction, was used in this study. Life satisfaction is described as a universal assessment that considers to what extent people are satisfied with their overall lives (Diener, 1984).

In addition to assessing overall life satisfaction, this study investigated another type of well-being based on people's satisfaction with specific life domains, such as finances, health, housing and occupation (Brown & Gray, 2016; Diener, Suh, Lucas & Smith, 1999). The extent to which people experience satisfaction in these different life domains influences the extent to which they experience overall life satisfaction (Pavot & Diener, 2008). Given that spending behaviour is directly related to finances, this is the specific life domain this study focused on, and in terms of assessing satisfaction within the financial domain, the construct of financial well-being is discussed in greater detail. Since a large part of society struggles to make ends meet and is unable to cope with unexpected expenses and events (Anderloni, Bacchiocchi & Vandone, 2012), financial well-being has become a topic of interest for many researchers (Brüggen *et al.*, 2017; Consumer Financial Protection Bureau, 2015; Netemeyer, Warmath, Fernandes & Lynch, 2018; O'Connor, Newmeyer, Yee Ching Wong, Bayuk, Cook, Komarova, Loibl, Lin Ong & Warmath, 2019). People's level of financial well-being is influenced by several factors (Sabri, Cook & Gudmunson, 2012), including psychological factors, such as self-control (Strömbäck, Lind, Skagerlund, Västfjäll & Tinghög, 2017). Whether self-control within a more specific behavioural domain, such as spending behaviour, may influence financial well-being remains unanswered. Therefore, this study aimed to evaluate how psychological need satisfaction/frustration and CSSC influence financial well-being.

Another factor influencing financial well-being is situational in nature and considers the influence of unexpected changes or adverse shocks on a person's level of financial well-being (Schicks, 2014). How prepared an individual is for financial shocks will influence to what extent they are financially vulnerable. Although financial vulnerability is often considered a problem of the poor, financial vulnerability has no boundaries, and even the wealthy can be affected by unexpected events and

expenses (O'Connor *et al.*, 2019). Since financially vulnerable individuals struggle to make ends meet, they often fall in arrears on debt and are required to take on more debt or dip into their savings, consequently influencing their financial well-being (Daud, Marzuki, Ahmad & Kefeli, 2019; Kim, Kim & Yoo, 2016). This study attempted to better understand how different levels of financial vulnerability influence the relationship between CSSC and financial well-being.

A final factor in this study that can influence a person's financial well-being is social comparison, where people compare what they earn, have and spend with relevant others (Santos, Mendes-Da-Silva, Flores & Norvilitis, 2016). More specifically, comparing oneself to others and feeling deprived (i.e., the belief that one is missing out on a desired and earned result compared to reference groups (Walker & Smith, 2002; Yngwe, Lundberg & Burström, 2006)) can lead to several negative outcomes potentially detrimental to well-being (see Eibner & Evans, 2005; López Turley, 2002; Pham-Kanter, 2009 for examples). Hence, this study also addressed how different levels of relative deprivation influence the strength of the relationship between financial well-being and life satisfaction.

In conclusion, SDT posits that psychological need satisfaction leads to well-being, while psychological need frustration leads to distress and ill-being. Aspirational goals furthermore provide guidance on how psychological need satisfaction/frustration influences well-being. Unless a degree of CSSC is applied, psychological need satisfaction/frustration may have a detrimental effect on financial well-being and, consequently, life satisfaction. To what extent a person feels financially vulnerable or relatively deprived in relation to peer groups might also influence the relationship between CSSC and the different forms of well-being (i.e., financial well-being and life satisfaction). This chapter provides the contextual background of the study and commences with an overview of the South African context, which is followed by the problem statement, after which the study's theoretical foundation is described. Next, an outline of the objectives and hypotheses assessed is provided, followed by the research methodology used. The chapter concludes with some contributions this study aimed to make and a chapter outline for the rest of the study.

1.2 THE SOUTH AFRICAN CONTEXT

According to the "Living Conditions South Africa 2014/2015" report, South African households spent on average R103,293 per year on consumption, of which housing, water, electricity, gas and other fuels (32.6%) are the biggest contributor, followed by transportation (16.3%) (Statistics South Africa, 2017). Expenditure on education and expenditure on health (excluding health insurance and medical aid subscription), which can be linked to the responsible financial behaviour of planning for the future, are some of the smaller contributors in terms of overall expenditure (Education – 2.5% and Health –

0.9%) (Statistics South Africa, 2017). Considering more recent spending results, South Africans still spent the majority of their income on food and housing, even though spending has seen a decline of about 7% since the end of December 2021 (Deloitte, 2023a). According to Deloitte's Global State of the Consumer Tracker, groceries make up 16% of consumers' share of wallet, followed by housing at 14% and, clothing and personal care at 10% (Deloitte, 2023b). Although the clothing and personal care sector is performing well, owing to the use of store credit, there is concern about the impact of rising interest rates and high inflation in the areas where consumers spent most of their money, i.e. groceries and housing (Wilson, 2023). As a result, consumers feel overextended, since they need to take on more debt in an attempt to cope with the rising inflation rates, only to be hit by higher interest rates on the debt that they took out (Wilson, 2023).

Approximately a third of South African consumers are struggling to make ends meet (Pijoo, 2021). Since consumers' disposable income does not enable them to keep up with rising inflation and interest rates, there has been an increase in credit card debt, overdrafts and more people taking out personal loans (Wilson, 2023). According to the National Credit Regulator (2019, 2022) of South Africa, there were 26.65 million credit-active consumers by the end of September 2022, compared to 25.14 million credit-active individuals by the end of September 2019. Of the 26.65 million credit-active accounts, 63.36% were in good standing, compared to 57.06% at the end of September 2019. Furthermore, 36.64% had impaired records, compared to 42.95% at the end of September 2019. Even though there has been an increase in the number of credit-active individuals over the course of the three years, the fact that there is a growth in the number of records in good standing and a reduction in the number of impaired records signals consumer's ability to better manage their credit (Opperman, 2023). However, despite consumers' attempts to better manage their credit, according to TransUnion, the year 2022 saw an increase in the number of store accounts, personal loans, and home and vehicle loans (Opperman, 2023), which might prove worrisome if the inflation and interest rates keep on spiking (TransUnion, 2023).

Further complicating the situation is a lack of savings. According to an article in Fin24 (Smith, 2019), South African households are not saving. Although some households "save" by contributing to pension funds, retirement endowments, trusts and making investments in properties and homes, in general, South African households are not putting money away, which is another cause for concern. A report compiled by PWC states that South African consumers are increasingly focusing on cost-saving initiatives with approximately 99% of South Africans adopting this behaviour to save money (PWC, 2023). However, planning to implement cost-saving initiatives versus actually implementing cost-saving initiatives seems easier said than done. Deloitte's Global State of Consumer Tracker (2023) indicates that 68% of South Africans are concerned about their level of saving, while merely 37% of South African consumers have money left at the end of the month.

In conclusion. With higher inflation and interest rates waning on consumers' disposable income, consumers are increasingly turning to credit as a means to survive the rising cost of living. Even though there have been signs of improved credit management, there is an increase in the number of new clothing accounts, personal loans and home and vehicle loans, making consumers vulnerable to possible future inflation and interest rate hikes. Coupled with a lack of savings and little discretionary money available at the end of the month, this behaviour of continuously taking on credit can have detrimental effects on a consumer's financial well-being. Unless a degree of self-control is employed.

1.3 PROBLEM STATEMENT

Many South African consumers struggle with daily financial obligations and thus dip into their savings or take on credit to make ends meet (Hatting *et al.*, 2016; TransUnion, 2019). Despite consumers' attempts to cut down on spending or delay purchases (Hatting *et al.*, 2016; Hatting & Ramlakan, 2022), high levels of expenditure are still evident, placing consumers at risk of becoming financially vulnerable (Momentum, 2021). Furthermore, consumers' inability to apply self-control is a major reason for their expenditures exceeding their income (Momentum, 2021). Therefore, people's ability to control their spending behaviour, that is, CSSC, served as the primary focus of this study and is defined as the "ability to monitor and regulate one's spending-related thoughts, behaviour, and decisions in accordance with self-imposed standards" (Haws *et al.*, 2012:696).

Not all South Africans spend beyond their means, thus, raising the question as to what motivates people to better control their spending than others. In addressing this question, the researcher focused on the SDT to set the theoretical foundation for this study. According to the literature, SDT examines the interaction between extrinsic forces, intrinsic motivations as well as the way people regulate their motives, emotions and impulses, with the ultimate aim of influencing well-being (Deci & Ryan, 2000). More specifically, for the purpose of this study, the researchers were interested in how intrinsic motivations (i.e. psychological needs), as well as extrinsic forces (i.e. aspirational goals) influence how people regulate their behaviour (i.e. CSSC), with the ultimate aim of influencing people's well-being (i.e. financial well-being and life satisfaction). The SDT recognises that humans have three basic psychological needs: autonomy, competence and relatedness, and the degree to which the three psychological needs are satisfied influences the extent to which people function effectively within a social context (such as a consumption environment) and experience well-being (Centre for Self-Determination Theory, 2022).

In addition to psychological needs, SDT takes cognisance of aspirational goals, which this study has proposed may act as factors influencing a person's ability to control their spending. SDT differentiates between intrinsic and extrinsic aspirational goals, with intrinsic aspirational goals including personal growth, meaningful relationships and contributing to communities, and extrinsic aspirational goals including wealth, fame and image (Deci & Ryan, 2000; Kasser & Ryan, 1996). People tend to pursue one group of aspirational goals more purposefully than the other (Kasser & Ryan, 1993, 1996), and the group of aspirational goals that are pursued will influence psychological need satisfaction (Schmuck, Kasser & Ryan, 2000; Riediger & Freund, 2004). Whereas intrinsic aspirational goals are associated with psychological need satisfaction, the opposite is true for extrinsic aspirational goals (Deci & Ryan, 2000; Kasser & Ryan, 1993, 1996). Considering the interaction between the three basic psychological needs and the aspirational goals, the first objective addressed in this study (Chapter 2 – Article 1) is to explore the moderating effect of aspirational goals on the relationship between psychological needs and CSSC.

According to the SDT, psychological need satisfaction enables people to function optimally within their environment, causing them to experience well-being. The opposite is true when psychological needs are frustrated, leading to inadequate functioning and ill-being (Centre for Self-Determination Theory, 2022). Although the relationship between psychological needs and psychological well-being has been investigated in earlier studies (Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013), the relationship between psychological needs and financial well-being has not yet been explored. Since psychological need satisfaction is related to positive outcomes and greater psychological well-being (Ryan & Deci, 2000; Sheldon, Elliot, Kim & Kasser, 2001), it would be expected that psychological need satisfaction is related to financial well-being, as an example of a positive outcome in response to psychological need satisfaction. The opposite would also be expected: psychological need frustration is negatively related to financial well-being.

When psychological needs are frustrated, people often spend money on need substitutes (Vansteenkiste & Ryan, 2013) to cope with the discomfort caused by the psychological need frustration (Deci & Ryan, 2000). This may have a devastating effect on a person's financial well-being, especially when psychological need frustration is experienced continuously. Thus, raising a second question as to whether CSSC will be able to intervene between psychological needs and financial well-being. Since people with CSSC can save more and spend less, they are better prepared for any adverse shocks (Achtziger, Hubert, Kenning, Raab & Reisch, 2015; Baumeister, 2002; Miotto & Parente, 2015; Ponchio, Cordeiro & Gonçalves, 2019; Tangney *et al.*, 2004). This regulatory nature of CSSC prompted the researcher to turn to the SDT as a theoretical foundation for this study. The SDT is concerned with how people regulate and integrate their thinking, values, emotions and impulses for optimal functioning within their context (Ryan, Deci, Vansteenkiste & Soenens, 2021).

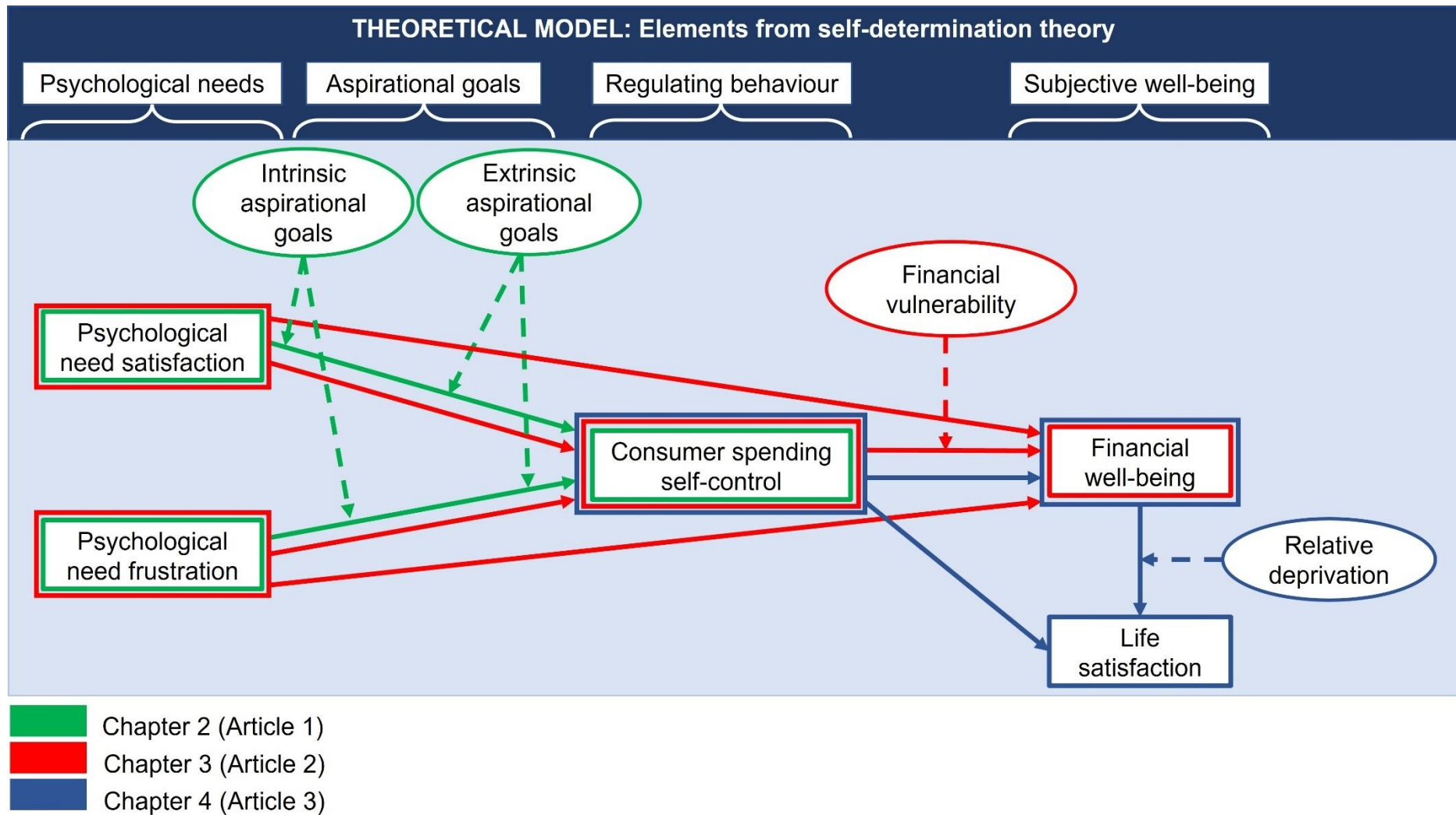
Thus, whether the regulatory nature of CSSC can mediate the relationship between psychological needs and financial well-being, along with the extent to which people are financially vulnerable, remains to be assessed. Therefore, the objective of Chapter 3 (Article 2) is to investigate the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being.

The extent to which basic psychological needs are satisfied or frustrated influences people's overall well-being (Centre for Self-Determination Theory, 2022). However, whether CSSC, as a regulatory behaviour, influences overall well-being remains uncertain. It has already been shown that CSSC influences financial well-being (Haws *et al.*, 2012), and financial well-being is an important contributor to people's overall well-being (Frazier, 2022). Organisations are, therefore, encouraged to look for ways to improve the financial and, thus, the overall well-being of people and society (Losado-Otalero & Alkire, 2019). This study has, therefore, proposed that by managing CSSC, organisations can assist consumers in improving not only their financial well-being but also their overall life satisfaction.

In addition to people's inherent psychological needs and aspirational goals, the SDT also recognises that extrinsic pressures may influence how people respond in a given context (Centre for Self-Determination Theory, 2022). One example of an extrinsic force influencing a person's behaviour relates to peer groups, specifically, how people compare themselves to peer groups. Although people with high levels of financial well-being are less likely to engage in social comparison behaviour (Norvilitis & Mao, 2013), all people are naturally inclined to compare themselves to others (Festinger, 1954). People who compare themselves to others and then realise they are missing out on something they deserve may experience relative deprivation (López Turley, 2002) – feeling relatively deprived results in lower levels of well-being (Callan, Shead & Olson, 2011; Luttmer, 2005). However, whether the degree to which a person feels relatively deprived can influence the relationship between financial well-being and life satisfaction has not yet been established. Thus, the objective of Chapter 4 (Article 3) is to explore the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction.

In conclusion. Building on the theoretical foundation of the SDT, this study aimed to explore the role CSSC as a regulatory behaviour plays in the relationship between psychological needs and well-being. In accordance with the three research objectives outlined above, a conceptual framework summarising the constructs and relationships assessed, is outlined in Figure 1.1. As is evident from the conceptual framework, the study comprises three central research objectives, and each objective represents an article addressed in the subsequent chapters.

Figure 1.1: Complete conceptual framework based on the theoretical model of the SDT



1.4 THEORETICAL CONTEXT AND LITERATURE REVIEW

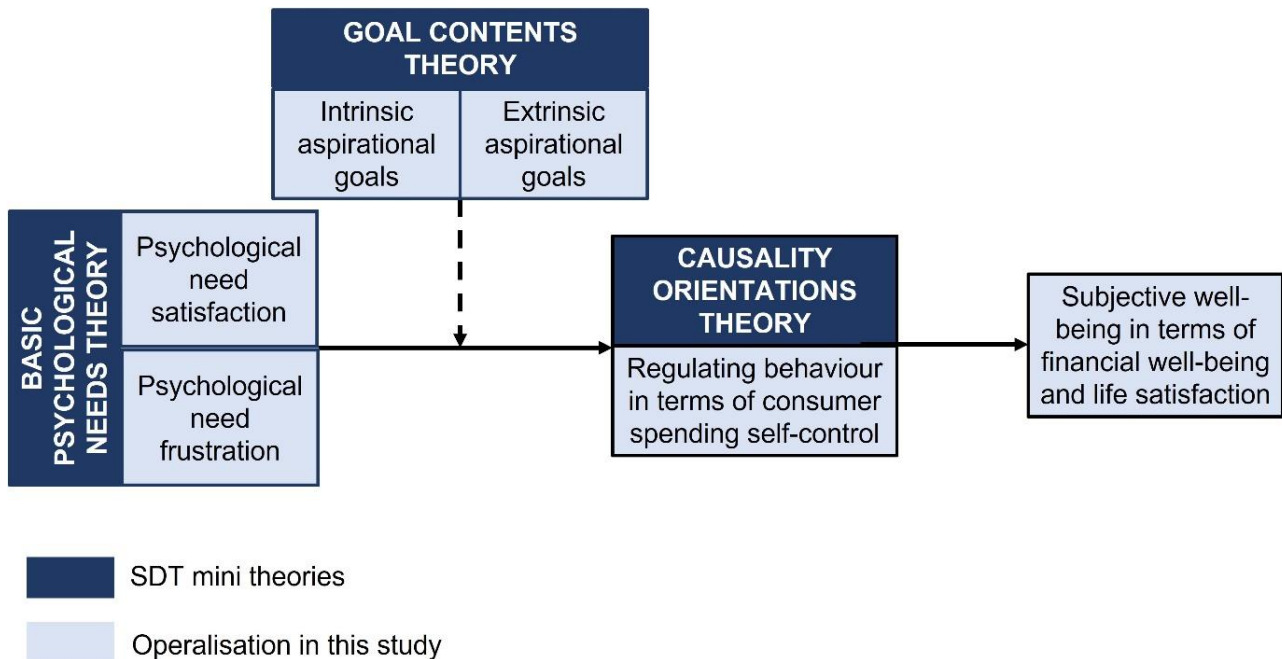
In addressing the problem identified in Section 1.3, it is necessary to better understand the different constructs outlined in the conceptual framework. Therefore, this section provides the theoretical context of the SDT; psychological needs; aspirational goals; self-control, more specifically CSSC; financial well-being; life satisfaction; financial vulnerability; and relative deprivation.

1.4.1 Self-determination theory

The SDT is a theory of human motivation and personality that explains the psychological processes needed for individuals to function optimally. It is a theory developed over the years by considering previous motivation and personality literature and theories (Deci & Ryan, 2000). From a meta-theory point of view, the SDT recognises people as active beings driven by aspirational goals and with a natural tendency to integrate themselves and others into a larger social system (Vansteenkiste & Ryan, 2013). This goal-driven tendency, along with three innate psychological needs, forms the foundation of individuals' self-motivation and personality development. Realising that every person has certain goals they aspire to and three inherent psychological needs is the starting point for understanding SDT (Ryan & Deci, 2000).

The SDT comprises six mini-theories developed to address certain motivational phenomena: the cognitive evaluation theory, organismic integration theory, causality orientations theory, basic psychological needs theory, goal contents theory and relationship motivation theory (Centre for Self-Determination Theory, 2022). The basic psychological needs theory, which focuses on the three basic psychological needs; the goal contents theory, which differentiates between extrinsic and intrinsic aspirational goals; and the causality orientations theory, which considers how people regulate their behaviour (i.e., CSSC) have been incorporated into the conceptual framework for this study. The interaction between the three mini-theories in this study is illustrated in Figure 1.2.

Figure 1.2: The application of the SDT mini-theories to the study



Since the SDT provides the theoretical framework against which this study has been assessed, it is necessary to better understand the different SDT components incorporated in this study. Therefore, the following sections discuss psychological needs and aspirational goals as essential SDT elements.

1.4.2 Psychological needs

In their most basic form, needs are the elements necessary or essential for optimal functioning and well-being (Chen, Van Assche, Vansteenkiste, Soenens & Beyers, 2015). In contradiction with previous theorists' understanding of needs, Deci and Ryan (2000) perceive needs as inherent rather than learnt and psychological rather than physiological. Therefore, the SDT differentiates between three innate psychological needs: autonomy, competence and relatedness. The satisfaction of these three psychological needs plays an important role in predicting when goal attainment will be associated with more optimistic or pessimistic outcomes in terms of performance and well-being (Ryan & Deci, 2000).

The three psychological needs can be described as follows (Baumeister & Leary, 1995; Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2001):

- **Autonomy** relates to choice and control, that is, the tendency to self-regulate. It recognises that individuals have the desire to make their own decisions, self-organise events and behaviours and ensure the activity is aligned with their goals and sense of self. It is about taking ownership,

showing willingness, experiencing volition, having psychological freedom and whole-heartedly participating in self-endorsed behaviour. In a state of autonomy frustration, people feel externally forced or even self-imposed pressure to perform.

- **Competence** relates to feeling capable and effective in one's doings, given the social context in which one finds oneself. The need for competence is evident in people's willingness to learn, be open and interested in new things and adapt to new challenges in changing social environments. It is about learning for the sake of learning and not because there is an extrinsic reward available. In contrast, competence frustration leads to feelings of doubt, inadequacy and inferiority and makes people question their efficacy.
- **Relatedness** refers to the need for belonging and to care for and be cared for by others, and a desire to be connected to others as opposed to feeling excluded and lonely (in the case of related frustration). Relatedness is about establishing and maintaining close personal relationships with friends, a spouse, a romantic partner or other groups. Through relatedness, an individual internalises the needs and values of the group and thus becomes part of a more cohesive social entity. However, it should be noted that the need for relatedness can, in some circumstances, conflict with the need for autonomy, whereby individuals must choose between following their own will or that of their peers.

All three needs should be satisfied for optimal development and functioning to occur. Thus, having only one or two needs satisfied is not enough for overall psychological well-being (Deci & Ryan, 2000). Similarly, a study conducted by Chen, Van Assche *et al.* (2015) found that when all three needs are frustrated, participants show signs of depression and ill-being.

Satisfying the three psychological needs is associated with improved well-being, optimal functioning and positive social development, which leads to greater inner and social integration. However, the opposite is true when needs are thwarted or blocked, leading to distress, ill-being, hostility and even need substitution (Chen, Vansteenkiste, Beyers, Boone, Deci, Van der Kaap-Deeder, Duriez, Lens, Matos, Mouratidis, Ryan, Sheldon, Soenens, Van Petegem & Verstuyf, 2015; Ryan & Deci, 2000). In more extreme cases, when psychological needs are completely frustrated, people can feel like a failure, defensive, insecure, completely isolated or conflicted (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011; Ryan & Deci, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013; Universiteit Gent, 2019). Note that psychological need frustration is distinct from low levels of psychological need satisfaction, as it represents a more intense form of dissatisfaction (Bartholomew *et al.*, 2011; Vansteenkiste & Ryan, 2013).

Psychological need frustration is accompanied by two consequences. First, an immediate reaction of discomfort is experienced in response to the frustration, which causes ill-being. Second, in response to more regular psychological need frustrations, people turn to coping strategies, such as compensatory behaviour in the form of need substitutes or luxury purchasing (Vansteenkiste & Ryan, 2013), as defensive mechanisms to deal with the psychological need frustration. Compensatory behaviour is defined as the type of consumption/behaviour that consumers engage in when they feel that they cannot adequately satisfy a need through a primary means (Woodruffe-Burton & Elliott, 2005). As a result, consumers purchase, use and/or consume other alternatives to compensate for the psychological need frustration (Kim & Rucker, 2012; Rucker & Galinsky, 2008; Woodruffe, 1997). Furthermore, continuously experiencing psychological need frustration on a more regular basis, provokes feelings of uncertainty and insecurity, causing people to turn their attention to extrinsic goal pursuit by seeking external indicators of worth (Deci & Ryan, 2000; Ryan *et al.*, 1996; Vansteenkiste & Ryan, 2013). Although this behaviour is a quick fix for psychological need frustration in the short run, over time, it can lead to further neglect of psychological need satisfaction, consequently leading to longer-term ill-being (Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013).

The SDT postulates that one should look at the consequences or outcomes of an event to determine whether or not the three psychological needs have been satisfied. Therefore, when positive outcomes are observed, psychological needs are satisfied. Conversely, negative outcomes are observed when psychological needs are thwarted or in cases of need frustration. Without understanding the innate human psyche (i.e., the psychological needs), it is impossible to link a person's motives, aspirational goals and behaviour to the respective outcomes of well-being or ill-being (Deci & Ryan, 2000). Therefore, given the understanding of psychological needs, aspirational goals are discussed next.

1.4.3 Aspirational goals

Goal contents theory is a sub-theory of the SDT and, as the name implies, relates to the content of goals. In other words, it is about 'what' people pursue (Romero, Gómez-Fraguela & Villar, 2012). Goal contents theory differentiates between two types of aspirational goals: intrinsic and extrinsic aspirational goals (Ryan & Deci, 2000). Aspirational goals can be defined as individuals' internal 'images' of the outcomes they want to achieve, and these 'images' direct an individual's activities and behaviour to achieve desired outcomes (Brdar, Majda & Dubravka, 2009; Davids, Roman & Kerchhoff, 2017; Deci & Ryan, 2008). Intrinsic aspirational goals are pursued for personal reasons independent of others (i.e., autonomous reasons), while extrinsic aspirational goals are mainly pursued for reasons outside the individual and concern the perceptions of others (i.e., controlled

reasons) (Kasser & Ryan, 1993, 1996; Truong *et al.*, 2010). Either way, the group of aspirational goals more important to a person are more likely to be attained (Eccles & Wigfield, 2002). Furthermore, well-being differs depending on whether intrinsic or extrinsic aspirational goals are achieved (Niemic, Ryan & Deci, 2009; Romero *et al.*, 2012).

Intrinsic aspirational goals relate to personal growth, meaningful relationships and contributing to the community, and are aimed at yielding greater psychological need satisfaction (Deci & Ryan, 2000). Although physical health has been identified as an intrinsic aspirational goal (Truong & McColl, 2011), a contradiction exists as to whether physical health is a purely intrinsic aspirational goal. Consequently, this study excluded physical health as an aspirational goal since it cannot be neatly classified as either an intrinsic or extrinsic aspirational goal (Kasser & Ryan, 1996). Intrinsic aspirational goals strongly focus on self-actualisation and growth (Niemic *et al.*, 2009; Romero *et al.*, 2012). Attaining intrinsic aspirational goals is positively associated with overall psychological need satisfaction and well-being (Kasser & Ryan, 1993, 1996; Niemic *et al.*, 2009; Schmuck *et al.*, 2000).

Extrinsic aspirational goals relate to wealth, image and popularity (i.e., fame) and are unrelated to or indirectly satisfy psychological needs (Deci & Ryan, 2000). Moreover, a deficiency in psychological need satisfaction causes people to place a greater emphasis on extrinsic aspirational goals, which is a need substitute compromising for lack of autonomy, competence and/or relatedness (Ryan & Deci, 2000; Ryan *et al.*, 1996). The pursuit of extrinsic aspirational goals focuses on obtaining extrinsic rewards, admiration and approval (Niemic *et al.*, 2009; Romero *et al.*, 2012). Therefore, the attainment of extrinsic aspirational goals is negatively associated with psychological well-being, leading to depression, anxiety, various forms of physical harm and deteriorating mental health (Kasser & Ryan 1993, 1996; Niemic *et al.*, 2009; Romero *et al.*, 2012).

1.4.4 Self-control and consumer spending self-control

Before addressing CSSC in more detail, it is necessary to understand the concept of self-control in general. Self-control, a stable inherent personality trait, refers to an individual's ability to track their behaviour in relation to set standards and their capability to change the course of action if needed (Baumeister, 2002). Tangney *et al.* (2004) regard self-control as the ability to adapt to internal reactions and responses and stop unwanted tendencies before they become behaviours. Good self-control results in a greater ability to regulate thoughts, change emotions, assist with impulse control, resist temptation, maintain good self-discipline and break bad habits (Fujita, Trope, Liberman & Levin-Sagi, 2006; Miotto & Parente, 2015; Tangney *et al.*, 2004).

Self-control consists of three aspects: setting clear standards, monitoring behaviour and the capability to change behaviour. Setting clear standards, relates to setting understandable and achievable goals, tasks, ideals, norms or other guiding principles that project a desired state, for example, saving up for an overseas trip. The second aspect, monitoring, refers to the ability to keep track of behaviour in relation to the standard set, for example, continuously monitoring spending and savings to ensure the overseas trip is achievable. The third aspect, the capability to change, refers to the ability to regulate and alter behaviour if necessary, thereby aligning behaviour with the standards set at the onset of the process (Baumeister, 2002; Haws *et al.*, 2012), for example, changing spending behaviour to save more money for the overseas trip. Without the capability and capacity to change behaviour, setting standards and monitoring are irrelevant.

Considering the influence of self-control on financial behaviour, some authors have found that a lack of self-control may cause households to default on repayments and consequently become overindebted (Daud *et al.*, 2019; Gathergood, 2012; Miotto & Parente, 2015). Lower levels of self-control result in failure to delay gratification, lower likelihood of saving for the future, lower levels of wealth build-up, higher levels of debt, higher likelihood to engage in compulsive shopping, greater exposure to unforeseen expenditures, and higher likelihood to use high-cost credit products that are easily accessible (Achtziger *et al.*, 2015; Biljanovska & Palligkinis, 2018; Gathergood, 2012; Livingstone & Lunt, 1992). A weakened level of self-control also leads to higher spending levels and less wealth accumulation (Ameriks, Caplin, Leahy & Tyler, 2007; Baumeister, 2002). In contrast, people with higher levels of self-control can better manage their finances, which has a positive effect on financial well-being (Miotto & Parente, 2015; Strömbäck *et al.*, 2017).

Although the process of setting standards, monitoring and the capability to change is a general tendency of human nature, Haws *et al.* (2012) highlight the importance of looking at self-control across different domains, thereby providing a greater understanding of self-control behaviour within a given context. Thus, a specific focus on CSSC enables a greater understanding of consumer spending behaviour and decisions (Haws *et al.*, 2012), which is imperative given the severe economic and psychological consequences associated with poor spending control and financial well-being in a society. CSSC is defined as an individual's ability to monitor and track spending-related thoughts and decisions in relation to self-induced goals (Haws *et al.*, 2012). Therefore, by better understanding CSSC, one can better predict and enhance consumer spending-related thoughts, decisions and behaviour (Haws *et al.*, 2012).

Consumers with lower levels of CSSC are more likely to buy on impulse and pay more for products than consumers with high levels of CSSC. Extreme overspending on goods and services makes consumers with low CSSC levels more susceptible to adverse financial outcomes (Haws *et al.*,

2012). Consumers with higher levels of CSSC are long-term focused and better able to manage their finances, resulting in increased levels of saving and lower levels of spending (Baumeister, 2002; Tangney *et al.*, 2004). Self-control regarding spending is essential to good financial planning and consumption behaviour (Haws *et al.*, 2012; Miotto & Parente, 2015).

1.4.5 Financial well-being

Financial well-being, even though there is no officially agreed-upon definition (O'Connor *et al.*, 2019), in its most basic form, refers to an individual's perception of their current financial situation (O'Connor *et al.*, 2019; Strömbäck *et al.*, 2017). Joo (2008:21) describes it as "a state of being financially healthy, happy and free from worry". Further, Brügger *et al.* (2017) and Netemeyer *et al.* (2018) recognise that financial well-being combines not only a current financial state but also a related, anticipated future state. Therefore, Brügger *et al.* (2017:229) define financial well-being as the "perception of being able to sustain current and anticipated desired living standards and financial freedom", while Netemeyer *et al.* (2018) distinguish between current financial management matters and future financial security.

An individual's perception of their financial well-being is influenced by several factors, such as demographic, socio-economic and psychological factors and cultural differences (Sabri *et al.*, 2012). Previous research revealed positive relations between financial well-being and income, age and education (Sabri *et al.*, 2012). Strong correlations between parents' well-being and their children's well-being were also discovered (Winkelmann, 2005). Moreover, children who learnt about finances from an early age showed improved levels of financial well-being (Sabri *et al.*, 2012). In addition, psychological factors, such as self-control, optimism and deliberate thinking, have also been associated with financial well-being and well-being in general (Strömbäck *et al.*, 2017).

A situational aspect that influences financial behaviour is unexpected changes or adverse shocks to a person's income or expense levels, which can result in an inability to repay debt, less opportunity to save or becoming more indebted in an attempt to recover from the shock (Schicks, 2014). Dealing with adverse shocks often requires that certain sacrifices be made, such as asking for assistance from family and friends, pawning assets, being put under even more financial pressure as more credit needs to be taken on or spending less on food (Mock, Gloyd, Adjei, Acheampong & Gish, 2003). How financially prepared one is for such a situation and how the situation is dealt with depends on a person's level of financial vulnerability, discussed in greater detail in Section 1.4.7.

Peers also play an important role in influencing financial behaviour, particularly through social comparison, where people compare what they earn, what they have and what they spend with others

(Santos *et al.*, 2016). Consequently, previous studies have discovered associations between social comparison and levels of debt amongst adults (Lea, Webley & Walker, 1995), between social comparison and financial well-being amongst students (Norvilitis & Mao, 2013) and between social comparison and satisfaction with income and success (McBride, 2010). Still, how degrees of relative deprivation influence well-being have not yet been explored and is, therefore, addressed in this study. Relative deprivation is explained in more detail in Section 1.4.8.

1.4.6 Life satisfaction

Founders of the SDT suggest that well-being is not only a personal experience of feeling good but also a more holistic view of one's vitality and psychological wellness, and a deep, inherent sense of feeling well (Deci & Ryan, 2000). Previous studies have used different scales/metrics to measure well-being, such as life satisfaction, self-esteem and positive and negative affect (Kasser & Ryan, 2001; Niemiec *et al.*, 2009; Vansteenkiste, Duriez, Simons & Soenens, 2006). Although the type of psychological well-being encapsulated in the SDT refers more to the 'eudemonic' form of well-being, another measure of well-being, subjective well-being, is regarded as a 'hedonic' form of well-being (Romero *et al.*, 2012). Whereas eudemonic well-being relates more to people's optimal functioning, how they self-actualise and attach meaning to life, hedonic well-being emphasises that people want to attain pleasure while avoiding pain and suffering, ultimately leading to happiness (Ryan & Deci, 2001). In this study, a more hedonistic perspective was adopted by considering subjective well-being.

Researchers and policymakers are becoming increasingly more interested in the measurement of subjective well-being, in part due to its relation to happiness, which is an important contributor to societal advancement (Diener & Seligman, 2004). Subjective well-being is defined as an individual's overall condition of personal well-being and is usually composed of affective and cognitive components (Diener, 1984; Larsen & Eid, 2008). Positive and negative affect, as measured by the Positive and Negative Affect Schedule Scale (PANAS), represent the affective component of subjective well-being. Further, life satisfaction, as measured through the Satisfaction with Life Scale (SWLS), represents the cognitive component of subjective well-being (Diaz *et al.*, 2015; Diener, 1984; Diener & Chan, 2011; Howell & Howell, 2008; Pavot & Diener, 1993, 2008; Ryan & Deci, 2001). Although previous studies initially focused on the affective component, the cognitive component has been receiving increased attention in recent years (Diaz *et al.*, 2015; Diener *et al.*, 1985; Kuykendall *et al.*, 2015; Pavot & Diener, 1993, 2008). Furthermore, compared to the affective component, the cognitive component shows stronger relations to economically oriented concepts

(Howell & Howell, 2008), thus emphasising the need to include life satisfaction as a measure of well-being for the purpose of this study.

1.4.7 Financial vulnerability

The term *financial vulnerability*, often used interchangeably with terms such as *financial distress*, *financial fragility* or *financial over-indebtedness*, refers to an individual's tendency to be exposed to financial harm/hardship (Daud *et al.*, 2019; O'Connor *et al.*, 2019). It is a form of suffering or financial difficulty that prohibits an individual from keeping their standard of living (O'Connor *et al.*, 2019; Whelan, Layte, Maître & Nolan, 2001). Kim *et al.* (2016) recognise that financially vulnerable households are struggling to meet their financial commitments and consumption, often risking falling in arrears on debt. Daud *et al.* (2019) also relate financial vulnerability to debt, individuals' inability to pay debt and their struggle to get by on a daily basis. Other authors define financial vulnerability as the situation whereby households have either high debt levels relative to their level of income, especially the 'wrong' kind of debt (i.e., unsecured debt), or high levels of debt with poor repayment habits (Anderloni *et al.*, 2012; Kim *et al.*, 2016).

Financial vulnerability is about more than just being in a state of poverty or having a low income (O'Connor *et al.*, 2019). It includes scenarios where a household struggles to make ends meet, is overcommitted to debt, struggles to buy food and/or pay rent, is in default on utility bills and/or cannot meet monthly expenses (Anderloni *et al.*, 2012; Bridges & Disney, 2004). O'Connor *et al.* (2019) take a much broader view of financial vulnerability and state that anybody can be financially vulnerable – rich or poor – since being vulnerable has more to do with maintaining a certain lifestyle than having a certain income level. Households are deemed vulnerable when they cannot do what they want, such as going on holiday, going out for a meal or participating in leisurely activities.

Various factors cause financial vulnerability, such as making unsustainable or irrational borrowing decisions, having low-income levels, having a certain lifestyle, experiencing adverse shocks and/or not having the necessary financial resources to soften the blow of adverse shocks (Anderloni *et al.*, 2012). Exposure to adverse shocks, such as sudden unemployment, change in interest rates, change in income, illness, accidents or even death in the family, can have detrimental effects on an individual's source of income. It might even result in additional, unexpected expenses and liabilities, which can impact an individual's financial situation and make them extremely vulnerable (Anderloni *et al.*, 2012; Kim *et al.*, 2016; Miotto & Parente, 2015).

1.4.8 Relative deprivation

Social comparison and its importance in terms of financial behaviour and well-being were briefly mentioned in Section 1.4.5 as part of the factors influencing financial behaviour and well-being. Relative deprivation, a concept closely related to social comparison, can also cause people to experience a lack of psychological need satisfaction or frustration. Relative deprivation is based on people's natural tendency to categorise people into hierarchies based on social and economic rankings (Chipp, Kleyn & Manzi, 2011; Heck & Wech, 2003). People analyse these hierarchies to identify contexts where possible injustices and inequalities occur (Halleröd, 2006) and then judge themselves based on where they lie amongst the rankings.

When people see that they lack an item, desire the item, someone else has that item and/or believe that they could have obtained that item, they feel relatively deprived (López Turley, 2002). In other words, it is a person looking at other people and seeing something they have, which this person desires (Chipp *et al.*, 2011). This feeling of deprivation causes discomfort and a sense of entitlement. Relative deprivation is therefore defined as the negative feelings of resentment and frustration experienced in response to the belief that one is missing out on a desired and earned end result compared to others in society (Olson, Roese, Meen & Robertson, 1995; Walker & Smith, 2002; Yngwe *et al.*, 2006). When consumers compare themselves to relevant others, they make assessments based on subjective or objective dimensions, or both, to determine the aspect they are missing out on but feel they deserve (e.g., income, living standards) (Halleröd, 2006).

Feeling deprived in relation to one's reference group can lead to several negative outcomes, such as feeling stressed or depressed, or having lower levels of subjective well-being and low self-esteem (Eibner & Evans, 2005; López Turley, 2002). When a state of relative deprivation is experienced, people employ several ways to cope with it. Some might try harder to succeed in their lives by improving the quality of their life, for example, by searching for material goods or making changes to their lifestyles to offset perceived deprivation (Halleröd, 2006; López Turley, 2002). Others might turn to gambling or other impulsive behaviours (Callan & Ellard, 2010; Dittmar, 2001) to offset the discomfort associated with relative deprivation. In essence, feeling relatively deprived is a perfect breeding ground for engaging in need substitution or compensatory behaviour. Furthermore, feeling relatively deprived increases people's preference for instant gratification to offset the negative feelings immediately, often at the cost of longer-term, more rewarding behaviour and, ultimately, well-being (Callan *et al.*, 2011).

1.5 STUDY OBJECTIVES

This section outlines the study's primary and secondary research objectives.

1.5.1 Primary research objective

The primary research objective of this study was to explore the role of CSSC in the relationship between psychological needs and well-being.

1.5.2 Secondary research objectives

In addressing the primary research objective, the following secondary objectives were proposed and addressed in the respective articles:

- Explore the moderating effect of aspirational goals on the relationship between psychological need satisfaction/frustration and CSSC (Chapter 2, Article 1).
- Examine the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being (Chapter 3, Article 2).
- Investigate the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction (Chapter 4, Article 3).

1.5.3 Hypotheses

Aligned with the secondary objectives, the following sets of hypotheses per article were proposed.

Table 1.1: Hypotheses per article

Article 1	<p>H1: There is a positive relationship between psychological need satisfaction and CSSC.</p> <p>H2: There is a negative relationship between psychological need frustration and CSSC.</p> <p>H3: Intrinsic aspirational goals strengthen the positive relationship between psychological need satisfaction and CSSC.</p> <p>H4: Extrinsic aspirational goals weaken the positive relationship between psychological need satisfaction and CSSC.</p> <p>H5: Intrinsic aspirational goals weaken the negative relationship between psychological need frustration and CSSC.</p> <p>H6: Extrinsic aspirational goals strengthen the negative relationship between psychological need frustration and CSSC.</p>
-----------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Article 2	<p>H1: There is a positive relationship between psychological need satisfaction and financial well-being.</p> <p>H2: There is a negative relationship between psychological need frustration and financial well-being.</p> <p>H3: There is a positive relationship between psychological need satisfaction and CSSC.</p> <p>H4: There is a negative relationship between psychological need frustration and CSSC.</p> <p>H5: There is a positive relationship between CSSC and financial well-being.</p> <p>H6a: CSSC mediates the relationship between psychological need satisfaction and financial well-being.</p> <p>H6b: CSSC mediates the relationship between psychological need frustration and financial well-being.</p> <p>H7: Financial vulnerability has a moderating effect on the relationship between CSSC and financial well-being.</p>
Article 3	<p>H1: There is a positive relationship between CSSC and life satisfaction.</p> <p>H2: There is a positive relationship between CSSC and financial well-being.</p> <p>H3: There is a positive relationship between financial well-being and life satisfaction.</p> <p>H4: Financial well-being mediates the relationship between CSSC and life satisfaction.</p> <p>H5: Relative deprivation moderates the relationship between financial well-being and life satisfaction.</p>

1.6 RESEARCH METHODOLOGY

Cross-sectional, descriptive research was conducted to address the problem identified in Section 1.2. The research process followed is explained in the subsequent sections.

1.6.1 Secondary data collection

To obtain a better understanding of the topic at hand, the researcher conducted a relatively comprehensive literature review on the different constructs of this study. This entailed consulting academic articles, news articles in the popular press, books and annual reports to obtain the information included in the literature review sections of the respective chapters.

1.6.2 Primary data collection

Based on the inputs and information from the literature review, an empirical investigation was conducted to assess the conceptual framework outlined in Figure 1.1. The process that was followed is discussed in more detail in this section. This section also addresses the research design and method of data collection, target population and sampling plan development, measuring instrument, data analysis, ethics and data management.

1.6.2.1 Research design and method of data collection

A cross-sectional study was done in the form of a self-administered questionnaire designed on the Qualtrics software platform, and data were collected using an online paid-for consumer panel through Qualtrics. Qualtrics differentiate between two types of panels. On the one hand, Qualtrics provide a paid-for “online sample” service whereby respondents, who meet certain demographic criteria, are identified and included as part of the sample. On the other hand, Qualtrics provide researchers with the opportunity to compile their own panel and to upload this panel to the Qualtrics platform and distribute the survey via the Qualtrics mailer. For the purpose of this study, the “online sample” service was used and Qualtrics identified a panel of respondents based on the criteria as set out in the following section.

1.6.2.2 Target population and sampling plan development

The target population for this study was credit-active South Africans. According to the National Credit Regulator (2019) of South Africa, credit-active individuals are defined as consumers with an obligation to pay credit providers and/or service providers in response to products and/or services rendered. Accordingly, every credit transaction results in the different credit bureaus across South Africa adding an entry to a consumer’s credit record. The National Credit Regulator, furthermore, differentiates between credit-active individuals in good standing and those with impaired records (National Credit Regulator, 2019).

For the purpose of this study, respondents had to adhere to the following boundary conditions to qualify for participation in the study:

- *Must be 18 years or older.* To qualify for credit in South Africa, an applicant must be 18 years or older (e.g., ABSA, Edgars, FNB, Nedbank, Pick n Pay, Standard Bank and Woolworths credit offers).
- *Must currently be permanently employed or self-employed.* The majority of credit products available require that an applicant earn some minimum level of income on a monthly basis (e.g., Edgars, Standard Bank, Pick n Pay and Woolworths credit offers), insinuating some form of employment. When more specifically applying for credit cards, vehicle finance or home loans, applicants need to be permanently employed or self-employed (e.g., at ABSA, FNB, Nedbank or Capitec). Since servicing credit requires a continuous stream of income, it was decided to ask respondents who are permanently employed or self-employed, as this provides a sense of assurance that the respondent will be able to make repayments.

- *Must be a credit-active individual in South Africa*, whether in good standing or with an impaired record. In essence, a credit-active individual is anyone using any form of credit, such as a credit card, personal loan, home loan, vehicle financing or retail account (National Credit Regulator, 2019). The reason for focusing on credit-active individuals is due to the fact that a greater degree of CSSC is required when purchasing on credit (Abrantes-Braga & Veludo-de-Oliveira, 2019). When purchasing by means of cash, self-control comes into play when cash levels are depleted. However, buying on credit is an easy and convenient way of purchasing, often causing people to spend more than what they can afford (Feinberg 1986; Miotto & Parente, 2015; Sotiropoulos & d'Astous, 2013), thus justifying the need for CSSC.

In summary, Qualtrics set up a mailing list of respondents based on the above criteria and randomly selected respondents to participate in the study.

1.6.2.3 Measuring instrument

An online, self-administered questionnaire was developed using established scales within the field of the SDT, CSSC, financial well-being, life satisfaction and financial vulnerability. The questionnaire was divided into eight sections and included the following:

- The **screening questions** aimed to establish whether respondents met the boundary conditions as set out in Section 1.6.2.2. This section asked respondents to indicate whether they were 18 years or older, permanently employed or self-employed and credit active. If any one of these three conditions was not met, participation was terminated.
- **Section A** asked respondents to make trade-offs between the different aspirational goals encapsulated in Kasser and Ryan's (1996) Aspirations Index. Instead of asking respondents to indicate the importance attached to the different aspirational goals on a Likert scale, the researcher used pairwise comparisons. Therefore, respondents were presented with 15 different pairs of aspirational goals, which they had to compare and rate based on the level of importance attached to one aspirational goal in relation to another (Pauer, Schmidt, Babac, Damm, Frank & Von der Schulenburg, 2016). Thus, each respondent was asked to indicate which specific aspirational goal they regarded as more important and to what extent they regarded one aspirational goal as more important than the other. By 'forcing' respondents to choose between the sets of aspirational goals, this provided a more accurate reflection of a respondent's preferred aspirational goals. Respondents were provided with a 17-point scale, with the value 1 in the middle indicating 'Equally preferred' and 9 on both ends of the continuum indicating 'Extremely important'.

- **Section B** measured aspirational goals by asking respondents to rate the importance they attach to each of the aspirational goals defined in Section 1.4.3. The Aspirations Index (Kasser & Ryan, 1996) was used for this purpose, and each of the 30 items was measured on a 7-point Likert scale. Although Sections A and B investigated aspirational goals, Section A asked respondents to rate one aspirational goal in relation to another, while Section B asked respondents to indicate the importance attached to the different aspirational goals on a Likert scale.
- **Section C** asked questions relating to respondents' basic psychological need satisfaction and frustration, using the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) proposed by Chen, Vansteenkiste *et al.* (2015). The purpose was to better understand respondents' perceived psychological need states in terms of what satisfies and frustrates them. Psychological need satisfaction and frustration were measured on a 7-point Likert scale.
- **Section D** included three scales: the Relative Deprivation Scale (Callan *et al.*, 2011), the Satisfaction With Life Scale (SWLS) (Diener *et al.*, 1985) and the CSSC scale (Haws *et al.*, 2012). Whereas the Relative Deprivation Scale asked respondents to compare how they feel in relation to their peers, the SWLS asked respondents to indicate to what extent they are satisfied with their lives overall. Through the CSSC scale, the researcher could determine to what extent consumers can control their spending behaviour. All three scales were 7-point Likert scales.
- **Section E** focused on respondents' financial well-being and included the Financial Well-Being Scale (Consumer Financial Protection Bureau, 2019) and three questions relating to the measurement of financial vulnerability as proposed in the Financial Vulnerability Index (Daud *et al.*, 2019).
- **Section F** focused on obtaining information relating to respondents' credit behaviour. The first question asked respondents to indicate which credit products they use. Second, respondents were asked to indicate whether their credit payments were up to date. If credit payments were in arrears, respondents had to indicate how many months they were in arrears.
- **Section G** asked relevant socio-demographical questions, including age, gender, population group and level of income.

Refer to Section 6.3 (Appendix C) for a copy of the final questionnaire.

1.6.2.4 *Data analysis*

Different software packages were used for data analysis purposes. Initially, Microsoft Excel was used for data cleaning and editing purposes and the analytic hierarchy process (AHP), whereby the pairwise comparisons of the aspirational goals were evaluated. Further, SPSS Statistics Version 26

was used for descriptive analyses, while Mplus Version 8.3 was used for the structural equation modelling (SEM) to determine whether structural relationships existed between the different variables. Finally, Hayes' Process Macro for SPSS Version 3.5 was used to assess mediation and moderation effects.

1.6.2.5 Ethics and data management

Before commencing fieldwork, the researcher obtained ethical clearance on 20 June 2020 from the Research Ethics Committee at the Faculty of Economic and Management Science at the University of Pretoria (refer to Section 6.4 (Appendix D) for a copy of the ethical clearance letter). All collected data (i.e., original dataset) for this research study has been stored in a secure storage space (i.e., Google Drive using password protection). This includes data collected and stored via electronic platforms (e.g., Qualtrics) and the downloaded versions of these original datasets. Access to the original data has been limited to team members (the researcher and supervisors), with the researcher taking ownership and full responsibility for the data. This process has enabled the researcher to ensure the anonymity and confidentiality of participants. De-identified datasets used for analysis have been stored on the University of Pretoria's research data repository and platform (<https://researchdata.up.ac.za/>). The University of Pretoria manages, maintains and controls this platform. All data stored on the mentioned platforms will be disposed of and destroyed after the prescribed period by using the prescribed method defined by the University of Pretoria's Information Management Policy.

1.7 STUDY CONTRIBUTIONS

Based on what this study set out to do, several contributions were expected. From a theoretical point of view, the main aim of this study was to advance the literature on CSSC. More specifically, the study has introduced CSSC as a regulatory behaviour in the relationship between psychological needs and well-being. Although psychological needs' relationship to a general form of self-control has been a topic of interest in previous studies (Moller, Deci & Ryan, 2006; Vansteenkiste & Ryan, 2013), CSSC, unlike self-control in general, is still a relatively new field (Haws *et al.*, 2012). This presents researchers and marketers with numerous opportunities. By advancing the understanding of CSSC, marketers and practitioners gain deeper insight into consumers' motivations and well-being in relation to spending behaviour, subsequently presenting them with opportunities to develop marketing strategies aimed at enhancing consumers' spending behaviour.

Exploring psychological needs as motivators of CSSC provides a starting point for the better understanding of CSSC. People differ in terms of the strength and preferences attached to particular needs (Chen, Vansteenkiste *et al.*, 2015); therefore, the relevance of using needs as a segmentation base should not be underestimated. Considering how the outcome can differ depending on whether psychological needs are satisfied or frustrated emphasises the need to investigate the influence of psychological need satisfaction and psychological need frustration on CSSC, respectively (Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013). Therefore, even though most motivational theories posit that satisfied needs are usually not motivating (Pincus, 2004), this study aimed to provide an understanding of how both psychological need satisfaction and psychological need frustration has the ability to regulate people's control over their spending behaviour. Consequently, it is suggested that psychological needs be used as a segmentation base and depending on whether consumers' psychological needs are satisfied or frustrated, financial institutions and retailers can develop and position product/service offerings to encourage responsible spending behaviour.

Since research on financial well-being is still in its early days and relatively dispersed across various disciplines (Brüggen *et al.*, 2017; Netemeyer *et al.*, 2018; Ponchio *et al.*, 2019), there is still scope for learning more about this construct. Although most previous studies from an SDT perspective have focused on the relationship between psychological needs and psychological well-being (Chen, Van Assche *et al.*, 2015; Deci & Ryan, 2000; Haerens, Aeltermann, Vansteenkiste, Soenens & Van Petegem, 2015), the relationship between psychological needs and financial well-being has not yet been assessed. Furthermore, the regulating nature of CSSC as a mechanism through which psychological needs influence financial well-being has been explored in this study. Service organisations, such as financial institutions, can appreciate and use this information to benefit their consumers. Assisting consumers to see their financial situation in the best possible light should impact how they regulate their spending behaviour, contributing to greater financial well-being on an individual level, and a more lucrative situation for financial institutions.

Exploring the relationship between CSSC and life satisfaction provides an even broader view of the role of CSSC in consumers' lives. Although previous studies found a relationship between the general form of self-control and life satisfaction (Lun & Bond, 2016; Ryan & Deci, 2006), the relationship between CSSC specifically, and life satisfaction, has not yet been explored. In accordance with the transformative service research movement (TSR), marketers and service organisations can use the information about CSSC's influence on life satisfaction to work towards improving consumers' and society's well-being (Anderson & Ostrom, 2015). In addition, since life satisfaction is associated with stronger social relationships, marketers and financial institutions can also reap the benefits of potentially building stronger, long-term consumer relationships (Diener & Seligman, 2004; Larsen & Eid, 2008). These relationships could result in higher customer lifetime

value and increased return on investment in relationship marketing aimed at consumers engaging in CSSC.

1.8 STUDY OUTLINE

This study comprises five chapters. Chapter 1 has set the contextual background of this study. Since this is an article-based thesis, the second, third and fourth chapters represent the three respective articles (Articles 1, 2 and 3). Finally, the fifth chapter concludes with a discussion of key findings and recommendations made throughout this study.

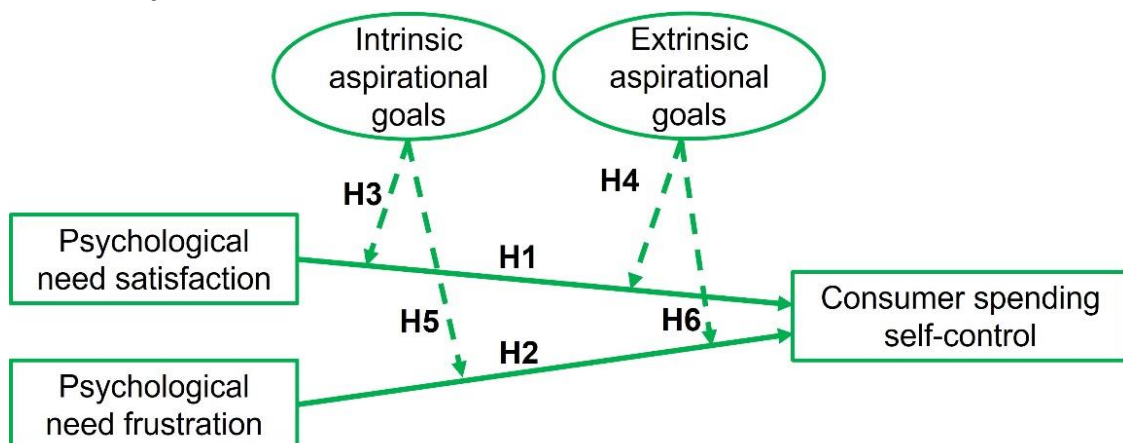
1.8.1 Chapter 1: Contextualisation of the study

This chapter provided an overview of the complete study and highlighted the problem to be addressed. A conceptual framework setting the foundation for the rest of the study was developed, and the resulting objectives and hypotheses were outlined. The first chapter also included a theoretical discussion of the different constructs addressed throughout the study and highlighted how the research was conducted. This chapter concluded with a discussion of contributions made and provided an outline of the chapters to follow.

1.8.2 Chapter 2: Article 1

The second chapter outlines Article 1 and explores the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. A conceptual framework, illustrated in Figure 1.3, summarises how the different constructs relate.

Figure 1.3: Conceptual framework for Article 1

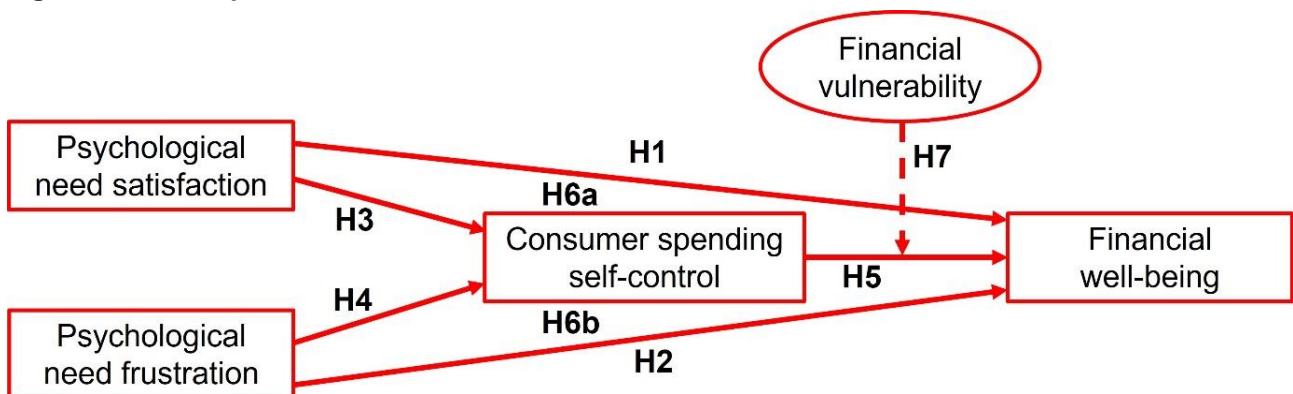


This chapter commences with an introduction to the study problem at hand, followed by a literature review explaining the constructs of psychological need satisfaction/frustration, CSSC, and intrinsic and extrinsic aspirational goals. Based on the conceptual framework and theoretical understanding, a set of hypotheses are presented per the conceptual model outlined above. Next, the research methodology is explained, results are discussed and several implications and recommendations are suggested. The chapter concludes with a discussion of limitations and possible future research opportunities.

1.8.3 Chapter 3: Article 2

The third chapter discusses Article 2 and investigates the role of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. In addressing the overall objective of this article, two secondary objectives are presented. First, the mediating effect of CSSC on the relationship between psychological needs and financial well-being is assessed. Second, the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being is discussed. The conceptual framework for Article 2 is outlined in Figure 1.4.

Figure 1.4: Conceptual framework for Article 2

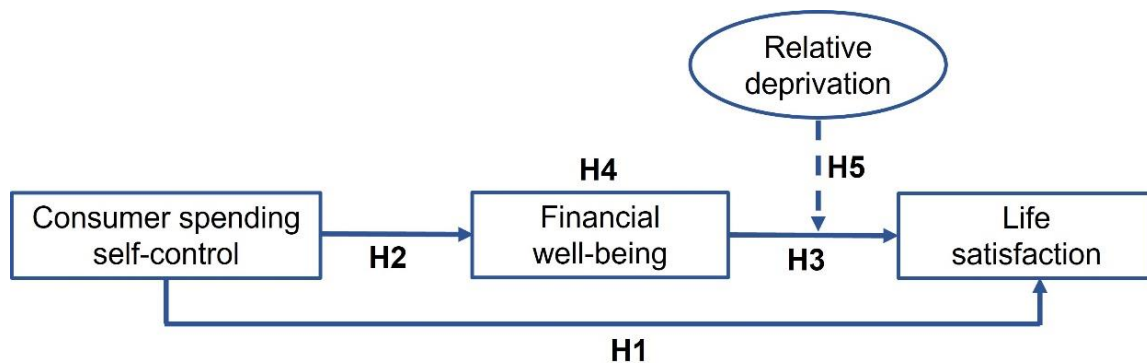


A literature review of the respective constructs is presented, followed by a set of hypotheses in accordance with the conceptual framework outlined above. Next, the chapter discusses the research process and data analysis. Based on the results, several implications are outlined, followed by a discussion of the article's limitations and future research avenues.

1.8.4 Chapter 4: Article 3

The third article examines the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. The conceptual framework outlined in Figure 1.5 set the foundation for the fourth chapter.

Figure 1.5: Conceptual framework for Article 3



Similarly, to the other two articles, Article 3 explains the problem, followed by the respective constructs (Figure 1.5), which are discussed in more detail. A cross-sectional descriptive study was used to measure the hypotheses, and based on the results, a few implications and contributions are discussed. The article also concludes with a section on limitations and future research opportunities to pursue.

1.8.5 Chapter 5: Conclusions and recommendations

The final chapter summarises the overall study, commencing with a recap of the study problem at hand and an outline of the objectives and hypotheses assessed. The main results of each article are highlighted, after which the key contributions are explained. Next, several practical recommendations are suggested, followed by a discussion of the study's limitations. Finally, the chapter concludes with some suggestions for future research studies.

1.9 CONCLUSION

According to the SDT, all people have three basic psychological needs that, when satisfied, lead to positive outcomes and overall well-being. However, when not all the needs are satisfied, or some are frustrated, negative outcomes are observed, leading to low levels of well-being – or even ill-being. Continuous psychological need frustration, accompanied by low CSSC, can result in long-term negative outcomes, such as a detrimental effect on consumers' financial well-being and,

consequently, life satisfaction. Therefore, this study aimed to explore the role of CSSC in the relationship between psychological needs and well-being. The first chapter provided background information on the research problem and theoretically explained the important elements encapsulated in the conceptual framework. Next, the primary and secondary objectives and the hypotheses were outlined, after which the proposed research methodology was explained. This study contributes by advancing the understanding of CSSC, thereby providing marketers with the necessary insight to develop products, services or programmes to assist consumers in better controlling their spending behaviour, with the ultimate aim of improving the well-being of the individual and society.

1.10 LIST OF REFERENCES

- Achtziger, A., Hubert, M., Kenning, P., Raab, G. & Reisch, L. 2015. Debt out of control: the links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49:141-149. [Online] Available from: <https://www-sciencedirect-com.uplib.idm.oclc.org/science/article/pii/S0167487015000471> [Accessed: 2020-02-06].
- Ameriks, J., Caplin, A., Leahy, J. & Tyler, T. 2007. Measuring self-control problems. *American Economic Review*, 97:966-972. [Online] Available from: DOI: 10.1257/aer.97.3.966 [Accessed: 2020-02-04].
- Anderloni, L., Bacchiocchi, E. & Vandone, D. 2012. Household financial vulnerability: an empirical analysis. *Research in Economics*, 66:284-196. [Online] Available from: <https://doi.org/10.1016/j.rie.2012.03.001> [Accessed: 2019-08-02].
- Anderson, L. & Ostrom, A.L. 2015. Transformative service research: advancing our knowledge about service and well-being. *Journal of Service Research*, 18(3):243-249. [Online] Available from: DOI: 10.1177/1094670515591316 [Accessed: 2022-08-06].
- Anderson, L., Ostrom, A.L., Corus, C., Fisk, R.P., Gallan, A.S. Giraldo, M., Mende, M., Mulder, M., Rayburn, S. W., Rosenbaum, M.S., Shirahada, K. & Williams, J.D. 2013. Transformative service research: an agenda for the future. *Journal of Business Research*, 66:1203-1210. [Online] Available from: <http://dx.doi.org/10.1016/j.jbusres.2012.08.013> [Accessed: 2022-08-06].
- Angner, E. 2010. Subjective well-being. *Journal of Socio-Economics*, 39:361-368. [Online] Available from: <https://doi.org/10.1016/j.socec.2009.12.001> [Accessed: 2019-03-12].
- Bartholomew, K.J., Ntoumanis, N., Ryan, R.M. & Thøgersen-Ntoumani, C. 2011. Psychological need thwarting in the sport context: assessing the darker sides of athletic experience. *Journal of Sport and Exercise Psychology*, 33:75-102. [Online] Available from: DOI: 10.1123/jsep.33.1.75 [Accessed: 2020-01-28].
- Baumeister, R.F. 2002. Yielding to temptation: self-control failure, impulsive purchasing and consumer behaviour. *Journal of Consumer Research*, 28:670-676. [Online] Available from: DOI: 10.1086/338209 [Accessed: 2019-06-22].

Baumeister, R.F. & Leary, M.R. 1995. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3):497-529. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-04-18].

Biljanovska, N. & Palligkinis, S. 2018. Control thyself: self-control failure and household wealth. *Journal of Banking and Finance*, 92:280-294. [Online] Available from: <https://doi.org/10.1016/j.jbankfin.2016.10.010> [Accessed: 2020-02-06].

Brdar, I., Majda, R. & Dubravka, M. 2009. Life goals and well-being: are extrinsic aspirations always detrimental to well-being? *Psychological Topics*, 18(2):317-334. [Online] Available from: <https://hrcak.srce.hr/file/74340> [Accessed: 2019-02-05].

Bridges, S. & Disney, R. 2004. Use of credit and arrears on debt among low-income families in the United Kingdom. *Fiscal Studies*, 25(1):1-25. [Online] Available from: DOI: 10.1111/j.1475-5890.2004.tb00094.x [Accessed: 2020-02-05].

Brown, S. & Gray, D. 2016. Household finances and well-being in Australia: an empirical analysis of comparison effects. *Journal of Economic Psychology*, 53:17-36. [Online] Available from: <https://doi.org/10.1016/j.joep.2015.12.006> [Accessed: 2019-08-02].

Brüggen, E.C., Hogreve, J., Holmlund, M., Kabadayi, S. & Löfgren, M. 2017. Financial well-being: a conceptualization and research agenda. *Journal of Business Research*, 79:228-237. [Online] Available from: DOI: 10.1016/j.jbusres.2017.03.013 [Accessed: 2020-01-27].

Buthelezi, L. 2021. *Saving an "impossible task" as SA households struggle with unmanageable debt.* [Online] Available from: <https://www.news24.com/fin24/companies/financial-services/saving-an-impossible-task-as-sa-households-struggle-with-unmanageable-debt-20210705> [Accessed: 2022-06-27].

Callan, M.J. & Ellard, J.H. 2010. Beyond blame and derogation of victims: just-world dynamics in everyday life. In: Bobocel, D.R., Kay, A.C., Zanna, M.P. & Olson, J.M. (eds.) *The psychology of justice and legitimacy (The Ontario Symposium, Vol. 11)*. New York, NY: Psychology Press. [Online] Available from: <https://doi.org/10.4324/9780203837658> [Accessed: 2020-04-30].

Callan, M.J., Shead, N.W. & Olson, J.M. 2011. Personal relative deprivation, delay discounting and gambling. *Journal of Personality and Social Psychology*, 101(5):955-973. [Online] Available from: DOI: 10.1037/a0024778 [Accessed: 2020-03-28].

Centre for Self-Determination Theory. 2022. *The theory*. [Online] Available from: <https://selfdeterminationtheory.org/the-theory/> [Accessed: 2022-10-15].

Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B. & Beyers, W. 2015. Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. [Online] Available from: DOI: 10.1007/s10902-014-9532-5 [Accessed: 2020-01-11].

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E.L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R.M., Sheldon, K.M., Soenens, B., Van Petegem, S. & Verstuyf, J. 2015. Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39:216-236. [Online] Available from: DOI: 10.1007/s11031-014-9450-1 [Accessed: 2020-01-11].

Chipp, K., Kleyn, N. & Manzi, T. 2011. Catch up and keep up: relative deprivation and conspicuous consumption in an emerging market. *Journal of International Consumer Marketing*, 23(2):117-134. [Online] Available from: <https://doi.org/10.1080/08961530.2011.543053> [Accessed: 2018-04-19].

Consumer Financial Protection Bureau. 2015. *Measuring financial well-being: a guide to using the CFPB financial well-being scale*. [Online] Available from: https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf [Accessed: 2019-12-18].

Consumer Financial Protection Bureau. 2019. *Find out your financial well-being*. [Online] Available from: <https://www.consumerfinance.gov/consumer-tools/financial-well-being/> [Accessed: 2019-12-18].

Daud, S.N.M., Marzuki, A., Ahmad, N. & Kefeli, Z. 2019. Financial vulnerability and its determinants: survey evidence from Malaysian households. *Emerging Markets, Finance and Trade*, 55:1991-2003. [Online] Available from: <https://doi.org/10.1080/1540496X.2018.1511421> [Accessed: 2019-08-21].

Davids, E.L., Roman, N.V. & Kerchhoff, L.J. 2017. Adolescent goals and aspirations in search of psychological well-being: from the perspective of self-determination theory. *South African Journal of Psychology*, 47(1):121-132. [Online] Available from: <https://journals-sagepub-com.uplib.idm.oclc.org/doi/pdf/10.1177/0081246316653744> [Accessed: 2019-02-05].

De Ridder, D.T.D., Lensvelt-Mulders, G., Finkenauer, C., Stok, F.M. & Baumeister, R.F. 2012. Taking stock of self-control: a meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review*, 16(1):76-99. [Online] Available from: DOI: 10.1177/1088868311418749 [Accessed: 2020-02-04].

Deci, E.L. & Ryan, R.M. 2000. The “what” and “why” of goal pursuits: human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4):227-268. [Online] Available from: DOI: 10.1207/S15327965PLI1104_01 [Accessed: 2018-04-20].

Deci, E.L. & Ryan, R.M. 2008. Self-determination theory: a macrotheory of human motivation, development, and health. *Canadian Psychology*, 49:182-185. [Online] Available from: DOI: 10.1037/a0012801 [Accessed: 2019-02-05].

Deloitte. 2023a. *State of the South African Consumer: Quarterly updates from our global survey focused on local consumer trends*. [Online] Available from: <https://www2.deloitte.com/za/en/pages/consumer-industrial-products/articles/state-of-the-south-african-consumer.html> [Accessed: 2023-06-18].

Deloitte. 2023b. *Global state of the consumer tracker*. [Online] Available from: <https://www2.deloitte.com/us/en/insights/industry/retail-distribution/consumer-behavior-trends-state-of-the-consumer-tracker.html> [Accessed: 2023-06-18].

Diaz, D., Stavraki, M., Blanc, A. & Gandarillas, B. 2015. The eudaimonic component of satisfaction with life and psychological well-being in Spanish cultures. *Psicothema*, 27(3):247-253. [Online] Available from: DOI: 10.7334/psicothema2015.5 [Accessed: 2020-04-30].

Diener, E. 1984. Subjective well-being. *Psychological Bulletin*, 95(3):542-575. [Online] Available from: <https://doi.org/10.1037/0033-2909.95.3.542> [Accessed: 2019-02-05].

Diener, E. & Chan, M.Y. 2011. Happy people live longer: subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being*, 3(1):1-43. [Online] Available from: DOI: 10.1111/j.1758-0854.2010.01045.x [Accessed: 2020-04-18].

Diener, E. & Seligman, M.E.P. 2004. Beyond money: toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1):1-31. [Online] Available from: DOI: 10.1111/j.0963-7214.2004.00501001.x [Accessed: 2020-04-18].

- Diener, E., Emmons, R.A., Larsen, R.J. & Griffin, S. 1985. The satisfaction with life scale. *Journal of Personality Assessment*, 49(1):71-75. [Online] Available from: DOI: 10.1207/s15327752jpa4901_13 [Accessed: 2020-04-30].
- Diener, E., Suh, E.M., Lucas, R.E. & Smith, H.L. 1999. Subjective well-being: three decades of progress. *Psychological Bulletin*, 125(2):276-302. [Online] Available from: DOI: 10.1037/0033-2909.125.2.276 [Accessed: 2020-12-12].
- Dittmar, H. 2001. Impulse buying in ordinary and “compulsive” consumers. In: Weber, E.U., Baron, J. & Loomes, G. (eds.) *Conflict and tradeoffs in decision making (Cambridge series on judgment and decision making)*. Cambridge, UK: Cambridge University Press.
- Eccles, J.C. & Wigfield, A. 2002. Motivational beliefs, values and goals. *Annual Review of Psychology*, 53:109-132. [Online] Available from: DOI: 10.1146/annurev.psych.53.100901.135153 [Accessed: 2019-11-25].
- Eibner, C. & Evans, W.N. 2005. Relative deprivation, poor health habits and mortality. *Journal of Human Resources*, XL(3):591-620. [Online] Available from: DOI: 10.3368/jhr.XL.3.591 [Accessed: 2020/04/30].
- Festinger, L. 1954. A theory of social comparison processes. *Human Relations*, 7:117-140. [Online] Available from: DOI: 10.1177/001872675400700202 [Accessed: 2020-04-20].
- Frazier, L. 2022. *Financial wellness is critical to your overall health: and financial literacy is the key*. [Online] Available from: <https://www.forbes.com/sites/lizfrazierpeck/2022/01/19/financial-wellness-is-critical-to-your-overall-healthand-financial-literacy-is-the-key/?sh=71807b852cdc> [Accessed: 2022-08-06].
- Fujita, K., Trope, Y., Liberman, N. & Levin-Sagi, M. 2006. Construal levels and self-control. *Journal of Personality and Social Psychology*, 90(3):351–367. [Online] Available from: DOI: 10.1037/0022-3514.90.3.351 [Accessed: 2020-02-04].
- Gathergood, J. 2012. Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology*, 33:590-602. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.11.006> [Accessed: 2019-06-22].

Gould, S.J. 1997. An interpretive study of purposeful, mood self-regulating consumption: the consumption and mood framework. *Psychology and Marketing*, 14(4):395-427. [Online] Available from: [https://doi-org.uplib.idm.oclc.org/10.1002/\(SICI\)1520-6793\(199707\)14:4<395::AID-MAR6>3.0.CO;2-4](https://doi-org.uplib.idm.oclc.org/10.1002/(SICI)1520-6793(199707)14:4<395::AID-MAR6>3.0.CO;2-4) [Accessed: 2020-04-15].

Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B. & Van Petegem, S. 2015. Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of Sport & Exercise*, 16:126-136. [Online] Available from: <https://doi.org/10.1016/j.psychsport.2014.08.013> [Accessed: 2020-01-30].

Halleröd, B. 2006. Sour grapes: relative deprivation, adaptive preferences and the measurement of poverty. *Journal of Social Policy*, 35(July):371-390. [Online] Available from: DOI: 10.1017/S0047279406009834 [Accessed: 2020/04/30].

Hatting, D. & Ramlakan, S. 2022. *Stretched South African consumers put health and sustainability on the shopping list. McKinsey 2022 consumer sentiment survey.* [Online] Available from: <https://www.mckinsey.com/za/our-insights/stretched-south-african-consumers-put-health-and-sustainability-on-the-shopping-list> [Accessed: 2022-06-27].

Hatting, D., Magnus, K.H. & Ramlakan, S. 2016. *South Africa's cautious consumer. Consumer packaged goods, July 2016.* [Online] Available from: <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/south-africas-cautious-consumer> [Accessed: 2022-06-27].

Haws, K.L., Bearden, W.O. & Nenkov, G.Y. 2012. Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40:695-710. [Online] Available from: DOI: 10.1007/s11747-011-0249-2 [Accessed: 2019-06-22].

Heck, A. & Wech, B.A. 2003. Samuel A. Stouffer and the American soldier: the serendipitous discovery of relative deprivation and its contribution to management thought. *Journal of Applied Management and Entrepreneurship*, 8(4):52-67. [Online] Available from: <https://www-proquest-com.uplib.idm.oclc.org/docview/203915436?accountid=14717> [Accessed: 2020-04-18].

Howell, R.T. & Howell, C.J. 2008. The relation of economic status to objective well-being in developing countries: a meta-analysis. *Psychological Bulletin*, 134(4):536-560. [Online] Available from: DOI: 10.1037/0033-2909.134.4.536 [Accessed: 2019-03-05].

- Joo, S. 2008. Personal financial wellness. In: Xiao, J.J. (ed.) *Handbook of consumer finance research*. New York, NY: Springer. [Online] Available from: DOI: 10.1007/978-0-387-75734-6_2 [Accessed: 2020-01-28].
- Kasser, T. & Ryan, R.M. 1993. A dark side of the American dream: correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65:410-422. [Online] Available from: DOI: 10.1037/0022-3514.65.2.410 [Accessed: 2018-11-10].
- Kasser, T. & Ryan, R.M. 1996. Further examining the American dream: differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22:280-287. [Online] Available from: <https://doi.org/10.1177/0146167296223006> [Accessed: 2018-11-10].
- Kasser, T. & Ryan, R.M. 2001. Be careful what you wish for: optimal functioning and the relative attainment of intrinsic and extrinsic goals. In: Schmuck, P. & Sheldon, K.M. (eds.) *Life goals and well-being: towards a positive psychology of human striving*. Goettingen: Hogrefe & Huber Publishers. [Online] Available from: https://www.researchgate.net/profile/Richard_Ryan2/publication/232448796_Be_careful_what_you_wish_for_Optimal_functioning_and_the_relative_attainment_of_intrinsic_and_extrinsic_goals/links/54f08bd80cf2f9e34efc90c9.pdf [Downloaded: 2019-02-05].
- Kim, S. & Gal, D. 2014. From compensatory consumption to adaptive consumption: the role of self-acceptance in resolving self-deficits. *Journal of Consumer Research*, 41:526-541. [Online] Available from: <https://doi.org/10.1086/676681> [Accessed: 2020-04-15].
- Kim, S. & Rucker, D.D. 2012. Bracing for the psychological storm: proactive versus reactive compensatory consumption. *Journal of Consumer Research*, 39(4):815-830. [Online] Available from: <https://doi.org/10.1086/665832> [Accessed: 2018-04-03].
- Kim, Y.I., Kim, H.C. & Yoo, J.H. 2016. Household over-indebtedness and financial vulnerability in Korea: evidence from credit bureau data. *KDI Journal of Economic Policy*, 38(3):53-77. [Online] Available from: <http://dx.doi.org/10.23895/kdijep.2016.38.3.53> [Accessed: 2020-02-03].
- Kuykendall, L., Tay, L. & Ng, V. 2015. Leisure engagement and subjective well-being: a meta-analysis. *Psychological Bulletin*, 141(2):364-403. [Online] Available from: DOI: 10.1037/a0038508 [Accessed: 2019-03-05].

Larsen, R.J. & Eid, M. 2008. Ed Diener and the science of subjective well-being. In: Eid, M. & Larsen, R.J. (eds.) *The science of subjective well-being*. New York, NY: Guilford. [Online] Available from: <https://smartlib.umri.ac.id/assets/uploads/files/77459-subjective-well-being.pdf#page=15> [Accessed: 2020-04-18].

Lea, S.E.G., Webley, P. & Walker, C.M. 1995. Psychological factors in consumer debt: money management, economic socialization, and credit use. *Journal of Economic Psychology*, 16(4):681-701. [Online] Available from: [https://doi.org/10.1016/0167-4870\(95\)00013-4](https://doi.org/10.1016/0167-4870(95)00013-4) [Accessed: 2020-02-04].

Livingstone, S.M. & Lunt, P.K. 1992. Predicting personal debt and debt repayment: psychological, social and economic determinants. *Journal of Economic Psychology*, 13:111-134. [Online] Available from: [https://doi.org/10.1016/0167-4870\(92\)90055-C](https://doi.org/10.1016/0167-4870(92)90055-C) [Accessed: 2020-02-06].

Losado-Otalaro, M. & Alkire, L. 2019. Investigating the transformative impact of bank transparency on consumers' financial well-being. *International Journal of Bank Marketing*, 37(4):1062-1079. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0079 [Accessed: 2020-03-03].

Lun, V.M.C. & Bond, M.H. 2016. Achieving subjective well-being around the world: the moderating influence of gender, age and national goals for socializing children. *Journal of Happiness Studies*, 17:587-608. [Online] Available from: DOI: 10.1007/s10902-015-9614-z [Accessed: 2019-03-05].

Luttmer, E.F.P. 2005. Neighbours as negatives: relative earnings and well-being. *The Quarterly Journal of Economics*, 120(3):963-1002. [Online] Available from: DOI: 10.1093/qje/120.3.963 [Accessed: 2020-02-18].

López Turley, R.N. 2002. Is relative deprivation beneficial? The effects of richer and poorer neighbours on children's outcomes. *Journal of Community Psychology*, 30(6):671-686. [Online] Available from: DOI: 10.1002/jcop.10033 [Accessed: 2020-04-30].

Mandel, N., Rucker, D.D., Levav, J. & Galinsky, A.D. 2017. The compensatory consumer behavior model: how self-discrepancies drive consumer behavior. *Journal of Consumer Psychology*, 7(1):133-146. [Online] Available from: <https://doi.org/10.1016/j.jcps.2016.05.003> [Accessed: 2018-04-11].

McBride, M. 2010. Money, happiness, and aspirations: an experimental study. *Journal of Economic Behavior & Organization*, 74:262-276. [Online] Available from: <https://doi.org/10.1016/j.jebo.2010.03.002> [Accessed: 2020-02-06].

Mende, M. & van Doorn, J. 2015. Coproduction of transformative services as a pathway to improved consumer well-being: findings from a longitudinal study on financial counselling. *Journal of Service Research*, 18(3):351-368. [Online] Available from: DOI: 10.1177/1094670514559001 [Accessed: 2022-08-06].

Miotto, A.P.S.C. & Parente, J. 2015. Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Revista de Administração de Empresas*, 55(1). [Online] Available from: DOI: 10.1590/S0034-759020150106 [Accessed: 2019-09-22].

Mock, C.N., Gloyd, S., Adjei, S., Acheampong, F. & Gish, O. 2003. Economic consequences of injury and resulting family coping strategies in Ghana. *Accident Analysis & Prevention*, 35(1):81-90. [Online] Available from: [https://doi.org/10.1016/S0001-4575\(01\)00092-6](https://doi.org/10.1016/S0001-4575(01)00092-6) [Accessed: 2020-02-06].

Moller, A.C., Deci, E.L. & Ryan, R.M. 2006. Choice and ego-depletion: the moderating role of autonomy. *Personality and Social Psychology Bulletin*, 32(8). [Online] Available from: <https://doi.org/10.1177/0146167206288008> [Accessed: 2019-07-23].

Momentum. 2021. *Consumers more financially vulnerable due to pressures on income and savings. Momentum-Unisa consumer financial vulnerability index, Q2, 2021*. [Online] Available from: <https://retail.momentum.co.za/documents/financial-wellness/consumer-financial-vulnerability-index-Q2-2021.pdf> [Accessed: 2022-06-28].

National Credit Regulator. 2019. *Credit bureau monitor: third quarter - September 2019*. [Online] Available from: <https://www.ncr.org.za/documents/CBM/CBM%20Q3%202019.pdf> [Accessed: 2020-01-19].

National Credit Regulator. 2022. *Credit bureau monitor: third quarter - September 2022*. [Online] Available from: <https://www.ncr.org.za/documents/CBM/CBM%20Q3%202022.pdf> [Accessed: 2023-06-18].

Netemeyer, R.G., Warmath, D., Fernandes, D. & Lynch, J.G. 2018. How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *Journal of*

Consumer Research, 45:68-89. [Online] Available from: DOI: 10.1093/jcr/ucx109 [Accessed: 2019-10-16].

News24. 2018. *Evidence SA consumers battling to pay for major purchases, taking on more debt*. [Online] Available from: <https://www.news24.com/fin24/money/debt/evidence-sa-consumers-battling-to-pay-for-major-purchases-taking-on-more-debt-20180820> [Accessed: 2019-04-01].

Niemiec, C.P., Ryan, R.M. & Deci, E.L. 2009. The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality*, 43:291-306. [Online] Available from: <https://doi.org/10.1016/j.jrp.2008.09.001> [Accessed: 2019-02-05].

Norvilitis, J.M. & Mao, Y. 2013. Attitudes towards credit and finances among college students in China and the United States. *International Journal of Psychology*, 48(3):389-398. [Online] Available from: <http://dx.doi.org/10.1080/00207594.2011.645486> [Accessed: 2020-02-06].

O'Connor, G.E., Newmeyer, C.E., Yee Ching Wong, N., Bayuk, J.B., Cook, L.A., Komarova, Y., Loibl, C., Lin Ong, L. & Warmath, D. 2019. Conceptualising the multiple dimensions of consumer financial vulnerability. *Journal of Business Research*, 100:421-430. [Online] Available from: <https://doi.org/10.1016/j.jbusres.2018.12.033> [Accessed: 2019-08-02].

Olson, J. M., Roese, N. J., Meen, J., & Robertson, D. J. 1995. The preconditions and consequences of relative deprivation: two field studies. *Journal of Applied Social Psychology*, 25:944-964. [Online] Available from: DOI: 10.1111/j.1559-1816.1995.tb02384.x [Accessed: 2021-11-29].

Opperman, I. 2023. *SA consumers surviving on credit in cost-of-living crisis*. [Online] Available from: <https://www.citizen.co.za/business/personal-finance/sa-consumers-living-on-credit/> [Accessed: 2023-06-18].

Pauer, F., Schmidt, K., Babac, A., Damm, K., Frank, M. & Von der Schulenburg, J.M.G. 2016. Comparison of different approaches applied in Analytic Hierarchy Process – an example of information needs of patients with rare diseases. *BMC Medical Informatics and Decision Making*, 16:117. [Online] Available from: DOI: 10.1186/s12911-016-0346-8 [Accessed: 2020-10-01].

Pavot, W. & Diener, E. 1993. Review of the satisfaction with life scale. *Psychological Assessment*, 5(2):164-172. [Online] Available from: DOI: 10.1007/978-90-481-2354-4_5 [Accessed: 2021-11-02].

- Pavot, W. & Diener, E. 2008. The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3(2):137-152. [Online] Available from: <https://doi.org/10.1080/17439760701756946> [Accessed: 2021-11-02].
- Pham-Kanter, G. 2009. Social comparison and health: can having richer friends and neighbours make you sick? *Social Science and Medicine*, 69:335-344. [Online] Available from: <https://doi.org/10.1016/j.socscimed.2009.05.017> [Accessed: 2020-04-30].
- Pijoo, I. 2021. *More than a third of South Africans "living beyond their means" as common goods prices rise.* [Online] Available from: <https://www.sowetanlive.co.za/news/south-africa/2021-12-02-more-than-a-third-of-south-africans-living-beyond-their-means-as-common-goods-prices-rise/> [Accessed: 2023-06-18].
- Pincus, J. 2004. The consequences of unmet needs: the evolving role of motivation in consumer research. *Journal of Consumer Behaviour*, 3(4):376-387. [Online] Available from: <https://doi.org/10.1002/cb.149> [Accessed: 2018-07-26].
- Ponchio, M.C., Cordeiro, R.A. & Gonçalves, V.N. 2019. Personal factors as antecedents of perceived financial well-being: evidence from Brazil. *International Journal of Bank Marketing*, 37(4):1004-1024. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0077 [Accessed: 2020-03-03].
- PWC. 2023. *99% of consumers are changing their shopping habits to save money.* [Online] Available from: <https://www.pwc.co.za/en/press-room/99-percent-of-consumers-are-changing-their-shopping-habits-to-save-money.html> [Accessed: 2023-06-18].
- Riediger, M. & Freund, A.M. 2004. Interference and facilitation among personal goals: differential associations with subjective well-being and persistent goal pursuit. *Personality and Social Psychology Bulletin*, 30(12):1511-1523. [Online] Available from: <https://doi.org/10.1177/0146167204271184> [Accessed: 2019-03-05].
- Romero, E., Gómez-Fraguela, J.A. & Villar, P. 2012. Life aspirations, personality traits and subjective well-being in a Spanish sample. *European Journal of Personality*, 26:45-55. [Online] Available from: <https://doi.org/10.1002/per.815> [Accessed: 2019-02-05].
- Rosenbaum, M.S., Corus, C., Ostrom, A.L., Anderson, L., Fisk, R.P., Gallan, A.S. Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Shirahada, K. & Williams, J.D. 2011. Conceptualisation

and aspirations of transformative service research. *Journal of Research for Consumers*, 19:1-6.

[Online] Available from:

http://www.jrconsumers.com/academic_articles/issue_19/Transformative_services_academic5.pdf

[Accessed: 2022-08-06].

Rucker, D.D. & Galinsky, A.D. 2008. Desire to acquire: powerlessness and compensatory consumption. *Journal of Consumer Research*, 35(August):257-267. [Online] Available from:

<https://doi.org/10.1086/588569> [Accessed: 2018-04-03].

Ryan, R.M. & Deci, E.L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55(1):68-78. [Online] Available from:

DOI: 10.1037/0003-066X.55.1.68 [Accessed: 2018-04-20].

Ryan, R.M. & Deci, E.L. 2001. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52:146-166. [Online] Available

from: DOI: 10.1146/annurev.psych.52.1.141 [Accessed: 20219-11-25].

Ryan, R.M. & Deci, E.L. 2006. Self-regulation and the problem of human autonomy: does psychology need choice, self-determination and will? *Journal of Personality*, 74(6):1557-1585.

[Online] Available from: DOI: 10.1111/j.1467-6494.2006.00420.x [Accessed: 2020-04-20].

Ryan, R.M., Deci, E.L. Grolnick, W. & La Guardia, J. 2006. The significance of autonomy and autonomy support in psychological development and psychopathology. In: Cicchetti, D. & Cohen, D.J. (eds.) *Developmental psychopathology, Vol. 1: theory and method*. 2nd ed. Hoboken, New Jersey: Wiley. [Online] Available from: <https://doi.org/10.1002/9780470939383.ch20> [Accessed: 2020-04-20].

Ryan, R.M., Deci, E.L., Vansteenkiste, M. & Soenens, B. 2021. Building a science of motivated persons: self-determination theory's empirical approach to human experience and the regulation of behaviour. *Motivation Science*, 7(2):97-110. [Online] Available from: DOI: 10.1037/mot0000194

[Accessed: 2022-10-15].

Ryan, R.M., Sheldon, K.M., Kasser, T. & Deci, E.L. 1996. All goals are not created equal: an organismic perspective on the nature of goals and their regulation. In: Gollwitzer, P.M. & Bargh, J.A. (eds.) *The psychology of action: linking cognition and motivation to behavior*. New York:

Guilford press. [Online] Available from:
https://books.google.co.za/books/about/The_Psychology_of_Action.html?id=v1LQVSI9hfMC&print

sec=frontcover&source=kp_read_button&redir_esc=y#v=onepage&q&f=false [Accessed: 2020-04-28].

Sabri, M.F., Cook, C.C. & Gudmunson, C.G. 2012. Financial well-being of Malaysian college students. *Asian Education and Development Studies*, 1(2):153-170. [Online] Available from: DOI: 10.1108/20463161211240124 [Accessed: 2019-07-22].

Santos, D.B., Mendes-Da-Silva, W., Flores, E. & Norvilitis, J.M. 2016. Predictors of credit card use and perceived financial well-being in female college students: a Brazil-United States comparative study. *International Journal of Consumer Studies*, 40:133-142. [Online] Available from: DOI: 10.1111/ijcs.12234 [Accessed: 2019-07-22].

Schicks, J. 2014. Over-indebtedness in microfinance – an empirical analysis of related factors on the borrower level. *World Development*, 54:301-324. [Online] Available from: <https://doi.org/10.1016/j.worlddev.2013.08.009> [Accessed: 2019-08-02].

Schmuck, P., Kasser, T. & Ryan, R.M. 2000. Intrinsic and extrinsic goals: their structure and relationship to well-being in German and U.S. college students. *Social Indicators Research*, 50:225-241. [Online] Available from: DOI: 10.1023/A:1007084005278 [Accessed: 2019-02-05].

Sheldon, K.M., Elliot, A.J., Kim, Y. & Kasser, T. 2001. What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80:325-339. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2021-01-30].

Smith, C. 2019. Household savings rate in SA actually zero – economist. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2023-06-18].

Statistics South Africa. 2017. Living conditions of households in South Africa: An analysis of household expenditure and income data using the LCS 2014/2015. [Online] Available from: <https://www.statssa.gov.za/publications/P0310/P03102014.pdf> [Accessed: 2021-02-06].

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D. & Tinghög, G. 2017. Does self-control predict financial behaviour and financial well-being? *Journal of Behavioural and Experimental Finance*, 14:30-38. [Online] Available from: <https://doi.org/10.1016/j.jbef.2017.04.002> [Accessed: 2019-06-22].

Tangney, J.P., Baumeister, R.F. & Boone, A.L. 2004. High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72(2):271-324. [Online] Available from: DOI: 10.1111/j.0022-3506.2004.00263.x [Accessed: 2019-11-10].

Thayer, R.E., Newman, J.R. & McClain, T.M. 1994. Self-regulation of mood: strategies for changing a bad mood, raising energy, and reducing tension. *Journal of Personality and Social Psychology*, 67(5):910-925. [Online] Available from: DOI: 10.1037/0022-3514.67.5.910 [Accessed: 2020-04-18].

TransUnion. 2019. *South Africans are increasingly reliant on credit to make ends meet*. [Online] Available from: <https://www.transunion.co.za/archives-article/south-africans-reliant-on-credit> [Accessed: 2022-06-27].

TransUnion. 2023. *South African consumers cut spending, battle to pay bills as economic pressure grows*. [Online] Available from: <https://newsroom.transunion.co.za/south-african-consumers-cut-spending-battle-to-pay-bills-as-economic-pressure-grows/> [Accessed: 2023-06-18].

Truong, Y. & McColl, R. 2011. Intrinsic motivations, self-esteem, and luxury goods consumption. *Journal of Retailing and Consumer Services*, 18:555-561. [Online] Available from: <https://doi.org/10.1016/j.jretconser.2011.08.004> [Accessed: 2018-04-20].

Truong, Y., McColl, R. & Kitchen, P.J. 2010. Uncovering the relationships between aspirations and luxury brand preference. *Journal of Product and Brand Management*, 19(5):346-355. [Online] Available from: DOI: 10.1108/10610421011068586 [Accessed: 2018-04-20].

Universiteit Gent. 2019. *The basic psychological need satisfaction and frustration scale (BPNSFS)*. [Online] Available from: <https://selfdeterminationtheory.org/download/2015-basic-psychological-need-satisfaction-frustration-scale-completenesspacket/?wpdmdl=4215&refresh=5dfa5a7d9c92a1576688253> [Accessed: 2019-12-13].

Vansteenkiste, M. & Ryan, R.M. 2013. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 3:263-280. [Online] Available from: DOI: 10.1037/a0032359 [Accessed: 2020-01-28].

Vansteenkiste, M., Duriez, B., Simons, J. & Soenens, B. 2006. Materialistic values and well-being among business students: further evidence of their detrimental effect. *Journal of Applied Social*

Psychology, 36:2892-2908. [Online] Available from: <https://doi.org/10.1111/j.0021-9029.2006.00134.x> [Accessed: 2020-01-28].

Vansteenkiste, M., Soenens, B. & Duriez, B. 2008. Presenting a positive alternative to strivings for material success and the thin ideal: understanding the effects of extrinsic relative to intrinsic goal pursuits. In: Lopez, S.J. (ed.) *Positive psychology: exploring the best in people*. Westport, CT: Greenwood Press. [Online] Available from: https://www.researchgate.net/publication/237703070_Presenting_a_Positive_Alternative_to_Strivings_for_Material_Success_and_the_Thin_Ideal_Understanding_the_Effects_of_Extrinsic_Relative_to_Intrinsic_Goal_Pursuits [Accessed: 2020-03-28].

Walker, I. & Smith, H.J. 2002. *Fifty years of relative deprivation: development and integration*. Cambridge, UK: Cambridge University Press. [Online] Available from: DOI:10.1017/CBO9780511527753 [Accessed: 2020-04-18].

Whelan, C.T., Layte, R., Maître, B. & Nolan, B. 2001. Income, deprivation, and economic strain. An analysis of the European community household panel. *European Sociological Review*, 17(4):357-372. [Online] Available from: <https://doi.org/10.1093/esr/17.4.357> [Accessed: 2020-02-03].

Wilson, N. 2023. *Nearly half of SA consumers say their financial position worsened in the past year – report*. [Online] Available from: <https://www.news24.com/amp/fin24/economy/nearly-half-of-sa-consumers-say-their-financial-position-worsened-in-the-past-year-report-20230211> [Accessed: 2023-06-18].

Winkelmann, R. 2005. Subjective well-being and the family: results from an ordered probit model with multiple random effects. *Empirical Economics*, 30:749-761. [Online] Available from: DOI: 10.1007/s00181-005-0255-7 [Accessed: 2020-01-28].

Winterich, K.P. & Nenkov, G.Y. 2015. Save like the Joneses: how service firms can utilize deliberation and informational influence to enhance consumer well-being. *Journal of Service Research*, 18(3):384-404. [Online] Available from: DOI: 10.1177/1094670515570268 [Accessed: 2022-08-06].

Woodruffe, H.R. 1997. Compensatory consumption: why women go shopping when they're fed up and other stories. *Marketing Intelligence and Planning*, 15(7):325-334. [Online] Available from: DOI: 10.1108/02634509710193172 [Accessed: 2018-04-03].

Woodruffe-Burton, H. & Elliott, R. 2005. Compensatory consumption and narrative identity theory. *Advances in Consumer Research*, 32:461-465. [Online] Available from: https://www.acrwebsite.org/volumes/v32/acr_vol32_132.pdf [Accessed: 2018-04-03].

Yngwe, M.A., Lundberg, O. & Burström, B. 2006. On the importance of internalized consumption norms for ill health. *Scandinavian Journal of Public Health*, 34:76-82. [Online] Available from: <https://doi.org/10.1080/14034940510032176> [Accessed: 2020-04-20].

CHAPTER 2: ARTICLE 1

The moderating effect of aspirational goals on the relationship between psychological needs and consumer spending self-control

ABSTRACT

With many South African consumers struggling to control their spending, the researcher investigated how the three psychological needs of the self-determination theory (SDT) influence consumer spending self-control (CSSC). Furthermore, whether the relationships between psychological need satisfaction/frustration and CSSC are strengthened or weakened by intrinsic and extrinsic aspirational goals were also assessed. The main objective of this article was to explore the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. A descriptive, cross-sectional study was conducted by means of an online self-administered questionnaire which was distributed via an online paid-for consumer panel through Qualtrics. In the end, 608 South Africans who were credit active, 18 years or older and either permanently employed or self-employed qualified for data analysis purposes. The analytic hierarchy process (AHP) was used to calculate the individual criteria weight assigned to each aspirational goal, and structural equation modelling (SEM) was used to test the proposed model. Results revealed that psychological need satisfaction was significantly related to CSSC, while psychological need frustration showed a negative, although not significant, association with CSSC. Furthermore, respondents placed greater importance on intrinsic aspirational goals than extrinsic aspirational goals. Neither intrinsic nor extrinsic aspirational goals had a moderating effect on the relationship between psychological need satisfaction and CSSC. With this insight, marketers can consider using psychological needs as a need segmentation base when targeting consumers and subsequently adapt their marketing communication approach to be more persuasive.

Keywords: Psychological need satisfaction, psychological need frustration, intrinsic aspirational goals, extrinsic aspirational goals, consumer spending self-control

2.1 INTRODUCTION

Many South African consumers find it increasingly difficult to make ends meet and live from pay cheque to pay cheque (Hatting, Magnus & Ramlakan, 2016). As a result, more consumers are digging into their savings or using credit to supplement their income level in an attempt to meet their daily financial obligations (Hatting *et al.*, 2016; TransUnion, 2019). Further, more than 60% of South African consumers report that they are trying to delay purchases or cutting back on spending, a trend which is still relevant even after the COVID-19 pandemic, in an attempt to cope with financial pressures (Hatting *et al.*, 2016; Hatting & Ramlakan, 2022). However, despite South African consumers' attempts to cut down on spending, the Momentum-Unisa Consumer Financial Vulnerability Index revealed that higher levels of expenditure during the first quarter of 2021 place South African consumers at increased risk of becoming financially vulnerable (Momentum, 2021). According to the report, it is believed that South African consumers' expenditures exceed their income, making it difficult for them to stay within a budget. Furthermore, the report proposes that South African consumers do not demonstrate self-control regarding how much they spend, resulting in them spending beyond their means (Momentum, 2021). Unless a degree of control is instilled, a vicious cycle of people continuously turning to credit to facilitate them spending beyond their means can occur. Therefore, the idea of having control over one's spending – consumer spending self-control (CSSC) – formed the key focus of this article.

The question thus is, what makes one person better able to control their spending than the next? In answering this question, the researcher considered the influence of needs on a person's ability to control their spending, more specifically, the influence of psychological needs on CSSC. The self-determination theory (SDT) posits that people have three inherent psychological needs: autonomy, competence and relatedness (Deci & Ryan, 2000). When the three psychological needs are satisfied, people feel a sense of volition, are effective in what they do and have a sense of belonging (Baumeister & Leary, 1995; Campbell, Vansteenkiste, Delesie, Mariman, Soenens, Tobback, Van der Kaap-Deeder & Vogelaers, 2015; Deci & Ryan, 2000; Vansteenkiste, Soenens & Duriez, 2008). Psychological need satisfaction leads to positive outcomes, such as positive day-to-day experiences, physical health (Campbell *et al.*, 2015), improved personal and social development (Ahmad, Vansteenkiste & Soenens, 2013; Sheldon, Elliot, Kim & Kasser, 2001) and greater well-being (Chen, Van Assche, Vansteenkiste, Soenens & Beyers, 2015; Ryan & Deci, 2000; Vansteenkiste, Niemiec & Soenens, 2010). There is a gap in SDT as to whether CSSC can be regarded as a positive outcome in response to psychological need satisfaction. As such, this article set out to expand researchers' understanding of the SDT by investigating whether psychological need satisfaction is associated with CSSC.

Although the opposite of psychological need satisfaction is low levels thereof (i.e., dissatisfaction), another more intense form of psychological need dissatisfaction has been identified: psychological need frustration. Psychological need frustration inherently consists of low levels of psychological need satisfaction; however, the level of intensity differs (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011). With psychological need frustration, the psychological needs for autonomy, competence and relatedness are actively thwarted or blocked to the point where it can lead to ill-being (Bartholomew *et al.*, 2011; Chen, Vansteenkiste, Beyers, Boone, Deci, Van der Kaap-Deeder, Duriez, Lens, Matos, Mouratidis, Ryan, Sheldon, Soenens, Van Petegem & Verstuyf, 2015). In addition to ill-being, psychological need frustration has also been associated with several negative outcomes, such as eating disorders, burn-out, stress (Bartholomew *et al.*, 2011; Deci & Ryan, 2000) and a breakdown in self-control (Vansteenkiste & Ryan, 2013). Although previous research studies established that psychological need frustration can lead to a breakdown in the general form of self-control, there is a gap in researchers' understanding of SDT as to whether psychological need frustration can more specifically lead to a breakdown in CSSC.

In addition to the three psychological needs, the SDT also distinguishes between intrinsic and extrinsic aspirational goals, categorised based on the content of goals (Deci & Ryan, 2000). Intrinsic aspirational goals include personal growth, meaningful relationships, contributing to communities and physical health, while extrinsic aspirational goals include wealth, fame and image (Kasser & Ryan, 1996). For this article, the aspirational goal of physical health was excluded since physical health does not neatly fall into the intrinsic nor the extrinsic aspirational goal set (Kasser & Ryan, 1996). Although everyone has specific aspirational goals they expect to accomplish over their lifetime, people generally tend to pursue one group of aspirational goals more purposefully than the other (Kasser & Ryan, 1993, 1996). Further, whichever group of aspirational goals are pursued will influence people's behaviour and well-being (Schmuck, Kasser & Ryan, 2000; Riediger & Freund, 2004).

The type of aspirational goals pursued relates differently to basic psychological need satisfaction, and, thus, well-being (Kasser & Ryan, 1993; Niemiec, Ryan & Deci, 2009; Ryan & Deci, 2000). In fact, the concept of basic psychological needs is used as a basis for how the different goals are integrated, consequently predicting the resulting outcomes (Deci & Ryan, 2000). Whereas intrinsic aspirational goals are associated with psychological need satisfaction, extrinsic aspirational goals are regarded as need substitutes, indifferent to satisfying the three basic psychological needs (Ryan & Deci, 2000). People who are more inclined to pursue intrinsic aspirational goals have reported greater levels of life satisfaction, happiness, self-actualisation, self-esteem and open-mindedness (Brdar, Majda & Dubravka, 2009; Kasser & Ryan, 1993, 1996). In contrast, greater importance attached to extrinsic aspirational goals is associated with lower levels of well-being, greater distress

(Kasser & Ryan, 1993) and poor health (Williams, Cox, Hedberg & Deci, 2000). Although previous research studies investigated linear relationships between aspirational goals, psychological needs and well-being (Brdar *et al.*, 2009; Sebire *et al.*, 2009; Vansteenkiste *et al.*, 2008), an opportunity to explore different types of relationships between the various SDT elements, exists. In this regard, there is a gap in terms of the possible moderating role that aspirational goals can have on the relationship between psychological needs and an outcome variable. According to SDT, if psychological needs are satisfied (or frustrated) it may affect the importance attached to intrinsic aspiration goals (or extrinsic aspirational goals) – and is therefore worth investigating.

In summary, the main objective of this article is to explore the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. In pursuit of the overall objective, two secondary objectives are set. First, it is necessary to determine whether a relationship exists between psychological need satisfaction/frustration and CSSC. Second, it is necessary to determine whether aspirational goals moderate the relationship between psychological need satisfaction/frustration and CSSC. This study aims to make theoretical contributions to SDT and CSSC literature, by investigating the relationships between psychological need satisfaction/frustration and CSSC. Furthermore, this study contributes to SDT by including intrinsic and extrinsic aspirational goals as moderators on the relationship between psychological need satisfaction/frustration and CSSC, in comparison to investigating linear relationships as in previous studies. Finally, this study proposes a methodological contribution by measuring aspirational goals in relation to each other, in comparison to previous studies where aspirational goals were measured in absolute terms. From a practical perspective, this study provides insight into using psychological needs as a segmentation base and the resulting influence on CSSC.

This article starts with a brief literature overview of the conceptual model's theoretical constructs, followed by an outline of the conceptual model, including the hypotheses tested. This is followed by a discussion on the methodology applied in terms of research design, measurement aspects and data analysis, after which the results are summarised. The article concludes with a general discussion of the study's results, contributions and limitations.

2.2 LITERATURE OVERVIEW

A brief literature overview of the main constructs, namely psychological need satisfaction/frustration, CSSC, and intrinsic and extrinsic aspirational goals, provides the foundation for understanding the dynamics behind this article.

2.2.1 Psychological needs

The SDT, introduced by Deci and Ryan (2000), is a macro-theory centring on human motivation, socialisation and well-being. The SDT posits that people have a natural tendency to engage in interesting activities in order to proactively advance towards growth and optimal functioning within their immediate social environments (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). According to the SDT and, specifically, the basic psychological needs theory (i.e., one of five mini-theories of the SDT), humans have three innate psychological needs essential for psychological and social development and well-being (Campbell *et al.*, 2015; Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000). The degree to which the three needs are satisfied determines how effectively people function within the immediate context (Ryan & Deci, 2000). The three inherently universal psychological needs include the need for autonomy (i.e., having a sense of volition and free choice), competence (i.e., feeling effective in one's actions) and relatedness (i.e., a secure need for belongingness), and whether these needs are satisfied or not, are essential ingredients for healthy functioning and overall well-being (Baumeister & Leary, 1995; Campbell *et al.* 2015; Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000; Vansteenkiste *et al.*, 2008).

The three needs of autonomy, competence and relatedness are complementary (Deci & Ryan, 2000) and must function in harmony to ensure optimal development (Bartholomew *et al.*, 2011). In other words, for a person to prosper and succeed, it is essential that all three needs are satisfied (Ryan & Deci, 2000). Even though each of the three psychological needs is distinctive in terms of its contribution to optimal development, studies in the last few years have recognised the higher-order element of psychological need satisfaction as a distinct construct (Haerens, Aelterman, Vansteenkiste, Soenens & Van Petegem, 2015; Universiteit Gent, 2019). Consequently, these studies have evaluated need satisfaction based on a composite psychological-need-satisfaction score as opposed to an individual score for each of the three psychological needs (Gunnell, Crocker, Mack, Wilson & Zumbo, 2014; Harris & Hagger, 2007; Sebire, Standage & Vansteenkiste, 2009; Thøgersen-Ntoumani; Ntoumanis, Cumming & Chatzisarantis, 2011). The higher-order composite construct of psychological needs was of more interest to the researcher than the individual psychological needs.

Although human beings strive to operate in social environments where the satisfaction of the three psychological needs is supported, social environments can also be controlling and critical (Bartholomew *et al.*, 2011; Vansteenkiste & Ryan, 2013). Such environments cause psychological needs to be thwarted (i.e., psychological need frustration), leading to defensive behaviours (Vansteenkiste & Ryan, 2013). Psychological need frustration, which refers to needs being actively blocked or thwarted, has received increased attention in recent years (Chen, Vansteenkiste *et al.*,

2015; Vansteenkiste & Ryan, 2013). Even though psychological need frustration involves low levels of need satisfaction (Vansteenkiste & Ryan, 2013), psychological need frustration must be measured as a separate construct from need satisfaction to determine the extent to which needs are thwarted (Bartholomew *et al.*, 2011). Furthermore, psychological need frustration has a unique connotation to negative outcomes and ill-being compared to merely lower levels of psychological need satisfaction (i.e., dissatisfaction) (Bartholomew *et al.*, 2011; Chen, Vansteenkiste *et al.*, 2015; Vansteenkiste & Ryan, 2013). Therefore, measuring psychological need frustration more directly contributes to a better understanding of its effect on well-being (Bartholomew *et al.*, 2011).

For this article, psychological need satisfaction and psychological need frustration were regarded as two separate constructs (Haerens *et al.*, 2015) and are, thus, discussed separately in the following sections.

2.2.1.1 Psychological need satisfaction

Previous research across a variety of domains has shown a direct link between psychological need satisfaction and psychological well-being, in that when the three psychological needs are satisfied, psychological and physical well-being is enhanced (Deci & Ryan, 2000; Ryan, Patrick, Deci & Williams, 2008; Vansteenkiste *et al.*, 2010). In addition to contributing to psychological health and development (Chen, Van Assche *et al.*, 2015), psychological need satisfaction is also associated with greater personal and social development (Ahmad *et al.*, 2013; Sheldon *et al.*, 2001), positive day-to-day experiences (Campbell *et al.*, 2015), and positive behavioural and relational outcomes (e.g., greater performance and secure relationships) (Chen, Vansteenkiste *et al.*, 2015; Ryan & Deci, 2000; Vansteenkiste *et al.*, 2010). Further, psychological need satisfaction relates positively to well-being (i.e., positive affect, satisfaction with life and vitality) and negatively to ill-being (e.g., anxiety and symptoms of depression) (Deci & Ryan, 2000; Chen, Vansteenkiste *et al.*, 2015; Haerens *et al.*, 2015). The three psychological needs are regarded as universal, implying they are considered vital constituents of optimal functioning not only between individuals but also across cultural boundaries (Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000). Furthermore, the benefits derived from psychological need satisfaction are also regarded as universal, although the path taken to achieving psychological need satisfaction may be different, depending on cultural traditions (Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000).

Deci and Ryan (2000) proposed that psychological need satisfaction brings about energy and direction, guiding people to engage in various behaviours, such as controlling their spending or engaging in need-fulfilling behaviour as suggested in this article. Thus, the extent to which

psychological needs are fulfilled influence one's involvement in various activities, such as engaging in need-fulfilling behaviour when psychological needs are satisfied versus engaging in need substitution when lower levels of psychological need satisfaction occur (Eccles & Wigfield, 2002). Furthermore, psychological need satisfaction is also associated with adaptive and cautious decision-making styles (Davids, 2022). Once a person has tasted the benefits of having their psychological needs satisfied, greater importance is attached to the satisfaction thereof (Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000).

2.2.1.2 Psychological need frustration

Psychological need frustration occurs when need satisfaction is completely blocked or deliberately hindered (Bartholomew *et al.*, 2011). For example, when the need for autonomy is frustrated, it involves feeling controlled and pressured by either self or external forces (Chen, Van Assche *et al.*, 2015b; Haerens *et al.*, 2015; Thøgersen-Ntoumani *et al.*, 2011). Likewise, when the need for competence is frustrated, an individual starts doubting their capabilities, which results in them feeling like a failure (Chen, Vansteenkiste *et al.*, 2015; Haerens *et al.*, 2015), ineffective, incompetent, inferior and/or inadequate (Deci & Ryan 2000; Thøgersen-Ntoumani *et al.*, 2011). Lastly, in the absence of strong interpersonal relations, people tend to feel isolated, lonely and excluded (Baumeister & Leary, 1995; Haerens *et al.*, 2015, Thøgersen-Ntoumani *et al.*, 2011).

Psychological need frustration inhibits optimal development and growth (Deci & Ryan, 2000; Ryan, Deci, Grolnick & La Guardia, 2006) and is strongly correlated with ill-being (Chen, Vansteenkiste *et al.*, 2015). Furthermore, psychological need frustration is associated with negative outcomes, such as depression, eating disorders, burn-out, stress (Bartholomew *et al.*, 2011; Deci & Ryan, 2000), a breakdown in self-control, aggression, increased defensive and immoral behaviours (Vansteenkiste & Ryan, 2013) and negative affect (Chen, Vansteenkiste *et al.*, 2015). In addition to ill-being, need frustration also provokes feelings of defensiveness and insecurity and can lead to psychopathology (Bartholomew *et al.*, 2011; Chen, Vansteenkiste *et al.*, 2015; Ryan & Deci, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013). Psychological need frustration has also been associated with dysfunctional decision-making styles, such as procrastination and "passing-the-buck" type of decisions (Davids, 2022).

In response to need frustration, people can accept the situation and suffer the consequences of ill being or turn to defensive behaviours, such as controlling regulatory styles, engaging in rigid behaviour and looking for need substitutes, to compromise for lack of need satisfaction (Deci & Ryan, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013). For example, a person might engage in a

needless shopping spree in an attempt to regain control over some aspect of their life, purchase smart work attire to instil a sense of competence or purchase a pair of expensive shoes to feel connected to and approved of by significant others (Thøgersen-Ntoumani *et al.*, 2011). Although these self-protective behaviours can cause a moment of satisfaction in the short-term, they can have detrimental effects on health and well-being in the long run, exacerbating the situation by further contributing to psychological need frustration (Deci & Ryan, 2000).

2.2.2 Self-control and consumer spending self-control

Self-control is regarded as a stable personality trait that, when employed, is powerful and beneficial to human development in terms of resisting temptation, maintaining self-discipline and breaking bad habits (Baumeister, 2002; De Ridder, Lensvelt-Mulders, Finkenauer, Stok & Baumeister, 2012; Tangney, Baumeister & Boone, 2004). Self-control, often used interchangeably with the term *self-regulation*, refers to an individual's ability to change their situation and responses by setting clear standards of what to achieve, monitoring behaviour per the set standards and having the capacity to change if necessary (Baumeister, 2002; Haws, Bearden & Nenkov, 2012). Thus, self-control is the ability of the future self to control the current self (Strömbäck, Lind, Skagerlund, Västfjäll & Tinghög, 2017). In other words, the future self overrules the current self to prohibit undesirable behaviour (e.g., impulsive purchasing or binge eating), consequently creating a better version of the self (De Ridder *et al.*, 2012; Tangney *et al.*, 2004). Although self-control is relevant to various behavioural domains, in general, self-control aims to facilitate the advancement of desirable behaviour while discouraging undesirable behaviour (De Ridder *et al.*, 2012; Tangney *et al.*, 2004).

Through self-control, one can manage thoughts, change emotions, control impulses and change routines by replacing one response with another. Three constituents are necessary for effective self-control to occur, and if any one of these three elements is out of line, self-control is undermined. The first element refers to setting standards (i.e., goals, ideals or norms) for what one would like to achieve (i.e., the desired response) (Baumeister, 2002). These standards or goals should be self-imposed and personally adopted to ensure that the necessary buy-in is obtained for the successful application of self-control (Haws *et al.*, 2012). However, when goals are conflicting or uncertain, people become vulnerable to self-control failure (Baumeister, 2002) and, subsequently, a greater degree of self-control is necessary to control behaviour.

The second element crucial for effective self-control is monitoring behaviour, which involves keeping track of one's behaviour per the standards/goals that have been set (Baumeister, 2002; Haws *et al.*, 2012). Having an idea of how one is progressing provides insight into how subsequent behaviour

should change (or not) to ensure goal alignment (Bandura, 1991). The third element of effective self-control is having the capacity to change or control problematic behaviour to ensure that the set goals are accomplished (Baumeister, 2002; Haws *et al.*, 2012). If a person does not have the capacity or ability to change behaviour, the first two elements are deemed useless since the person cannot make the changes necessary for goal attainment (Baumeister, 2002).

Whereas high levels of self-control result in a wide assortment of beneficial and adaptive behaviours and consequences, low levels of self-control lead to problematic behaviour (De Ridder *et al.*, 2012). Higher levels of self-control lead to greater interpersonal relationships, stronger family cohesion, higher levels of self-acceptance and self-esteem, better wealth-management and saving behaviour, better control of thoughts and emotions, greater impulse management and resistance to temptations, and better anger management (Baumeister, 2002; De Ridder *et al.*, 2012; Strömbäck *et al.*, 2017; Tangney *et al.*, 2004). People with higher levels of self-control portray fewer psychological and emotional problems (e.g., obsessive-compulsive behaviour, anxiety, anger or depression) and exhibit less substance abuse, psychopathology, eating disorders and aggression (Baumeister, 2002; De Ridder *et al.*, 2012; Tangney *et al.*, 2004). Furthermore, goal-driven individuals are more likely to exert consumer spending self-control and engage less in impulsive buying (Vosylis, Žukauskienė, & Crocetti, 2020).

In contrast, individuals with low levels of self-control show aggressive and anti-social behaviour, have difficulty forgiving others, procrastinate more (Tangney *et al.*, 2004) and engage in risky behaviour (De Ridder *et al.*, 2012). Additionally, low levels of self-control are associated with societal problems (e.g., obesity, substance abuse, criminality, impulse buying) (Baumeister & Heatherton, 1996; Vohs & Faber, 2007) and are negatively associated with wealth accumulation (Ameriks, Caplin, Leahy & Tyler, 2007; Biljanovska & Palligkinis, 2018; Strömbäck *et al.*, 2017). From a marketing perspective, individuals with low levels of self-control are easily tempted, and marketing messages highlighting immediate gratification prove successful (Baumeister, 2002). Individuals with low levels of self-control struggle to realise the long-term cost associated with their behaviour and look for short-term benefits at the expense of long-term costs (De Ridder *et al.*, 2012).

The lack of control many people exhibit in their spending has been a critical contributor to the financial challenges faced in recent years, and it is, therefore, necessary to better understand the severe effects of a lack of CSSC. South African consumers frequently find themselves struggling to control their spending behaviour, with nearly a third of South African consumers living beyond their means (Pijoo, 2021). A number of factors contribute to consumers living beyond their means, including “keeping up with the Joneses”, not setting a budget, credit balances continuously increasing and not having any money left at the end of the month (BusinessTech, 2023). In an effort

to stay within their means, people take on debt to supplement their disposable income and maintain their lifestyle (Deloitte, 2023). Thus, being unable to control one's spending is a major contributor to lower levels of financial well-being, especially during difficult economic times. In contrast, being able to better control one's spending, limits the detrimental financial (e.g., poor credit records or bankruptcy), psychological (e.g., anxiety, stress or guilt) and social (e.g., tense relationships or divorce) outcomes related to uncontrollable spending (Haws *et al.*, 2012).

Although CSSC shares common attributes with an individual's level of general self-control, researchers can better explain some of the changes and variations observed in consumers' attitudes and behaviours by focusing specifically on the level of control related to spending behaviour. CSSC is defined as an individual's ability to observe and keep track of spending-related beliefs and decisions aligned with self-induced standards or goals (Haws *et al.*, 2012). Following the definition, it is evident that CSSC employs the same three elements associated with the effective exertion of a general form of self-control: setting standards, tracking behaviour and making changes if necessary (Baumeister, 2002; Haws *et al.*, 2012).

2.2.3 Aspirational goals

Some goal theorists suggest that the mere attainment of any goal makes one feel good and contributes positively to well-being (Emmons, 1986; Romero, Gómez-Fraguela & Villar, 2012; Niemiec *et al.*, 2009). The SDT, however, proposes that "not all goals are created equal" (Ryan, Sheldon, Kasser & Deci, 1996:7) and pursuing and attaining different goals, each with a unique focal point, leads to different influences on well-being and social functioning (Deci & Ryan, 2000; Niemiec *et al.*, 2009; Sebire *et al.*, 2009; Vansteenkiste, Lens, & Deci, 2006). Therefore, the SDT and, specifically, the mini-theory known as goal contents theory considers the content of goals (i.e., the 'what' people are pursuing) and distinguishes between two types of aspirational goals: intrinsic and extrinsic aspirational goals (Deci & Ryan, 2000; Romero *et al.*, 2012).

Goals organise and direct the activities people are involved with and the behaviour they exhibit. However, the degree to which psychological needs are satisfied influences whether intrinsic or extrinsic aspirational goals are pursued, consequently leading to well-being or ill-being (Deci & Ryan, 2008; Kasser & Ryan, 2001). Therefore, the SDT maintains that when the psychological needs for autonomy, competence and relatedness are satisfied, intrinsic aspirational goals are pursued, resulting in greater well-being (Deci & Ryan, 2000; Niemiec *et al.*, 2009). The opposite is also true: when psychological needs are not satisfied or even thwarted, extrinsic aspirational goals are pursued. Although people tend to pursue one of the two groups of aspirational goals more purposely

than the other (Kasser & Ryan, 1993, 1996; Truong, McColl & Kitchen, 2010), the more valued aspirations are likely to be achieved (Eccles & Wigfield, 2002; Niemiec *et al.*, 2009). Although previous studies did find that higher importance is placed on intrinsic goals rather than extrinsic goals (Davids, 2022). The various intrinsic and extrinsic aspirational goals are discussed in more detail in the subsequent sections.

2.2.3.1 Intrinsic aspirational goals

Intrinsic aspirational goals have an 'inward focus' that is aimed at developing one's interests, values and potential (Sebire *et al.*, 2009). People pursue intrinsic aspirational goals because of the inherent satisfaction, enjoyment and personal meaning obtained from achieving them (Sebire *et al.*, 2009, Truong *et al.*, 2010). Since individuals have a natural inclination towards growth, intrinsic aspirational goals assist people with greater introspection and building meaningful connections with peers and the community (Brdar *et al.*, 2009; Vansteenkiste *et al.*, 2008). In addition, intrinsic aspirational goals are inherently valuable and rewarding to pursue since they are directly linked to satisfying the psychological need for autonomy, competence and relatedness (Davids, 2022; Kasser & Ryan, 1996, 2001; Niemiec *et al.*, 2009; Romero *et al.*, 2012; Vansteenkiste *et al.*, 2008).

The SDT distinguishes between four intrinsic aspirational goals: personal growth, community contribution, meaningful relationships and physical health (Refer to Section 2.1 regarding physical health) (Brdar *et al.*, 2009; Kasser & Ryan, 1996; Vansteenkiste *et al.*, 2006). The pursuit of intrinsic aspirational goals is positively associated with well-being and social functioning. In this regard, specific indicators have shown that a stronger pursuit of intrinsic aspirational goals is related to greater levels of self-esteem, self-actualisation, vitality, mental health, positive affect, greater life satisfaction and overall subjective well-being (Brdar *et al.*, 2009; Kasser & Ryan, 1993, 1996; Niemiec *et al.*, 2009; Romero *et al.*, 2012; Ryan & Deci, 2000; Sebire *et al.*, 2009; Vansteenkiste *et al.*, 2008). On the other hand, intrinsic aspirational goals have also been negatively associated with indices of ill-being, including depression, anxiety and health problems (Brdar *et al.*, 2009; Kasser & Ryan, 1993, 1996; Niemiec *et al.*, 2009). Furthermore, previous studies have shown that intrinsic aspirational goals are associated with better adjustment in specific domains (Vansteenkiste *et al.*, 2008). For example, people with a stronger focus on intrinsic aspirational goals tend to have more meaningful social interactions since they are inclined to invest more time and effort into their social relationships (Brdar *et al.*, 2009).

2.2.3.2 *Extrinsic aspirational goals*

Extrinsic aspirational goals are engaged in as a means to some other end (Kasser & Ryan, 1996). In other words, it is something that is done not because of the enjoyment thereof but to achieve another desired outcome (Kasser & Ryan, 2001). Extrinsic aspirational goals follow an 'outward perspective' that is more concerned with others' reactions to behaviour (Kasser & Ryan, 1996; Truong & McColl, 2011; Williams *et al.*, 2000). It is focused on making good impressions and obtaining external rewards and approval from others rather than searching for an internal reward (Kasser & Ryan, 1996; Vansteenkiste *et al.*, 2008). The idea of valuing extrinsic aspirational goals is prominent within consumer culture, where popularity, material possessions and a perfect image are portrayed as signs of success, and people engage in endeavours to obtain these symbols of success (e.g., purchasing certain products and brands for the image it portrays) (Brdar *et al.*, 2009; Kasser & Ryan, 2001; Truong *et al.*, 2010; Vansteenkiste & Ryan, 2013).

The SDT distinguishes between three extrinsic aspirational goals: financial success (i.e., money, wealth or material possessions), social recognition (i.e., fame or popularity) and an appealing image (i.e., attractive appearance). All three extrinsic aspirational goals are aimed at obtaining approval, recognition and rewards from external counterparts; and whether the extrinsic aspirational goal has been achieved is judged by somebody else (Kasser & Ryan, 1993, 1996; Schmuck *et al.*, 2000; Sebire *et al.*, 2009; Vansteenkiste *et al.*, 2006). Pursuing extrinsic aspirational goals makes it more difficult to directly satisfy the psychological needs for autonomy, competence and relatedness and is, therefore, less likely to contribute to need satisfaction, consequently detracting from well-being (Brdar *et al.*, 2009; Deci & Ryan, 2000; Gunnell *et al.*, 2014; Kasser, Ryan, Couchman & Sheldon, 2004; Romero *et al.*, 2012). In fact, goal theorists propose that an overly strong concentration on extrinsic aspirational goals is likely to overrule intrinsic aspirational goals and, in this way, ignore the basic psychological needs altogether or even frustrate the psychological needs (Niemic *et al.*, 2009; Ryan *et al.*, 1996; Schmuck *et al.*, 2000; Vansteenkiste *et al.*, 2008). A good way to gauge whether aspirational goals contribute or detract from well-being is to evaluate whether the aspirational goals aim to contribute to need satisfaction or adhere to the set of aspirational goals prescribed by the surrounding social environment (Vansteenkiste *et al.*, 2006).

Placing more emphasis on extrinsic aspirational goals is associated with lower levels of psychological well-being (e.g., self-esteem, vitality, self-actualisation or positive affect) and subjective well-being (e.g., satisfaction with life or happiness) (Brdar *et al.*, 2009; Kasser & Ryan, 1993, 1996, 2001; Romero *et al.*, 2012). Furthermore, pursuing extrinsic aspirational goals is related to stronger signs of ill-being (e.g., depression, anxiety, substance abuse, drug usage,

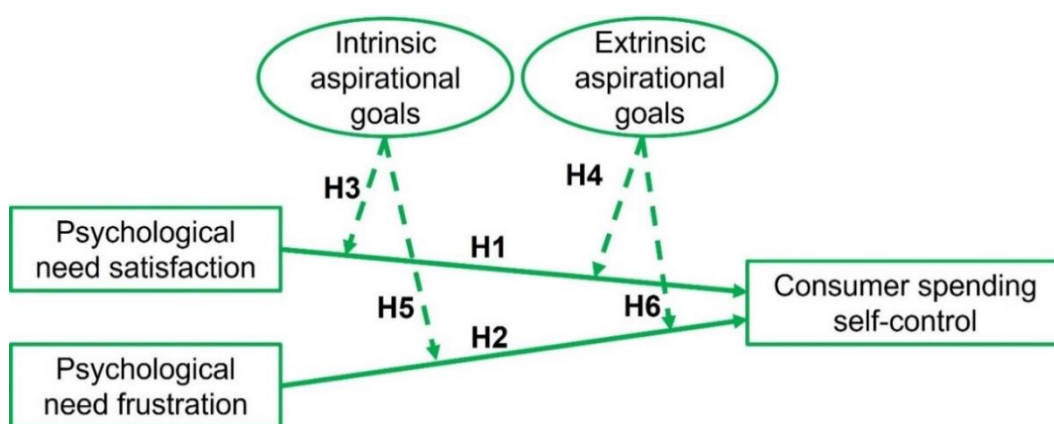
lower levels of global functioning, behavioural problems, poor health, distress, negative affect, narcissism, physical symptoms or engaging in risky behaviours) (Kasser & Ryan, 1993, 1996; Sebire *et al.*, 2009; Vansteenkiste & Ryan, 2013; Vansteenkiste *et al.*, 2008; Williams *et al.*, 2000).

In the face of economic, social or psychological threats, people increasingly focus on pursuing extrinsic aspirational goals by emphasising wealth, fame and/or image as a means to feel admired and recognised by others (Sheldon & Kasser, 2008). In this way, people compensate for the negative emotions accompanying the threat in an attempt to feel worthy and respected (Chen, Van Assche *et al.*, 2015; Kasser & Ryan, 1996, 2001; Sheldon & Kasser, 2008). However, the benefits of extrinsic aspirational goal pursuit are short-lived and temporary (Niemic *et al.*, 2009; Vansteenkiste *et al.*, 2008). Although turning one’s attention to extrinsic aspirational goals seems like an attractive and plausible solution at that moment, the level of psychological need satisfaction it provides is fleeting and, over the long term, could hamper the relationship between psychological need satisfaction and well-being (Kasser & Ryan, 1996; Sebire *et al.*, 2009; Vansteenkiste & Ryan, 2013).

2.3 CONCEPTUAL FRAMEWORK

The main objective of this article is to explore the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. This article’s conceptual framework, including the hypotheses tested, is outlined in Figure 2.1.

Figure 2.1: Conceptual framework for Article 1



According to SDT, psychological need satisfaction is associated with positive day-to-day experiences (Campbell *et al.*, 2015), and positive behavioural and relational outcomes (e.g., greater performance or secure relationships) (Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000; Vansteenkiste *et al.*, 2010). People whose psychological needs are satisfied are more autonomous

in regulating their behaviour rather than feeling controlled and pressured to behave in a certain way (Deci & Ryan, 2000). The way in which people regulate their behaviour influences how they align themselves within their environments (Centre for Self-Determination Theory, 2022). One way people can regulate their behaviour is by means of CSSC, which is described as the ability to monitor and regulate one's spending behaviour and thoughts (Haws *et al.*, 2012). Since CSSC is associated with an assortment of beneficial and adaptive behaviours and consequences (De Ridder *et al.*, 2012), similar to psychological need satisfaction, it is expected that psychological need satisfaction may have a positive relationship with CSSC. Therefore, it is hypothesised that:

H1: There is a positive relationship between psychological need satisfaction and CSSC.

Psychological need frustration is strongly related to ill-being and negative outcomes (Vansteenkiste *et al.*, 2015). When people experience psychological need frustration, they feel a sense of discomfort and discontentment, causing them to spend money on need substitutes to overcome the negative feelings associated with psychological need frustration (Haedt-Matt & Keel, 2011; Ryan *et al.*, 2006). Although previous SDT research found that psychological need frustration causes a breakdown in the general form of self-control (Vansteenkiste & Ryan, 2013), uncertainty exists as to whether psychological need frustration can lead to a breakdown in CSSC as a negative outcome in accordance with SDT. Since people spend money on need substitutes in response to psychological need frustration, it is expected that psychological need frustration may negatively affect CSSC, as expressed in the following hypothesis:

H2: There is a negative relationship between psychological need frustration and CSSC.

According to the SDT, psychological needs set the foundation for the type of goals pursued and influence the regulatory process that people follow in pursuit of the set goals (Deci & Ryan, 2000). Previous research states that there is a direct relationship between psychological need satisfaction and intrinsic aspirational goals, with intrinsic aspirational goals facilitating psychological need satisfaction, consequently leading to overall well-being (Deci & Ryan, 2000; Niemiec *et al.*, 2009; Sebire *et al.*, 2009; Vansteenkiste *et al.*, 2008). Furthermore, the pursuit of intrinsic aspirational goals is positively associated with an autonomous regulatory style, (Sheldon & Kasser, 1995; Vansteenkiste *et al.*, 2008), as people pursue intrinsic aspirational goals for the enjoyment, satisfaction and personal meaning derived from attaining them (Truong *et al.*, 2010). People who attach importance to intrinsic aspirational goals display greater global functioning and fewer behavioural problems (Kasser & Ryan, 1993). Another study found that people who value intrinsic aspirational goals avoid buying luxury brands for the status and conspicuousness attached to them; instead, they buy luxury brands for internal and personal reasons (Truong *et al.*, 2010). Thus, it would seem that people who value intrinsic aspirational goals have more control over their spending

behaviour. Therefore, given intrinsic aspirational goals' association with psychological need satisfaction, and intrinsic aspirational goals' link to autonomy regulation, it is expected that people who attach greater importance to intrinsic aspirational goals may be better equipped to control their spending behaviour in response to psychological need satisfaction. It is, therefore, hypothesised that:

H3: Intrinsic aspirational goals strengthen the positive relationship between psychological need satisfaction and CSSC.

According to SDT, a negative relationship between psychological need satisfaction and extrinsic goals exists (Brdar *et al.*, 2009; Deci & Ryan, 2000; Gunnell *et al.*, 2014; Kasser, Ryan, Couchman & Sheldon, 2004; Romero *et al.*, 2012). Accordingly, extrinsic aspirational goals have a more outward focus, with people looking for external indicators of worth rather than at their own basic psychological needs (Kasser & Ryan, 1993). As a result, extrinsic aspirational goals detract from psychological need satisfaction and may even divert from it (Deci & Ryan, 2000; Kasser & Ryan, 1993, 1996; Sebire *et al.*, 2009). It can increase to a point where an overly strong pursuit of extrinsic aspirational goals overrules intrinsic aspirational goals and, in this way, ignores psychological need satisfaction altogether (Niemic *et al.*, 2009; Ryan *et al.*, 1996; Schmuck *et al.*, 2000; Vansteenkiste *et al.*, 2008). Psychological need satisfaction, in turn, influences day-to-day experiences and behaviours, such as one's ability to exert self-control (Campbell *et al.*, 2015), and positive behavioural and relational outcomes, and any intervening variable negatively impacting psychological need satisfaction, may thus adversely affect CSSC as well. Thus, it is possible that the interaction between psychological need satisfaction and extrinsic goals will be negative, thereby weakening the relationship between psychological need satisfaction and CSSC. It is, therefore, hypothesised that:

H4: Extrinsic aspirational goals weaken the positive relationship between psychological need satisfaction and CSSC.

Regarding psychological need frustration, research shows that people often spend money on need substitutes to overcome the negative feelings accompanying psychological need frustration (Haedt-Matt & Keel, 2011; Ryan *et al.*, 2006). Unless people turn to need-relevant products and/or services to address psychological need frustration, a further breakdown in CSSC may follow. An alternative solution may be to focus on the pursuit of intrinsic aspirational goals, which according to SDT, are strongly related to autonomy regulation and well-being (Deci & Ryan, 2000; Niemic *et al.*, 2009; Sheldon & Kasser, 1995; Vansteenkiste *et al.*, 2008). Intrinsic aspirational goals could thus lower psychological need frustration by providing more autonomy and well-being. Hereby, the interaction between psychological need frustration and intrinsic goals may contract the expected negative association psychological need frustration has with CSSC. However, whether the pursuit of intrinsic

aspirational goals will be sufficient to compensate for the negative effect of psychological need frustration up to a point where consumers control their spending, needs to be explored. It is, therefore, hypothesised that:

H5: Intrinsic aspirational goals weaken the negative relationship between psychological need frustration and CSSC.

As mentioned earlier, in the event of psychological need frustration, people often spend money on need substitutes rather than need-fulfilling solutions to relieve the discomfort associated with the frustration (Haedt-Matt & Keel, 2011; Ryan *et al.*, 2006). The feelings of discomfort and insecurity accompanying psychological need frustration trigger an overly strong pursuit of extrinsic aspirational goals and a search for external signs of worth, resulting in lower levels of well-being or even ill-being (Brdar *et al.*, 2009; Deci & Ryan, 2000; Ryan *et al.*, 1996; Vansteenkiste & Ryan, 2013; Vansteenkiste *et al.*, 2008). In accordance with SDT, the focus of extrinsic aspirational goals is on obtaining external rewards and approval from others, causing consumers to have less control over their spending in an effort to attain approval and rewards (Centre for Self-Determination Theory, 2022; Williams *et al.*, 2000). Although psychological need frustration is positively associated with extrinsic aspirational goals, both, psychological need frustration and extrinsic aspirational goals lead to negative outcomes, which in this case may be a breakdown in CSSC. It is therefore expected that consumers whose psychological needs are frustrated, and consequently attach greater importance to the pursuit of extrinsic aspirational goals, will contribute to exacerbating the existing negative relationship between psychological need frustration and CSSC. It is, therefore, hypothesised that:

H6: Extrinsic aspirational goals strengthen the negative relationship between psychological need frustration and CSSC.

2.4 METHODOLOGY

2.4.1 Sampling, measurement and data collection design

A descriptive, cross-sectional study was conducted using an online self-administered questionnaire. The questionnaire was developed using the Qualtrics software package. Qualtrics also assisted with data collection through online paid-for consumer panels. The target population consisted of South Africans who were credit active, 18 years or older and permanently employed or self-employed at the time of data collection. A person is regarded as a credit-active individual when they are obliged to pay credit providers and/or service providers in response to products and/or services rendered (National Credit Regulator, 2019). After the questionnaire was pretested amongst 100 respondents representative of the target population, an adjustment to the aspirational goal trade-off scale was made. By changing the aspirational goal trade-off's 7-point pairwise comparison to a 17-point

pairwise comparison, it was possible to use the analytic hierarchy process (AHP) for data analysis purposes. Finally, a total of 628 respondents were recruited for participation in the final study and received the questionnaire via Qualtrics.

The questionnaire first aimed to obtain a better understanding of the importance attached to aspirational goals. For this purpose, the Aspirations Index (Kasser & Ryan, 1996) was modified into a pairwise comparison question asking respondents to compare the importance they attach to one aspirational goal with the importance they attach to another aspirational goal (Pauer, Schmidt, Babac, Damm, Frank & Von der Schulenburg, 2016). Thus, respondents had to judge the importance of the two end points on a scale of 1 to 9, where 1 indicates that both aspirational goals are equally important, or 9 where either the one or the other aspirational goal is extremely important (Saaty, 1995). Each aspirational goal was compared with every other goal, resulting in 15 comparisons (derived from six goals measured in combinations of two). Table 2.1 provides an example of how the pairwise comparison was asked in the survey.

Table 2.1: An example of the pairwise comparison question

	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Personal growth	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Appealing image	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Meaningful relationships	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fame	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	

In addition to the modified Aspirations Index assessing the importance attached to one aspirational goal in relation to another, the questionnaire also measured the importance attached to each aspirational goal using the original Aspirations Index introduced by Kasser and Ryan (1996). Thus, respondents were asked to rate the importance they attached to each of the 30 items (it is five items per aspirational goal) on a 7-point Likert scale.

To better understand respondents' psychological needs, the researcher used the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) (Chen, Van Assche *et al.*, 2015). A 7-point Likert scale was used to gauge the satisfaction and the frustration of autonomy, competence and relatedness. With three specific items per category, a total of 24 items were included in the BPNSFS. Several options were available in terms of scoring. First, composite scores for psychological need satisfaction and psychological need frustration can be calculated and

combined into a single index. Second, composite scores for psychological need satisfaction and psychological need frustration can be determined and used as two separate scores. Third, composite scores can be calculated for the specific needs of autonomy, competence and relatedness by combining the satisfaction scores and reverse-coded frustration scores. Alternatively, a combination of these methods can be used (Universiteit Gent, 2019). For this article, psychological need satisfaction and psychological need frustration were regarded as two separate constructs, as Haerens *et al.* (2015) propose. Thus, a composite score for psychological need satisfaction and a composite score for psychological need frustration were calculated.

The CSSC scale (Haws *et al.*, 2012) was used to determine to what extent respondents can control their spending by indicating on a 7-point Likert scale the extent to which they agreed or disagreed with each of the 10 items. Finally, socio-demographic questions relating to age, gender and the level of income were asked.

2.4.2 Data analysis

Microsoft Excel was used for data cleaning and editing purposes and for conducting the AHP. Frequencies and percentages were calculated using SPSS Statistics Version 26. In addition, composite mean scores and standard deviations were calculated for each of the article's three main constructs: psychological need satisfaction, psychological need frustration, and CSSC. To explore the linear relationships indicated in Figure 2.1, the researcher executed co-variance-based structural equation modelling (CB-SEM) using Mplus Version 8.3. Compared to normal linear regression analysis, CB-SEM is regarded as a superior method to use as it explores independent, multiple linear relationships at the same time, while also incorporating latent variables and accounting for measurement errors. CB-SEM is also the preferred method to use when dealing with established theoretical concepts, i.e. SDT in this regard (Hair, Matthews, Matthews & Sarstedt, 2017). Given that the assumption of normality for data distribution was not met, the MLM estimator with standard errors and mean-adjusted chi-square (χ^2) test statistic (also referred to as the Satorra-Bentler χ^2 test), regarded as a more robust estimator for dealing with non-normal data, was used (Muthén & Muthén, 1998-2017).

CB-SEM comprises two elements: the measurement model, which illustrates the relationships between the latent variables and related indicator variables, and the structural model, which shows the structural paths between the latent constructs (Hair *et al.*, 2017). For this article, confirmatory factor analysis was used to assess the measurement model (Hair, Black, Babin & Anderson, 2010). More specifically, the measurement model was assessed for validity based on overall model fit,

construct validity (in terms of convergent and discriminant validity) and reliability (Hair *et al.*, 2010). Following the estimation of the measurement model, a structural model was estimated to assess the main effects as set out in H1 and H2. As with the measurement model, various fit indices were also evaluated to assess the structural model's fit. Hypotheses were supported or not supported based on the interpretation of the standard coefficients and statistical significance ($p < 0.05$).

To assess the moderation effects (as specified in H3 to H6), the researcher used Hayes' Process Macro for SPSS Version 3.5 (Model 1) (Hayes, 2018). Ordinary least square (OLS) 95%-confidence intervals were used to determine whether interaction effects were significant. Moderation effects are evident when the OLS 95%-confidence intervals for the interaction effect do not contain zero and when p -values are less than 0.05 (Field, 2018; Nel & Boshoff, 2017). In cases where moderation effects were evident, the interaction effects were further explored using the simple slope analysis and/or the Johnson-Neyman technique.

2.5 RESULTS

2.5.1 Sample profile

A total of 628 respondents participated in the study; however, after removing incomplete records and respondents not adhering to the sampling criteria, 608 respondents were used for analysis purposes. Of the 608 respondents, 52.6% were male, and 47.4% were female. The age brackets of respondents ranged from 18 to 85 years old, and the average age was 36 years. Of the respondents, 37.3% took home a monthly pay of between R10 000 and R20 000, followed by 25.7% between R0 and R10 000, 20.4% between R20 000 and R30 000, and only 3.0% took R50 000 and more home.

2.5.2 Linear hypothesised relationships

The following section discusses the results of the SEM analysis, first considering the measurement model and then the structural model.

2.5.2.1 *Assessment of the measurement model*

Initially, the measurement model was estimated using all items related to the article's constructs: psychological need satisfaction (12 items), psychological need frustration (12 items) and CSSC (10 items). Although the measurement model displayed acceptable model fit, the Satorra-Bentler χ^2 /degrees of freedom (df) ratio, the comparative fit indices (CFI) and Tucker-Lewis index (TLI) did

not meet the required cut-off values. Upon further investigation of convergent validity, two constructs (i.e., psychological need satisfaction and psychological need frustration) displayed an average variance extracted (AVE) below the required threshold of 0.5. To improve the AVE score, the researcher removed items not performing well in terms of model integrity, model fit or construct validity and respecified the measurement model (Hair *et al.*, 2010). Consequently, the eight psychological need satisfaction and five psychological need frustration items with factor loadings below 0.6 were removed to increase the AVE. The following eight psychological need satisfaction items were removed:

- I feel a sense of choice and freedom in the things I undertake (Item 1).
- I feel confident that I can do things well (Item 5).
- I feel that my decisions reflect what I really want (Item7).
- I feel capable at what I do (Item 11).
- I feel my choices express who I really am (Item 13).
- I feel competent to achieve my goals (Item 17).
- I feel I have been doing what really interests me (Item 19).
- I feel I can successfully complete difficult tasks (Item 23).

The five psychological need frustration items that were removed included the following:

- Most of the things I do, I feel like 'I have to do' (Item 2).
- I feel excluded from the group I want to belong to (Item 4).
- I feel pressured to do too many things (Item 14).
- My daily activities feel like a chain of obligations (Item 20).
- I feel the relationships I have are just superficial (Item 22).

Table 2.2 show that the final re-estimated measurement model with retained items displayed an acceptable model fit with all fit indices adhering to the recommended guidelines.

Table 2.2: Model fit indices for final re-estimated measurement model

Fit indices	Value	Recommended cut-off value*
Satorra-Bentler χ^2/df	2.22	< 3
χ^2 value	413.453	NA
Df	186	NA
Scaling correction factor for MLM	1.4200	NA
RMSEA	0.045	< 0.08
CFI	0.954	> 0.9
TLI	0.948	> 0.9

Fit indices	Value	Recommended cut-off value*
SRMR	0.045	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel, Moosbrugger and Müller, 2003.

Table 2.3 reports the convergent validity and reliability of the final re-estimated measurement model.

Table 2.3: Convergent validity for the re-estimated measurement model

Constructs and items	Standardised estimates	SE est.	t-value	AVE
Psychological need satisfaction (PNS)				
I feel that the people I care about also care about me.	0.735	0.028	26.493	0.647
I feel connected with people who care for me and for whom I care.	0.831	0.021	40.32	
I feel close and connected with other people who are important to me.	0.86	0.02	42.584	
I experience a warm feeling with the people I spend time with.	0.786	0.026	30.463	
Psychological need frustration (PNF)				
I have serious doubts about whether I can do things well.	0.686	0.028	24.755	0.471
I feel forced to do many things I wouldn't choose to do.	0.638	0.029	21.851	
I feel that people who are important to me are cold and distant towards me.	0.635	0.032	19.589	
I feel disappointed with many of my performances.	0.686	0.028	24.215	
I have the impression that people I spend time with dislike me.	0.701	0.029	24.000	
I feel insecure about my abilities.	0.672	0.032	20.815	
I feel like a failure because of the mistakes I make.	0.774	0.022	34.446	
Consumer spending self-control (CSSC)				
I closely monitor my spending behaviour.	0.704	0.026	27.471	0.565
I am able to work effectively toward long-term financial goals.	0.657	0.03	22.261	
I carefully consider my needs before making purchases.	0.774	0.023	33.676	
I often delay taking action until I have carefully considered the consequences of my purchase decisions.	0.687	0.028	24.583	
When I go out with friends, I keep track of what I am spending.	0.731	0.022	33.15	
I am able to resist temptation in order to achieve my budget goals.	0.811	0.021	38.993	
I know when to say 'no' regarding how much I spend.	0.815	0.016	50.167	

Constructs and items	Standardised estimates	SE est.	t-value	AVE
During my social interactions, I am generally aware of what I am spending.	0.807	0.018	45.058	
Having objectives related to spending is important to me.	0.669	0.032	20.839	
I am responsible when it comes to how much I spend.	0.833	0.018	47.168	

Note: All items listed are statistically significant at $p < 0.05$, two-tailed.

From Table 2.3, it can be determined that there was sufficient evidence of convergent validity. The retained items showed standardised estimates greater than 0.6, which is greater than the recommended value of 0.5, and all items were statistically significant at $p < 0.05$ (Hair *et al.*, 2010). In addition, the AVE for all constructs was greater than 0.5, except psychological need frustration with an AVE of 0.471. Even though psychological need frustration measured an AVE below 0.5 (refer to Table 2.3), the fact that psychological need frustration's composite reliability score was greater than 0.6 meant it was still possible to confirm convergent validity (Fornell & Larcker, 1981). The reliability scores and discriminant validity results for the re-estimated measurement model are summarised in Table 2.4.

Table 2.4: Reliabilities and discriminant validity for the re-estimated measurement model

Construct	AVE	Reliability		Discriminant validity		
		α	CR	PNS	PNF	CSSC
PNS	0.647	0.878	0.880	0.804*		
PNF	0.471	0.829	0.861	-0.477	0.686*	
CSSC	0.565	0.927	0.928	0.291	-0.193	0.751*

Note: α = Cronbach's alpha; CR = Jöreskog's rho (composite reliability); *values in the main diagonal are the square root of the average variance extracted (AVE); values below the diagonal are correlations; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control.

There was sufficient evidence of reliability, considering that all three constructs measured Cronbach's alpha and composite reliability scores greater than 0.7 (Hair *et al.*, 2010). With convergent validity confirmed, discriminant validity was assessed, and the results showed sufficient evidence for discriminant validity since the square root of the AVE for each construct exceeded the correlation it had with each of the other constructs (Fornell & Larcker, 1981).

In conclusion, the final re-estimated measurement model exhibited an appropriate model fit, reliability and convergent and discriminant validity. Therefore, a structural model was estimated according to the interrelationships in Figure 2.1 and is explained in the following section.

2.5.2.2 Assessment of the structural model

The structural model was assessed for model fit by evaluating various fit indices. Table 2.5 summarises the model fit indices for the structural model.

Table 2.5: Model fit indices for structural model

Fit indices	Value	Recommended cut-off value
Satorra-Bentler χ^2/df	2.22	< 3
χ^2 value	413.454	NA
df	186	NA
Scaling correction factor for MLM	1.420	NA
RMSEA	0.045	< 0.08
CFI	0.954	> 0.9
TLI	0.948	> 0.9
SRMR	0.045	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel *et al.*, 2003.

Table 2.5 shows that the structural model fits the data well, with all fit indices adhering to the recommended guidelines. Subsequently, structural paths (standardised estimates) were assessed for statistical significance and results are summarised in Table 2.6.

Table 2.6: Standardised estimates of the structural paths in the structural model

Hypothesis	Path	Standardised estimates	SE est.	p-value	t-value	Result
H1	PNS → CSSC	0.258	0.053	0.0001*	4.870	Supported
H2	PNF → CSSC	-0.070	0.048	0.150	-1.441	Not supported

Note: *Statistically significant at $p < 0.05$, two-tailed; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control.

Table 2.6 shows a significant, positive relationship between psychological need satisfaction and CSSC (estimate = 0.258; $p = 0.0001$) providing support for H1. Although the relationship between psychological need frustration and CSSC was negative (estimate = -0.070), the relationship was not statistically significant ($p = 0.150$); therefore, H2 could not be supported. Since there was no significant relationship between psychological need frustration and CSSC, it was irrelevant to determine whether intrinsic and extrinsic aspirational goals have a moderating effect on the relationship between psychological need frustration and CSSC. Therefore, H5 and H6 could not be tested. However, the moderation effect of intrinsic and extrinsic aspirational goals on the relationship between psychological need satisfaction and CSSC is explained in the following section.

2.5.3 Moderation hypothesised relationships

The researcher measured the different intrinsic aspirational goals in relation to the different extrinsic aspirational goals using a pairwise comparison. Asking respondents to directly compare one goal with another and ‘forcing’ them to make a choice, placed them in a more powerful position to indicate their preference. Therefore, it was possible to calculate the relative weight of each aspirational goal (i.e., the importance of one aspirational goal in relation to another). The AHP was used to ascertain the relative importance weight assigned to each aspirational goal as explained in the following sections.

2.5.3.1 *Using the analytic hierarchy process to determine criteria weights*

One of the most popular, precise and powerful methods to aid decision-making is the AHP, first introduced by Thomas Saaty during the 1970s (Fong & Choi, 2000; Forman & Peniwati, 1998; Saaty, 1987). Typically used for making more complex decisions that involve unstructured and multi-attribute criteria, AHP uses sets of pairwise comparisons to assign priority weights to the different decision criteria (Forman & Peniwati, 1998; Muralidhar, Santhanam & Wilson, 1990; Partovi & Burton, 1992; Wu, Chiang & Lin, 2008). The first step in conducting the AHP is to develop a hierarchical structure of the criteria considered, given the decision-making problem at hand (Pauer *et al.*, 2016). For this article, the objective was to determine the level of importance attached to the different aspirational goals by considering personal growth, meaningful relationships and community contribution (intrinsic aspirational goals), as well as wealth, fame and image (extrinsic aspirational goals) (Kasser & Ryan, 1996).

Based on the pairwise comparison results obtained from the survey, a criteria comparison matrix was constructed whereby the importance ratings assigned to the different aspirational goals were entered, and reciprocal values were calculated and also entered into the corresponding row and column for each pair of goals. Through this process, it was possible to calculate the criteria weight assigned by a respondent to each aspirational goal. Once the criteria comparison matrix was completed, the values were normalised by dividing the corresponding values from the criteria comparison matrix by the column totals for the particular goal. Each aspirational goal’s criteria weight was then calculated by averaging the values across each row (Fong & Choi, 2000). The overall results, calculated out of a score of 1.00, indicated that respondents attached the highest importance to meaningful relationships (0.255), followed by community contribution (0.239), personal growth (0.209), wealth (0.148), appealing image (0.093) and fame (0.057). Thus, it is clear from the results that, overall, intrinsic aspirational goals were regarded as more important than extrinsic aspirational

goals, with intrinsic aspirational goals having a total criteria weight score of 0.702 and extrinsic aspirational goals having an inverse total criteria weight of 0.298.

2.5.3.2 Determining an intrinsic and extrinsic aspirational goal criteria weight per respondent

Even though all the respondents' results were incorporated into the calculation of the overall criteria weight for the whole group, the overall criteria weight could not be disseminated across the whole group since people tend to pursue certain aspirational goals more purposefully than others (Kasser & Ryan, 1993, 1996). As a result, it was necessary to determine the criteria weight assigned by each respondent to each aspirational goal. It was then possible to determine an intrinsic aspirational goal criteria weight per respondent by adding the criteria weights assigned to each of the three intrinsic aspirational goals. Similarly, the criteria weights assigned to each of the extrinsic aspirational goals were summated to calculate an extrinsic aspirational goal criteria weight per respondent.

For example, a respondent with a criteria weight of 0.22 for personal growth, 0.34 for meaningful relationships and 0.10 for community contribution had a total intrinsic aspirational goal criteria weight of 0.66. The same respondent with a criteria weight of 0.25 for wealth, 0.06 for fame and 0.03 for image had a total extrinsic aspirational goal criteria weight of 0.34. In the end, the group of intrinsic aspirational goals represented the inverse of the group of extrinsic aspirational goals. A respondent with an intrinsic aspirational criteria weight of 0.66 and an extrinsic aspirational criteria weight of 0.34 thus assigned greater importance to intrinsic aspirational goals than extrinsic aspirational goals. Finally, each respondent's intrinsic and extrinsic aspirational goal criteria weights were incorporated into the respective moderating variables of intrinsic aspirational goals and extrinsic aspirational goals.

2.5.3.3 Moderation effects

Hayes' Process Macro Version 3.5 (Model 1) was used to test whether intrinsic aspirational goals and extrinsic aspirational goals moderated the relationships between basic psychological need satisfaction/frustration and CSSC. The results of the moderation interaction effects are summarised in Table 2.7.

Table 2.7: Summary of moderation interaction effects

Hypothesis	Variables			Interaction effect [LLCI; ULCI]	SE	p-value* (t-value)	Result
	X	W	Y				
H3	PNS	Intrinsic	CSSC	-0.4484 [-1.0657; 0.1689]	0.3143	0.1542 (-1.4266)	Not supported
H4	PNS	Extrinsic	CSSC	0.4491 [-0.1678; 1.659]	0.3141	0.1533 (1.4297)	Not supported
H5	PNF	Intrinsic	CSSC	Moderation was not assessed since there was no significant relationship between PNF and CSSC.			
H6	PNF	Extrinsic	CSSC				

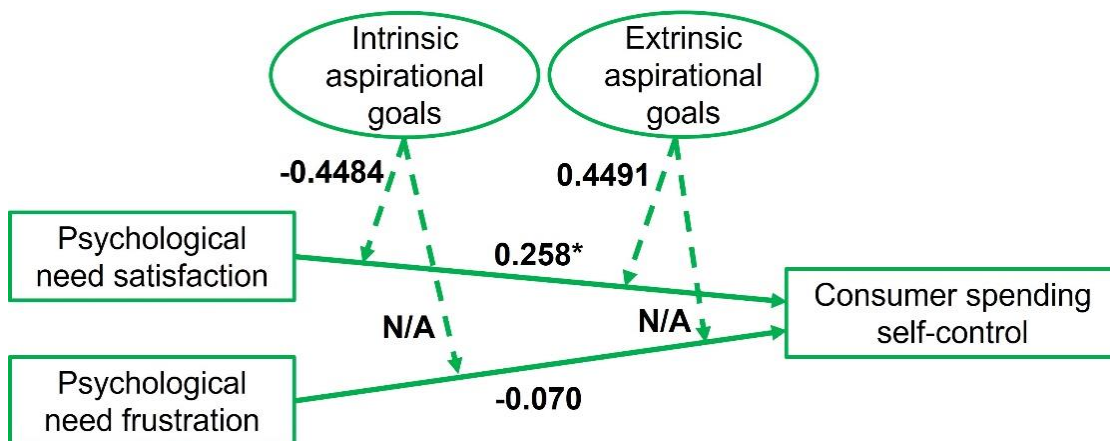
Note: *Statistically significant at $p < 0.01$, two-tailed; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control; Intrinsic = Intrinsic aspirational goals; Extrinsic = Extrinsic aspirational goals.

Moderation occurs when the interaction effect ($X*W$) is statistically significant, and the OLS 95%-confidence intervals do not contain the value zero. As is evident from

Table 2.7, intrinsic aspirational goals did not have a significant interaction effect ($p = 0.1542$) on the relationship between psychological need satisfaction and CSSC, resulting in H3 not being supported. Similarly, extrinsic aspirational goals did not have a significant interaction effect ($p = 0.1533$) on the relationship between psychological need satisfaction and CSSC. H4 was, therefore, also not supported. Given that the results showed no significant relationship between psychological need frustration and CSSC (refer to Section 2.5.2.2), H5 and H6 were not assessed.

A summary of the final standardised estimate results for the complete conceptual framework is outlined in Figure 2.2.

Figure 2.2: Standardised estimate results of the conceptual framework for Article 1



Note: *Statistically significant at $p < 0.05$

2.6 GENERAL DISCUSSION AND IMPLICATIONS

The researcher sought to measure the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. The study had to meet two secondary objectives to address the overall objective.

The first secondary objective was to determine whether relationships between psychological need satisfaction/frustration and CSSC existed. The results revealed a significant, positive relationship between psychological need satisfaction and CSSC, further supporting that the satisfaction of psychological needs results in positive outcomes, which in this regard is greater CSSC. Consumers whose psychological needs are satisfied are, in a sense, content with their current situation, more likely to control their spending behaviour and, thus, less likely to spend. As a result, marketers must be more convincing in their sales approach by providing the necessary information, facts and figures to persuade consumers why a particular product or service might benefit them. Since this group of consumers has more control over their spending, it will take much more convincing to buy a product/service. Therefore, a more persuasive approach is suggested when dealing with consumers whose psychological needs are satisfied.

Contrary to the positive relationship between psychological need satisfaction and CSSC, a negative relationship was discovered between psychological need frustration and CSSC, although not significant. Although previous research has shown that psychological need frustration results in a breakdown in self-control (Vansteenkiste & Ryan, 2013), the researcher found no significant relationship between psychological need frustration and CSSC. A possible reason for the lack of significance between psychological need frustration and CSSC is that people do not necessarily equate their behaviour in response to psychological need frustration, to their spending behaviour.

Since people tend to pursue one group of aspirational goals more purposefully than the other (Kasser & Ryan, 1993, 1996), it was important to establish the weight attached to each group of aspirational goals; this was done using the AHP. The results revealed that, overall, respondents attached greater importance to intrinsic aspirational goals than extrinsic aspirational goals. This is in agreement with Schmuck *et al.* (2000), who state that, in general, intrinsic aspirational goals are more valued than extrinsic aspirational goals. In assessing the moderating effect of aspirational goals on the relationship between psychological need satisfaction/frustration and CSSC, the results revealed that neither intrinsic nor extrinsic aspirational goals had a significant moderating effect on the relationship between psychological need satisfaction and CSSC. A possible reason for the lack of significant

moderation could be that neither intrinsic nor extrinsic aspirational goals truly make a difference in terms of a satisfied individual's level of CSSC (Deci & Ryan, 2000). In other words, psychological need satisfaction results in greater self-control, irrespective of whether intrinsic or extrinsic aspirational goals are pursued. Another possible explanation for the lack of significance is that the attainment of any goal results in people feeling good about themselves (Emmons, 1986; Romero *et al.*, 2012; Niemiec *et al.*, 2009), and possibly leading to better CSSC. Thus, even though greater importance is attached to intrinsic aspirational goals, marketers can emphasise the act of goal achievement in their communication messages and emphasise how their product/service can assist people in achieving their aspirational goals – whether intrinsic or extrinsic aspirational goals are pursued.

Because there was no significant relationship between psychological need frustration and CSSC, it was unwarranted to assess whether intrinsic and extrinsic aspirational goals had a moderating effect on the relationship between psychological need frustration and CSSC. These results offer several opportunities for future research, as explained in Section 2.8.

In summary, when psychological needs are satisfied, people have greater control over their spending behaviour; however, when psychological needs are frustrated, people have less control over their spending. Nevertheless, the relationship between psychological need frustration and CSSC did not prove to be significant. In general, the respondents attached greater importance to intrinsic aspirational goals than extrinsic aspirational goals, which is in accordance with previous studies. Whether intrinsic or extrinsic aspirational goals are pursued, the fact that psychological needs are satisfied seems to be enough reason for people to control their spending. When dealing with consumers whose psychological needs are satisfied, a more persuasive marketing approach is suggested whereby marketers convince consumers of the product/service's importance to the extent that consumers feel it is worthwhile giving up control over their spending to obtain the product/service.

2.7 STUDY CONTRIBUTIONS

To the researcher's knowledge, this is the first study to assess the relationship between psychological need satisfaction/frustration and CSSC as a regulatory system within the context of the SDT. This study makes a theoretical contribution to the SDT by reporting a positive association between psychological need satisfaction and CSSC. Furthermore, recognising that the relationship between psychological need frustration and CSSC was not significant is itself a contribution since it creates future research opportunities for investigating possible mediators that might influence this relationship.

Although many previous research studies have investigated the role of self-control in various domains (De Ridder *et al.*, 2012; Tangney *et al.*, 2004), CSSC, as a specific form of self-control, has not been widely studied. Therefore, a key contribution of this study is adding to the literature on CSSC. Although CSSC shares similarities with general self-control, and self-control in its general form sheds some light on consumer spending behaviour, a focus on CSSC can better explain consumer behaviour within a specific context (Haws *et al.*, 2012). Furthermore, a better understanding of CSSC enables practitioners to put certain procedures in place to assist consumers in managing a healthy level of spending. For example, service organisations, such as financial institutions, can start by restricting consumers' overdraft facilities or developing stringent procedures when customers apply for credit. Such is the case for a South African bank, that only approved 45% of the 4 million loan applications received, due to stricter conditions (BusinessTech, 2023). A concern however is that when consumers' application for credit are turned down by formal financial institutions, they go searching elsewhere for someone willing to lend them the money. Thus, consumers engage in unsecured lending practices which can have even more detrimental effects on a person's financial behaviour and well-being (Fisher-French, 2023).

A major methodological contribution of this study is the method used to measure aspirational goals. In general, the Aspirations Index (Kasser & Ryan, 1996) is used to measure the seven aspirational goals (of which physical health has been excluded for this study). In its original form, the scale measures each aspirational goal through five items per goal on a 7-point Likert scale. However, the researcher measured aspirational goals in relative terms by using a scale of pairwise comparisons, forcing respondents to directly compare one aspirational goal with another and making a definite choice between the two. In addition to choosing one of the two, the scale also asked respondents to indicate to what extent one aspirational goal is more important than the other. Using AHP made it possible to establish the criteria weight attached to each specific aspirational goal. To the researcher's knowledge, this is the first study to measure aspirational goals in this fashion and thus provides a means through which a trade-off between the different aspirational goals can be measured.

The final study contribution relates to using intrinsic and extrinsic aspirational goals as moderators on the relationship between psychological need satisfaction/frustration and CSSC. Previous research reported linear relationships between intrinsic/extrinsic aspirational goals, psychological need satisfaction/frustration and well-being/ill-being (Brdar *et al.*, 2009; Sebire *et al.*, 2009; Vansteenkiste *et al.*, 2008). However, incorporating intrinsic and extrinsic aspirational goals as moderators has not yet been investigated. As mentioned earlier, the extent to which psychological needs affect well-being is influenced by the type of aspirational goals pursued (Ryan *et al.*, 1996),

thereby emphasising the need to consider how aspirational goals interact with the relationship between psychological needs and CSSC.

2.8 LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

Several limitations to this study are worth mentioning. First, the researcher relied solely on respondents' self-reported behaviour based on their survey answers; consequently, the study was subject to social desirability bias (Strömbäck *et al.*, 2017). With social desirability, respondents may give false answers to look good/better or provide answers in line with socially approved norms (Tangney *et al.*, 2004). Future research could, therefore, use different research methodologies (e.g., experimentation or observations) to overcome the concerns related to self-reported data and social desirability bias.

A second limitation relates to the subjective nature of the data collected. Future studies should consider using more objective measures to determine to what extent CSSC is exerted. Saying that one is controlling one's spending and truly controlling one's spending are two different things. Therefore, it is recommended that a combination of subjective and objective measures be incorporated into future studies to obtain a more accurate picture of respondents' spending behaviour and their ability to control their spending behaviour.

The third limitation relates to the cross-sectional design of the study, which prohibits the researcher from drawing conclusions on directional effects beyond the sample (Campbell *et al.*, 2015; Sebire *et al.*, 2009). Future research could, therefore, use longitudinal studies to determine the long-term effect of psychological need satisfaction/frustration on CSSC and the moderating effect of intrinsic and extrinsic aspirational goals. Although psychological need satisfaction/frustration may elicit an immediate response, aspirational goals have a long-term focus (Kasser & Ryan, 1993; Truong *et al.*, 2010). As such, a longitudinal study will provide great insight into the pursuit and attainment of intrinsic and extrinsic aspirational goals. Furthermore, occasional experiences of psychological need frustration may cause a temporary plunge in CSSC; however, when psychological need frustration becomes a recurring event, the true impact of the frustration becomes evident in terms of aspirational goals pursued and CSSC. By conducting longitudinal studies, researchers can shed light on the long-term effect of psychological need satisfaction/frustration on CSSC.

Finally, future research can investigate the influence of other variables on the relationship between psychological needs and CSSC. More specifically, future studies can investigate whether the influence of psychological need satisfaction/frustration on CSSC differ based on varying demographical factors; or alternatively investigate other variables as possible mediators and/or

moderators influencing the relationship between psychological need satisfaction/frustration and CSSC. For example, since the relationship between psychological need frustration and general self-control has already been established, self-control can be included as a mediator between psychological need satisfaction/frustration and CSSC (Vansteenkiste & Ryan, 2013). Alternatively, rather than incorporating intrinsic and extrinsic aspirational goals as moderators, including them as mediators between psychological needs and CSSC presents possible research avenues. This suggestion is in accordance with previous studies stating that psychological needs are the driving force behind people's growth and the aspirational goals they pursue (Vansteenkiste *et al.*, 2008). Furthermore, specific intrinsic (e.g., meaningful relationships) and extrinsic aspirational goals (e.g., financial success or social recognition) might have varying influences on the relationship between psychological needs and CSSC, whether as moderators or mediators.

2.9 CONCLUSION

The researcher showed that psychological need satisfaction was significantly related to CSSC, and although not significant, psychological need frustration and CSSC exhibited a negative relationship. This prompted the need to further investigate whether possible moderators – intrinsic and extrinsic aspirational goals – influenced the relationship between psychological needs and CSSC. The results revealed that South African, credit-active consumers who were 18 years or older, either permanently employed or self-employed, attached greater importance to intrinsic aspirational goals than extrinsic aspirational goals, highlighting that not all goals are equal. In terms of moderation, it was discovered that neither intrinsic nor extrinsic aspirational goals moderated the relationship between psychological need satisfaction and CSSC.

2.10 LIST OF REFERENCES

Ahmad, I., Vansteenkiste, M. & Soenens, B. 2013. The relations of Arab Jordanian adolescents' perceived maternal parenting to teacher-rated adjustment and problems: the intervening role of perceived need satisfaction. *Developmental Psychology*, 49:177-183. [Online] Available from: <http://dx.doi.org/10.1037/a0027837> [Accessed: 2021-01-03].

Ameriks, J., Caplin, A., Leahy, J. & Tyler, T. 2007. Measuring self-control problems. *American Economic Review*, 97:966-972. [Online] Available from: DOI:10.1257/aer.97.3.966 [Accessed: 2020-02-04].

Bandura, A. 1991. Social cognitive theory of self-regulation. *Organisational Behaviour and Human Decision Processes*, 50:248-287. [Online] Available from: <https://doi.org/10.1146/annurev.psych.52.1.1> [Accessed: 2019-07-19].

Bartholomew, K.J., Ntoumanis, N., Ryan, R.M. & Thøgersen-Ntoumani, C. 2011. Psychological need thwarting in the sport context: assessing the darker sides of athletic experience. *Journal of Sport and Exercise Psychology*, 33:75-102. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-01-28].

Baumeister, R.F. 2002. Yielding to temptation: self-control failure, impulsive purchasing and consumer behaviour. *Journal of Consumer Research*, 28:670-676. [Online] Available from: DOI: 10.1086/338209 [Accessed: 2019-06-22].

Baumeister, R.F. & Heatherton, T.F. 1996. Self-regulation failure: an overview. *Psychological Inquiry*, 7:1-15. [Online] Available from: DOI: 10.1207/s15327965pli0701_1 [Accessed: 2020-02-04].

Baumeister, R.F. & Leary, M.R. 1995. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3):497-529. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-04-18].

Biljanovska, N. & Palligkinis, S. 2018. Control thyself: self-control failure and household wealth. *Journal of Banking and Finance*, 92:280-294. [Online] Available from: <https://doi.org/10.1016/j.jbankfin.2016.10.010> [Accessed: 2020-02-06].

- Brdar, I., Majda, R. & Dubravka, M. 2009. Life goals and well-being: are extrinsic aspirations always detrimental to well-being? *Psychological Topics*, 18(2):317-334. [Online] Available from: <https://hrcak.srce.hr/file/74340> [Accessed: 2019-02-05].
- BusinessTech. 2023. *4 signs you're living beyond your means in South Africa*. [Online] Available <https://businesstech.co.za/news/finance/662167/4-signs-youre-living-beyond-your-means-in-south-africa/> [Accessed: 2023-06-18].
- Campbell, R., Vansteenkiste, M., Delesie, L.M., Mariman, A.N., Soenens, B., Tobback, E., Van der Kaap-Deeder, J. & Vogelaers, D. 2015. Examining the role of psychological need satisfaction in sleep: a self-determination theory perspective. *Personality and Individual Differences*, 77:199-204. [Online] Available from: <https://doi.org/10.1016/j.paid.2015.01.003> [Accessed: 2020-01-30].
- Centre for Self-Determination Theory. 2022. *The theory*. [Online] Available from: <https://selfdeterminationtheory.org/the-theory/> [Accessed: 2022-10-15].
- Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B. & Beyers, W. 2015. Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. [Online] Available from: DOI: 10.1007/s10902-014-9532-5 [Accessed: 2020-01-11].
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E.L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R.M., Sheldon, K.M., Soenens, B., Van Petegem, S. & Verstuyf, J. 2015. Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39:216-236. [Online] Available from: DOI: 10.1007/s11031-014-9450-1 [Accessed: 2020-01-11].
- Dauids, E.L. 2022. The interaction between basic psychological needs, decision-making and life goals among emerging adults in South Africa. *Social Sciences*, 11:316 [Online] Available from: <https://doi.org/10.3390/socsci11070316> [Accessed: 2023 – 06 – 01].
- De Ridder, D.T.D., Lensvelt-Mulders, G., Finkenauer, C., Stok, F.M. & Baumeister, R.F. 2012. Taking stock of self-control: a meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review*, 16(1):76-99. [Online] Available from: DOI: 10.1177/1088868311418749 [Accessed: 2020-02-04].

Deci, E.L. & Ryan, R.M. 2000. The “what” and “why” of goal pursuits: human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4):227-268. [Online] Available from: DOI: 10.1207/S15327965PLI1104_01 [Accessed: 2018-04-20].

Deci, E.L. & Ryan, R.M. 2008. Self-determination theory: a macrotheory of human motivation, development, and health. *Canadian Psychology*, 49:182-185. [Online] Available from: DOI: 10.1037/a0012801 [Accessed: 2019-02-05].

Deloitte. 2023. *State of the South African Consumer: Quarterly updates from our global survey focused on local consumer trends*. [Online] Available from: <https://www2.deloitte.com/za/en/pages/consumer-industrial-products/articles/state-of-the-south-african-consumer.html> [Accessed: 2023-06-18].

Eccles, J.C. & Wigfield, A. 2002. Motivational beliefs, values and goals. *Annual Review of Psychology*, 53:109-132. [Online] Available from: DOI: 10.1146/annurev.psych.53.100901.135153 [Accessed: 2019-11-25].

Emmons, R.A. 1986. Personal strivings: an approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51:1058-1068. [Online] Available from: DOI: 10.1037/0022-3514.51.5.1058 [Accessed: 2019-03-12].

Field, A. 2018. *Discovering statistics using IBM SPSS statistics*. 5th ed. Los Angeles, CA: Sage.

Fisher-French, M. 2023. Personal Finance: Cost of living is forcing people into debt review. [Online] Available from: <https://www.news24.com/citypress/personal-finance/cost-of-living-is-forcing-people-into-debt-review-20230514> [Accessed: 2023-06-18].

Fong, P.S. & Choi, S.K. 2000. Final contractor selection using the analytical process. *Construction Management and Economics*, 18:547-557. [Online] Available from: DOI: 10.1080/014461900407356 [Accessed: 2020-08-24].

Forman, E. & Peniwati, K. 1998. Aggregating individual judgments and priorities with the Analytic Hierarchy Process. *European Journal of Operational Research*, 108:165-169. [Online] Available from: <https://isahp.org/uploads/383-aggregating.pdf> [Accessed: 2020-10-15].

Fornell, C. & Larcker, D.F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1):39-50. [Online] Available from: DOI: 10.1177/002224378101800104 [Accessed: 2021-01-16].

Gunnell, K.E., Crocker, P.R.E., Mack, D.E., Wilson, P.M. & Zumbo, B.D. 2014. Goal contents, motivation, psychological need satisfaction, well-being and physical activity: a test of self-determination theory over 6 months. *Psychology of Sport and Exercise*, 15:19-29. [Online] Available from: <https://doi.org/10.1016/j.psychsport.2013.08.005> [Accessed: 2019-03-24].

Haedt-Matt, A.A. & Keel, P.K. 2011. Hunger and binge eating: a meta-analysis of studies using ecological momentary assessment. *International Journal of Eating Disorders*, 44:573-578. [Online] Available from: DOI: 10.1002/eat.20868 [Accessed: 2020-01-28].

Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B. & Van Petegem, S. 2015. Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of Sport & Exercise*, 16:126-136. [Online] Available from: <https://doi.org/10.1016/j.psychsport.2014.08.013> [Accessed: 2020-01-30].

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2010. *Multivariate data analysis*. 7th ed. Upper Saddle River, NJ: Pearson Prentice Hall.

Hair, J.F., Matthews, L.M., Matthews, R.L. & Sarstedt, M. 2017. PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2):107-123.

Harris, J. & Hagger, M.S. 2007. Do basic psychological needs moderate relationships within the Theory of Planned Behavior? *Journal of Applied Biobehavioral Research*, 12:43-64. [Online] Available from: <https://doi.org/10.1111/j.1751-9861.2007.00013.x> [Accessed: 2019-08-19].

Hatting, D. & Ramlakan, S. 2022. *Stretched South African consumers put health and sustainability on the shopping list. McKinsey 2022 consumer sentiment survey*. [Online] Available from: <https://www.mckinsey.com/za/our-insights/stretched-south-african-consumers-put-health-and-sustainability-on-the-shopping-list> [Accessed: 2022-06-27].

Hatting, D., Magnus, K.H. & Ramlakan, S. 2016. *South Africa's cautious consumer. Consumer packaged goods, July 2016*. [Online] Available from:

<https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/south-africa-cautious-consumer> [Accessed: 2022-06-27].

Haws, K.L., Bearden, W.O. & Nenkov, G.Y. 2012. Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40:695-710. [Online] Available from: DOI: 10.1007/s11747-011-0249-2 [Accessed: 2019-06-22].

Hayes, A.F. 2018. *Introduction to mediation, moderation and conditional process analysis: a regression-based approach*. 2nd ed. New York, NY: Guilford Press.

Hu, L. & Bentler, P. M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1):1-55.

Kasser, T. & Ryan, R.M. 1993. A dark side of the American dream: correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65:410-422. [Online] Available from: DOI: 10.1037/0022-3514.65.2.410 [Accessed: 2018-11-10].

Kasser, T. & Ryan, R.M. 1996. Further examining the American dream: differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22:280-287. [Online] Available from: <https://doi.org/10.1177/0146167296223006> [Accessed: 2018-11-10].

Kasser, T. & Ryan, R.M. 2001. Be careful what you wish for: optimal functioning and the relative attainment of intrinsic and extrinsic goals. In: Schmuck, P. & Sheldon, K.M. (eds.) *Life goals and well-being: towards a positive psychology of human striving*. Goettingen: Hogrefe & Huber. [Online] Available from: https://www.researchgate.net/profile/Richard_Ryan2/publication/232448796_Be_careful_what_you_wish_for_Optimal_functioning_and_the_relative_attainment_of_intrinsic_and_extrinsic_goals/links/54f08bd80cf2f9e34efc90c9.pdf [Downloaded: 2019-02-05].

Kasser, T., Ryan, R.M., Couchman, C.E. & Sheldon, K.M. 2004. Materialistic values: their causes and consequences. In: Kasser, T. & Kanner, A. (eds.) *Psychology and consumer culture: the struggle for a good life in a materialistic world*. Washington, DC: American Psychological Association. [Online] Available from: <https://doi.org/10.1037/10658-002> [Accessed: 2019-02-05].

Momentum. 2021. *Consumers more financially vulnerable due to pressures on income and savings. Momentum-Unisa consumer financial vulnerability index, Q2, 2021*. [Online] Available

from: <https://retail.momentum.co.za/documents/financial-wellness/consumer-financial-vulnerability-index-Q2-2021.pdf> [Accessed: 2022-06-28].

Muralidhar, K., Santhanam, R. & Wilson, R.L. 1990. Using the analytic process for information system project selection. *Information and Management*, 18(2):87-95. [Online] Available from: [https://doi.org/10.1016/0378-7206\(90\)90055-M](https://doi.org/10.1016/0378-7206(90)90055-M) [Accessed: 2021-02-12].

Muthén, L.K. & Muthén, B.O. 1998-2017. *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.

National Credit Regulator. 2019. *Credit bureau monitor: third quarter - September 2019*. [Online] Available from: <https://www.ncr.org.za/documents/CBM/CBM%20Q3%202019.pdf> [Accessed: 2020-01-19].

Nel, J. & Boshoff, C. 2017. Development of application-based mobile-service trust and online trust transfer: an elaboration likelihood model perspective. *Behaviour & Information Technology*, 36(8):809-826. [Online] Available from: DOI: 10.1080/0144929X.2017.1296493 [Accessed: 2021-01-16].

Niemiec, C.P., Ryan, R.M. & Deci, E.L. 2009. The path taken: consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality*, 43:291-306. [Online] Available from: <https://doi.org/10.1016/j.jrp.2008.09.001> [Accessed: 2019-02-05].

Partovi, F.Y. & Burton, J. 1992. An analytical hierarchy approach to facility layout. *Computers and Industrial Engineering*, 22(4):447-457. [Online] Available from: [https://doi.org/10.1016/0360-8352\(92\)90020-K](https://doi.org/10.1016/0360-8352(92)90020-K) [Accessed: 2021-02-12].

Pauer, F., Schmidt, K., Babac, A., Damm, K., Frank, M. & Von der Schulenburg, J.M.G. 2016. Comparison of different approaches applied in Analytic Hierarchy Process – an example of information needs of patients with rare diseases. *BMC Medical Informatics and Decision Making*, 16:117-127. [Online] Available from: DOI: 10.1186/s12911-016-0346-8 [Accessed: 2020-10-01].

Pijoo, I. 2021. *More than a third of South Africans "living beyond their means" as common goods prices rise*. [Online] Available from: <https://www.sowetanlive.co.za/news/south-africa/2021-12-02-more-than-a-third-of-south-africans-living-beyond-their-means-as-common-goods-prices-rise/> [Accessed: 2023-06-18].

Riediger, M. & Freund, A.M. 2004. Interference and facilitation among personal goals: differential associations with subjective well-being and persistent goal pursuit. *Personality and Social Psychology Bulletin*, 30(12):1511-1523. [Online] Available from: <https://doi.org/10.1177/0146167204271184> [Accessed: 2019-03-05].

Romero, E., Gómez-Fraguela, J.A. & Villar, P. 2012. Life aspirations, personality traits and subjective well-being in a Spanish sample. *European Journal of Personality*, 26:45-55. [Online] Available from: <https://doi.org/10.1002/per.815> [Accessed: 2019-02-05].

Ryan, R.M. & Deci, E.L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55(1):68-78. [Online] Available from: DOI: 10.1037/0003-066X.55.1.68 [Accessed: 2018-04-20].

Ryan, R.M., Deci, E.L. Grolnick, W. & La Guardia, J. 2006. The significance of autonomy and autonomy support in psychological development and psychopathology. In: Cicchetti, D. & Cohen, D.J. (eds.) *Developmental psychopathology, Vol. 1: theory and method*. 2nd ed. Hoboken, New Jersey: Wiley. [Online] Available from: <https://doi.org/10.1002/9780470939383.ch20> [Accessed: 2020-04-20].

Ryan, R.M., Patrick, H., Deci, E.L. & Williams, G.C. 2008. Facilitating health behaviour change and its maintenance: interventions based on self-determination theory. *The European Health Psychologist*, 10:2-5. [Online] Available from: http://selfdeterminationtheory.org/SDT/documents/2008_RyanPatrickDeciWilliams_EHP.pdf [Accessed: 2020-01-28].

Ryan, R.M., Sheldon, K.M., Kasser, T. & Deci, E.L. 1996. All goals are not created equal: an organismic perspective on the nature of goals and their regulation. In: Gollwitzer, P.M. & Bargh, J.A. (eds.) *The psychology of action: linking cognition and motivation to behavior*. New York, NY: Guilford press. [Online] Available from: https://books.google.co.za/books/about/The_Psychology_of_Action.html?id=v1LQVSI9hfMC&printsec=frontcover&source=kp_read_button&redir_esc=y#v=onepage&q&f=false [Accessed: 2020-04-28].

Saaty, R.W. 1987. The analytic hierarchy process – what it is and how it is used. *Math Modelling*, 9(3-5):161-176. [Online] Available from: DOI: 10.1016/0270-0255(87)90473-8 [Accessed: 2020-10-21].

- Saaty, T.L. 1995. Transport planning with multiple criteria: the analytic hierarchy process applications and progress review. *Journal of Advanced Transportation*, 29(1):81-126. [Online] Available from: DOI: 10.1002/atr.5670290109 [Accessed: 2020-10-21].
- Schermelleh-Engel, K., Moosbrugger, H. & Müller, H. 2003. Evaluating the fit of structural equation models: test of significance and descriptive goodness-of-fit measures. *Methods of Psychology Research*, 8(2):23-74. [Online] Available from: DOI: 10.1037/0022-3514.45.3.513 [Accessed: 2022-07-18].
- Schmuck, P., Kasser, T. & Ryan, R.M. 2000. Intrinsic and extrinsic goals: their structure and relationship to well-being in German and U.S. college students. *Social Indicators Research*, 50:225-241. [Online] Available from: DOI: 10.1023/A:1007084005278 [Accessed: 2019-02-05].
- Sebire, S.J., Standage, M. & Vansteenkiste, M. 2009. Examining intrinsic versus extrinsic exercise goals: cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, 31:189-210. [Online] Available from: DOI: 10.1123/jsep.31.2.189 [Accessed: 2020-04-19].
- Sheldon, K.M. & Kasser, T. 1995. Coherence and congruence: two aspects of personality integration. *Journal of Personality and Social Psychology*, 68(3):531-543. [Online] Available from: <https://doi.org/10.1037/0022-3514.68.3.531> [Accessed: 2021-04-20].
- Sheldon, K.M. & Kasser, T. 2008. Psychological threat and extrinsic goal striving. *Motivation and Emotion*, 32:37-45. [Online] Available from: DOI: 10.1007/s11031-008-9081-5 [Accessed: 2019-02-05].
- Sheldon, K.M., Elliot, A.J., Kim, Y. & Kasser, T. 2001. What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80:325-339. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2021-01-30].
- Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D. & Tinghög, G. 2017. Does self-control predict financial behaviour and financial well-being? *Journal of Behavioural and Experimental Finance*, 14:30-38. [Online] Available from: <https://doi.org/10.1016/j.jbef.2017.04.002> [Accessed: 2019-06-22].
- Tangney, J.P., Baumeister, R.F. & Boone, A.L. 2004. High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72(2):271-324. [Online] Available from: DOI: 10.1111/j.0022-3506.2004.00263.x [Accessed: 2019-11-10].

Thøgersen-Ntoumani, C., Ntoumanis N., Cumming, J. & Chatzisarantis, N.L.D. 2011. When feeling attractive matters too much to women: a process underpinning the relation between psychological need satisfaction and unhealthy weight control behaviors. *Motivation and Emotion*, 35(4):413-422. [Online] Available from: DOI: 10.1007/s11031-011-9226-9 [Accessed: 2019-08-19].

TransUnion. 2019. *South Africans are increasingly reliant on credit to make ends meet*. [Online] Available from: <https://www.transunion.co.za/archives-article/south-africans-reliant-on-credit> [Accessed: 2022-06-27].

Truong, Y. & McColl, R. 2011. Intrinsic motivations, self-esteem, and luxury goods consumption. *Journal of Retailing and Consumer Services*, 18:555-561. [Online] Available from: <https://doi.org/10.1016/j.jretconser.2011.08.004> [Accessed: 2018-04-20].

Truong, Y., McColl, R. & Kitchen, P.J. 2010. Uncovering the relationships between aspirations and luxury brand preference. *Journal of Product and Brand Management*, 19(5):346-355. [Online] Available from: DOI: 10.1108/10610421011068586 [Accessed: 2018-04-20].

Universiteit Gent. 2019. *The basic psychological need satisfaction and frustration scale (BPNSFS)*. [Online] Available from: <https://selfdeterminationtheory.org/download/2015-basic-psychological-need-satisfaction-frustration-scale-completepacket/?wpdmdl=4215&refresh=5dfa5a7d9c92a1576688253> [Accessed: 2019-12-13].

Vansteenkiste, M. & Ryan, R.M. 2013. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 3:263-280. [Online] Available from: DOI: 10.1037/a0032359 [Accessed: 2020-01-28].

Vansteenkiste, M., Lens, W. & Deci, E.L. 2006. Intrinsic versus extrinsic goal contents in self-determination theory: another look at the quality of academic motivation. *Educational Psychologist*, 41:19-31. [Online] Available from: https://doi.org/10.1207/s15326985ep4101_4 [Accessed: 2020-04-19].

Vansteenkiste, M., Niemiec, C.P. & Soenens, B. 2010. The development of the five mini-theories of self-determination theory: an historical overview, emerging trends, and future directions. In: Urdan, T.C. & Karabenick, S.A. (eds.) *Advances in motivation and achievement: Vol. 16, Part A. The decade ahead: theoretical perspectives on motivation and achievement*. Bingley, UK: Emerald.

[Online] Available from: [http://dx.doi.org/10.1108/S0749-7423\(2010\)000016A007](http://dx.doi.org/10.1108/S0749-7423(2010)000016A007) [Accessed: 2021-01-30].

Vansteenkiste, M., Soenens, B. & Duriez, B. 2008. Presenting a positive alternative to strivings for material success and the thin ideal: understanding the effects of extrinsic relative to intrinsic goal pursuits. In: Lopez, S.J. (ed.) *Positive psychology: exploring the best in people*. Westport, CT: Greenwood Press. [Online] Available from: https://www.researchgate.net/publication/237703070_Presenting_a_Positive_Alternative_to_Strivings_for_Material_Success_and_the_Thin_Ideal_Understanding_the_Effects_of_Extrinsic_Relative_to_Intrinsic_Goal_Pursuits [Accessed: 2020-03-28].

Vohs, K.D. & Faber, R.J. 2007. Spent resources: self-regulatory resource availability affects impulse buying. *Journal of Consumer Research*, 33:537-547. [Online] Available from: DOI: 10.1086/510228 [Accessed: 2020-02-04].

Vosylis, R., Žukauskienė, R. & Crocetti, E. 2020. Linking Identity Processes to Spending Self-Control Capacities in Emerging Adulthood: The Mediating Role of Self-Regulatory Identity Functions. *Emerging Adulthood*, 8(5):404-4011. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1177/2167696818820204> [Accessed: 2023 – 06 – 01].

Williams, G.C., Cox, E.M., Hedberg, V.A. & Deci, E.L. 2000. Extrinsic life goals and health-risk behaviours in adolescents. *Journal of Applied Social Psychology*, 30(8):1756-1771. [Online] Available from: <https://doi.org/10.1111/j.1559-1816.2000.tb02466.x> [Accessed: 2019-02-05].

Wu, W.H., Chiang, C. & Lin, C. 2008. Comparing the aggregation methods in the analytic hierarchy process when uniform distribution. *WSEAS Transactions on Business and Economics*, 5(3):82-87. [Online] Available from: <http://www.wseas.us/e-library/transactions/economics/2008/Bus-Eco.pdf> [Accessed: 2020-10-15].

CHAPTER 3: ARTICLE 2

Psychological needs and financial well-being: Exploring the roles of consumer spending self-control and financial vulnerability

ABSTRACT

Psychological need satisfaction is positively associated with psychological well-being, while the opposite is true for psychological need frustration. Uncertainty still exists as to whether psychological needs are associated with financial well-being. Furthermore, while psychological need satisfaction has been associated with positive day-to-day behaviours, psychological need frustration has been associated with irresponsible spending on need substitutes. Hence, unless a degree of CSSC is applied, psychological need frustration can detrimentally affect financial well-being. This article sought to explore whether CSSC, as a regulating behaviour, is a mechanism through which psychological needs influence financial well-being. In addition, taking cognisance that CSSC influences to what extent people are prepared for financial shocks, the researcher also explored the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being. An online paid-for consumer panel was used through Qualtrics to collect data by means of an online self-administered questionnaire. A total of 608 credit-active South Africans who were 18 years or older, and either self-employed or permanently employed, were scrutinised. Structural equation modelling analysis was used to assess the structural model, while Hayes' Process Macro for SPSS Version 3.5 was used in exploring the mediating effect of CSSC and the moderating effect of financial vulnerability. Results revealed that CSSC had a partial, complementary mediating effect on the relationships between psychological need satisfaction/frustration and financial well-being. This insight allows marketers to emphasise in marketing messages how having control over one's spending can lead to greater financial well-being. Finally, financial vulnerability did not have a significant moderating effect on the relationship between CSSC and financial well-being.

Keywords: Psychological need satisfaction, psychological need frustration, consumer spending self-control, financial vulnerability, well-being

3.1 INTRODUCTION

People underestimate the influence of need satisfaction on financial decision-making and management. Previous research has shown that to achieve financial growth and engage in responsible financial behaviour, it is important to first satisfy basic lower-order needs (i.e., survival needs) and then gradually move up to higher-order needs such as status, prestige and self-gratification (Barbić, Lučić & Chen, 2019). When basic human needs are not satisfied, people may turn to other activities or need substitutes to compensate for the lack of need satisfaction (Subrahmanyam & Gomez-Arias, 2018; Woodruffe, 1997), which, unless restricted, can have detrimental effects on one's financial situation and consequently financial well-being. In addition to needs, a challenging financial environment characterised by high-interest rates and inflation as is currently the case in South Africa, causes consumers to take on credit as a means to survive the rising cost of living (Wilson, 2023), which again influences financial well-being. With an increase in the number of clothing accounts, personal loans, home and vehicle loans, consumers are making themselves vulnerable to further interest rate hikes and inflation (Opperman, 2023; TransUnion, 2023). With more than a third of South Africans living beyond their means (Deloitte, 2023), coupled with a lack of savings (Smith, 2019) and little discretionary money available at the end of the month (37%) (Deloitte, 2023), these financial challenges not only influence consumer's financial well-being, but also make them financially vulnerable for any adverse shocks that might come their way.

To better explain the various elements at play in this scenario, attention turned to the self-determination theory (SDT) as the theoretical model underpinning the conceptual framework of this article. As a starting point, SDT recognises that people have basic psychological needs, that when satisfied, result in greater well-being (Deci & Ryan, 2000). The three basic psychological needs (i.e., autonomy, competence and relatedness) proposed by the self-determination theory (SDT) are fundamental components for optimal functioning within one's immediate environment (Campbell, Vansteenkiste, Delesie, Mariman, Soenens, Tobbach, Van der Kaap-Deeder & Vogelaers, 2015; Chen, Van Assche, Vansteenkiste, Soenens & Beyers, 2015; Deci & Ryan, 2000). Psychological need satisfaction is associated with positive outcomes or favourable behaviours (Ahmad, Vansteenkiste & Soenens, 2013; Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000), for example, the ability to exert self-control. Self-control enables people to stay committed to long-term goals, save more, spend less, manage their finances better, resist temptation and avoid instant gratification (Baumeister, 2002; Biljanovska & Palligkinis, 2018; Miotto & Parente, 2015; Tangney, Baumeister & Boone, 2004). Therefore, people's ability to exercise self-control influences the degree to which financial and consumption behaviours are controlled and, subsequently, the level of financial well-being experienced (Huston, 2010; Miotto & Parente, 2015; Sabri, Cook & Gudmunson, 2012; Tangney *et al.*, 2004).

When psychological needs are frustrated, a more intense form of deprivation than merely experiencing low levels of psychological need satisfaction (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011), people are subject to self-control failure (Vansteenkiste & Ryan, 2013). The feeling of frustration can be exhausting and reduces energy levels, which is required for practising self-control (Moller, Deci & Ryan, 2006). One way people deal with the discomfort accompanying psychological need frustration, is to spend money on need substitutes (Deci & Ryan, 2000; Ryan, Deci, Grolnick & La Guardia, 2006; Vansteenkiste & Ryan, 2013). Rather than directly addressing the frustrated need, people turn to need substitution to provide some form of satisfaction, albeit less adequate. By coupling need substitution with self-control failure, even greater psychological need frustration can transpire, which, unless self-control is retained, can spiral out of control, further impeding the attainment of psychological need satisfaction (Deci & Ryan, 2000). In addition, low levels of self-control are associated with overspending (Pirog & Roberts, 2007), over-indebtedness (Gathergood, 2012; Ponchio, Cordeiro & Gonçalves, 2019), and defaulting behaviour (Miotto & Parente, 2015), consequently influencing people's financial well-being (Huston, 2010; Sabri *et al.*, 2012; Tangney *et al.*, 2004).

The way in which basic psychological needs relate to psychological outcomes, which influences psychological well-being, has been well researched and documented (Chen, Van Assche *et al.*, 2015; Haerens, Aelterman, Vansteenkiste, Soenens & Van Petegem, 2015; Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013). This article, however, aimed to provide a financial angle to this already established relationship between psychological needs and well-being by considering the relationship between psychological needs and financial well-being, and also whether CSSC has the ability to intervene in this relationship between psychological needs and financial well-being.

In addition to the proposed influence of CSSC on financial well-being, it was expected that the relationship between CSSC and financial well-being is influenced by the extent to which people are prepared for possible financial shocks and hardship; in other words, how financially vulnerable they are. Previous research reports that CSSC enables greater saving and less spending (Achtziger, Hubert, Kenning, Raab & Reisch, 2015; Miotto & Parente, 2015; Tangney *et al.*, 2004) and that it provides the necessary discipline needed to be prepared for possible adverse shocks, thus making a person less financially vulnerable (Baumeister, 2002; Ponchio *et al.*, 2019; Tangney *et al.*, 2004). Being financially prepared to overcome possible shocks, whether by saving more or spending less, contributes to greater financial well-being (Abrantes-Braga & Veludo-de-Oliveira, 2019; Consumer Financial Protection Bureau, 2015). However, realising that anyone can be financially vulnerable, irrespective of income, education and wealth, raises the question of what extent one's level of financial vulnerability influences the relationship between CSSC and financial well-being (O'Connor, Newmeyer, Yee Ching Wong, Bayuk, Cook, Komarova, Loibl, Lin Ong & Warmath, 2019). Therefore,

whether financial vulnerability had a moderating effect on the relationship between CSSC and financial well-being, justified further investigation.

In conclusion, the main objective of this article was to explore the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. In addressing the main objective, two secondary objectives were set. First, to investigate the mediating effect of CSSC on the relationship between psychological need satisfaction/frustration and financial well-being and, second, to investigate the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being. A key contribution of this study is to advance the knowledge of CSSC by specifically investigating CSSC's ability to regulate behaviour. Furthermore, the study contributes to SDT by exploring the relationships between psychological need satisfaction/frustration and financial well-being specifically, compared to previous studies that focused on psychological well-being. In terms of practical contributions, this study recommends using psychological needs as a segmentation base and depending on whether psychological needs are satisfied or frustrated, a different strategy for dealing with potential customers and their ability to control their spending can be recommended. Additionally, CSSC can also be used as a segmentation base, as it provides financial service organisations with opportunities to offer different product/service offerings to assist consumers in managing their spending behaviour.

This article commences with a brief literature review, followed by an outline of the conceptual framework. Thereafter, the methodology used and the results are explained. Finally, the article concludes with a general discussion of the study results, contributions and limitations.

3.2 LITERATURE OVERVIEW

A brief literature overview of the main constructs, namely psychological need satisfaction, psychological need frustration, financial well-being, CSSC and financial vulnerability, provides a better understanding of the article's context.

3.2.1 Psychological needs

Deci and Ryan (2000) developed the SDT, which focuses on what motivates people (i.e., psychological needs for the purpose of this article), how they socialise and what influences their well-being (i.e., financial well-being for the purpose of this article). The SDT proposes that people are naturally inclined to participate in interesting activities to proactively and optimally grow, function and adapt within their surroundings (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). Three basic

psychological needs must be satisfied to facilitate this process towards optimal growth. The extent to which these three needs are satisfied determines how effectively people adapt and function within their immediate surroundings (Ryan & Deci, 2000). The three universal and inherent psychological needs include the need for autonomy, the need for competence and the need for relatedness, which, when combined, form the basic psychological needs theory (Deci & Ryan, 2000).

The basic psychological needs theory is a mini-theory within the broader SDT macro-theory (Ryan & Deci, 2000) and has received much empirical research attention (Chen, Van Assche *et al.*, 2015). According to the basic psychological needs theory, the three psychological needs are fundamental components to ensure healthy psychological and social development, and overall well-being (Campbell *et al.*, 2015; Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000). Observing the outcomes of behaviour (i.e., development and well-being) makes it possible to determine whether psychological needs are satisfied. Therefore, positive outcomes are indicative of psychological need satisfaction, while negative outcomes ensue when psychological needs are thwarted or even frustrated (Deci & Ryan, 2000).

Although the three needs for autonomy, competence and relatedness are distinctive, they are complementary (Deci & Ryan, 2000) and need to function as a unit to ensure optimal development (Bartholomew *et al.*, 2011). Thus, rather than evaluating the three psychological needs separately, studies increasingly consider a composite psychological need satisfaction score to determine an overall level of psychological need satisfaction (Hagger, Chatzisarantis & Harris, 2006; Sebire, Standage & Vansteenkiste, 2009; Thøgersen-Ntoumani, Ntoumanis, Cumming & Chatzisarantis., 2011).

It has more recently been recognised that a different angle to psychological need satisfaction also deserves attention: psychological need frustration which refers to needs being actively blocked or thwarted (Chen, Vansteenkiste, Beyers, Boone, Deci, Van der Kaap-Deeder, Duriez, Lens, Matos, Mouratidis, Ryan, Sheldon, Soenens, Van Petegem & Verstuyf, 2015). This is not the same as experiencing low levels of psychological need satisfaction. In essence, psychological need frustration encapsulates low levels of psychological need satisfaction but is also a much more intense form of dissatisfaction (Vansteenkiste & Ryan, 2013). Therefore, psychological need satisfaction and psychological need frustration are regarded as two distinct constructs, each with its own set of antecedents and its own influence on well-being (Bartholomew *et al.*, 2011; Haerens *et al.*, 2015; Vansteenkiste & Ryan, 2013).

For this article, psychological need satisfaction and psychological need frustration, comprise the two independent variables in the conceptual framework, and each construct justifies further attention.

3.2.1.1 *Psychological need satisfaction*

People prosper when their needs for autonomy, competence and relatedness are satisfied (Deci & Ryan, 2000). Although psychological need satisfaction as a composite variable was used for this article, it is still necessary to understand how the composite score is composed by considering the three basic psychological needs in more detail.

The first psychological need, autonomy, focuses on people's determination to control their behaviour (Limbu & Sato, 2019). It refers to having willpower, being responsible for one's choices (Campbell *et al.*, 2015; Vansteenkiste, Soenens & Duriez, 2008) and activities (Bartholomew *et al.*, 2011), being self-determined (Chen, Vansteenkiste *et al.*, 2015) and self-endorsed (Van der Kaap-Deeder, Vansteenkiste, Soenens, Loeys, Mabbe & Gargurevich, 2015), and having the psychological freedom to choose how to behave (Brenning, Soenens & Vansteenkiste, 2015). The second psychological need, competence (also referred to as self-efficacy), refers to one's belief in their ability to deal with particular situations (Limbu & Sato, 2019). It is about feeling effective within one's social surroundings and with the task at hand (Campbell *et al.*, 2015; Vansteenkiste *et al.*, 2008), and having confidence in one's ability to achieve a desired outcome (Chen, Vansteenkiste *et al.*, 2015). The third psychological need, relatedness, refers to the need to belong and be connected to other people (Limbu & Sato, 2019). It is about experiencing a true and secure sense of caring for others and being cared for by others (i.e., mutual caring) (Baumeister & Leary, 1995; Campbell *et al.*, 2015; Vansteenkiste *et al.*, 2008).

When all three psychological needs are satisfied, greater self-motivation and psychological health and development are experienced, resulting in improved physical and psychological well-being (Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000; Reeve & Jang, 2006; Ryan, Patrick, Deci & Williams, 2008). Furthermore, psychological need satisfaction is also related to enhanced social and personal development (Ahmad *et al.*, 2013; Sheldon, Elliot, Kim & Kasser, 2001), optimistic daily experiences (Campbell *et al.*, 2015), constructive behaviour and favourable relational consequences (e.g., greater performance or secure relationships) (Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000; Vansteenkiste, Niemiec & Soenens, 2010). When psychological needs are satisfied, people tend to engage in more adaptive and cautious decision-making behaviour (Davids, 2022). There is a positive relationship between psychological need satisfaction and well-being (measured as positive affect, satisfaction with life or vitality), and a negative relationship between psychological need satisfaction and ill-being (e.g., depression and anxiety) (Campbell *et al.*, 2015; Chen, Van Assche *et al.*, 2015; Deci & Ryan, 2000; Haerens *et al.*, 2015). Although previous studies have examined the relationship between psychological need satisfaction and general well-being, the

effect of psychological need satisfaction on, specifically, financial well-being has, to the researcher's knowledge, not yet been examined.

3.2.1.2 Psychological need frustration

Psychological need frustration is a much more intense form of deprivation than just experiencing low levels of psychological need satisfaction (Bartholomew *et al.*, 2011). For example, a first-time car buyer may feel incompetent in making the right decision due to a lack of experience in the car market (i.e., low levels of competence satisfaction). That person may feel completely inadequate in making the right decision when a car salesperson dominates the discussion and undermines their opinions (i.e., competence frustration) (Bartholomew *et al.*, 2011). Further, an unusually strong desire to be with other people or be in control is not regarded as a strong need for relatedness or autonomy but rather as a response to the frustration of the need for relatedness and autonomy (Deci & Ryan, 2000). With psychological need frustration, the satisfaction of the need is deliberately impeded or completely blocked (Bartholomew *et al.*, 2011). Again, the social environment plays an important role, but rather than an environment conducive to psychological need satisfaction, the environment can be controlling and restrictive, leading to psychological needs being thwarted (Vansteenkiste & Ryan, 2013).

When the need for autonomy is frustrated, people feel pressured and controlled in their behaviour by either themselves or external influences (Chen, Vansteenkiste *et al.*, 2015; Haerens *et al.*, 2015; Thøgersen-Ntoumani *et al.*, 2011). Competence frustration causes people to doubt their capabilities, making them feel like a failure (Chen, Vansteenkiste *et al.*, 2015; Haerens *et al.*, 2015), useless, incompetent, subservient and/or inadequate (Deci & Ryan, 2000; Thøgersen-Ntoumani *et al.*, 2011). Lastly, when the need for relatedness is frustrated, people feel lonely, excluded and isolated, which heightens their levels of anxiety and stress (Baumeister & Leary, 1995; Haerens *et al.*, 2015, Thøgersen-Ntoumani *et al.*, 2011).

When psychological needs are frustrated, lower levels of self-motivation and well-being are experienced due to the obstruction of optimal growth and development (Deci & Ryan, 2000; Ryan *et al.*, 2006). Psychological need frustration is related to several negative outcomes, such as dysfunctional decision-making behaviour (Davids, 2022), depression (Chen, Vansteenkiste *et al.*, 2015), stress, burn-out, eating disturbances (Bartholomew *et al.*, 2011; Deci & Ryan, 2000), self-control failure, aggressive behaviour, and increased protective and wrongful behaviour (Vansteenkiste & Ryan, 2013). Furthermore, psychological need frustration aggravates defensive

behaviour and feelings of insecurity and, in some cases, can even lead to psychopathology (Ryan & Deci, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013).

In the event of psychological need frustration people often engage in compensatory or defensive behaviour, such as turning to need substitutes to protect themselves from the discomfort associated with psychological need frustration (Deci & Ryan, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013). For example, a person might turn to impulse shopping to regain a sense of control after being demoted, purchase a luxury vehicle to instil a sense of competence or purchase an expensive smartphone to feel related and approved by peers (Thøgersen-Ntoumani *et al.*, 2011). Not directly addressing the frustrated need can lead to further need thwarting, which, in turn, leads to more detrimental effects on well-being, specifically financial well-being (Deci & Ryan, 2000). Thus, when faced with psychological need frustration, people must decide between engaging in need-fulfilling or need-substitution behaviour. Therefore, a degree of self-control is necessary to ensure the frustrated need is appropriately addressed (Vansteenkiste & Ryan, 2013). Unless something intervenes (e.g., CSSC), psychological need frustration can result in reckless spending and poor financial decision-making behaviour, which can lead to detrimental effects on financial well-being (Barbić *et al.*, 2019).

3.2.2 Financial well-being

The term *financial well-being* is often used interchangeably with economic well-being, financial wellness, financial distress and financial satisfaction (Brüggen, Hogreve, Holmlund, Kabadayi & Löfgren, 2017; Joo, 2008; Riitsalu & Murakas, 2019). Financial well-being is perceived as a relatively new concept in consumer finance literature (Collins & Urban, 2019). Although several authors suggest that there is no universally agreed-upon definition (O'Connor *et al.*, 2019; Riitsalu & Murakas, 2019), much progress has been made in terms of some key aspects encapsulating the concept of financial well-being. Derived from the literature on general well-being and regarded as one of the sub-domains of subjective well-being, financial well-being refers to a state of feeling content and worry-free about one's financial situation (Chatterjee, Kumar & Dayma, 2019; Joo, 2008; Sabri *et al.*, 2012).

Brüggen *et al.* (2017) define financial well-being as a person's perception of being able to maintain their current and expected desired standard of living up to the point of achieving financial freedom (Abrantes-Braga & Veludo-de-Oliveira, 2019; Chatterjee *et al.*, 2019; Losado-Otalaro & Alkire, 2019; O'Connor *et al.*, 2019; Riitsalu & Murakas, 2019). In an attempt to define financial well-being, the Consumer Financial Protection Bureau (2015) invested in qualitative and quantitative research amongst consumers and practitioners. Based on their research, the Consumer Financial Protection

Bureau developed a definition and measure for financial well-being (Netemeyer, Warmath, Fernandes & Lynch, 2018). This definition has been incorporated in several studies and recognises financial well-being as encompassing several dimensions. The dimensions include the smooth and effective control over day-to-day and month-to-month finances, and the ability to absorb financial shocks, stay the course in meeting financial goals and have the financial freedom to enjoy life (Abrantes-Braga & Veludo-de-Oliveira, 2019; Collins & Urban, 2019; Consumer Financial Protection Bureau, 2015; Netemeyer *et al.*, 2018).

Financial well-being can be measured through objective and subjective measures (Losado-Otalero & Alkire, 2019). Objective financial measures provide objective evidence of where an individual stands financially and include indicators such as relative income, debt amounts, debt-to-income ratio, debt-service-to-income ratio, default and arrears, net wealth, level of consumption and even the number of loans (Chichaibelu & Waibel, 2018; Collins & Urban, 2019; Prawitz, Garman, Sorhaindo, O'Neill, Kim & Drentea, 2006; Schicks, 2014). Subjective measures relate to people's mental assessments of, perceptions about and emotional reactions to their financial situation (Brüggen *et al.*, 2017; Losado-Otalero & Alkire, 2019; Norvilitis, Szablicki & Wilson, 2003; Prawitz *et al.*, 2006; Schicks, 2014). In the end, only an individual can evaluate their well-being and know whether their financial situation is healthy (Brüggen *et al.*, 2017; Keese, 2012). Thus, irrespective of the objective financial position people are in, whether they have high or low levels of financial well-being depends on their personal assessment (Brüggen *et al.*, 2017). Due to the lack of availability and the sensitive nature of personal financial information, the researcher used only subjective measures to obtain information on respondents' financial well-being.

There are two time dimensions at play when considering the definition of financial well-being: current money management stress (i.e., feeling stressed/concerned about one's current financial state and being able to live the life one wants to live) and expected future financial security (i.e., feelings related to the future path of one's financial situation and meeting future financial goals) (Brüggen *et al.*, 2017; Losado-Otalero & Alkire, 2019; O'Connor *et al.*, 2019; Riitsalu & Murakas, 2019). Financial well-being, therefore, answers the questions, "How am I currently doing financially?" and "How do I expect to be doing financially in future?" (Netemeyer *et al.*, 2018). An assessment of a person's future financial situation is very much a part of their assessment of their current situation (Norvilitis *et al.*, 2003; Brüggen *et al.*, 2017). For example, current financial stress may lead some to expect a less secure financial future, while others might expect a more secure one even if they are currently stressed (Netemeyer *et al.*, 2018). Previous studies have shown that consumers tend to be more confident about their future financial situation than their current one (Finke, Howe & Huston, 2017; Netemeyer *et al.*, 2018). This is also evident amongst South African consumers, whereby 62% of

South Africans expect their income to be the same or even higher in a year's time and 57% expect their financial situation to improve within the next year (Deloitte, 2023).

Previous research reported that higher levels of CSSC, a greater personal savings orientation and a forward-looking mindset are related to greater levels of future financial security (Ponchio *et al.*, 2019). The same authors reported that CSSC mediates the relationship between materialism and current money management stress (Ponchio *et al.*, 2019). In addition, short-sighted traits and behaviours, such as lacking CSSC, only making minimum payments and the tendency to be materialistic, contribute to current financial stress and hold long-term consequences (Maloney, Grawitch & Barber, 2012; Netemeyer *et al.*, 2018). In fact, acquiring any form of debt contributes to a reduction in financial well-being (Drentea, 2000; Limbu & Sato, 2019; Norvilitis *et al.*, 2003; Santos, Mendes-Da-Silva, Flores & Norvilitis, 2016). People with higher levels of financial well-being portray greater delay in gratification, engage in less social comparison behaviour and do not regard credit cards as troublesome (Norvilitis & Mao, 2013).

3.2.3 Self-control and consumer spending self-control

This article focused on CSSC as a domain of self-control. Self-control, a personality trait, refers to one's efforts to overrule or change internal responses to break undesired habits and behaviours (Achtziger *et al.*, 2015; Baumeister, 2002; Miotto & Parente, 2015; Tangney *et al.*, 2004). Self-control represents one's ability to avoid temptation, maintain self-discipline and control behaviour (Baumeister, 2002; Ponchio *et al.*, 2019; Tangney *et al.*, 2004). People differ in terms of the degree of self-control they apply, with some being better able to control emotions and thoughts, resist temptations, control their temper (Achtziger *et al.*, 2015), save money, exercise regularly or even concentrate (Wilcox, Block & Einstein, 2011).

Although self-control can be applied to various behavioural domains, the concept behind it remains the same: facilitating the development of advantageous behaviour while simultaneously preventing undesirable behaviour from happening (De Ridder, Lensvelt-Mulders, Finkenauer, Stok & Baumeister, 2012; Tangney *et al.*, 2004). One domain where self-control is making important strides is CSSC. Although CSSC shares similarities with general self-control, it is a more focused form of self-control that specifically considers people's level of control over their spending behaviour. CSSC is defined as the ability to observe and monitor spending-related behaviour in accordance with set standards or goals (Haws, Bearden & Nenkov, 2012; Ponchio *et al.*, 2019). Thus, CSSC also employs the three elements associated with the effective exertion of general self-control: setting goals or standards, monitoring behaviour and making changes if necessary (Baumeister, 2002; Haws *et al.*, 2012).

Upon further investigation, goal setting refers to the ability to plan for the future by setting goals for what one wants to achieve (Baumeister, 2002; Biljanovska & Palligkinis, 2018). By setting clear and concise goals, one is less likely to engage in impulsive shopping or overspending, better able to manage money and save, and less likely to experience financial distress (Baumeister, 2002; Biljanovska & Palligkinis, 2018; Vosylis, Žukauskiené, & Crocetti, 2020). Second, monitoring behaviour is defined as the ability to keep track of one's relevant behaviour to ensure the achievement of the set goals (Baumeister, 2002; Biljanovska & Palligkinis, 2018). From a financial perspective, monitoring entails carefully and systematically keeping track of how the household's money is spent and/or resources are assigned (Biljanovska & Palligkinis, 2018). If a household's finances are not carefully monitored, it may result in money being spent on unnecessary purchases or impulsively, thus making it more difficult to save or achieve a long-term set goal (Biljanovska & Palligkinis, 2018).

The final self-control (or more specifically CSSC) element refers to commitment, which relates to a person's ability to remain focused on the goal at hand, despite temptations (Biljanovska & Palligkinis, 2018). Without the capacity to change (i.e., the third element), the first two self-control (specifically CSSC) elements are worthless since a person cannot commit or make the necessary changes to ensure goal attainment (Baumeister, 2002). Consider the example of a person wanting to buy a house and who has monitored their spending to achieve the set goal. The challenge is to maintain the commitment to this set goal and resist any possible temptations that could arise (Biljanovska & Palligkinis, 2018). This is in accordance with the study by Vosylis, Žukauskiené and Crocetti (2020), which recognises that there is a positive association between goals and CSSC. In the end, all three elements are required to ensure CSSC is maintained (Baumeister, 2002; Biljanovska & Palligkinis, 2018).

High levels of self-control are associated with various favourable and adaptable outcomes and behaviours, while low levels of self-control are associated with unfavourable and problematic behaviours (De Ridder *et al.*, 2012). People with a high degree of self-control are better able to remain committed to long-term goals, resist temptation and avoid immediate gratification (Biljanovska & Palligkinis, 2018). It is also related to greater interpersonal skills, emotional control, and goal achievement (Achtziger *et al.*, 2015; Miotto & Parente, 2015; Tangney *et al.*, 2004). People with self-control have a long-term view, can control their shopping impulses, manage their finances better, save more and spend less (Baumeister, 2002; Miotto & Parente, 2015; Tangney *et al.*, 2004). Greater levels of self-control are also related to greater financial security, not only at present but also in the future (Ponchio *et al.*, 2019; Strömbäck, Lind, Skagerlund, Västfjäll & Tinghög, 2017), and reduce stress related to money management (Ponchio *et al.*, 2019). Higher levels of self-control are associated with healthier, happier and more productive lives (Wilcox *et al.*, 2011).

The opposite is then also true, with a lack of self-control being associated with negative consequences, such as compulsive behaviour (Achtziger *et al.*, 2015), instant gratification (Baumeister, 2002), over-indebtedness (Gathergood, 2012; Ponchio *et al.*, 2019), gambling, eating disorders, substance abuse, sexual immorality, criminal behaviour, overspending (Pirog & Roberts, 2007) and defaulting behaviour (Miotto & Parente, 2015). People with less self-control show more aggression and procrastination (Tangney *et al.*, 2004), participate in risky behaviour (De Ridder *et al.*, 2012; Sekścińska, Rudzinska-Wojciechowska & Jaworska, 2021) and are negatively related to wealth accumulation (Ameriks, Caplin, Leahy & Tyler, 2007; Biljanovska & Palligkinis, 2018; Strömbäck *et al.*, 2017). Low self-control makes a person vulnerable to aggressive marketing tactics and sales presentations, as the person is more susceptible to engaging in instant gratification (Baumeister, 2002).

One can conclude that people with higher levels of CSSC spend less money, spend less impulsively and save more (Baumeister, 2002; Norvilitis & MacLean, 2010; Romal & Kaplan, 1995). Controlling one's spending further contributes to stable consumption and financial behaviour, enabling people to plan and manage their finances better, thereby increasing their financial well-being (Barbić *et al.*, 2019; Haws *et al.*, 2012; Huston, 2010; Miotto & Parente, 2015; Riitsalu & Murakas, 2019; Sabri *et al.*, 2012; Tangney *et al.*, 2004). In contrast, people with lower levels of CSSC struggle to manage their finances, are subject to a greater risk of becoming indebted and have difficulty planning and preparing for retirement (Bernstein, 2004; Miotto & Parente, 2015). The occurrence of self-control failure can lead to an increased possibility of financial distress (Biljanovska & Palligkinis, 2018), which not only hampers financial well-being in the long run but also contributes to financial vulnerability. As one's income pool is relatively fixed, CSSC must be employed to ensure the proper allocation of available resources to be financially prepared for adverse shocks and ensure financial well-being (Haws *et al.*, 2012).

3.2.4 Financial vulnerability

Although financial vulnerability as a relatively new concept has been receiving increased attention in the literature (in the fields of economics, psychology and marketing), there is still uncertainty in terms of how to define it (Anderloni, Bacchiocchi & Vandone, 2012; Brunetti, Giarda & Torricelli, 2016; Daud, Marzuki, Ahmad & Kefeli, 2019; O'Connor *et al.*, 2019; Shultz & Holbrook, 2009). Often used interchangeably with terms such as *financial fragility*, *financial distress*, *financial over-indebtedness* and *financial debt burden*, the term *financial vulnerability* has been used in this article (Brunetti *et al.*, 2016; Daud *et al.*, 2019). Various researchers have attempted to define financial vulnerability, and although there is an overlap in some regards, the stated definitions essentially follow one of three perspectives.

The first perspective defines financial vulnerability in terms of debt and states that individuals are considered vulnerable when they have high levels of debt (particularly in the form of unsecured debt) in relation to their income (Anderloni *et al.*, 2012; Daud *et al.*, 2019; Kim, Kim & Yoo, 2016). Kim *et al.* (2016) also contribute to the debt perspective by defining financial vulnerability as a form of debt that has been in arrears for more than 90 days. The second perspective considers non-debt commitments individuals face by considering other circumstances causing financial instability. As a result, individuals who are vulnerable, according to this perspective, struggle to meet monthly expenses and often find it difficult to pay utility bills or rent or even buy food (Anderloni *et al.*, 2012). Finally, a third perspective, and one not related to debt (Daud *et al.*, 2019), considers financial vulnerability in terms of the likelihood of experiencing financial hardship. Here financial hardship refers to the inability to sustain a certain standard of living and not necessarily living in a state of poverty or need (O'Connor *et al.*, 2019). For example, people may suffer from financial hardship when they do not have enough financial reserves to deal with unexpected events (Brüggen *et al.*, 2017; UBS, 2014).

When one considers all three perspectives, financial vulnerability refers to a state of being, that is characterised by high levels of unsecured debt in relation to income, high levels of debt but poor repayment capabilities and/or the inability to maintain a certain standard of living (Anderloni *et al.*, 2012; Kim *et al.*, 2016; O'Connor *et al.*, 2019). For example, an individual is considered financially vulnerable when they cannot cover unexpected expenses despite having sufficient income to pay all expected expenditures (Brunetti *et al.*, 2016). People are also vulnerable when they have outstanding utility bills and/or cannot pay their monthly expenses due to insufficient income (Bridges & Disney, 2004; Daud *et al.*, 2019). People might even be unable to uphold their desired standard of living by not being able to engage in the activities they want to, such as going on a trip, going out for meals with friends and family or enjoying hobbies and leisurely activities (Anderloni *et al.*, 2012; Daud *et al.*, 2019; Worthington, 2006).

Although financial vulnerability is often considered a problem affecting only the poor or unschooled, it could not be further from the truth, as the rich can also be financially vulnerable. People might perceive themselves as financially stable, yet their savings are insufficient to cope with unexpected events and/or sustain their standard of living (O'Connor *et al.*, 2019). As a result, people often do not realise they are financially vulnerable, and when an adverse shock or financial emergency occurs (e.g., retrenchment, reduced working hours, death in the family or illness), it can have detrimental effects on a household's financial situation (Anderloni *et al.*, 2012; O'Connor *et al.*, 2019). This was evident in South Africa, when the COVID-19 pandemic hit and approximately 2.2 million people lost their employment (Momentum, 2020). As a result, households had less money to spend, spend less on goods and services and reduced their contributions to pension funds and retirement annuities

(Momentum, 2020). COVID-19 is but one example of an adverse shock, but in general adverse shocks are caused by environmental changes and can take a variety of forms (Daud *et al.*, 2019; Hamilton, Mittal, Shah, Thompson & Griskevicius, 2019). Alternatively, a greater willingness to take financial risks has also been associated with increased material hardship, which partially affect financial well-being (Warmath, Chen, Grable & Kwak, 2021) Since most adverse shocks affect income and expense levels, they can increase the likelihood of arrears, which intensifies the level of financial vulnerability (Anderloni *et al.*, 2012; Schicks, 2014).

Financial vulnerability consists of two dimensions: subjective and objective. Whereas a subjective perspective refers to a person's perception of their financial situation, an objective approach considers facts and looks at the actual financial situation (O'Connor *et al.*, 2019). Together with the two financial vulnerability dimensions, objective and subjective measures are used to assess the level of financial vulnerability (Brunetti *et al.*, 2016). Objective measures are quantitative and include measures such as income, expenditures, savings, wealth and ratios, while subjective measures are qualitative and include obtaining self-reported information on cash flow and the ability to maintain a standard of living (Anderloni *et al.*, 2012; Brunetti *et al.*, 2016; Daud *et al.*, 2019). The problem with subjective measures is that they are susceptible to subjectivity and perception bias, while objective measures are too reliant on indebtedness, thus ignoring other factors that might influence financial vulnerability (Brunetti *et al.*, 2016).

Being unable to cope with the financial stress accompanying unexpected events can lead to various detrimental consequences that can affect people's personal lives (Abrantes-Braga & Veludo-de-Oliveira, 2019). The stress accompanying financial emergencies can affect a person's health, which adds to financial distress (Prawitz *et al.*, 2006). People also often fall in arrears on debt payments due to unexpected emergencies, such as retrenchments, divorce and illness (Miotto & Parente, 2015). Furthermore, control-related factors, such as being impulsive, impatient and self-indulgent and lacking self-control, increases the risk of financial vulnerability (Anderloni *et al.*, 2012; Daud *et al.*, 2019; Kim *et al.*' 2016; O'Connor *et al.*, 2019).

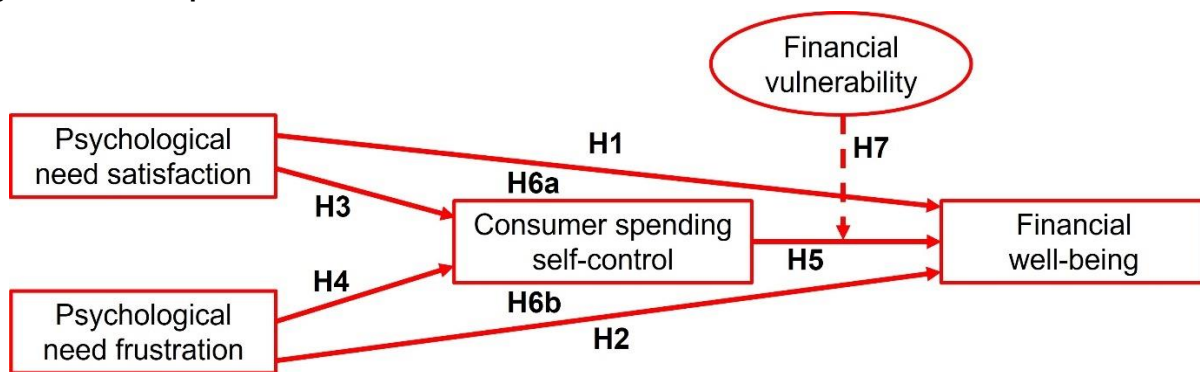
The best way to cope with financial hardship is to be prepared for it. Ultimately, the goal is to have enough monthly income to facilitate saving, which can help people cope with the challenges brought about by a financial emergency (Abrantes-Braga & Veludo-de-Oliveira, 2019). Being prepared for financial hardship lessens the extent of financial vulnerability and improves the level of financial well-being. Although intrinsically related, financial well-being and financial vulnerability differ in their approach to finances. Where financial vulnerability considers the possibility of experiencing financial hardship (i.e., I will/will not experience financial difficulty), financial well-being considers one's perception of their financial situation (i.e., How am I currently doing financially?) (O'Connor *et al.*,

2019). People who are aware of their current financial situation and have high levels of financial resources (i.e., safety nets in the form of savings and insurance) are less vulnerable and, therefore, more likely to experience greater financial well-being (O'Connor *et al.*, 2019).

3.3 CONCEPTUAL FRAMEWORK

In addressing the main objective, two secondary objectives were set. First, explore CSSC as a mediator between basic psychological need satisfaction/frustration and financial well-being. Second, investigate the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being. The conceptual framework for this article is illustrated in Figure 3.1.

Figure 3.1: Conceptual framework for Article 2



SDT states that psychological need satisfaction leads to improved levels of well-being (Deci & Ryan, 2000; Ryan & Deci, 2000). Although well-being has been measured in various forms (e.g., positive affect, satisfaction with life and vitality – all subjective measures) (Deci & Ryan, 2000; Chen, Vansteenkiste *et al.*, 2015; Haerens *et al.*, 2015), the influence of psychological need satisfaction on specifically financial well-being has not yet been examined. Since financial well-being is a sub-domain of subjective well-being (Chatterjee *et al.*, 2019; Joo, 2008; Sabri *et al.*, 2012), it is expected that a similar positive relationship exists between psychological need satisfaction and financial well-being, as has been established for psychological need satisfaction and psychological well-being. Furthermore, according to SDT, psychological need satisfaction is associated with positive outcomes and behaviour (Deci & Ryan, 2000), so just as psychological need satisfaction leads to greater psychological well-being, it would be expected that psychological need satisfaction can lead to improved financial well-being, as another example of a positive outcome. It is thus hypothesised that:

H1: There is a positive relationship between psychological need satisfaction and financial well-being.

In accordance with SDT, psychological need frustration is associated with negative outcomes, of which one example is lower levels of well-being and, in some cases, even ill-being (Bartholomew *et al.*, 2011; Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013). When faced with psychological need frustration people can engage in irresponsible spending and poor financial decision-making behaviour (Barbić *et al.*, 2019), which could have detrimental effects on financial well-being. Thus, it is expected that psychological need frustration is negatively related to financial well-being, as hypothesised in H2.

H2: There is a negative relationship between psychological need frustration and financial well-being.

Although psychological need satisfaction is related to enhanced social and personal development (Ahmad *et al.*, 2013; Sheldon *et al.*, 2001), people do not operate in isolation and are, therefore, constantly challenged to adapt their behaviour to social contexts that support or thwart psychological needs (Centre for Self-Determination Theory, 2022). Therefore, the SDT is also concerned with how people regulate and integrate impulses, values, emotions and motives to ensure their optimal development and functioning within their environments (Ryan, Deci, Vansteenkiste & Soenens, 2021). This article suggests that CSSC is a way people can regulate their behaviour to ensure enhanced social and personal development. Since CSSC refers to how people regulate their spending thoughts and behaviour (i.e., a regulating behaviour) (Haws *et al.*, 2012), and it is also associated with positive and beneficial behaviour and consequences (De Ridder *et al.*, 2012), it is expected that psychological need satisfaction and CSSC are related. It is, therefore, hypothesised that:

H3: There is a positive relationship between psychological need satisfaction and CSSC.

Psychological need frustration is related to several negative outcomes, one of which is a breakdown in self-control (Moller *et al.*, 2006; Vansteenkiste & Ryan, 2013). In addition, psychological need frustration can lead to reckless spending (Barbić *et al.*, 2019), whereby people spend money on obtaining need substitutes to address the discomfort associated with psychological need frustration (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). Unless some form of regulatory behaviour comes into play, the continuous experience of psychological need frustration may have detrimental effects on a person's well-being. Hence, it is suggested that CSSC be examined as regulatory behaviour acting in response to psychological need frustration, as proposed in the following hypothesis:

H4: There is a negative relationship between psychological need frustration and CSSC.

The degree to which people exercise self-control influences the extent to which they control their financial behaviours and, consequently, financial well-being (Huston, 2010; Miotto & Parente, 2015; Sabri *et al.*, 2012; Tangney *et al.*, 2004). Practising greater self-control leads to less spending, less

engagement in impulsive spending and a higher tendency to save – all important factors contributing to greater financial well-being (Baumeister, 2002; Norvilitis & MacLean, 2010; Romal & Kaplan, 1995). Conversely, people with lower self-control find it difficult to adequately manage their finances, increasing their risk of becoming indebted and experiencing lower levels of financial well-being (Miotto & Parente, 2015). Furthermore, the ability to control spending through CSSC plays an important role in ensuring stable consumption and financial behaviour (Barbić *et al.*, 2019; Haws *et al.*, 2012). Since stable financial and consumption behaviour leads to greater financial well-being (Brüggen *et al.*, 2017), it is expected that CSSC has a positive relationship with financial well-being. Although previous studies have investigated the relationship between CSSC and expected future financial security, and the mediating effect of CSSC on the relationship between materialism and current money management stress (Ponchio *et al.*, 2019), to the researcher's knowledge, this is the first study to assess the relationship between CSSC and the all-encompassing construct of financial well-being. The following hypothesis is set:

H5: There is a positive relationship between CSSC and financial well-being.

Per the SDT, psychological need satisfaction is associated with positive outcomes and greater well-being (Campbell *et al.*, 2015; Chen, Van Assche *et al.*, 2015; Ryan & Deci, 2000; Vansteenkiste *et al.*, 2010). Given that control over one's spending is an example of positive behaviour, it is expected that psychological need satisfaction will be positively associated with CSSC. Yet, having control over one's spending assists people in regulating their spending behaviour (Haws *et al.*, 2012), consequently also leading to positive outcomes and well-being. Since CSSC is directly related to people's finances, it is expected that better control over one's spending behaviour will result in higher levels of financial well-being. While the separate relationships between psychological need satisfaction and CSSC, and between CSSC and financial well-being seems apparent, it is thus plausible that a part of the observed relationship between psychological need satisfaction and financial well-being can be explained by CSSC. It is, therefore, hypothesised that:

H6a: CSSC mediates the relationship between psychological need satisfaction and financial well-being.

The SDT recognises that when psychological needs are thwarted or frustrated, people often turn to reckless spending on need substitutes as a defensive mechanism to cope with the discomfort brought about by the frustrated needs (Deci & Ryan, 2000; Ryan *et al.*, 2006; Vansteenkiste & Ryan, 2013). If this cycle of behaviour continues, psychological need satisfaction can be neglected even more, leading to longer-term detrimental effects on well-being (Deci & Ryan, 2000). Unless something intervenes, continuous spending on need substitutes can have detrimental effects on a person's well-being (Deci & Ryan, 2000), and since control over one's spending is directly related to

a person's financial circumstances, it can influence a person's financial well-being. Thus, psychological need frustration leads to negative behaviours and outcomes, which in this case can be in the form of a breakdown in self-control and lower financial well-being. However, in the event of people having CSSC, the regulatory nature of CSSC managing consumers' spending behaviour (Haws *et al.*, 2012) might reverse the negative effect of psychological need frustration, consequently resulting in improved financial well-being. The hypothesis thus, reads as follows:

H6b: CSSC mediates the relationship between psychological need frustration and financial well-being.

As is clear from the literature overview, anyone, whether rich or poor, can be financially vulnerable even though they might not realise it (O'Connor *et al.*, 2019). The best way to cope with financial vulnerability is to be prepared for it (Abrantes-Braga & Veludo-de-Oliveira, 2019). The ultimate goal is to have enough monthly income to enable saving, which serves as a safety net when dealing with the challenges brought about by a financial emergency (Abrantes-Braga & Veludo-de-Oliveira, 2019). However, a problem arises when people struggle with self-control and make decisions that focus on short-term gain without considering long-term implications (Anderloni *et al.*, 2012). Therefore, people with low self-control make purchases to satisfy immediate needs rather than saving for future goals (Achtziger *et al.*, 2015; Webley & Nyhus, 2001). Since people with low self-control are reluctant to save, their level of preparedness for financial emergencies may be hampered. Thus, if an unexpected event or financial shock were to occur, they would not be adequately prepared to address the emergency, affecting their financial situation and financial well-being (Anderloni *et al.*, 2012). It is expected that the extent to which a person is financially vulnerable will influence how CSSC relates to financial well-being, as stated in the following hypothesis:

H7: Financial vulnerability has a moderating effect on the relationship between CSSC and financial well-being.

3.4 METHODOLOGY

3.4.1 Sampling, measurement and data collection

This is a descriptive, cross-sectional study that collected data using an online self-administered questionnaire through an online paid-for consumer panel from Qualtrics. Data was collected from South Africans who were credit active, 18 years or older and permanently employed or self-employed. Credit-active consumers are those individuals obliged to pay credit and/or service providers for products and/or services delivered (National Credit Regulator, 2019). The questionnaire was initially pretested amongst a sample of 100 representatives, after which minor

modifications were made. Qualtrics distributed the final questionnaire to a sample of 628 respondents.

The final questionnaire included the well-developed Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) to determine to what extent psychological needs are satisfied or frustrated (Chen, Van Assche *et al.*, 2015). Respondents were asked to indicate their level of satisfaction and frustration with 24 items measured on a 7-point Likert scale, where 1 indicates 'Not at all true' and 7 indicates 'Completely true'. Although a few options are available in terms of how the BPNSFS can be scored (Universiteit Gent, 2019), separate composite scores for psychological need satisfaction and psychological need frustration were calculated for this article. Psychological need satisfaction and psychological need frustration were, therefore, regarded as two distinct constructs (i.e., independent variables).

CSSC was measured using the CSSC scale (Haws *et al.*, 2012) to determine people's ability to control their spending behaviour. Respondents were asked to indicate their level of agreement with each of the 10 items on the 7-point Likert scale, with 1 indicating 'Strongly disagree' and 7 indicating 'Strongly agree'. The Financial Well-Being Scale (Consumer Financial Protection Bureau (CFPB), 2019) was used to determine respondents' level of financial well-being. Although the original scale uses a 5-point measure, for consistency purposes, the Financial Well-Being Scale used in this article employed a 7-point Likert scale. The scoring formula proposed by CFPB (2019) was not used for data analysis; rather, the scale was used as a classic Likert-type scale. Finally, the Financial Vulnerability Index (Daud *et al.*, 2019) was used to determine to what extent respondents were financially vulnerable at the time of data collection.

In addition, the questionnaire asked a few questions relating to respondents' credit behaviour, specifically the type of credit products used and their diligence in terms of payment. Finally, the questionnaire concluded with several socio-demographic questions.

3.4.2 Data analysis

Descriptive statistics were calculated using SPSS Statistics Version 26. In addition, composite mean scores and standard deviations were calculated for each of the article's four main constructs: psychological need satisfaction, psychological need frustration, CSSC and financial well-being. Mplus Version 8.3 was used to conduct co-variance-based structural equation modelling (CB-SEM) of the relationships illustrated in Figure 3.1. CB-SEM examines the interrelationships between latent constructs and the psychometric properties of the related scales while simultaneously accounting for

measurement error (Hair, Black, Babin & Anderson, 2010). Although maximum likelihood (ML) is the favoured method to use in estimating model parameters, the MLM estimator was used for this article since the data were not normally distributed (Muthén & Muthén, 1998-2017). The MLM estimator, with standard errors and mean-adjusted chi-square (χ^2) test statistic (also referred to as the Satorra-Bentler χ^2 test), is regarded as a more robust estimator to use when data are not normally distributed (Muthén & Muthén, 1998-2017).

CB-SEM encompasses two elements: the measurement model and the structural model (Hair, Matthews, Matthews & Sarstedt, 2017). The measurement model illustrates the relationships between the latent and related indicator variables, while the structural model demonstrates the structural paths between the latent constructs (Hair *et al.*, 2017). The first step was to assess the measurement model for validity, and confirmatory factor analysis (CFA) was used for this purpose (Hair *et al.*, 2010). The validity of the measurement model was assessed in terms of overall model fit, construct validity (convergent and discriminant validity) and reliability (Hair *et al.*, 2010).

With measurement model fit, validity and reliability confirmed, a structural model was estimated to assess the main effects set out in the hypotheses. As with the measurement model, various fit indices were evaluated to assess the structural model's fit, again including the Satorra-Bentler χ^2 test statistic (Muthén & Muthén, 1998-2017), the root mean square error of approximation (RMSEA), comparative fit indices (CFI), Tucker-Lewis index (TLI) and standardised root mean square residual (SRMR) (Hair *et al.*, 2010; Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger & Müller, 2003). Hypotheses were supported or not, based on the interpretation of the standard coefficients and statistical significance ($p < 0.05$).

To test for mediation effects, Hayes' Process Macro for SPSS Version 3.5 (Model 4) was used (Hayes, 2018). Ordinary least square (OLS) 95%-confidence intervals were used to determine whether the mediation effects were significant. Data were scrutinised to ensure that the OLS 95%-confidence intervals for the direct and indirect effects did not contain the value zero before mediation could be confirmed. Once mediation was established, the results were interpreted based on the classification of mediation according to Zhao, Lynch and Chen (2010).

Hayes' Process Macro (Model 1) was used to test whether financial vulnerability had a moderating effect on the relationship between CSSC and financial well-being (Hayes, 2018). OLS 95%-confidence intervals were used to determine whether the interaction effects were significant. Moderation effects are evident when the OLS 95%-confidence intervals for the interaction effect do not contain the value zero and when p -values are below 0.05 (Field, 2018; Nel & Boshoff, 2017).

Thus, if a moderation effect is insignificant, no further investigation by means of the simple slope analysis and/or the Johnson-Neyman technique is necessary.

3.5 RESULTS

3.5.1 Sample profile

After removing incomplete records and respondents not meeting the sampling requirements, a sample of 608 respondents was used for data analysis. Slightly more male (52.6%) than female respondents (47.4%) participated in the study. The average age of respondents was 36 years, and the age bracket ranged from 18 to 85 years. To better understand the respondents' financial behaviour, the questionnaire included three questions relating to respondents' current credit behaviour. First, respondents were asked to indicate which credit products they were responsible for, including credit cards, home loans, personal loans, retail accounts and vehicle financing. Respondents were then asked whether their monthly payments for the particular credit products were up to date, and if not, indicate how many months their payments were in arrears. The results are summarised in Table 3.1.

Table 3.1: Credit behaviour of respondents

Credit product	Ownership of credit product (N/%)	Number of respondents with credit products in arrears (N)	Proportion of respondents in arrears
Credit card	393 (64.6%)	51	13.0%
Home loan	159 (26.6%)	10	6.3%
Personal loan	307 (50.5%)	60	19.6%
Retail account	301 (49.5%)	46	15.3%
Vehicle financing	243 (40.0%)	15	6.2%
Other	33 (5.4%)	5	15.6%

The results show that credit cards (64.6%) were the more popular credit product used by respondents, followed by personal loans (50.5%) and retail accounts (49.5%). Only 26.6% of respondents indicated they were responsible for home loan repayments. Other credit products listed by respondents included cell phone contracts and insurance and educational loans, either in the form of a student loan or children's school fees. A personal loan was the credit product most likely to be in arrears (19.6%), followed by retail accounts (15.3%) and credit cards (13.0%). The months that respondents were in arrears ranged from one to 24 months in some instances.

3.5.2 Descriptive statistics

Before exploring the relationships and interrelationships between the various constructs using structural equation modelling (SEM), it is necessary to obtain a high-level understanding of the constructs. Table 3.2 summarises the descriptive statistics of the main constructs.

Table 3.2: Descriptive statistics of constructs

Construct	N	Mean*	Std. deviation
PNS	608	5.5606	0.96361
PNF	608	3.2126	1.26422
FWB	608	4.0957	1.25528
CSSC	608	5.1400	1.32200

Note: *All constructs were measured on a 7-point Likert scale; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control; FWB = Financial well-being.

Overall, respondents felt that their psychological needs were satisfied (mean = 5.56). In accordance with the results on psychological need satisfaction, respondents indicated a lower degree of psychological need frustration (mean = 3.21). In addition, respondents felt they could control their spending (mean = 5.14), although respondents perceived their overall financial well-being as above average (mean = 4.10).

3.5.3 Financial vulnerability

Three statements, as proposed by Daud *et al.* (2019) were used to measure financial vulnerability. First, respondents were asked to indicate the extent to which their monthly income allows them to 'reach' the end of the month. Second, to what extent can they cope with an unexpected expense of R1 000, and third, if they were to lose their job, how long would they be able to survive, keeping their current obligations in mind (Daud *et al.*, 2019). The results of the three financial vulnerability questions are outlined in Table 3.3.

Table 3.3: Results of the financial vulnerability questions

Demographic variable	Categories	Results (%)
Monthly income allows you to get to the end of the month.	Very easily – I manage to save a fair amount	21.2
	Easily – I manage to save some amount	35.9
	With some difficulty – I only just manage to make ends meet	27.3
	With difficulty – I have to withdraw from savings	7.9
	With great difficulty – I have to borrow from a third party	7.7

Demographic variable	Categories	Results (%)
Ability to cope with an unexpected expense of R1 000.00.	Very easily	25.0
	Easily	33.2
	With some difficulty	23.8
	With great difficulty	13.0
	Not at all	4.9
Ability to survive given current liabilities after losing your job.	18 months or longer	12.7
	12 months	14.0
	6 months	20.4
	3 months	15.0
	Less than 3 months	20.6
	Not at all	17.4

In response to the question on monthly income allowing respondents to reach the end of the month, a large proportion of respondents indicated that their monthly income allowed them to reach the end of the month relatively easily and that they still managed to save (35.9%). This was followed by those who found some difficulty getting by on their monthly income (27.3%) and then those who found it easy to reach the end of the month on their current income (21.2%). Only a small proportion of respondents found it extremely difficult to reach the end of the month, and they needed to borrow money from a third party (7.7%).

A third of respondents indicated that they could easily cope with an unexpected expense of R1 000 (33.2%), followed by some finding it very easy (25.0%) and those having some difficulty coping with an unexpected expense (23.8%). A small group of respondents reported they would have great difficulty coping with an unexpected expense (13.0%), while some indicated they could not cope with an unexpected expense of R1 000 (4.9%). In case of a job loss, respondents indicated that they could survive (keeping current obligations in mind) for less than three months (20.6%), closely followed by six months (20.4%) and not at all (17.4%). Only a small proportion of respondents indicated that they could survive 18 months or longer if they lost their employment (12.7%).

Financial vulnerability was included as a moderator in the conceptual framework. The three financial vulnerability questions had multiple nominal scaling levels; therefore, it was necessary to conduct a categorical principal component analysis (PCA) to convert the data into a categorical dimension. A categorical PCA was done to determine whether the three variables load together (Costa, Santos, Cunha, Cotter & Sousa, 2013; Kemalbay & Korkmazoğlu, 2014) – With a Cronbach's alpha of 0.722, it was evident that they did. The values of the three questions were summated to determine a financial vulnerability score between 3 and 16. A high score is indicative of greater financial vulnerability, while low scores indicate lower financial vulnerability. Once the financial vulnerability

score was calculated, visual binning was done based on equal percentiles. A single cut-off point (below 8.00) was set, and the group was divided into two sub-groups, determined by whether their financial vulnerability score was above or below the cut-off point. Respondents with a financial vulnerability score of 3 to 8 were classified as low financial vulnerability respondents, while respondents with a financial vulnerability score of 9 to 16 were classified as high financial vulnerability respondents. The results indicated that 53.1% of respondents had low levels of financial vulnerability compared to 46.9% of respondents with higher levels of financial vulnerability. The financial vulnerability binned values were used for moderation purposes, as explained in Section 3.5.6.

3.5.4 Linear hypothesised relationships

The structural equation modelling analysis first explains the measurement model, then the structural model. The mediation effect of CSSC on the relationship between psychological need satisfaction/frustration and financial well-being is then explained, followed by a discussion of financial vulnerability's moderating effect on the relationship between CSSC and financial well-being.

3.5.4.1 *Assessment of the measurement model*

Initially, the measurement model was estimated using all items related to the article's constructs: psychological need satisfaction (12 items), psychological need frustration (12 items), CSSC (10 items) and financial well-being (10 items). This initial assessment displayed an unacceptable model fit with the Satorra-Bentler χ^2 /degrees of freedom (df), CFI, TLI and SRMR not meeting the required cut-off points. Upon further investigating convergent validity in terms of standardised estimates, significance and average variance extracted (AVE), three constructs, namely psychological need satisfaction, psychological need frustration and financial well-being, displayed an AVE below the 0.5 threshold (refer to Table 3.4).

Table 3.4: Model fit indices for original measurement model

Fit indices	Value	Recommended cut-off value*
Satorra-Bentler χ^2/df	3.38	< 3
χ^2 value	3027.889	NA
Df	896	NA
Scaling correction factor for MLM	1.2559	NA
RMSEA	0.063	< 0.08
CFI	0.795	> 0.9
TLI	0.784	> 0.9
SRMR	0.085	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel *et al.*, 2003.

In an attempt to improve the AVE score, items not performing well in model integrity, model fit or construct validity were removed, and the measurement model was respecified (Hair *et al.*, 2010). As a result, items with factor loadings below 0.6 were removed, including eight psychological need satisfaction, four psychological need frustration and six financial well-being items, as outlined below:

- Psychological need satisfaction:
 - I feel a sense of choice and freedom in the things I undertake (Item 1).
 - I feel confident that I can do things well (Item 5).
 - I feel that my decisions reflect what I really want (Item7).
 - I feel capable at what I do (Item 11).
 - I feel my choices express who I really am (Item 13).
 - I feel competent to achieve my goals (Item 17).
 - I feel I have been doing what really interests me (Item 19).
 - I feel I can successfully complete difficult tasks (Item 23).

- Psychological need frustration:
 - Most of the things I do, I feel like 'I have to do' (Item 2).
 - I feel excluded from the group I want to belong to (Item 4).
 - I feel pressured to do too many things (Item 14).
 - My daily activities feel like a chain of obligations (Item 20).
 - I feel the relationships I have are just superficial (Item 22).

- Financial well-being:
 - Because of my money situation, I feel like I will never have the things I want in life (Item 1.3).
 - I am just getting by financially (Item 1.5).

- I am concerned that the money I have or will save won't last (Item 1.6).
- Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month (Item 2.1).
- I am behind with my finances (Item 2.3).
- My finances control my life (Item 2.4).

The final re-estimated measurement model fit the data well, with all fit indices adhering to the recommended cut-off points. Table 3.5 summarises the convergent validity for the final re-estimated measurement model.

Table 3.5: Convergent validity for final re-estimated measurement model

Constructs and items*	Standardised estimates	SE est.	t-value	AVE
PSYCHOLOGICAL NEED SATISFACTION (PNS)				
I feel that the people I care about also care about me.	0.735	0.028	26.454	0.647
I feel connected with people who care for me and for whom I care.	0.83	0.02	40.513	
I feel close and connected with other people who are important to me.	0.859	0.02	42.337	
I experience a warm feeling with the people I spend time with.	0.788	0.025	31.887	
PSYCHOLOGICAL NEED FRUSTRATION (PNF)				
I feel excluded from the group I want to belong to.	0.621	0.031	20.233	0.460
I have serious doubts about whether I can do things well.	0.684	0.027	25.327	
I feel forced to do many things I wouldn't choose to do.	0.648	0.027	24.022	
I feel that people who are important to me are cold and distant towards me.	0.65	0.031	20.779	
I feel disappointed with many of my performances.	0.671	0.028	23.945	
I have the impression that people I spend time with dislike me.	0.715	0.027	26.126	
I feel insecure about my abilities.	0.662	0.031	21.081	
I feel like a failure because of the mistakes I make.	0.765	0.023	33.616	
FINANCIAL WELL-BEING (FWB)				
I could handle a major unexpected expense.	0.705	0.024	28.97	0.572
I am securing my financial future.	0.818	0.019	43.57	
I can enjoy life because of the way I am managing my money.	0.816	0.022	37.671	
I have money left over at the end of the month.	0.675	0.027	24.869	
CONSUMER SPENDING SELF-CONTROL (CSSC)				

Constructs and items*	Standardised estimates	SE est.	t-value	AVE
I closely monitor my spending behaviour.	0.702	0.025	28.005	0.565
I am able to work effectively toward long-term financial goals.	0.672	0.027	25.039	
I carefully consider my needs before making purchases.	0.773	0.023	34.254	
I often delay taking action until I have carefully considered the consequences of my purchase decisions.	0.685	0.028	24.741	
When I go out with friends, I keep track of what I am spending.	0.723	0.022	32.251	
I am able to resist temptation in order to achieve my budget goals.	0.812	0.02	39.739	
I know when to say 'no' regarding how much I spend.	0.815	0.016	50.46	
During my social interactions, I am generally aware of what I am spending.	0.802	0.018	44.43	
Having objectives related to spending is important to me.	0.668	0.031	21.627	
I am responsible when it comes to how much I spend.	0.838	0.016	51.873	

Note: *All items listed are statistically significant at $p < 0.05$, two-tailed.

Table 3.5 shows that all items had standardised estimates greater than 0.6 and were statistically significant ($p < 0.05$) (Hair *et al.*, 2010). The AVE scores for psychological need satisfaction (AVE = 0.647), CSSC (AVE = 0.565) and financial well-being (AVE = 0.572) all measured greater than 0.5. Even though psychological need frustration measured an AVE score below the threshold of 0.5 (AVE = 0.460), psychological need frustration's composite reliability score was above 0.6 (refer to Table 3.6), thus making it possible to confirm convergent validity (Fornell & Larcker, 1981). With convergent validity confirmed, reliability and discriminant validity for the re-estimated measurement model had to be assessed; the results are outlined in Table 3.6.

Table 3.6: Reliabilities and discriminant validity for the re-estimated measurement model

Construct	AVE	Reliability		Discriminant validity			
		α	CR	PNS	PNF	FWB	CSSC
PNS	0.647	0.878	0.880	0.804*			
PNF	0.460	0.871	0.872	-0.479	0.678*		
FWB	0.572	0.838	0.841	0.355	-0.249	0.756*	
CSSC	0.565	0.927	0.928	0.292	-0.184	0.621	0.752*

Note: α = Cronbach's alpha; CR = Jöreskog's rho (composite reliability); *values in the main diagonal are the square root of the average variance extracted (AVE); values below the diagonal are correlations; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control; FWB = Financial well-being.

Reliability can be confirmed with all Cronbach's alpha and composite reliability scores greater than 0.7 (Hair *et al.*, 2010). In terms of discriminant validity, results show that the AVE's square root for each construct exceeded the correlation of each construct pair (Fornell & Larcker, 1981): psychological need satisfaction (0.804), psychological need frustration (0.678), CSSC (0.752) and financial well-being (0.756).

To conclude, the final re-estimated measurement model displayed good model fit, reliability and convergent and discriminant validity. Consequently, the analysis could proceed by establishing an estimation of the structural model, which includes psychological need satisfaction (four items), psychological need frustration (eight items), CSSC (10 items) and financial well-being (four items).

3.5.4.2 Assessment of the structural model

The first step in estimating a structural model is assessing model fit. Based on the interrelationships outlined in Figure 3.1, the structural model and specified structural paths were assessed for model fit against Satorra-Bentler χ^2/df ratio, RMSEA, CFI, TLI and SRMR. Results are outlined in Table 3.7.

Table 3.7: Model fit indices for structural model

Fit indices	Value	Recommended cut-off value*
Satorra-Bentler χ^2/df	2.29	< 3
χ^2 value	670.583	NA
Df	293	NA
Scaling correction factor for MLM	1.3661	NA
RMSEA	0.046	< 0.08
CFI	0.940	> 0.9
TLI	0.934	> 0.9
SRMR	0.049	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel *et al.*, 2003.

Table 3.7 shows that the structural model and paths fit the data well, with all scores adhering to the required guidelines. Consequently, the structural paths (standardised estimates) could be further investigated for significance. Results are summarised in Table 3.8.

Table 3.8: Standardised estimates of the structural paths in the structural model

H	Path	Standardised estimates	SE est.	p-value	t-value	Result
H1	PNS → FWB	0.157	0.047	0.001*	3.338	Supported
H2	PNF → FWB	-0.070	0.037	0.062	-1.867	Not supported
H3	PNS → CSSC	0.264	0.053	$p < 0.001^*$	4.988	Supported
H4	PNF → CSSC	-0.057	0.049	0.239	-1.177	Not supported
H5	CSSC → FWB	0.562	0.034	$p < 0.001^*$	16.460	Supported

Note: *Statistically significant at $p < 0.01$, two-tailed; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control, FWB = Financial well-being.

Table 3.8 shows a significant positive relationship between psychological need satisfaction and financial well-being (estimate = 0.157; $p = 0.001$), and a significant positive relationship between psychological need satisfaction and CSSC (estimate = 0.264; $p < 0.001$). H1 and H3 were, therefore, supported. Further, the negative relationship between psychological need frustration and financial well-being (estimate = -0.070; $p = 0.062$) was not significant, and H2 was, therefore, not supported. Similarly, the negative relationship between psychological need frustration and CSSC (estimate = -0.057; $p = 0.239$) was also not significant, and H4 was, therefore, also not supported. There was, however, a positive, significant relationship between CSSC and financial well-being (estimate = 0.562; $p < 0.001$), and H5 was, therefore, supported.

3.5.5 Mediation hypothesised relationship

Hayes' Process Macro Version 3.5 (Model 4) was used to test whether CSSC has a mediating effect on the relationship between psychological need satisfaction, psychological need frustration and financial well-being. With an OLS 95%-estimation set, the confidence intervals for the direct and indirect effects could be assessed for mediation. The direct effect refers to the relationship between the independent (X) and dependent variable (Y) while controlling for the mediator (M), and the indirect effect is the effect of X on Y through M (Field, 2018). Researchers first need to establish whether mediation exists by ensuring that the confidence intervals of the indirect effect do not contain the value zero (Field, 2018; Zhao *et al.*, 2010). If mediation is present, the next step is to examine the direct effect in order to establish the type of mediation (Zhao *et al.*, 2010). If the direct effect is not significant, indirect-only mediation is evident. However, if the direct effect is significant, the product of the indirect and direct effects should be evaluated. In the case of a positive result (direct and indirect paths are of the same sign), partial complementary mediation exists, while if the paths have opposite signs, partial competitive mediation is evident (Zhao *et al.*, 2010).

Table 3.9 outlines the bootstrapping results of the direct and indirect effect of the mediation analysis calculated at an OLS 95% interval.

Table 3.9: Summary of mediation interaction effects

H	Variables			Direct effect [LLCI; ULCI]	SE	Indirect effect [LLCI; ULCI]	Boot SE	Result
	X	M	Y					
H6a	PNS	CSSC	FWB	0.197 [0.114; 0.280]	0.042	0.159 [0.101; 0.224]	0.031	Supported (Partial complementary mediation)
H6b	PNF	CSSC	FWB	-0.138 [-0.217; -0.059]	0.040	-0.094 [-0.147; -0.044]	0.026	Supported (Partial complementary mediation)

Note: LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control; FWB = Financial well-being.

Table 3.9 (H6a) shows that CSSC had a mediating effect on the relationship between psychological need satisfaction and financial well-being since the confidence intervals for the indirect effect did not contain the value zero (LLCI = 0.101; ULCI = 0.224). The direct effect was also significant (LLCI = 0.114; ULCI = 0.280). Since the indirect and direct effects were significant, partial mediation existed, and since the indirect and direct paths were of the same sign, the partial mediation was complementary (Hair, Hult, Ringle, Sarstedt, Danks & Ray, 2021; Zhao *et al.*, 2010). Thus, CSSC had a partial, complementary mediation effect on the relationship between psychological need satisfaction and financial well-being. In other words, a part of the relationship between psychological need satisfaction and financial well-being was explained by CSSC, with CSSC complementing the already positive relationship between psychological need satisfaction and financial well-being. H6a was, therefore, supported.

The fact that the indirect effect (LLCI = -0.147; ULCI = -0.044) and direct effect (LLCI = -0.217; ULCI = -0.059) for H6b (Table 3.9) were significant shows that CSSC had a partial mediating effect on the relationship between psychological need frustration and financial well-being. Furthermore, since the direct and indirect effects pointed in the same direction (i.e., both were negative), the partial mediation could be classified as complementary mediation (Hair *et al.*, 2021; Zhao *et al.*, 2010). Thus, similarly to H6a, a part of the relationship between psychological need frustration and financial well-being was explained by CSSC, with CSSC complementing the negative relationship between psychological need frustration and financial well-being. H6b was, therefore, also supported.

3.5.6 Moderation hypothesised relationship

Hayes' Process Macro Version 3.5 (Model 1) was used to test the moderating effect of financial vulnerability. As explained in Section 3.5.3, the binned financial vulnerability values were used in determining the moderating effect. The results of the moderation interaction effect are summarised in Table 3.10.

Table 3.10: Summary of moderation interaction effect

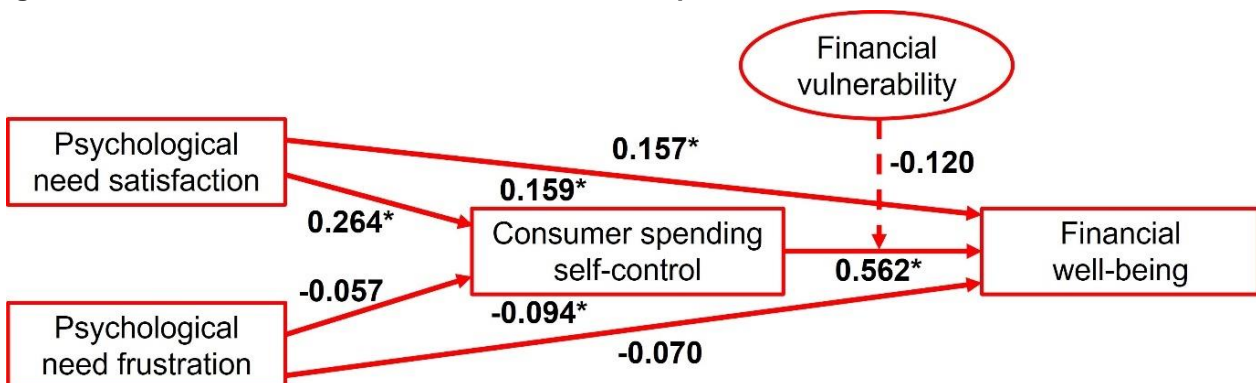
H	Variables			Interaction effect [LLCI; ULCI]	SE	p-value* (t-value)	Result
	X	W	Y				
H7	CSSC	FV	FWB	-0.120 [-0.272; 0.033]	0.078	0.124 (-1.539)	Not supported

Note: *Statistically significant at $p < 0.01$, two-tailed; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; CSSC = Consumer spending self-control; FV = Financial vulnerability; FWB = Financial well-being.

For moderation to occur, the interaction effect ($X*W$) should be statistically significant, and the OLS 95%-confidence interval should not contain the value zero. As is evident from Table 3.9, the interaction effect of financial vulnerability on the relationship between CSSC and financial well-being was negative but not statistically significant. Thus, financial vulnerability did not have a moderating effect on the relationship between CSSC and financial well-being, and H7 was, therefore, not supported.

In summary, the standardised estimate results for the complete conceptual framework are outlined in Figure 3.2.

Figure 3.2: Standardised estimate results of the conceptual framework for Article 2



Note: *Statistically significant at $p < 0.05$

3.6 GENERAL DISCUSSION AND IMPLICATIONS

The researcher set out to explore the mediating effect of CSSC on the relationship between psychological need satisfaction/frustration and financial well-being. In addition, the extent to which one's level of financial vulnerability moderated the relationship between CSSC and financial well-being was investigated. This is the first study, to the researcher's knowledge, that investigated the relationship between psychological need satisfaction and financial well-being. Although the positive relationship between psychological need satisfaction and psychological well-being has been well researched (Chen, Van Assche *et al.*, 2015; Deci & Ryan, 2000; Reeve & Jang, 2006), this article contributes to the literature by providing evidence that psychological need satisfaction was positively related to financial well-being. Thus, consumers whose psychological needs are satisfied already experience the benefits of financial well-being, consequently presenting marketers with opportunities to introduce and sell additional financial products and services to further enhance this group of consumers' financial well-being. Therefore, marketers can segment the market based on psychological need satisfaction and target this group of consumers with high-return saving and investment opportunities, financial planning solutions, wealth management and risk advice.

Contrary to expectations, the relationship between psychological need frustration and financial well-being, although negative, did not show significance. A possible explanation could be that respondents were in denial in terms of the psychological need frustrations that they faced or how well they were doing financially. Furthermore, it has been shown that people are more optimistic about their financial futures, despite current financial stress (Netemeyer *et al.*, 2018). This optimism could spill over into their perception of their current level of financial well-being, resulting in them rating their level of financial well-being higher than it is. In essence, people do not necessarily equate their experience of psychological need frustration to their financial well-being.

In general, psychological need satisfaction is associated with positive outcomes, which contribute to social and personal development (Ahmad *et al.*, 2013; Sheldon *et al.*, 2001). This article proposed that CSSC is an example of a positive outcome associated with psychological need satisfaction. The results proved this to be true because psychological need satisfaction was related to CSSC. Thus, consumers whose psychological needs are already satisfied are less likely to part with their money. Therefore, marketers need to follow a much more persuasive sales approach to convince this group of consumers of the benefits involved in buying a certain product or service.

With previous research studies demonstrating that psychological need frustration results in general self-control failure (Moller *et al.*, 2006; Vansteenkiste & Ryan, 2013), this article's results showed that psychological need frustration did indeed lead to lower levels of CSSC, but the relationship was

not significant. Possible explanations for the results could be due to respondents intentionally providing more appropriate answers in terms of their CSSC to 'look good' or perceiving their ability to control their spending as greater than it is, thereby overestimating their CSSC abilities. Another reason for the relationship not being significant might be due to respondents being in denial in terms of their frustrations. Furthermore, people might not necessarily equate their experience of psychological need frustration to their spending behaviour. In other words, the benefits of purchasing a need substitute to feel better outweigh the cost involved in controlling one's spending behaviour. This insight presents marketers with an opportunity to take a more responsible approach by presenting customers with need-related products/services that represent long-term, sustainable solutions. Marketers can furthermore emphasise how particular need-related products/services can counter the negative emotions associated with psychological need frustration.

Numerous studies have investigated the relationship between general self-control and well-being, and general self-control and financial well-being (Baumeister, 2002; Huston, 2010; Norvilitis & MacLean, 2010; Sabri *et al.*, 2012). Although Ponchio *et al.* (2019) investigated the effect of CSSC on current money management stress and expected future financial security as elements of financial well-being, this is the first study, to the researcher's knowledge, to investigate the relationship between CSSC and financial well-being, as an all-encompassing construct. Although it has been found that better control over spending leads to enhanced consumption and financial behaviour (Barbić *et al.*, 2019; Haws *et al.*, 2012), this article provided empirical evidence that higher levels of CSSC led to greater financial well-being. Marketers can capitalise on this insight by emphasising that people need to think carefully before spending their money, as it can result in better financial well-being. In addition, marketing communication messages can highlight the importance of having control over spending now, in order to reap the benefits later (e.g., pay more than the required amount on credit-card debt to become debt-free sooner).

The results showed that CSSC was a complementary mechanism through which a part of the relationship between psychological need satisfaction and financial well-being can be explained. Thus, when consumers experience psychological need satisfaction, they have more control over their spending behaviour and consequently experience greater financial well-being. Recognising that this group of consumers have better control over their spending behaviour again emphasises the need to take a more persuasive approach to convincing consumers of the benefits of purchasing a particular product/service (e.g., an investment opportunity). A key benefit that marketers should highlight in their communication message is how this product/service can assist in maintaining financial well-being (e.g., high returns over a 10-year period).

CSSC also acted as a complementary intervening variable through which psychological need frustration influenced financial well-being. Thus, even though psychological need frustration is accompanied by the urge to engage in compensatory behaviour, applying CSSC makes it possible to influence financial well-being positively. This result presents marketers with the opportunity to educate consumers on the importance of having control over one's spending, no matter how frustrated one feels. Marketers can emphasise in their marketing messages that controlling one's spending behaviour can contribute to longer-term financial well-being. Further, marketing messages can emphasise the importance of controlling spending behaviour by obtaining need-relevant products/services rather than wasting money on need substitutes (e.g., investing in training to become more competent rather than buying a suit that only makes one "feel" more competent).

Finally, the results showed that financial vulnerability have a negative moderating effect on the relationship between CSSC and financial well-being. However, the effect was not significant. A possible reason for the lack of significance could be that people perceive themselves as less vulnerable than they are. Only when faced with a real-life financial shock will their level of financial preparedness and financial vulnerability come under scrutiny.

3.7 STUDY CONTRIBUTIONS

This article makes several theoretical contributions with managerial implications. First, although psychological need satisfaction has been extensively researched as a topic of interest in the past few years, only more recently has psychological need frustration been recognised as a construct in its own right (Chen, Vansteenkiste *et al.*, 2015). As a result, there is still much to be learnt about the antecedents and outcomes of psychological need frustration as a construct. This article provided more insight into the outcomes of psychological need frustration. Second, general self-control has been researched in various domains (De Ridder *et al.*, 2012; Tangney *et al.*, 2004). However, CSSC as a specific domain of self-control has not been widely researched and, thus, requires greater understanding.

Even though research on financial well-being is still in its early stages and a relatively disseminated topic across various disciplines (Brüggen *et al.*, 2017; Netemeyer *et al.*, 2018; Ponchio *et al.*, 2019), the importance thereof cannot be emphasised enough. Unfortunately, according to the Momentum UNISA Household Financial Wellness Index, South African households' have seen a decline in their financial well-being score over the past few years with a score of 68.7 points in 2018, declining to 65.2 points in 2020 (Momentum, 2020). Although the report states that there is a strong link between financial success and financial well-being (Bureau of Market Research, 2021), there is still much uncertainty regarding what financial well-being entails (Brüggen *et al.*, 2017). However, financial

well-being is a relevant topic, and although a limited number of studies have explored some financial well-being determinants (Brown & Gray, 2016), many theoretical gaps still require further investigation. This article attempted to fill some of these theoretical gaps by investigating the relationships between psychological need satisfaction/frustration, CSSC and financial well-being. The majority of previous studies within the SDT field have focused on psychological needs' impact on psychological well-being (Chen, Vansteenkiste *et al.*, 2015; Deci & Ryan, 2000; Haerens *et al.*, 2015). This article contributes by investigating psychological needs' impact within the financial well-being context.

An important contribution is the assessment of CSSC's mediating effect on the relationship between psychological need satisfaction/frustration and financial well-being. By discovering that CSSC had a partial, complementary mediating effect on the relationship between psychological need satisfaction/frustration and financial well-being, it became evident that controlling one's spending improved the way in which psychological need satisfaction/frustration influenced financial well-being.

3.8 LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

This article is not without its limitations. First, the researcher employed a self-administered online survey for data collection purposes, which means that only subjective measures were included in the data analysis process. Although subjective measures are sometimes considered unreliable (Xiao, 2008) and possibly result in misleading conclusions due to non-financial unobserved behaviour (Keese, 2012), subjective measures provide a richness of information on how a financial situation is perceived (Keese, 2012; Prawitz *et al.*, 2006). Future research could incorporate objective measures when gauging financial well-being, such as income, debt-to-income ratio, credit limits, savings and debt levels (Abrantes-Braga & Veludo-de-Oliveira, 2019; Soman & Cheema, 2004). Using an all-inclusive measure of financial well-being that considers subjective and objective measures can provide a more in-depth and accurate understanding of financial well-being (Collins & Urban, 2019). In addition, future studies can also investigate how the various relationships will change for different demographical groups, based on, for example, gender, level of income and/or level of education, to provide a comprehensive understanding of possible segmentation bases that financial organisations can employ. Furthermore, cross-cultural assessments may also reveal a number of differences that might influence financial well-being (Warmath *et al.*, 2021).

A second limitation (probably the biggest concern) is social desirability bias, coupled with self-reported data (Strömbäck *et al.*, 2017). Due to the personal and sensitive nature of CSSC, financial vulnerability and financial well-being, respondents might provide inaccurate answers they think might be perceived as appropriate and which would portray them in a good light (Tangney

et al., 2004). To overcome this challenge, future research can use different research methodologies, such as observations and experimentation, whereby participants are placed in a natural or controlled environment, and their behaviour is observed and recorded rather than self-reported.

A third limitation relates to the study design. Since the study is cross-sectional, it was impossible to draw conclusions about directional effects, as the study only considered the situation as it was (Campbell *et al.*, 2015; Sebire *et al.*, 2009). As a result, the long-term effect of psychological need satisfaction/frustration and CSSC on financial well-being will only really become clear when longitudinal research is done. Similarly, respondents will only really be able to judge their financial vulnerability when faced with an adverse shock. Thus, opportunities for how longitudinal studies can be used to examine the long-term effects of psychological needs and CSSC on financial well-being can be explored.

3.9 CONCLUSION

The researcher aimed to investigate the mediating effect of CSSC on the relationship between psychological need satisfaction/frustration and financial well-being, and the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being. With psychological need satisfaction and CSSC significantly related to financial well-being, it was discovered that a part of how psychological need satisfaction influenced financial well-being was explained through CSSC. Similarly, a part of how psychological need frustration influenced financial well-being was also explained through CSSC. Contrary to expectation, financial vulnerability did not have a significant moderating effect on the relationship between CSSC and financial well-being, despite the fact that CSSC plays a crucial role in the extent to which one is prepared for financial well-being.

3.10 LIST OF REFERENCES

Abrantes-Braga, F.D.M.A. & Veludo-de-Oliveira, T. 2019. Development and validation of financial well-being related scales. *International Journal of Bank Marketing*, 37(4):1025-1040. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0074 [Accessed: 2020-03-03].

Achtziger, A., Hubert, M., Kenning, P., Raab, G. & Reisch, L. 2015. Debt out of control: the links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49:141-149. [Online] Available from: <http://dx.doi.org/10.1016/j.joep.2015.04.003> [Accessed: 2020-02-06].

Ahmad, I., Vansteenkiste, M. & Soenens, B. 2013. The relations of Arab Jordanian adolescents' perceived maternal parenting to teacher-rated adjustment and problems: the intervening role of perceived need satisfaction. *Developmental Psychology*, 49:177-183. [Online] Available from: <http://dx.doi.org/10.1037/a0027837> [Accessed: 2021-01-03].

Ameriks, J., Caplin, A., Leahy, J. & Tyler, T. 2007. Measuring self-control problems. *American Economic Review*, 97:966-972. [Online] Available from: DOI: 10.1257/aer.97.3.966 [Accessed: 2020-02-04].

Anderloni, L., Bacchiocchi, E. & Vandone, D. 2012. Household financial vulnerability: an empirical analysis. *Research in Economics*, 66:284-196. [Online] Available from: <https://doi.org/10.1016/j.rie.2012.03.001> [Accessed: 2019-08-02].

Barbić, D., Lučić, A. & Chen, J.M. 2019. Measuring responsible financial consumption behaviour. *International Journal of Consumer Studies*, 43:102-112. [Online] Available from: DOI: 10.1111/ijcs.12489 [Accessed: 2019-09-24].

Bartholomew, K.J., Ntoumanis, N., Ryan, R.M. & Thøgersen-Ntoumani, C. 2011. Psychological need thwarting in the sport context: assessing the darker sides of athletic experience. *Journal of Sport and Exercise Psychology*, 33:75-102. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-01-28].

Baumeister, R.F. 2002. Yielding to temptation: self-control failure, impulsive purchasing and consumer behaviour. *Journal of Consumer Research*, 28:670-676. [Online] Available from: DOI: 10.1086/338209 [Accessed: 2019-06-22].

Baumeister, R.F. & Leary, M.R. 1995. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3):497-529. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-04-18].

Bernstein, D. 2004. Household debt and IRAs: evidence from the survey of consumer finances. *Financial Counseling and Planning*, 15(1):63-72. [Online] Available from: <https://www.proquest.com/docview/1365278157/fulltextPDF/3BFD46129F174E9BPQ/1?accountid=14717> [Accessed: 2020-02-04].

Biljanovska, N. & Palligkinis, S. 2018. Control thyself: self-control failure and household wealth. *Journal of Banking and Finance*, 92:280-294. [Online] Available from: <https://doi.org/10.1016/j.jbankfin.2016.10.010> [Accessed: 2020-02-06].

Brenning, K., Soenens, B. & Vansteenkiste, M. 2015. What's your motivation to be pregnant? Relations between motives for parenthood and women's prenatal functioning. *Journal of Family Psychology*, 29:755-65. [Online] Available from: DOI: 10.1037/fam0000110 [Accessed: 2020-01-30].

Bridges, S. & Disney, R. 2004. Use of credit and arrears on debt among low-income families in the United Kingdom. *Fiscal Studies*, 25(1):1-25. [Online] Available from: DOI: 10.1111/j.1475-5890.2004.tb00094.x [Accessed: 2020-02-05].

Brown, S. & Gray, D. 2016. Household finances and well-being in Australia: an empirical analysis of comparison effects. *Journal of Economic Psychology*, 53:17-36. [Online] Available from: <https://doi.org/10.1016/j.joep.2015.12.006> [Accessed: 2019-08-02].

Brüggen, E.C., Hogleve, J., Holmlund, M., Kabadayi, S. & Löfgren, M. 2017. Financial well-being: a conceptualization and research agenda. *Journal of Business Research*, 79:228-237. [Online] Available from: DOI: 10.1016/j.jbusres.2017.03.013 [Accessed: 2020-01-27].

Brunetti, M., Giarda, E. & Torricelli, C. 2016. Is financial fragility a matter of illiquidity? An appraisal for Italian households. *Review of Income and Wealth*, 62(4):628-649. [Online] Available from: DOI: 10.1111/roiw.12189 [Accessed: 2020-02-06].

Campbell, R., Vansteenkiste, M., Delesie, L.M., Mariman, A.N., Soenens, B., Tobbac, E., Van der Kaap-Deeder, J. & Vogelaers, D. 2015. Examining the role of psychological need satisfaction in

sleep: a self-determination theory perspective. *Personality and Individual Differences*, 77:199-204. [Online] Available from: <https://doi.org/10.1016/j.paid.2015.01.003> [Accessed: 2020-01-30].

Centre for Self-Determination Theory. 2022. *The theory*. [Online] Available from: <https://selfdeterminationtheory.org/the-theory/> [Accessed: 2022-10-15].

Chatterjee, D., Kumar, M. & Dayma, K.K. 2019. Income security, social comparisons and materialism: determinants of subjective financial well-being among Indian adults. *International Journal of Bank Marketing*, 37(4):1041-1061. [Online] Available from: DOI: 10.1108/IJBM-04-2018-0096 [Accessed: 2020-03-03].

Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B. & Beyers, W. 2015. Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. [Online] Available from: DOI: 10.1007/s10902-014-9532-5 [Accessed: 2020-01-11].

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E.L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R.M., Sheldon, K.M., Soenens, B., Van Petegem, S. & Verstuyf, J. 2015. Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39:216-236. [Online] Available from: DOI: 10.1007/s11031-014-9450-1 [Accessed: 2020-01-11].

Chichaibelu, B.B. & Waibel, H. 2018. Over-indebtedness and its persistence in rural households in Thailand and Vietnam. *Journal of Asian Economics*, 56:1-23. [Online] Available from: <https://doi.org/10.1016/j.asieco.2018.04.002> [Accessed: 2019-08-02].

Collins, J.M & Urban, C. 2019. Measuring financial well-being over the lifecourse. *European Journal of Finance*, 10. [Online] Available from: <https://doi.org/10.1080/1351847X.2019.1682631> [Accessed: 2020-11-11].

Consumer Financial Protection Bureau. 2015. *Measuring financial well-being: a guide to using the CFPB financial well-being scale*. [Online] Available from: https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf [Accessed: 2019-12-18].

Consumer Financial Protection Bureau. 2019. *Find out your financial well-being*. [Online] Available from: <https://www.consumerfinance.gov/consumer-tools/financial-well-being/> [Accessed: 2019-12-18].

Costa, P.S., Santos, N.C., Cunha, P., Cotter, J. & Sousa, N. 2013. The use of multiple correspondence analysis to explore associations between categories of qualitative variables in healthy ageing. *Journal of Aging Research*, 2013:1-12. [Online] Available from: <http://dx.doi.org/10.1155/2013/302163> [Accessed: 2020-12-11].

Daud, S.N.M., Marzuki, A., Ahmad, N. & Kefeli, Z. 2019. Financial vulnerability and its determinants: survey evidence from Malaysian households. *Emerging Markets, Finance and Trade*, 55:1991-2003. [Online] Available from: <https://doi.org/10.1080/1540496X.2018.1511421> [Accessed: 2019-08-21].

Davids, E.L. 2022. The interaction between basic psychological needs, decision-making and life goals among emerging adults in South Africa. *Social Sciences*, 11:316 [Online] Available from: <https://doi.org/10.3390/socsci11070316> [Accessed: 2023 – 06 – 01].

De Ridder, D.T.D., Lensvelt-Mulders, G., Finkenauer, C., Stok, F.M. & Baumeister, R.F. 2012. Taking stock of self-control. A meta-analysis of how trait self-control relates to a wide range of behaviors. *Personality and Social Psychology Review*, 16(1):76-99. [Online] Available from: DOI: 10.1177/1088868311418749 [Accessed: 2020-02-04].

Deci, E.L. & Ryan, R.M. 2000. The “what” and “why” of goal pursuits: human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4):227-268. [Online] Available from: DOI: 10.1207/S15327965PLI1104_01 [Accessed: 2018-04-20].

Deloitte. 2023. *Global state of the consumer tracker*. [Online] Available from: <https://www2.deloitte.com/us/en/insights/industry/retail-distribution/consumer-behavior-trends-state-of-the-consumer-tracker.html> [Accessed: 2023-06-18].

Drentea, P. 2000. Age, debt and anxiety. *Journal of Health and Social Behaviour*, 41(December):437-450. [Online] Available from: <https://doi.org/10.2307/2676296> [Accessed: 2020-02-03].

Field, A. 2018. *Discovering statistics using IBM SPSS statistics*. 5th ed. Los Angeles, CA: Sage.

- Finke, M.S., Howe, J.S. & Huston, S.J. 2017. Old age and the decline in financial literacy. *Management Science*, 63(1):213-230. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1287/mnsc.2015.2293> [Accessed: 2021-04-15].
- Fornell, C. & Larcker, D.F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1):39-50. [Online] Available from: DOI: 10.1177/002224378101800104 [Accessed: 2021-01-16].
- Gathergood, J. 2012. Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology*, 33:590-602. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.11.006> [Accessed: 2019-06-22].
- Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B. & Van Petegem, S. 2015. Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of Sport & Exercise*, 16:126-136. [Online] Available from: <https://doi.org/10.1016/j.psychsport.2014.08.013> [Accessed: 2020-01-30].
- Hagger, M.S., Chatzisarantis, N.L.D. & Harris, J. 2006. From psychological need satisfaction to intentional behavior: testing a motivational sequence in two behavioral contexts. *Personality and Social Psychology Bulletin*, 32:131-148. [Online] Available from: DOI: 10.1177/0146167205279905 [Accessed: 2019-08-19].
- Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2010. *Multivariate data analysis*. 7th ed. Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P. & Ray, S. 2021. Partial least squares structural equation modeling (PLS-SEM) using R: a workbook. *Open Access: Springer*. [Online] Available from: <https://doi.org/10.1007/978-3-030-80519-7> [Accessed: 2022-07-20].
- Hair, J.F., Matthews, L.M., Matthews, R.L. & Sarstedt, M. 2017. PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2):107-123.
- Hamilton, R.W., Mittal, C., Shah, A., Thompson, D.V. & Griskevicius, V. 2019. How financial constraints influence consumer behaviour: an integrative framework. *Journal of Consumer*

- Psychology*, 29(2):285-305. [Online] Available from: DOI: 10.1002/jcpy.1074 [Accessed: 2019-05-24].
- Haws, K.L., Bearden, W.O. & Nenkov, G.Y. 2012. Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40:695-710. [Online] Available from: DOI: 10.1007/s11747-011-0249-2 [Accessed: 2019-06-22].
- Hayes, A.F. 2018. *Introduction to mediation, moderation and conditional process analysis: a regression-based approach*. 2nd ed. New York, NY: The Guilford Press.
- Hu, L. & Bentler, P. M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1):1-55.
- Huston, S.J. 2010. Measuring financial literacy. *The Journal of Consumer Affairs*, 44(2):296-316. [Online] Available from: <https://doi.org/10.1111/j.1745-6606.2010.01170.x> [Accessed: 2020-02-10].
- Joo, S. 2008. Personal financial wellness. In: Xiao, J.J. (ed.) *Handbook of consumer finance research*. New York, NY: Springer. [Online] Available from: DOI: 10.1007/978-0-387-75734-6_2 [Accessed: 2020-01-28].
- Keese, M. 2012. Who feels constrained by high debt burdens? Subjective vs objective measures of household debt. *Journal of Economic Psychology*, 33:125-141. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.08.002> [Accessed: 2019-08-02].
- Kemalbay, G. & Korkmazoğlu, O.B. 2014. Categorical principal component logistic regression: a case study for housing loan approval. *Procedia — Social and Behavioral Sciences*, 109:730-736. [Online] Available from: DOI: 10.1016/j.sbspro.2013.12.537 [Accessed: 2020-12-11].
- Kim, Y.I., Kim, H.C. & Yoo, J.H. 2016. Household over-indebtedness and financial vulnerability in Korea: evidence from credit bureau data. *KDI Journal of Economic Policy*, 38(3):53-77. [Online] Available from: <http://dx.doi.org/10.23895/kdijep.2016.38.3.53> [Accessed: 2020-02-03].
- Limbu, Y.B. & Sato, S. 2019. Credit card literacy and financial well-being of college students: a moderated mediation model of self-efficacy and credit card number. *International Journal of Bank Marketing*, 37(4):991-1003. [Online] Available from: DOI: 10.1108/IJBM-04-2018-0082 [Accessed: 2020-03-03].

Losado-Otalero, M. & Alkire, L. 2019. Investigating the transformative impact of bank transparency on consumers' financial well-being. *International Journal of Bank Marketing*, 37(4):1062-1079. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0079 [Accessed: 2020-03-03].

Maloney, P.W., Grawitch, M.J. & Barber, L.K. 2012. The multi-factor structure of the brief self-control scale: discriminant validity of restraint and impulsivity. *Journal of Research in Personality*, 46(1):111-115. [Online] Available from: <https://doi.org/10.1016/j.jrp.2011.10.001> [Accessed: 2021-03-03].

Miotto, A.P.S.C. & Parente, J. 2015. Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Revista de Administração de Empresas*, 55(1). [Online] Available from: DOI: 10.1590/S0034-759020150106 [Accessed: 2019-09-22].

Moller, A.C., Deci, E.L. & Ryan, R.M. 2006. Choice and ego-depletion: the moderating role of autonomy. *Personality and Social Psychology Bulletin*, 32(8). [Online] Available from: <https://doi.org/10.1177/0146167206288008> [Accessed: 2019-07-23].

Momentum. 2020. *Momentum/UNISA Household Financial Wellness Insights*. [Online] Available from: <https://retail.momentum.co.za/documents/campaigns/scienceofsuccess2020/unisa-insights-report.pdf> [Accessed: 2023-06-18].

Muthén, L.K. & Muthén, B.O. 1998-2017. *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.

National Credit Regulator. 2019. *Credit bureau monitor: third quarter — September 2019*. [Online] Available from: <https://www.ncr.org.za/documents/CBM/CBM%20Q3%202019.pdf> [Accessed: 2020-01-19].

Nel, J. & Boshoff, C. 2017. Development of application-based mobile-service trust and online trust transfer: an elaboration likelihood model perspective. *Behaviour & Information Technology*, 36(8):809-826. [Online] Available from: DOI: 10.1080/0144929X.2017.1296493 [Accessed: 2021-01-16].

Netemeyer, R.G., Warmath, D., Fernandes, D. & Lynch, J.G. 2018. How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *Journal of Consumer Research*, 45:68-89. [Online] Available from: DOI: 10.1093/jcr/ucx109 [Accessed: 2019-10-16].

Norvilitis, J.M. & MacLean, M.G. 2010. The role of parents in college students' financial behaviours and attitudes. *Journal of Economic Psychology*, 31:55-63. [Online] Available from: DOI: 10.1016/j.joep.2009.10.003 [Accessed: 2020-02-06].

Norvilitis, J.M. & Mao, Y. 2013. Attitudes towards credit and finances among college students in China and the United States. *International Journal of Psychology*, 48(3):389-398. [Online] Available from: <http://dx.doi.org/10.1080/00207594.2011.645486> [Accessed: 2020-02-06].

Norvilitis, J.M., Szablicki, P.B. & Wilson, S.D. 2003. Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*, 33(5):935-947. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1111/j.1559-1816.2003.tb01932.x> [Accessed: 2019-07-22].

O'Connor, G.E., Newmeyer, C.E., Yee Ching Wong, N., Bayuk, J.B., Cook, L.A., Komarova, Y., Loibl, C., Lin Ong, L. & Warmath, D. 2019. Conceptualising the multiple dimensions of consumer financial vulnerability. *Journal of Business Research*, 100:421-430. [Online] Available from: <https://doi.org/10.1016/j.jbusres.2018.12.033> [Accessed: 2019-08-02].

Opperman, I. 2023. *SA consumers surviving on credit in cost-of-living crisis*. [Online] Available from: <https://www.citizen.co.za/business/personal-finance/sa-consumers-living-on-credit/> [Accessed: 2023-06-18].

Pirog, S.F. & Roberts, J.A. 2007. Personality and credit card misuse among college students: the mediating role of impulsiveness. *Journal of Marketing Theory and Practice*, 15(1):65-77. [Online] Available: DOI: 10.2753/MTP1069-6679150105 [Accessed: 2020-02-06].

Ponchio, M.C., Cordeiro, R.A. & Gonçalves, V.N. 2019. Personal factors as antecedents of perceived financial well-being: evidence from Brazil. *International Journal of Bank Marketing*, 37(4):1004-1024. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0077 [Accessed: 2020-03-03].

Prawitz, A.D., Garman, E.T., Sorhaindo, B., O'Neill, B. Kim, J. & Drentea, P. 2006. InCharge financial distress/financial well-being scale: development, administration, and score interpretation. *Journal of Financial Counseling and Planning*, 17(1):34-50. [Online] Available from: DOI: 10.1037/t60365-000 [Accessed: 2020-03-10].

Reeve, J. & Jang, H. 2006. What teachers say and do to support student 's autonomy during a learning activity. *Journal of Educational Psychology*, 98:209-218. [Online] Available from: DOI: 10.1037/0022-0663.98.1.209 [Accessed: 2020-01-28].

Riitsalu, L. & Murakas, R. 2019. Subjective financial knowledge, prudent behaviour and income: the predictors of financial well-being in Estonia. *International Journal of Bank Marketing*, 37(4):934-950. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0071 [Accessed: 2020-02-05].

Romal, J.B. & Kaplan, B.J. 1995. Difference in self-control among spenders and savers. *Psychology – A Quarterly Journal of Human Behavior*, 32:8-17. [Online] Available from: <https://psycnet.apa.org/record/1996-24586-001> [Accessed: 2019-11-11].

Ryan, R.M. & Deci, E.L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55(1):68-78. [Online] Available from: DOI: 10.1037/0003-066X.55.1.68 [Accessed: 2018-04-20].

Ryan, R.M., Deci, E.L. Grolnick, W. & La Guardia, J. 2006. The significance of autonomy and autonomy support in psychological development and psychopathology. In: Cicchetti, D. & Cohen, D.J. (eds.) *Developmental psychopathology, Vol. 1: theory and method*. 2nd ed. Hoboken, New Jersey: Wiley. [Online] Available from: <https://doi.org/10.1002/9780470939383.ch20> [Accessed: 2020-04-20].

Ryan, R.M., Deci, E.L., Vansteenkiste, M. & Soenens, B. 2021. Building a science of motivated persons: self-determination theory's empirical approach to human experience and the regulation of behaviour. *Motivation Science*, 7(2):97-110. [Online] Available from: DOI: 10.1037/mot0000194 [Accessed: 2022-10-15].

Ryan, R.M., Patrick, H., Deci, E.L. & Williams, G.C. 2008. Facilitating health behaviour change and its maintenance: interventions based on self-determination theory. *The European Health Psychologist*, 10:2-5. [Online] Available from: http://selfdeterminationtheory.org/SDT/documents/2008_RyanPatrickDeciWilliams_EHP.pdf [Accessed: 2020-01-28]

Sabri, M.F., Cook, C.C. & Gudmunson, C.G. 2012. Financial well-being of Malaysian college students. *Asian Education and Development Studies*, 1(2):153-170. [Online] Available from: DOI: 10.1108/20463161211240124 [Accessed: 2019-07-22].

Santos, D.B., Mendes-Da-Silva, W., Flores, E. & Norvilitis, J.M. 2016. Predictors of credit card use and perceived financial well-being in female college students: a Brazil-United States comparative study. *International Journal of Consumer Studies*, 40:133-142. [Online] Available from: DOI: 10.1111/ijcs.12234 [Accessed: 2019-07-22].

Schermelleh-Engel, K., Moosbrugger, H. & Müller, H. 2003. Evaluating the fit of structural equation models: test of significance and descriptive goodness-of-fit measures. *Methods of Psychology Research*, 8(2):23-74. [Online] Available from: DOI: 10.1037/0022-3514.45.3.513 [Accessed: 2022-07-18].

Schicks, J. 2014. Over-indebtedness in microfinance – an empirical analysis of related factors on the borrower level. *World Development*, 54:301-324. [Online] Available from: <https://doi.org/10.1016/j.worlddev.2013.08.009> [Accessed: 2019-08-02].

Sebire, S.J., Standage, M. & Vansteenkiste, M. 2009. Examining intrinsic versus extrinsic exercise goals: cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, 31:189-210. [Online] Available from: DOI: 10.1123/jsep.31.2.189 [Accessed: 2020-04-19].

Sekścińska, K., Rudzinska-Wojciechowska, J. & Jaworska, D. 2021. Self-control and financial risk taking. *Journal of Economic Psychology*, 85(2021):102386. [Online] Available from: <https://doi.org/10.1016/j.joep.2021.102386> [Accessed: 2023 – 06 – 01].

Sheldon, K.M., Elliot, A.J., Kim, Y. & Kasser, T. 2001. What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80:325-339. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2021-01-30].

Shultz, C.J. & Holbrook, M.B. 2009. The paradoxical relationships between marketing and vulnerability. *Journal of Public Policy & Marketing*, 28(1):124-127. [Online] Available from: <https://doi.org/10.1509/jppm.28.1.124> [Accessed: 2021-03-12].

Smith, C. 2019. Household savings rate in SA actually zero – economist. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2023-06-18].

Soman, D. & Cheema, A. 2004. When goals are counterproductive: the effects of violation of a behavioural goal on subsequent performance. *Journal of Consumer Research*, 31(1):52-62. [Online] Available from: <https://doi.org/10.1086/383423> [Accessed: 2021-04-23].

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D. & Tinghög, G. 2017. Does self-control predict financial behaviour and financial well-being? *Journal of Behavioural and Experimental Finance*, 14:30-38. [Online] Available from: <https://doi.org/10.1016/j.jbef.2017.04.002> [Accessed: 2019-06-22].

Subrahmanyam, S. & Gomez-Arias, J.T. 2018. Integrated approach to understanding consumer behaviour at bottom of pyramid. *Journal of Consumer Marketing*, 25(7):402-412. [Online] Available from: <https://doi.org/10.1108/07363760810915617> [Accessed: 2019-04-23].

Tangney, J.P., Baumeister, R.F. & Boone, A.L. 2004. High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72(2):271-324. [Online] Available from: DOI: 10.1111/j.0022-3506.2004.00263.x [Accessed: 2019-11-10].

Thøgersen-Ntoumani, C., Ntoumanis N., Cumming, J. & Chatzisarantis, N.L.D. 2011. When feeling attractive matters too much to women: a process underpinning the relation between psychological need satisfaction and unhealthy weight control behaviors. *Motivation and Emotion*, 35(4):413-422. [Online] Available from: DOI: 10.1007/s11031-011-9226-9 [Accessed: 2019-08-19].

TransUnion. 2023. *South African consumers cut spending, battle to pay bills as economic pressure grows*. [Online] Available from: <https://newsroom.transunion.co.za/south-african-consumers-cut-spending-battle-to-pay-bills-as-economic-pressure-grows/> [Accessed: 2023-06-18].

UBS. 2014. *Couples and money: who decides. UBS investor watch 2Q 2014: analyzing investor sentiment and behavior*. [Online] Available from: <https://www.ubs.com/content/dam/> [Accessed: 2021-03-12].

Universiteit Gent. 2019. *The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS)*. [Online] Available from: <https://selfdeterminationtheory.org/download/2015-basic-psychological-need-satisfaction-frustration-scale-completepacket/?wpdmdl=4215&refresh=5dfa5a7d9c92a1576688253> [Accessed: 2019-12-13].

Van der Kaap-Deeder, J., Vansteenkiste, M., Soenens, S., Loeys, T., Mabbe, E. & Gargurevich, R. 2015. Autonomy-supportive parenting and autonomy-supportive sibling interactions: the role of mothers' and siblings' psychological need satisfaction. *Personality and Social Psychology Bulletin*, 41:1590-1604. [Online] Available from: <https://doi.org/10.1177/0146167215602225> [Accessed: 2020-01-30].

Vansteenkiste, M. & Ryan, R.M. 2013. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 3:263-280. [Online] Available from: DOI: 10.1037/a0032359 [Accessed: 2020-01-28].

Vansteenkiste, M., Niemiec, C.P. & Soenens, B. 2010. The five minitheories of self-determination theory: an historical overview, emerging trends, and future directions. In: Urdañ, T.C. & Karabenick, S.A. (eds.) *Advances in motivation and achievement: Vol. 16, Part A. The decade ahead: theoretical perspectives on motivation and achievement*. Bingley, UK: Emerald. [Online] Available from: [http://dx.doi.org/10.1108/S0749-7423\(2010\)000016A007](http://dx.doi.org/10.1108/S0749-7423(2010)000016A007) [Accessed: 2021-01-30].

Vansteenkiste, M., Soenens, B. & Duriez, B. 2008. Presenting a positive alternative to strivings for material success and the thin ideal: understanding the effects of extrinsic relative to intrinsic goal pursuits. In: Lopez, S.J. (ed.) *Positive psychology: exploring the best in people*. Westport, CT: Greenwood Press. [Online] Available from: https://www.researchgate.net/publication/237703070_Presenting_a_Positive_Alternative_to_Strivings_for_Material_Success_and_the_Thin_Ideal_Understanding_the_Effects_of_Extrinsic_Relative_to_Intrinsic_Goal_Pursuits [Accessed: 2020-03-28].

Vosylis, R., Žukauskienė, R. & Crocetti, E. 2020. Linking Identity Processes to Spending Self-Control Capacities in Emerging Adulthood: The Mediating Role of Self-Regulatory Identity Functions. *Emerging Adulthood*, 8(5):404-4011. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1177/2167696818820204> [Accessed: 2023 – 06 – 01].

Warmath, D., Chen, P., Grable, J. & Kwak, E.J. 2021. Soft landings: Extending the cushion hypothesis to financial well-being in collectivistic cultures. *The Journal of Consumer Affairs*, 55: 1563-1590. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1111/joca.12408> [Accessed: 2023 – 06 – 01].

Webley, P. & Nyhus, E.K. 2001. Life-cycle and dispositional routes into problem debt. *British Journal of Psychology*, Vol 92(3):423-446 [Online] Available from: DOI: 10.1348/000712601162275 [Accessed: 2020-02-06].

Wilcox, K., Block, L.G. & Einstein, E.M. 2011. Leave home without it? The effects of credit card debt and available credit on spending. *Journal of Marketing Research*, XI.VIII(Special Issue 2011):S78-S90. [Online] Available from: DOI: 10.1509/jmkr.48.SPL.S78 [Accessed: 2020-02-04].

Wilson, N. 2023. *Nearly half of SA consumers say their financial position worsened in the past year – report*. [Online] Available from: <https://www.news24.com/amp/fin24/economy/nearly-half-of-sa-consumers-say-their-financial-position-worsened-in-the-past-year-report-20230211> [Accessed: 2023-06-18].

Woodruffe, H.R. 1997. Compensatory consumption: why women go shopping when they're fed up and other stories. *Marketing Intelligence and Planning*, 15(7):325-334. [Online] Available from: DOI: 10.1108/02634509710193172 [Accessed: 2018-04-03].

Worthington, A.C. 2006. Debt as a source of financial stress in Australian households. *International Journal of Consumer Studies*, 30(1):2-15. [Online] Available from: DOI: 10.1111/j.1470-6431.2005.00420.x [Accessed: 2020-02-03].

Xiao, J.J. 2008. Applying behaviour theories to financial behaviours. In: Xiao, J.J. (ed.) *Handbook of consumer finance research*. New York, NY: Springer. [Online] Available from: DOI: 10.1007/978-0-387-75734-6_5 [Accessed: 2020-01-27].

Zhao, X., Lynch, J.G. & Chen, Q. 2010. Reconsidering Baron and Kenny: myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2):197-206. [Online] Available from: <https://doi.org/10.1086/651257> [Accessed: 2021-01-31].

CHAPTER 4: ARTICLE 3

Consumer spending self-control and life satisfaction: exploring the roles of financial well-being and relative deprivation

ABSTRACT

Not being able to control one's spending contributes to lower levels of financial well-being. Further, financial well-being is regarded as a predictor of life satisfaction. Whether a person's ability to control their spending, that is, consumer spending self-control (CSSC), is directly associated with life satisfaction is still uncertain. Further raising the question as to the possibility of financial well-being acting as an intervening variable between CSSC and life satisfaction. Irrespective of the level of financial well-being, the extent to which people feel deprived in relation to their peers, may also influence the relationship between financial well-being and life satisfaction. The main objective of this article was to investigate the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. A cross-sectional, descriptive study was done amongst employed South African credit-active respondents who were 18 years or older. An online self-administered questionnaire was distributed via an online paid-for consumer panel through Qualtrics. A total of 608 respondents qualified for data analysis purposes. Structural equation modelling analysis was used in assessing the structural model, and results revealed that CSSC and financial well-being, as well as financial well-being and life satisfaction, were significantly related. Although CSSC was not directly correlated with life satisfaction, by including financial well-being as an intervening variable, it was possible to explain a part of the relationship between CSSC and life satisfaction. Furthermore, relative deprivation displayed a moderating effect on the relationship between financial well-being and life satisfaction. Given this insight, marketers are challenged to encourage consumers to control their spending behaviour to achieve financial well-being and ultimately life satisfaction.

Keywords: Consumer spending self-control, life satisfaction, financial well-being, relative deprivation, well-being

4.1 INTRODUCTION

Forbes magazine recognises that financial well-being is about money and is a critical contributor to a person's overall well-being (Frazier, 2022). This sentiment is not only shared by the popular press but a topic of interest within the academic community as well. Therefore, Losado-Otalero & Alkire (2019) suggest that an important question requiring researchers' consideration within the field of financial well-being is, 'What can banks do to improve individuals' and societies' well-being?' This is an important question to address, as financial well-being can have a multifaceted influence on not only individuals but also society and organisations (Brüggen, Hogleve, Holmlund, Kabadayi & Löfgren, 2017; Losado-Otalero & Alkire, 2019).

A financial crisis is regarded as one of the factors contributing to the rising concern about well-being (Rosenbaum, Corus, Ostrom, Anderson, Fisk, Gallan, Giraldo, Mende, Mulder, Rayburn, Shirahada & Williams, 2011). Fortunately, there is a movement known as transformative service research (TSR), which is service research aimed at investigating ways to improve the well-being of people (i.e., consumers and employees) and society (Rosenbaum *et al.*, 2011). The financial industry is one industry that is particularly encouraged to engage in TSR since financial institutions influence people's lives daily and are consequently in a central position to improve or detract from consumer well-being (Anderson, Ostrom, Corus, Fisk, Gallan, Giraldo, Mende, Mulder, Rayburn, Rosenbaum, Shirahada & Williams, 2013). Furthermore, inspired by TSR, previous research recognised the importance of obtaining information on motivating people to participate in healthy spending and saving behaviour (Brüggen *et al.*, 2017; Mende & Van Doorn, 2015; Winterich & Nenkov, 2015). Thus, gathering information on spending habits and saving behaviour to contribute to greater well-being has become a matter of increased importance for organisations, policymakers and policy regulators and, therefore, sets the backdrop against which this article was conducted (Brüggen *et al.*, 2017).

An example of healthy spending behaviour that could contribute to greater well-being is consumers' ability to control their spending, that is, consumer spending self-control (CSSC). Serving as the independent variable in this article, CSSC refers to a form of self-control within the financial domain that aims at providing greater insight into consumers' spending and consumption behaviour (Haws, Bearden & Nenkov, 2012). Through CSSC, people can observe and monitor their spending behaviour to stay within set standards or goals, thereby contributing to improved consumption and financial behaviour (Barbić, Lučić & Chen, 2019; Haws *et al.*, 2012; Ponchio, Cordeiro & Gonçalves, 2019). Although the general form of self-control is associated with well-being (Deci, Ryan, Gagné, Leone, Usunov & Kornazheva, 2001; Lun & Bond, 2016; Ryan & Deci, 2006), the question remains as to whether CSSC is directly related to well-being.

Well-being in its most basic form is defined by Zimmerman (1995) as the state in which one feels healthy, happy and worry-free. Well-being is also described as an individual's favourable assessment of their life by considering how satisfied they are with different aspects thereof (Joo, 2008; Prawitz, Garman, Sorhaindo, O'Neill, Kim & Drentea, 2006; Zimmerman 1995). The meaning of well-being can be viewed from two distinct yet corresponding perspectives: hedonism and eudaimonism (Diaz, Stavradi, Blanc & Gandarillas, 2015; Ryan & Deci, 2001). According to the hedonistic perspective, well-being refers to happiness, pleasure or the enjoyment of life (Diaz *et al.*, 2015; Diener & Chan, 2011; Ryan & Deci, 2001). In contrast, eudaimonism focuses on self-actualisation, personal growth, reaching one's full potential and realising one's true nature (Diaz *et al.*, 2015; Ryan & Deci, 2001). For this article, a more hedonistic perspective was followed by focusing on subjective well-being and, specifically, the cognitive component of subjective well-being, namely life satisfaction (Diaz *et al.*, 2015; Diener, Suh, Lucas & Smith, 1999; Ryan & Deci, 2001).

In addition to the expected influence of CSSC on life satisfaction, it has been proposed that CSSC also influences financial well-being, given the direct link between a person's spending behaviour in general and their financial situation (Prawitz *et al.*, 2006). Furthermore, previous research shows that healthy saving and spending habits enable people to sustain long-lasting financial behaviour, consequently resulting in financial well-being (Brüggen *et al.*, 2017; Losado-Otalaro & Alkire, 2019; Van Praag, Frijters & Ferrer-i-Carbonell, 2003). It is, therefore, expected that having CSSC should be positively related to financial well-being. Moreover, there is already an established positive correlation between financial well-being and subjective well-being, and research on life satisfaction indicates that satisfaction with different life domains (e.g., finance in this case) results in greater overall life satisfaction (Brüggen *et al.*, 2017; Chatterjee, Kumar & Dayma, 2019; Collins & Urban, 2019; Diener & Seligman, 2004; Kuykendall, Tay & Ng, 2015; Netemeyer, Warmath, Fernandes & Lynch, 2018; Pavot & Diener, 2008; Riitsalu & Murakas, 2019). Linking back to the relationship between CSSC and life satisfaction, the question is raised as to whether CSSC is able to directly influence life satisfaction, or whether a mediator, such as financial well-being, can facilitate the relationship between CSSC and life satisfaction.

Even though people with financial well-being engage in less social comparison behaviour (Norvilitis & Mao, 2013), Festinger (1954) points out that all people have a natural inclination to compare themselves with others. In other words, all people evaluate and compare themselves to others in terms of their opinions, abilities, possessions and status (Chatterjee *et al.*, 2019; López Turley, 2002; Santos, Mendes-Da-Silva, Flores & Norvilitis, 2016). Thus, social comparison occurs irrespective of a person's level of financial well-being. Through social comparison, people might become aware that they are falling short relative to their reference group, thus feeling relatively deprived (Brown & Gray, 2016; Chatterjee *et al.*, 2019). Further, people feel they are missing out on something they deserve

when they feel relatively deprived, causing further discontentment and dissatisfaction (Callan, Ellard, Shead & Hodgins, 2008; Walker & Smith, 2002). This can ultimately lead to reduced levels of subjective well-being (Callan, Shead & Olson, 2011; Luttmer, 2005; Walker, 1999). It is, therefore, proposed that irrespective of a person's level of financial well-being, the degree to which they experience relative deprivation might influence the relationship between financial well-being and life satisfaction.

Based on the aforementioned discussion, the main objective of this article is to investigate the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. In addressing the main objective, two secondary objectives were set. First, the article investigates the mediating effect of financial well-being on the relationship between CSSC and life satisfaction. Second, the article explores the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. Whereas previous studies examined the relationship between the general form of self-control and life satisfaction, this article proposes making a theoretical contribution to well-being literature by not only investigating the relationship between CSSC and life satisfaction, but also whether financial well-being has the ability to mediate the relationship between CSSC and life satisfaction. Furthermore, this article contributes to relative deprivation theory by investigating the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. From a practical point of view, this study suggests developing new products/services aimed at helping consumers control their spending in an attempt to increase their financial well-being and life satisfaction. Furthermore, this study makes a practical contribution by recommending ways in which marketing messages can be adapted to lessen the influence of peers.

The layout of this article includes a literature review and outline of the conceptual framework, followed by a discussion of the research methodology and results. Finally, the article concludes with a general discussion, a summary of contributions made, several limitations and future research avenues to explore.

4.2 LITERATURE OVERVIEW

This section provides a literature overview of the major constructs of this article: CSSC, life satisfaction, financial well-being and relative deprivation.

4.2.1 Self-control and consumer spending self-control

Self-control refers to one's efforts to overrule or change internal responses to break undesired habits and behaviours (Achtziger, Hubert, Kenning, Raab & Reisch, 2015; Baumeister, 2002; Miotto & Parente, 2015; Tangney, Baumeister & Boone, 2004). Through self-control, people track, alter and manage their behaviour according to specified standards and goals to bring about change (Barbić *et al.*, 2019; Baumeister, 2002). Self-control represents one's ability to avoid temptation, maintain self-discipline and control behaviour (Baumeister, 2002; Kivetz & Simonson, 2002; Ponchio *et al.*, 2019; Tangney *et al.*, 2004). People differ in how much self-control they apply, with some being better able to control emotions and thoughts, resist temptations, control their temper, save money, exercise regularly or concentrate better (Achtziger *et al.*, 2015; Rick, Cryder & Loewenstein, 2008; Tangney *et al.*, 2004; Wilcox, Block & Einstein, 2011).

People with higher levels of self-control tend to spend less money, spend less impulsively and save more (Baumeister, 2002; Norvilitis & MacLean, 2010; Norvilitis, Merwin, Osberg, Roehling, Young & Kamas, 2006; Strayhorn, 2002). Research has shown that people with higher levels of self-control tend to have more successful careers and higher income and wealth (Ameriks, Caplin, Leahy & Tyler, 2007; Biljanovska & Palligkinis, 2018). A higher degree of self-control is related to greater financial security, not just at present but also in the future, and reduces stress related to money management (Ponchio *et al.*, 2019; Strömbäck, Lind, Skagerlund, Västfjäll & Tinghög, 2017). People with more control over their lives are more susceptible to favourable conditions (Diener, 1984) and the sense of personal control that a person can exert influences their level of subjective well-being (Deci *et al.*, 2001; Lun & Bond, 2016; Ryan & Deci, 2006).

People who lack self-control tend to have higher levels of debt and struggle with delaying gratification (Livingstone & Lunt, 1992; Norvilitis *et al.*, 2006). Not being able to control oneself can cause consumers to spend or even overspend on their credit cards, resulting in high debt levels (Sotiropoulos & d'Astous, 2013). This is evident within the South African market, with more than a third of South Africans living beyond what they can afford (Pijoos, 2021), and approximately 50% of South African credit-active consumers being overindebted according to The Financial Sector Conduct Authority (Ngidi, 2022). People with lower levels of self-control struggle to manage their finances and are more likely to become indebted (Miotto & Parente, 2015). As a result, self-control failure can lead to an increased possibility of financial distress (Biljanovska & Palligkinis, 2018). A lack of self-control has also been associated with negative consequences, such as compulsive behaviour (Achtziger *et al.*, 2015), over-indebtedness (Gathergood, 2012; Ponchio *et al.*, 2019), gambling, eating disorders, substance abuse, sexual immorality, criminal behaviour and

overspending (Pirog & Roberts, 2007), risk-taking (Sekścińska, Rudzinska-Wojciechowska & Jaworska, 2021) and defaulting behaviour (Miotto & Parente, 2015).

As is evident from above, general self-control can provide some explanation for spending and consumption behaviour. However, a focused evaluation of how consumers control their spending can provide valuable insight into spending and consumption behaviour, especially given the impact of uncontrollable spending on the economy (Haws *et al.*, 2012). As a result, different forms of self-control are identified to better understand self-control within specific domains (Ponchio *et al.*, 2019). One example of a form of self-control applicable to a specific domain is CSSC. CSSC is described as the ability to observe and monitor spending-related behaviour in accordance with set standards or goals (Haws *et al.*, 2012; Ponchio *et al.*, 2019).

Being able to control one's spending contributes to stable consumption and financial behaviour (Barbić *et al.*, 2019; Haws *et al.*, 2012), enabling people to plan and manage their finances better (Miotto & Parente, 2015; Riitsalu & Murakas, 2019). Moreover, having greater CSSC is also associated with lower levels of debt (Achtziger *et al.*, 2015; Webley & Nyhus, 2001). Furthermore, Haws *et al.* (2012) propose that not having control over one's spending is a consistent factor contributing to lower levels of financial well-being. Therefore, having a better understanding of CSSC assists in putting methods in place to help people control their spending and, in this way, limit detrimental financial (e.g., poor credit records or bankruptcy), psychological (e.g., anxiety, stress or guilt) and social (e.g., tense relationships or divorce) outcomes related to uncontrollable spending (Haws *et al.*, 2012).

Although a person's ability to exert general self-control influences their level of subjective well-being (Deci *et al.*, 2001; Lun & Bond, 2016; Ryan & Deci, 2006), the extent to which CSSC influences subjective well-being (i.e., life satisfaction) remains unanswered. Moreover, recognising that uncontrollable spending behaviour contributes to lowered financial well-being (Haws *et al.*, 2012), it would be expected that controlling one's spending might result in greater financial well-being. It is, therefore, necessary to examine subjective well-being (in the form of life satisfaction) and financial well-being in more detail to better understand how these two constructs relate to CSSC.

4.2.2 Life satisfaction

Subjective well-being considers how people assess their lives based on their feelings and experiences with certain life domains (Angner, 2010; Diener, 1984; Joo, 2008). It is postulated that subjective well-being comprises two primary components: affective and cognitive (Diener, 1984;

Larsen & Eid, 2008; Kuykendall *et al.*, 2015). Whereas positive and negative affect refers to the affective component of subjective well-being, life satisfaction is regarded as the cognitive component of subjective well-being (Diaz *et al.*, 2015; Diener, 1984; Diener & Chan, 2011; Howell & Howell, 2008; Pavot & Diener, 1993, 2008; Ryan & Deci, 2001). The initial focus of subjective well-being studies was on the positive and negative affect, while more recently, the focus has shifted to the life satisfaction component of subjective well-being (Diaz *et al.*, 2015; Diener, Emmons, Larsen & Griffin, 1985; Kuykendall *et al.*, 2015; Pavot & Diener, 1993, 2008). In addition to the stronger focus on life satisfaction in more recent studies, previous studies also discovered that compared to the cognitive component, the affective component has weaker relationships to economically related concepts (e.g., income, spending or expenditure) (Howell & Howell, 2008). Therefore, this article has proposed using the cognitive component of life satisfaction as a measure of subjective well-being.

Life satisfaction is regarded as a global assessment of a person's life (Diener, 1984). In other words, it considers people's attitudes to satisfaction with their overall lives and is usually measured using the Satisfaction with Life Scale (SWLS) (Angner, 2010; Diaz *et al.*, 2015; Diener, 1984; Diener *et al.*, 1985; Pavot & Diener, 1993, 2008; Xiao, Tang & Shim, 2009). There are various factors influencing people's life satisfaction judgements, including one's mood, personality (extraversion and neuroticism, more specifically), situational factors and social relationships (DeNeve & Cooper, 1998; Diener *et al.*, 1999; Larsen & Eid, 2008; Pavot & Diener, 2008). Furthermore, a study by Manganelli and Forest (2020) revealed that an increase in a person's economic standing results in an increase in life satisfaction, and this relationship is mediated by psychological need satisfaction.

Additionally, from a financial point of view, previous studies discovered that net wealth and assets are positively associated with life satisfaction, while debt and unsecured debt are negatively associated with life satisfaction (Brown & Gray, 2016). Although household income has been positively related to life satisfaction (Brown & Gray, 2016; Wen Wan, Chen & Vohs, 2014), the relationship between income and life satisfaction is complex (Diener & Seligman, 2004). Findings indicate that an increase in income leads to an increase in life satisfaction, but only up to a point, whereafter the effect starts tapering off and the increase in income only has a small effect on life satisfaction (Chatterjee *et al.*, 2019; Diener & Seligman, 2004; Noll & Weick, 2014). A similar result was found in a study by Chen, Jiang & Gu (2021), in which the authors discovered that the association between household savings and subjective well-being takes the form of an inverted U-shape. In other words, household savings leads to an increase in subjective well-being, but only up to a point, whereafter subjective well-being starts declining irrespective of an increase in household savings. A possible explanation for this phenomenon is that wealth is accompanied by mental and social problems, which can result in a levelling off in life satisfaction over time (Diener & Seligman, 2004). Furthermore, a higher household income compared to that of a peer group has a positive

effect on life satisfaction, with the opposite also being true: if household income levels are below those of one's peer group, then this has a negative effect on life satisfaction (Brown & Gray, 2016; Chatterjee *et al.*, 2019; Rijnks, Koster & McCann, 2019).

Interestingly, previous research findings suggest that expenditure may be a more accurate predictor of life satisfaction than income and showed that larger expenditures are positively related to life satisfaction (Lewis, 2014; Noll & Weick, 2014). The authors further discovered that it is not only the amount of money spent that influences life satisfaction but also what the money is spent on in terms of products and services. Therefore, it was reported that expenditure on clothing and leisure was highly related to life satisfaction (Noll & Weick, 2014). However, when individuals chose to consume less, their life satisfaction saw only a marginal reduction, if any (Noll & Weick, 2014). With regard to other financial behaviours, previous research indicates that good financial habits and practices in terms of savings, cash and credit management are positively related to life satisfaction, while engaging in risky credit behaviour lowers life satisfaction (Xiao, Shim, Barber & Lyons, 2007).

The life satisfaction assessment is usually based on the level of satisfaction with different life domains, including occupation, leisure, health, relationships, environment, self, others and finance (Brown & Gray, 2016; Chatterjee *et al.*, 2019; Diener *et al.*, 1999; Kuykendall *et al.*, 2015; Netemeyer *et al.*, 2018; Van Praag *et al.*, 2003). Whereas life satisfaction reflects people's level of satisfaction with their overall life, domain satisfaction reflects an individual's level of satisfaction within a specific domain, such as one's occupation, housing, finances and relationships (Pavot & Diener, 2008). Since life satisfaction and domain satisfaction are positively correlated, it is possible to improve overall life satisfaction by improving the experience and satisfaction within a specific life domain (Kuykendall *et al.*, 2015; Pavot & Diener, 2008). The life domain that sets the scene for this article is the financial domain, thus necessitating a more detailed discussion on financial well-being.

4.2.3 Financial well-being

Financial well-being is a state of feeling content and worry-free about one's financial situation (Chatterjee *et al.*, 2019; Joo, 2008; Sabri, Cook & Gudmunson, 2012). The Consumer Financial Protection Bureau (CFPB) (2015) devised a definition and measure for financial well-being, which recognises financial well-being as encompassing several dimensions: the smooth and effective control over day-to-day and month-to-month finances, the ability to absorb financial shocks, staying the course in meeting financial goals, and having the financial freedom to allow one to enjoy life (Abrantes-Braga & Veludo-de-Oliveira, 2019; Collins & Urban, 2019; Consumer Financial Protection Bureau, 2015; Netemeyer *et al.*, 2018). Financial well-being takes cognisance of the present and

future dimensions of one's financial decisions and attempts to answer the questions, 'How am I currently doing financially?' and 'How do I expect to be doing financially in the future?' (Netemeyer *et al.*, 2018). Since these questions can only be answered based on an individual's assessment of their financial situation, financial well-being is assessed as a subjective state that focuses on a person's perceptions of their financial situation (O'Connor, Newmeyer, Yee Ching Wong, Bayuk, Cook, Komarova, Loibl, Lin Ong & Warmath, 2019).

Short-sighted traits and behaviours, such as lacking self-control, only making minimum payments on credit cards and being materialistic, contribute to current financial stress and hold long-term consequences for financial security (Maloney, Grawitch & Barber, 2012; Netemeyer *et al.*, 2018; Richins, 2011). Previous studies regard having control over one's finances as one of the best predictors of financial well-being (Vlaev & Elliott, 2013; Riitsalu & Murakas, 2019). Similarly, Ponchio *et al.* (2019) report that greater CSSC reduces current money management stress, while greater materialism results in greater perceived money management stress. On the other hand, long-term traits and behaviours, such as planning for a financial future and making investments, are significantly associated with anticipated future financial security but do not affect current money management stress (Netemeyer *et al.*, 2018). Considering the future financial dimension, Ponchio *et al.* (2019) reveal that higher levels of CSSC, a greater personal savings orientation and a forward-looking mindset are all related to greater future financial security. Considering the South African market in terms of a forward-looking mindset, the market seems relatively optimistic with 62% of South Africans expecting the same level of income or even higher, within the next year (Deloitte, 2023). However, with 68% of South Africans worrying about their level of savings (Deloitte, 2023), the optimistic forward-looking mindset might be compromised, hence detracting from financial well-being.

Various financially related factors influence financial well-being. As such, higher income leads to greater financial well-being (Chatterjee *et al.*, 2019; Collins & Urban, 2019; Riitsalu & Murakas, 2019), and since low-income consumers do not have sufficient financial reserves, they show a breakdown in financial well-being (Ponchio *et al.*, 2019). With regard to debt, no matter whether it is secured or unsecured, debt is negatively related to financial well-being (Brown & Gray, 2016), and higher levels of debt are associated with lower levels of financial well-being (Norvilitis & MacLean, 2010; Norvilitis & Mao, 2013; Norvilitis *et al.*, 2006; Norvilitis, Szablicki & Wilson, 2003). In addition to lowering financial well-being, risky credit behaviours result in greater financial difficulties, reduced mental and physical health and lower levels of life satisfaction (Xiao *et al.*, 2007). Conversely, greater financial well-being is associated with greater life satisfaction and health (Arber, Fenn & Meadows, 2014; Riitsalu & Murakas, 2019). Positive financial behaviours that focus on improving one's financial condition (e.g., growing assets, reducing liabilities, accumulating wealth and planning for retirement)

not only lead to reduced financial stress but also enhance financial well-being (Prawitz *et al.*, 2006; Xiao *et al.*, 2009).

Financial well-being has been recognised as a key element affecting overall subjective well-being (Chatterjee *et al.*, 2019), whereby people with lower levels of financial well-being have lower subjective well-being scores (Collins & Urban, 2019). Previous studies discovered a strong, positive correlation between financial and subjective well-being (Brüggen *et al.*, 2017; Chatterjee *et al.*, 2019; Collins & Urban, 2019; Diener & Seligman, 2004; Netemeyer *et al.*, 2018; Riitsalu & Murakas, 2019). Since financial well-being indicates the degree to which people can satisfy their different needs given their current financial situation, financial well-being is a good predictor of subjective well-being (Howell, Kurai & Tam, 2013; Lun & Bond, 2016). By nurturing healthy saving and spending habits, people can sustain long-lasting financial behaviour and, consequently, financial well-being (Brüggen *et al.*, 2017; Losado-Otalaro & Alkire, 2019; Van Praag *et al.*, 2003).

Prior research reported that individuals with greater financial well-being portray a greater delay in gratification and engage in less social comparison behaviour (Norvilitis & Mao, 2013). Recognising that social comparison can predict financial well-being, it is important to note that it is usually the negative consequences of social comparison that affect financial well-being (Norvilitis & Mao, 2013; Santos *et al.*, 2016; Limbu & Sato, 2019). However, the opposite can also hold true, with social comparison motivating people to increase their wealth, leading to improved levels of financial well-being (Chatterjee *et al.*, 2019). A concept closely related to social comparison, namely relative deprivation, might influence financial well-being and life satisfaction experienced and, therefore, deserves further investigation.

4.2.4 Relative deprivation

Originally introduced by Festinger (1954), social comparison is based on the idea that people have a natural inclination to evaluate and compare themselves in terms of their opinions, abilities, possessions and status (Chatterjee *et al.*, 2019; López Turley, 2002; Santos *et al.*, 2016). Due to the absence of objective standards, these comparisons are made in relation to reference groups to establish whether one is on par (Chatterjee *et al.*, 2019; Norvilitis & Mao, 2013). People's peers or reference groups play a crucial role in influencing financial decisions and personal savings behaviour (Alshebami & Aldhyani, 2022). In essence, relative deprivation is powered by social comparison, whereby people compare themselves to a particular reference group (Brown & Gray, 2016; Chatterjee *et al.*, 2019; Hagerty, 2000). The concept of relative deprivation refers to feelings of discontentment, dissatisfaction and/or resentment emanating from the belief that one is deprived of

an outcome they desire and deserve compared to some referent (Callan *et al.*, 2008, 2011; Walker & Smith, 2002).

The idea of relative deprivation is subjective since it depends on a person's assessment and comparison to others (López Turley, 2002). People feel relatively deprived when they do not have an object, want and desire the object, see another person(s) with the object, and think it is feasible for them to obtain that object (Chipp, Kleyn & Manzi, 2011; Halleröd, 2006; López Turley, 2002). Some authors add a sense of deservingness to the idea of relative deprivation, indicating that people not only want or desire an object but often feel they deserve it, hence the feeling of being unfairly deprived (Callan & Ellard, 2010; Callan *et al.*, 2008; Kasser, Ryan, Couchman & Sheldon, 2004).

Relative deprivation involves two elements: the cognitive element, whereby social comparisons are made (i.e., the perceived injustice), and an affective element, resulting in feelings of resentment and discontent when experiencing deprivation (Chipp *et al.*, 2011; Tougas, Lagacé, De La Sablonnière & Kocum, 2004). For example, when looking at one's level of income in isolation, a feeling of contentment follows, but when comparing one's level of income to those of relevant others, a feeling of relative deprivation may emerge (Heck & Wech, 2003; Hsee, Yang, Li & Shen, 2009; Tougas *et al.*, 2004). Feeling relatively deprived is an aversive state and often motivates people to find ways to reduce it (Tougas *et al.*, 2004). As a result, people engage in activities and behaviours to attain the outcomes they feel they deserve.

Feeling relatively deprived can motivate people to engage in self-improvement activities and behaviours to improve their situation (e.g., engaging in training to improve one's level of qualification or applying for a new job) (Callan *et al.*, 2008; Chipp *et al.*, 2011; Hafer & Olson, 1993; López Turley, 2002; Olson, Roese, Meen & Robertson, 1995; Tougas *et al.*, 2004). However, the pursuit of self-improvement activities may not necessarily be successful or viable in the long run (Callan *et al.*, 2008). At times, people might turn to gambling behaviour, engage in risky health behaviours and even acquire material possessions as a way to deal with the negative emotion brought on by relative deprivation (Callan & Ellard, 2010; Callan *et al.*, 2011; Eibner & Evans, 2005; Hafer & Olson, 1993; Olson *et al.*, 1995). Further, previous research reports that relative deprivation may result in various impulse control behaviours, such as impulse buying, gambling or eating (Callan & Ellard, 2010; Callan *et al.*, 2011; Dittmar, 2001). When faced with a feeling of deprivation, people often feel compelled to acquire material possessions to improve their standing relative to peers and often without considering the long-term financial implications associated with the purchase (Callan & Ellard, 2010; Callan *et al.*, 2011; Chipp *et al.*, 2011; Halleröd, 2006; López Turley, 2002). This is also evident in South Africa, with the Momentum Unisa Household Financial Wellness Index attributing

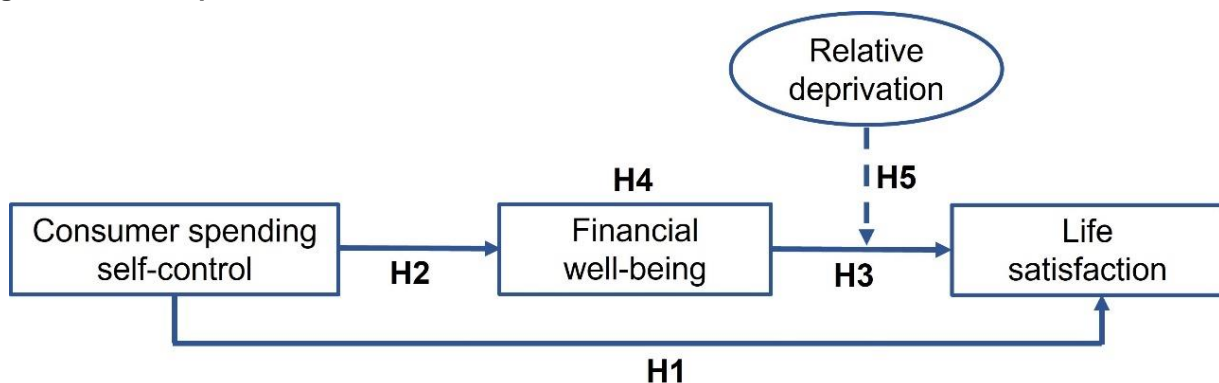
South African's determination to keep up with the Joneses as a key reason for South Africans spending beyond their means (BusinessTech, 2023).

Several negative psychological consequences are evident as a result of relative deprivation (Callan *et al.*, 2008). People suffering from increased relative deprivation experience greater physical and emotional stress (Callan *et al.*, 2008), reduced levels of subjective well-being (Callan *et al.*, 2011; Luttmer, 2005; Walker, 1999), lower self-esteem (Chipp *et al.*, 2011; Tougas *et al.*, 2004) and weaker physical and mental health (Eibner & Evans, 2005). Feeling deprived can lead to excessive or conspicuous consumption, especially in emerging markets, resulting in high levels of indebtedness (Chipp *et al.*, 2011). Even though previous studies have investigated relationships between relative deprivation and financial behaviour, and relative deprivation and subjective well-being, the extent to which relative deprivation influences the relationship between financial well-being and life satisfaction still needs to be assessed.

4.3 CONCEPTUAL FRAMEWORK

This article investigates the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction, by considering the mediating effect of financial well-being on the relationship between CSSC and life satisfaction and, subsequently, the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. Refer to Figure 4.1 for the conceptual framework for this article.

Figure 4.1: Conceptual framework for Article 3



Previous research discovered a positive correlation between general self-control and subjective well-being (Deci *et al.*, 2001; Lun & Bond, 2016; Ryan & Deci, 2006). Furthermore, since life satisfaction is the cognitive component of subjective well-being, an increase in subjective well-being equates to an increase in overall life satisfaction (Diener *et al.*, 1999; Ryan & Deci, 2001). Therefore, it is expected that general self-control will also result in an increase in overall life satisfaction. With regard to CSSC as a specific form of self-control, it is evident that CSSC leads to favourable conditions and

behaviours (e.g., stable consumption and financial behaviour or less debt) (Achtziger *et al.*, 2015; Barbić *et al.*, 2019; Haws *et al.*, 2012). It is therefore proposed that just as the general form of self-control is associated with subjective well-being, so too will CSSC, as a domain of self-control, be associated with life satisfaction, i.e. the cognitive component of subjective well-being. It is, therefore, hypothesised that:

H1: There is a positive relationship between CSSC and life satisfaction.

Generally, people with a high degree of self-control tend to have a long-term focus, are better able to control their shopping urges, can manage their finances better, save more and spend less (Baumeister, 2002; Miotto & Parente, 2015; Tangney *et al.*, 2004). More specifically, people with high levels of CSSC can plan and manage their finances better (Miotto & Parente, 2015; Riitsalu & Murakas, 2019), are more likely to engage in steady financial and consumption behaviours (Barbić *et al.*, 2019; Haws *et al.*, 2012) and are less likely to fall into debt (Achtziger *et al.*, 2015; Webley & Nyhus, 2001). With all of the mentioned behaviours contributing to greater financial well-being (Brown & Gray, 2016; Norvilitis & Mao, 2013; Prawitz *et al.*, 2006; Xiao *et al.*, 2009), it is expected that CSSC also directly influences financial well-being. Furthermore, Haws *et al.* (2012) propose that lower control over one's spending can be considered a consistent factor contributing to lower levels of financial well-being, although not yet empirically assessed. Even though the relationship between CSSC and current management stress, and CSSC and the future financial dimension, has been investigated by Ponchio *et al.* (2019), the relationship between CSSC and the overall measure of financial well-being introduced by the Consumer Finance Protection Bureau (2019) has not yet been empirically assessed. Therefore, it is hypothesised that:

H2: There is a positive relationship between CSSC and financial well-being.

Finance has been identified as one of the main life domains contributing to life satisfaction (Brown & Gray, 2016; Chatterjee *et al.*, 2019; Diener *et al.*, 1999; Kuykendall *et al.*, 2015; Netemeyer *et al.*, 2018; Van Praag *et al.*, 2003). Since there is a positive correlation between domain satisfaction and life satisfaction, it is expected that an improvement in the financial domain results in an increase in life satisfaction (Kuykendall *et al.*, 2015; Pavot & Diener, 2008), or specifically, an improvement in financial well-being results in an improvement in life satisfaction. Although numerous previous studies have found a strong, positive correlation between financial well-being and subjective well-being (Brüggen *et al.*, 2017; Collins & Urban, 2019; Diener & Seligman, 2004), this article set out to measure the relationship between financial well-being and life satisfaction as a specific component of subjective well-being. The following hypothesis is, therefore, set:

H3: There is a positive relationship between financial well-being and life satisfaction.

It has been established that general self-control is positively associated with life satisfaction, as well as with financial well-being (Biljanovska & Palligkinis, 2018; Deci *et al.*, 2001; Lun & Bond, 2016; Miotto & Parente, 2015; Ponchio *et al.*, 2019; Ryan & Deci, 2006; Strömbäck *et al.*, 2017). However, the question remains whether the same holds true for CSSC. Given that CSSC is related to more beneficial consumption and financial behaviours (Barbić *et al.*, 2019; Haws *et al.*, 2012), it is expected that CSSC is positively related to financial well-being. Furthermore, since there is already a correlation between financial well-being and subjective well-being (Chatterjee *et al.*, 2019; Collins & Urban, 2019), it is expected that financial well-being may act as a mechanism through which CSSC is associated with life satisfaction. It is, thus, hypothesised that:

H4: Financial well-being mediates the relationship between CSSC and life satisfaction.

Even though Festinger (1954), who originally introduced the social comparison concept, recognised that all people have a natural inclination to evaluate and compare themselves to others, more recent studies found that people with greater financial well-being are less likely to engage in social comparison behaviour (Norvilitis & Mao, 2013). Social comparison behaviour is, however, still the driving force behind relative deprivation (Brown & Gray, 2016; Chatterjee *et al.*, 2019; Hagerty, 2000). Thus, if people with greater financial well-being engage in less social comparison behaviour (i.e., the driving force behind relative deprivation), the assumption is made that people with greater financial well-being experience less relative deprivation. Furthermore, when a person feels deprived in relation to a reference group, they experience negative feelings, such as resentment and dissatisfaction (Callan *et al.*, 2008, 2011; Walker & Smith, 2002), which result in reduced levels of subjective well-being (Chatterjee *et al.*, 2019). Although not tested *per se*, the fact that relative deprivation is associated with subjective well-being, sets the scene to investigate whether relative deprivation is indeed also related to life satisfaction, as the cognitive component of subjective well-being. Based on the results from previous studies, it would be expected that the relationship between financial well-being and life satisfaction would be weaker for people who feel relatively deprived, while the opposite is true for people with lower levels of relative deprivation. Thus, whether the extent to which a person feels relatively deprived might strengthen or weaken the relationship between financial well-being and life satisfaction was investigated as hypothesised in H5.

H5: Relative deprivation moderates the relationship between financial well-being and life satisfaction.

4.4 METHODOLOGY

4.4.1 Sampling, measurement and data collection

An online self-administered questionnaire was used in this descriptive, cross-sectional study, and data were collected using an online paid-for consumer panel from Qualtrics. The sample comprised South Africans who were credit active, 18 years or older and permanently employed or self-employed at the time of data collection. Credit-active consumers must pay credit and/or service providers for products and/or services acquired (National Credit Regulator, 2019). After conducting a pre-test amongst a sample of 100 representatives, the final questionnaire was distributed through Qualtrics to 628 respondents.

The final questionnaire included the CSSC scale developed by Haws *et al.* (2012) to determine to what degree respondents control their spending behaviour. A 7-point Likert scale was used, and respondents were asked to indicate their level of agreement with the 10 items on the scale. The Financial Well-Being Scale (Consumer Financial Protection Bureau, 2019) was used in this article and measured respondents' level of financial well-being on a 7-point Likert scale, as opposed to the suggested 5-point Likert scale. In this way, the Financial Well-Being Scale was aligned with the other survey instruments and facilitated ease of completion. Consequently, the Consumer Financial Protection Bureau (2019) scoring formula was not used for data analysis purposes; instead, analysis was done as per a standard Likert-type scale.

Relative deprivation was measured using the Relative Deprivation Scale (Callan *et al.*, 2011). Respondents were asked how they felt compared to their peers in general and had to indicate on a 7-point Likert scale to what extent they agreed or disagreed with the five statements. Finally, the Satisfaction with Life Scale (SWLS), recognised as the most widely used and reliable measuring instrument in subjective well-being research (Diener *et al.*, 1985; Larsen & Eid, 2008; Pavot & Diener, 1993, 2008), was used to measure respondents' level of satisfaction with their lives on a 7-point Likert scale.

The questionnaire also included several questions relating to respondents' credit behaviour. The questions asked respondents to indicate the type of credit products used and their diligence in terms of payment. Finally, the questionnaire concluded with a set of socio—demographic questions.

4.4.2 Data analysis

SPSS Statistics Version 26 was used to calculate descriptive statistics, composite mean scores and standard deviations for each of the article's main constructs: CSSC, life satisfaction, financial well-being and relative deprivation. Univariate normality was applied using the Kolmogorov-Smirnov and Shapiro-Wilk tests (Pallant, 2016). Using Mplus Version 8.3, co-variance-based structural equation modelling (CB-SEM) was performed to assess the conceptual model outlined in Figure 4.1. For this article, CB-SEM was used to better understand the established theory (Hair, Matthews, Matthews & Sarstedt, 2017). Since the test of normality indicated that data were not normally distributed, the MLM estimator rather than the ML estimator was used to estimate the model parameters (Muthén & Muthén, 1998-2017). Using the MLM estimator with standard errors, a mean-adjusted chi-square (χ^2) test statistic, also referred to as the Satorra-Bentler χ^2 test, is considered a more robust estimator when dealing with data that are not normally distributed (Muthén & Muthén, 1998-2017).

CB-SEM comprises two components: the measurement model displays the relationships between the latent constructs and related indicator items, and the structural model indicates the structural paths between the latent variables (Hair *et al.*, 2017). Confirmatory factor analysis was used to test the measurement model in terms of model fit, construct validity and reliability (Hair, Black, Babin & Anderson, 2010). Several different fit indices were calculated to assess measurement model fit. One such index is the Satorra-Bentler χ^2 /degrees of freedom (df) ratio (with a recommended cut-off point lower than 3), which was calculated in line with the MLM estimator for non-normal data. In addition, the root mean square error of approximation (RMSEA) (with a cut-off value of lower than 0.08), comparative fit indices (CFI) and Tucker-Lewis index (TLI) (both with cut-off values greater than 0.9) and the standardised root mean square residual (SRMR) (with a recommended cut-off point lower than 0.08) were calculated (Hair *et al.*, 2010; Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger & Müller, 2003).

Following the assessment of model fit, the researcher focused on the assessment of construct validity. Construct validity comprises two components: convergent and discriminant validity (Hair *et al.*, 2010). Regarding convergent validity, the standardised estimates or factor loadings were evaluated to determine if they measured greater than 0.5 and were statistically significant (i.e., $p < 0.05$). Furthermore, the average variance extracted (AVE) per construct was scrutinised to determine if the values were greater than 0.5 or 50% (Hair *et al.*, 2010). For reliability, Cronbach's alpha and composite reliability scores were assessed – scores greater than 0.7 indicate good reliability (Hair *et al.*, 2010). Next, discriminant validity was assessed. Discriminant validity aims

to determine whether the constructs differ from one another (Hair *et al.*, 2010). For discriminant validity, the square root of the AVE score must exceed the correlation between each pair of constructs (Fornell & Larcker, 1981).

Following the estimation of the measurement model, a structural model was tested to assess the main effects. The MLM estimator was again used for model estimation, and the Satorra-Bentler χ^2 statistic was calculated to determine model fit (Muthén & Muthén, 1998-2017). For model fit to be acceptable, the various fit indices need to adhere to the recommended cut-off values, as set out above. With model fit confirmed, the structural paths were evaluated based on standard coefficients and *p*-values ($p < 0.05$) to determine whether there was support for the hypotheses.

Mediation effects were assessed using Hayes' Process Macro Version 3.5 (Model 4) (Hayes, 2018). Following the mediation steps proposed by Zhao, Lynch and Chen (2010), a bootstrapping estimate of 5 000 was set based on Preacher and Hayes' bootstrapping technique. With bias-corrected confidence intervals set at 95%, data were scrutinised to ensure that the confidence intervals for the indirect effect did not contain the value zero (Field, 2018). Once mediation was established, the confidence intervals for the direct effect were scrutinised, after which the mediation was categorised based on Zhao *et al.*'s (2010) classification of mediation.

To test for the moderation effect proposed in H5, the researcher used Hayes' Process Macro (Model 1) (Hayes, 2018). In determining whether the moderation effect was significant, it was necessary to evaluate the ordinary least square (OLS) 95%-confidence intervals. If the OLS 95%-confidence intervals for the interaction effect do not contain the value zero and if *p*-values are lower than 0.05, moderation effects are evident (Field, 2018; Nel & Boshoff, 2017). Where a moderation effect is evident, the interaction effect can be further explored using the simple slope analysis and/or the Johnson-Neyman technique.

4.5 RESULTS

4.5.1 Sample profile

Respondents not adhering to the sampling requirements were removed from the data analysis, resulting in a sample of 608 qualified respondents. Slightly more male respondents (52.6%) than female respondents (47.4%) completed the questionnaire. With an age range of 18 to 85, the average age of respondents was 36 years. Of the respondents, 37.3% took home a monthly income between R10 000 and R20 000, followed by 25.7%, who took home a monthly income of R0 to R10 000. Only 3% of respondents earned a monthly income of more than R50 000.

In terms of the credit products used by respondents, credit cards were regarded as the most popular credit product (64.6%), followed by personal loans (50.5%) and retail accounts (49.5%). Interestingly, these three credit products were the most likely to be in arrears, with personal loans (19.6%) being the most likely of the three, followed by retail accounts (15.3%) and credit cards (13.0%). A summary of the credit products and resulting credit behaviour is outlined in Table 4.1.

Table 4.1: Credit behaviour of respondents

Credit product	Ownership of credit product (N/%)	Number of respondents with credit product in arrears (N)	Proportion (%) of respondents in arrears
Credit card	393 (64.6%)	51	13.0%
Home loan	159 (26.6%)	10	6.3%
Personal loan	307 (50.5%)	60	19.6%
Retail account	301 (49.5%)	46	15.3%
Vehicle financing	243 (40.0%)	15	6.2%
Other	33 (5.4%)	5	15.6%

4.5.2 Descriptive statistics

Table 4.2 provides a summary of the mean scores and the standard deviations of the main constructs incorporated in this article.

Table 4.2: Descriptive statistics of constructs

Constructs	N	Mean*	Std. deviation
CSSC	608	5.1408	1.32179
LS	608	4.2895	1.48362
FWB	608	4.0957	1.25528
RD	608	3.3296	1.26966

Note: *All constructs were measured on a 7-point Likert scale; CSSC = Consumer spending self-control; FWB = Financial well-being; LS = Life satisfaction; RD = Relative deprivation.

Although respondents felt they could control their spending (mean = 5.14), they perceived their financial well-being as just above average (mean = 4.10). Interestingly, respondents perceived higher levels of life satisfaction compared to financial well-being, however marginally. With a mean score of 3.33, respondents perceived below-average deprivation in relation to their peers.

4.5.3 Linear hypothesised relationships

The measurement model is discussed first, followed by an explanation of the structural model. Thereafter the mediation effect of financial well-being on the relationship between CSSC and life satisfaction is explained, after which the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction is reviewed.

4.5.3.1 *Assessment of the measurement model*

The measurement model was first assessed using confirmatory factor analysis, incorporating all items related to the article's constructs: CSSC (10 items), life satisfaction (five items), financial well-being (10 items) and relative deprivation (five items). Unfortunately, the original measurement model showed an unacceptable model fit, with Satorra-Bentler χ^2/df , CFI, TLI and SRMR not adhering to the required cut-off values. Upon further investigation, the AVE for two constructs (i.e., financial well-being and relative deprivation) were below the required 0.5 point, and convergent validity could thus not be confirmed. To improve the AVE score, Hair *et al.* (2010) recommended removing items not performing well in terms of model fit, model integrity and construct validity. Once the items have been removed, the measurement model was re-estimated (Hair *et al.*, 2010). For this article, items with factor loadings below 0.6 were removed, and the measurement model was respecified. As a result, six financial well-being items and two relative deprivation items were removed, including the following:

- Financial well-being:
 - Because of my money situation, I feel like I will never have the things I want in life (Item 1.3).
 - I am just getting by financially (Item 1.5).
 - I am concerned that the money I have or will save won't last (Item 1.6).
 - Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month (Item 2.1).
 - I am behind with my finances (Item 2.3).
 - My finances control my life (Item 2.4).

- Relative deprivation:
 - I feel privileged compared to other people like me (Item 2).
 - When I compare what I have with what others like me have, I realise that I am quite well off (Item 4).

CSSC and life satisfaction met the convergent validity requirements (i.e., CSSC AVE = 0.565 and life satisfaction AVE = 0.581). The re-estimated measurement model was assessed for model fit, convergent validity and reliability. The results of the fit indices for the re-estimated measurement model are indicated in Table 4.3.

Table 4.3: Model fit indices for the re-estimated measurement model

Fit indices	Value	Recommended cut-off value*
Satorra-Bentler χ^2/df	2.58	< 3
χ^2 value	522.922	NA
Df	203	NA
Scaling correction factor for MLM	1.3935	NA
RMSEA	0.051	< 0.08
CFI	0.942	> 0.9
TLI	0.935	> 0.9
SRMR	0.053	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel *et al.*, 2003.

It is clear from Table 4.3 that the model fit the data well, with all fit indices adhering to the required cut-off points. Table 4.4 summarises the convergent validity of the re-estimated measurement model.

Table 4.4: Convergent validity for the re-estimated measurement model

Constructs and items*	Standardised estimates	SE est.	t-value	AVE
CONSUMER SPENDING SELF-CONTROL (CSSC)				
I closely monitor my spending behaviour.	0.701	0.025	27.703	0.565
I am able to work effectively toward long-term financial goals.	0.672	0.027	24.910	
I carefully consider my needs before making purchases.	0.773	0.023	32.933	
I often delay taking action until I have carefully considered the consequences of my purchase decisions.	0.685	0.029	23.525	
When I go out with friends, I keep track of what I am spending.	0.724	0.023	31.969	
I am able to resist temptation in order to achieve my budget goals.	0.812	0.021	38.049	
I know when to say 'no' regarding how much I spend.	0.815	0.016	49.600	
During my social interactions, I am generally aware of what I am spending.	0.802	0.018	43.975	
Having objectives related to spending is important to me.	0.667	0.033	20.284	

Constructs and items*	Standardised estimates	SE est.	t-value	AVE
I am responsible when it comes to how much I spend.	0.838	0.017	50.627	
LIFE SATISFACTION (LS)				
In most ways, my life is close to my ideal.	0.748	0.027	27.392	0.581
The conditions of my life are excellent.	0.825	0.02	41.755	
I am satisfied with my life.	0.91	0.013	67.722	
So far, I have gotten the important things I want in life.	0.683	0.03	22.391	
If I could live my life over, I would change almost nothing.	0.609	0.033	18.209	
FINANCIAL WELL-BEING (FWB)				
I could handle a major unexpected expense.	0.697	0.023	29.680	0.569
I am securing my financial future.	0.798	0.019	42.059	
I can enjoy life because of the way I am managing my money.	0.842	0.021	41.000	
I have money left over at the end of the month.	0.668	0.027	24.323	
RELATIVE DEPRIVATION (RD)				
I feel deprived when I think about what I have compared to what other people like me have.	0.760	0.029	26.123	0.548
I feel resentful when I see how prosperous other people like me seem to be.	0.673	0.032	20.880	
I feel dissatisfied with what I have compared to what other people like me have.	0.784	0.029	27.193	

Note: *All items listed are statistically significant at $p < 0.05$, two-tailed.

It is evident from Table 4.4 that all individual items had factor loadings greater than 0.6 and were statistically significant ($p < 0.05$). Furthermore, all four constructs measured AVE scores greater than 0.5 or 50% and convergent validity could thus be confirmed. Next, reliability and discriminant validity for the re-estimated measurement model was evaluated, and the results are outlined in Table 4.5.

Table 4.5: Reliabilities and discriminant validity for the re-estimated measurement model

Construct	AVE	Reliability		Discriminant validity			
		α	CR	CSSC	LS	FWB	RD
CSSC	0.565	0.927	0.928	0.752*			
LS	0.581	0.866	0.872	0.446	0.762*		
FWB	0.569	0.838	0.840	0.623	0.68	0.755*	
RD	0.548	0.786	0.784	-0.171	-0.428	-0.304	0.741*

Note: α = Cronbach's alpha; CR = Jöreskog's rho (composite reliability); *values in the main diagonal are the square root of the average variance extracted (AVE); values below the diagonal are correlations; CSSC = Consumer spending self-control; FWB = Financial well-being; LS = Life satisfaction; RD = Relative deprivation.

The results in Table 4.5 indicate good reliability, with all Cronbach's alpha and composite reliability scores greater than 0.7 (Hair *et al.*, 2010). Furthermore, the square root of the AVE for each construct exceeded the correlations between each pair of constructs (Fornell & Larcker, 1981). Discriminant validity could thus be assumed, indicating that each construct was different from the others (Hair *et al.*, 2010).

The re-estimated measurement model exhibited an appropriate model fit and met the requirements for convergent validity, discriminant validity and reliability. Consequently, the structural model and structural paths, as proposed in Figure 4.1, could be estimated by incorporating CSSC (10 items), life satisfaction (five items), financial well-being (four items) and relative deprivation (three items).

4.5.3.2 Assessment of the structural model

The structural model was first assessed for model fit purposes; the results of which are summarised in Table 4.6.

Table 4.6: Model fit indices for structural model

Fit indices	Value	Recommended cut-off value*
Satorra-Bentler χ^2/df	2.67	< 3
χ^2 value	397.793	NA
Df	149	NA
Scaling correction factor for MLM	1.4558	NA
RMSEA	0.052	< 0.08
CFI	0.949	> 0.9
TLI	0.941	> 0.9
SRMR	0.050	< 0.08

*Source: Hair *et al.*, 2010; Hu and Bentler, 1999; Muthén and Muthén, 1998-2017; Schermelleh-Engel *et al.*, 2003.

With only the main effects (i.e., CSSC, financial well-being and life satisfaction) considered for model estimation purposes, Table 4.6 shows that the structural model fit the data reasonably well. Consequently, the structural paths deserved further scrutiny. The standardised estimates of the structural paths in the structural model are outlined in Table 4.7.

Table 4.7: Standardised estimates of the structural paths in the structural model

H	Path	Standardised estimates	SE est.	p-value	t-value	Result
H1	CSSC → LS	0.035	0.051	0.494	0.684	Not supported
H2	CSSC → FWB	0.623	0.031	$p < 0.001^*$	20.270	Supported
H3	FWB → LS	0.661	0.046	$p < 0.001^*$	14.501	Supported

Note: *Statistically significant at $p < 0.01$, two-tailed; CSSC = Consumer spending self-control; LS = Life satisfaction; FWB = Financial well-being.

As is evident from Table 4.7, there was no significant relationship between CSSC and life satisfaction ($p = 0.494$); therefore, H1 was not supported. However, there was a significant, positive relationship between CSSC and financial well-being (estimate = 0.623; $p < 0.001$), as well as between financial well-being and life satisfaction (estimate = 0.661; $p < 0.001$). Therefore, H2 and H3 were supported.

4.5.4 Mediation hypothesised relationship

With regard to testing whether financial well-being has a mediating effect on the relationship between CSSC and life satisfaction, mediation analysis was conducted using Hayes' Process Macro Version 3.5 (Model 4). The first step in this process was to establish whether mediation existed by checking whether the confidence interval of the indirect effect contained the value zero (Zhao *et al.*, 2010). Thereafter the mediation was classified based on the direct effect, using Zhao *et al.*'s (2010) decision tree for classifying mediation. The results of the mediation effect are detailed in Table 4.8.

Table 4.8: Summary of mediation interaction effects

H	Variables			Direct effect [LLCI; ULCI]	SE	Indirect effect [LLCI; ULCI]	Boot SE	Result
	X	M	Y					
H4	CSSC	FWB	LS	0.180 [0.093; 0.268]	0.044	0.283 [0.226; 0.341]	0.030	Supported (Partial complementary mediation)

Note: LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; CSSC = Consumer spending self-control; FWB = Financial well-being; LS = Life satisfaction.

Table 4.8 shows that financial well-being mediated the relationship between CSSC and life satisfaction since the confidence intervals of the indirect effect did not contain the value zero (LLCI = 0.226; ULCI = 0.341). In determining the type of mediation, the researcher focused on the direct effect, which was also regarded as significant as the confidence intervals also did not contain the value zero (LLCI = 0.093; ULCI = 0.268). Given that the direct and indirect effects were significant, the mediation could be classified as partial, and since the direct and indirect paths were

positive, the mediation effect was complementary (Hair, Hult, Ringle, Sarstedt, Danks & Ray, 2021; Zhao *et al.*, 2010). Even though the linear relationship between CSSC and life satisfaction (Section 4.5.3.2) was not significant, by incorporating financial well-being as mediating variable, the relationship between CSSC and life satisfaction became significant. In other words, the relationship between CSSC and life satisfaction only became significant when financial well-being acted as an intervening variable between CSSC and life satisfaction. H4 was, therefore, supported.

4.5.5 Moderation hypothesised relationship

The results of relative deprivation's moderating effect on the relationship between financial well-being and life satisfaction are outlined in Table 4.9.

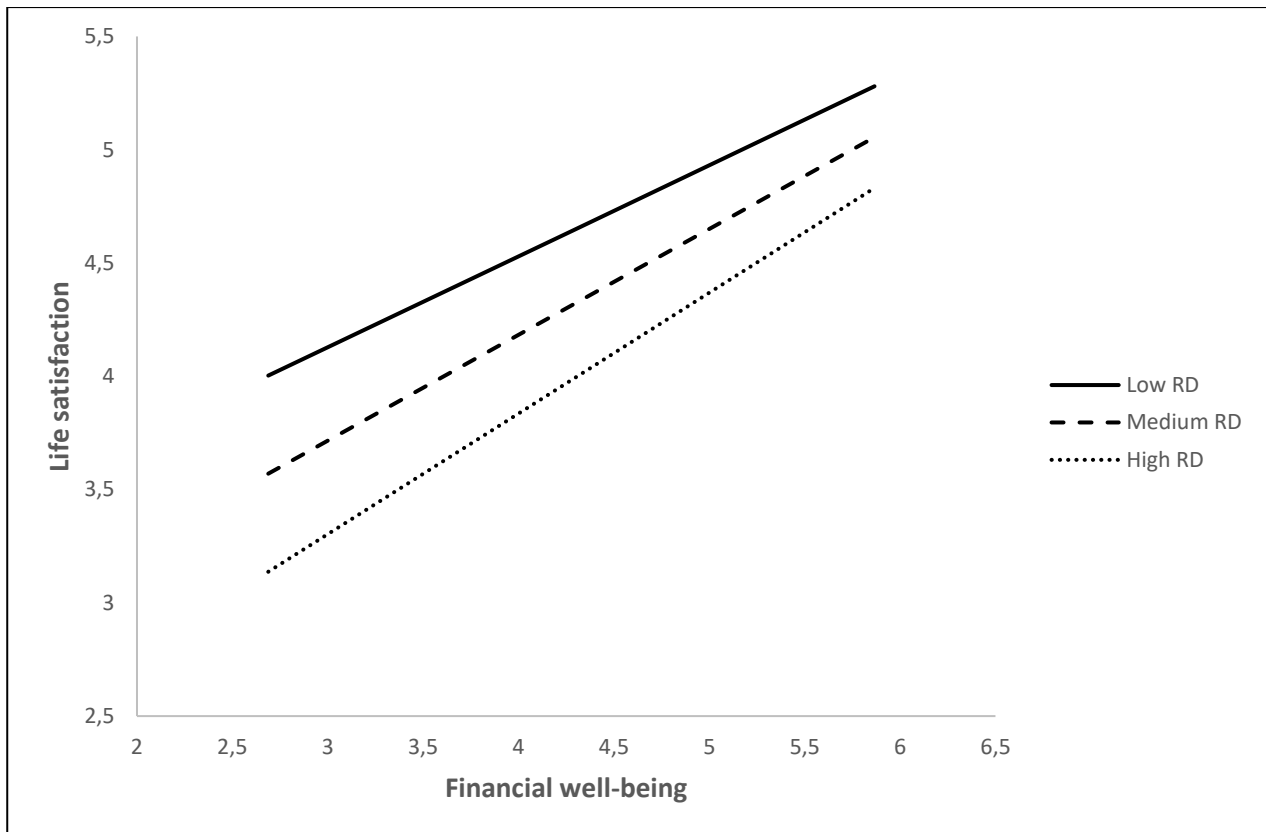
Table 4.9: Summary of moderation interaction effects

H	Variables			Interaction effect [LLCI; ULCI]	SE	<i>p</i> -value (<i>t</i> -value)	Result
	X	W	Y				
H5	FWB	RD	LS	0.040 [0.007; 0.072]	0.017	0.018* (2.371)	Supported

Note: *Statistically significant at $p < 0.01$, two-tailed; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; FWB = Financial well-being; RD = Relative deprivation; LS = Life satisfaction.

For moderation to occur, the interaction effect ($X*W$) must be significant, and the OLS 95%-confidence intervals should not contain the value zero. Considering the results from Table 4.9, it is evident that relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction (effect = 0.040; $p = 0.018$; LLCI = 0.007 and ULCI = 0.072). H5 was thus supported. In addition, a simple slope analysis was conducted to establish how relative deprivation influences the relationship between financial well-being and life satisfaction. The results of the simple slope analysis indicate how the relationship between financial well-being and life satisfaction changed at low, medium and high levels of relative deprivation; this is illustrated in Figure 4.2.

Figure 4.2: Simple slope analyses of the conditional effects of financial well-being on life satisfaction at different levels of relative deprivation



Note: SD = standard deviation; Low = 1 SD below the mean; Medium = mean; High = +1 SD above the mean.

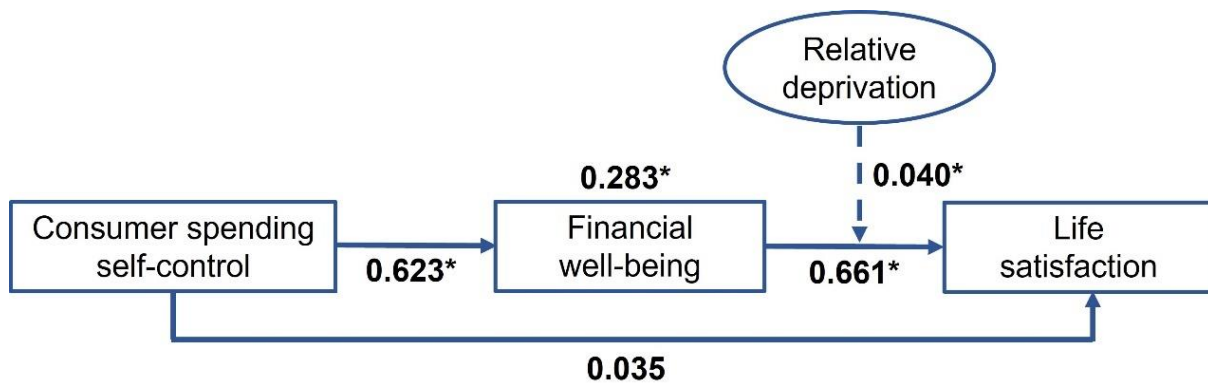
Figure 4.2 shows that the positive association between financial well-being and life satisfaction was stronger for respondents with low relative deprivation than those with high relative deprivation. However, as financial well-being increased and life satisfaction increased accordingly, the conditional effect for the low compared to the high relative deprivation groups decreased, with the high relative deprivation group's conditional effect becoming stronger. In other words, the positive association between financial well-being and life satisfaction was relatively similar for the low compared to the high relative deprivation groups when financial well-being was high. Therefore, the simple slope analysis shows that the conditional effect of relative deprivation on the relationship between financial well-being and life satisfaction was stronger at high relative deprivation (effect = 0.533; $p = 0.000$) compared to medium (effect = 0.467; $p = 0.000$) and low relative deprivation (effect = 0.402; $p = 0.000$).

In addition to the simple slope analysis, the Johnson-Neyman technique was conducted. The results revealed that the Johnson-Neyman technique did not find any statistically significant transition point for relative deprivation's moderating effect on the relationship between financial well-being and life satisfaction. Since the simple slope analysis indicated that the conditional effects of relative deprivation on the relationship between financial well-being and life satisfaction were significant at

low, medium and high levels of relative deprivation, it could be assumed that the entire range was statistically significant and, therefore, represented the region of significance (Hayes, 2018). Consequently, H5 was supported, as relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction.

Combining the results of the hypotheses, Figure 4.3 provides a summary of the standardised estimate results for the complete conceptual framework.

Figure 4.3: Standardised estimate results of the conceptual framework for Article 3



Note: *Statistically significant at $p < 0.05$

4.6 GENERAL DISCUSSION AND IMPLICATIONS

The overall purpose of this article was to investigate the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. More specifically, the mediating effect of financial well-being in the relationship between CSSC and life satisfaction, and the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction were explored.

The results showed no significant relationship between CSSC and life satisfaction. Even though general self-control has been associated with subjective well-being in previous studies (Deci *et al.*, 2001; Diener, 1984; Lun & Bond, 2016; Ryan & Deci, 2006), the same did not hold true for CSSC. A possible reason for the non-significant relationship between CSSC and life satisfaction is that CSSC is more specifically related to a financial context, while life satisfaction represents a more global assessment of one's life (Diener, 1984). Thus, people do not necessarily equate the idea of CSSC to overall life satisfaction. As a result, marketers in their marketing messages should not directly associate the ability to control one's spending with greater levels of overall life satisfaction.

Upon investigating the relationship between CSSC and financial well-being, it was discovered that CSSC had a significant positive relationship with financial well-being. This is not surprising since CSSC is more directly related to financial behaviour and a financial context. Given this insight, marketers can emphasise in their marketing messages that the ability to control spending results in greater financial well-being. On a more practical level, marketers can create financial well-being by offering products/services (e.g., financial planning advice, budgeting techniques or more advantageous credit repayment systems) to assist consumers in managing their spending behaviour, ultimately leading to financial well-being. This strategy aligns with the TSR movement, whereby service organisations must find ways (i.e., controlling spending behaviour) in which consumers' well-being can be improved (i.e., financial well-being) (Anderson & Ostrom, 2015).

Satisfaction with specific life domains (e.g., finance) contributes to overall life satisfaction (Diener *et al.*, 1999). This article aligned with previous research, as it showed a significant positive relationship between financial well-being and life satisfaction. This knowledge allows marketers to emphasise financial well-being's ability to contribute to overall life satisfaction. Furthermore, marketers can develop product/service solutions aimed at maintaining or improving financial well-being and accentuate that these solutions ensure satisfaction with one's current financial situation and also with one's life.

With a proven positive relationship between CSSC and financial well-being, and financial well-being and life satisfaction, it was possible to test the mediating effect of financial well-being on the relationship between CSSC and life satisfaction. The results showed that financial well-being had a partial, complementary mediating effect on the relationship between CSSC and life satisfaction. Financial institutions and marketers, therefore, have the opportunity to educate and assist their clients in controlling their spending behaviour to improve their financial well-being and, ultimately, life satisfaction. For example, marketers can create marketing messages showing what good financial well-being looks like and how it relates to the picture of overall life satisfaction; however, to obtain this dream of financial well-being and life satisfaction, one must control current spending.

The final relationship under scrutiny was the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. The researcher found that feeling relatively deprived had a moderating effect on the relationship between financial well-being and life satisfaction. It is interesting to note that the conditional effect of relative deprivation changed as financial well-being increased. At low levels of financial well-being, people with high relative deprivation had much lower life satisfaction than those with low relative deprivation. However, as financial well-being increased, the difference between the high and low relative deprivation groups

decreased, with high and low relative deprivation groups showing somewhat similar results in terms of life satisfaction. Thus, whereas previous studies reported that people with greater financial well-being are less likely to engage in social comparison behaviour (Norvilitis & Mao, 2013), the researcher also proved that people with greater financial well-being were less likely to feel relatively deprived. Seeing as greater financial well-being undermines feeling relatively deprived, marketers can develop marketing strategies and campaigns emphasising that each person is responsible for their own well-being. Furthermore, this insight allows marketers to establish long-term relationships with consumers, whereby the service organisation and consumer commit to a personal relationship (e.g., personal banker) benefiting both parties in the long run, whether through enhanced financial well-being at an individual level or organisational profitability.

In summary, this article showed no significant relationship between CSSC and life satisfaction; however, there was a significant positive relationship between CSSC and financial well-being, as well as between financial well-being and life satisfaction. Also, financial well-being had a partial, complementary mediating effect on the relationship between CSSC and life satisfaction. Finally, relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction, with higher levels of relative deprivation having a stronger moderating effect.

4.7 STUDY CONTRIBUTIONS

This article makes several key contributions. First, despite extensive research pertaining to self-control and well-being/life satisfaction using an SDT lens (Deci *et al.*, 2001; Lun & Bond, 2016; Ryan & Deci, 2006), this is the first study to investigate the relationship between CSSC as a specific domain of self-control and life satisfaction. Taking cognisance of the influence that the ability to control one's spending has on a country's financial challenges and individual's well-being, this article has set a great foundation for future studies. This insight can assist in putting methods in place to increase people's control over their spending and, in this way, limit detrimental financial, psychological and social outcomes related to uncontrollable spending (Haws *et al.*, 2012).

Probably one of the most significant contributions, explored based on the assumed relationship between financial well-being and life satisfaction (Brüggen *et al.*, 2017; Chatterjee *et al.*, 2019; Collins & Urban, 2019), is the mediating effect of financial well-being on the relationship between CSSC and life satisfaction. The fact that there was no correlation between CSSC, and life satisfaction indicated the need for an intervening variable to strengthen the relationship between the two constructs. To the researcher's knowledge, this is the first study to investigate the relationship between CSSC, financial well-being and life satisfaction. Since financial well-being had only a partial mediating effect, other possible mediators can also be investigated. In addition, financial well-being

was also related to life satisfaction, which represents the cognitive component of subjective well-being, thus providing further proof that the domain of financial well-being is related to the concept of subjective well-being. In accordance with TSR, this article showed that a better understanding of how the constructs, CSSC, financial well-being and life satisfaction, fit together emphasises the need for financial institutions to invest in educating consumers on the importance of controlling spending behaviour in an attempt to improve their financial well-being and ultimately life satisfaction.

A final significant contribution of the article is the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. Although relative consumption and income have been topics of interest in numerous previous studies, relative deprivation has only more recently become a topic of concern (Callan *et al.*, 2008, 2011; Eibner & Evans, 2005; Hsee *et al.*, 2009; Luttmer, 2005; Shifa & Leibbrandt, 2018). Given the fact that South Africa is regarded as the most economically unequal country in the world according to the World Bank, chances of South Africans experiencing a feeling of relative deprivation is undeniable (The World Bank, 2022). Many South Africans still feel deprived in terms of ownership, skills, wages, opportunities and essential services (The World Bank, 2022). In order to better address feelings of relative deprivation, it is necessary to better understand relative deprivation. Thus, this article adds to the theoretical literature on relative deprivation by indicating the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. In the end, it was established that relative deprivation was less of a concern when high levels of financial well-being were evident.

In terms of practical contributions, this study recommends product/service offerings (e.g. conservative limits, daily limits on spending) that financial organisations can implement to assist consumers in controlling their spending behaviour with the intent to not only improve their financial well-being, but their overall life satisfaction as well. Coupled with the product/service offerings, this study emphasises the need for financial organisations to educate and communicate with consumers on the bigger picture of how financial well-being influences life satisfaction. Discovering that greater levels of financial well-being undermine the feeling of relative deprivation, financial organisations are challenged to find ways of informing and educating consumers that their financial well-being is their own responsibility and not that of their peers.

4.8 LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

As with any research study, this article is not without its limitations. One of the biggest challenges when dealing with self-reported data is the issue of social desirability bias (Strömbäck *et al.*, 2017). Given the sensitive and personal nature of CSSC, life satisfaction, financial well-being and relative

deprivation, respondents may have felt the urge to respond in a manner portraying them in a good light, thereby providing specific responses to uphold appearances (Tangney *et al.*, 2004). To address this issue, future researchers should investigate using alternative data collection methods, such as experimentation and observation. In this way, participants are placed in a natural or controlled environment, and researchers observe and record the resulting behaviour.

A second limitation is that a self-administered online survey was used for data collection, meaning that only subjective measures were included in the data analysis process. Although subjective measures provided a richness of information regarding how CSSC, financial well-being and life satisfaction were perceived (Keese, 2012; Prawitz *et al.*, 2006), subjective measures are sometimes considered unreliable (Xiao, 2008). As a result, misleading conclusions can be drawn due to the subjective nature of the information (Keese, 2012). Future research could incorporate more objective measures, especially when gauging financial well-being, such as income, debt-to-income ratio, credit limits, savings and debt levels (Abrantes-Braga & Veludo-de-Oliveira, 2019; Soman & Cheema, 2004). By using a more inclusive measure that considers subjective and objective measures, it may be possible to gain a more accurate understanding of the various constructs and their relationships (Collins & Urban, 2019). In addition, the extent to which the relationships between CSSC, financial well-being and life satisfaction differ depending on specific demographical factors (e.g. gender, income, age, education), may also provide valuable insight into understanding consumers' behaviour.

Another limitation relates to the SWLS used to assess the cognitive component of subjective well-being. Even though the cognitive component (i.e., life satisfaction) and the affective component (i.e., happiness) of subjective well-being are related, one cannot draw conclusions about the affective component based on the results of the cognitive component (Pavot & Diener, 1993). By incorporating only the SWLS, a single subjective well-being component is assessed rather than both components (Pavot & Diener, 1993). Although one of the benefits of the SWLS is that respondents can set their own evaluation criteria against which to measure themselves, it also holds a disadvantage because the researcher does not know what or who the respondents are comparing themselves to (Pavot & Diener, 1993). The same holds true for the Relative Deprivation Scale used. The questionnaire did not make any provision for respondents to indicate whom they regard as their reference groups.

A final limitation relates to the study design. When using a cross-sectional design, it is impossible to draw conclusions about directional effects, as it considers only the situation at hand (Campbell, Vansteenkiste, Delesie, Mariman, Soenens, Tobbach, Van der Kaap-Deeder & Vogelaers, 2015; Sebire, Standage & Vansteenkiste, 2009). The long-term effect of CSSC on financial well-being and

life satisfaction and the influence of relative deprivation on the relationship between financial well-being and life satisfaction will only truly become evident when longitudinal research is conducted. Thus, opportunities for longitudinal studies to examine the long-term effects of the various relationships are proposed.

4.9 CONCLUSION

Less control over one's spending contributes to lower levels of financial well-being and can have detrimental effects on a country's economy and individuals' well-being. Therefore, it is crucial to better understand how CSSC influences people's behaviour. This article measured the relationships between CSSC, life satisfaction, financial well-being and relative deprivation. The results showed no significant relationship between CSSC and life satisfaction; however, by incorporating financial well-being as an intervening variable, the relationship between CSSC and life satisfaction proved significant. Furthermore, relative deprivation showed a moderating effect on the relationship between financial well-being and life satisfaction, proving that social comparison behaviour could influence an individual's well-being. Taking cognisance of the relevance of TSR, this article provided insight into CSSC and relative deprivation that financial institutions can use to improve their clients' financial well-being and, ultimately, life satisfaction.

4.10 LIST OF REFERENCES

- Abrantes-Braga, F.D.M.A. & Veludo-de-Oliveira, T. 2019. Development and validation of financial well-being related scales. *International Journal of Bank Marketing*, 37(4):1025-1040. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0074 [Accessed: 2020-03-03].
- Achtziger, A., Hubert, M., Kenning, P., Raab, G. & Reisch, L. 2015. Debt out of control: the links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49:141-149. [Online] Available from: <http://dx.doi.org/10.1016/j.joep.2015.04.003> [Accessed: 2020-02-06].
- Alshebami, A.S. & Aldhyani, T.H.H. 2022. The interplay of social influence, financial literacy and saving behaviour among Saudi youth and the moderating effect of self-control. *Sustainability*, 14(14):8780. [Online] Available from: 8780. DOI:10.3390/su14148780 [Accessed: 2023 – 06 – 01].
- Ameriks, J., Caplin, A., Leahy, J. & Tyler, T. 2007. Measuring self-control problems. *American Economic Review*, 97:966-972. [Online] Available from: DOI: 10.1257/aer.97.3.966 [Accessed: 2020-02-04].
- Anderson, L. & Ostrom, A.L. 2015. Transformative service research: advancing our knowledge about service and well-being. *Journal of Service Research*, 18(3):243-249. [Online] Available from: DOI: 10.1177/1094670515591316 [Accessed: 2022-08-06].
- Anderson, L., Ostrom, A.L., Corus, C., Fisk, R.P., Gallan, A.S., Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Rosenbaum, M.S., Shirahada, K. & Williams, J.D. 2013. Transformative service research: an agenda for the future. *Journal of Business Research*, 66:1203-1210. [Online] Available from: <http://dx.doi.org/10.1016/j.jbusres.2012.08.013> [Accessed: 2022-08-06].
- Angner, E. 2010. Subjective well-being. *Journal of Socio-Economics*, 39:361-368. [Online] Available from: <https://doi.org/10.1016/j.socec.2009.12.001> [Accessed: 2019-03-12].
- Arber, S., Fenn, K. & Meadows, R. 2014. Subjective financial well-being, income and health inequalities in mid and later life in Britain. *Social Science & Medicine*, 100:12-20. [Online] Available from: <https://doi.org/10.1016/j.socscimed.2013.10.016> [Accessed: 2021-08-20].
- Barbić, D., Lučić, A. & Chen, J.M. 2019. Measuring responsible financial consumption behaviour. *International Journal of Consumer Studies*, 43:102-112. [Online] Available from: DOI: 10.1111/ijcs.12489 [Accessed: 2019-09-24].

- Baumeister, R.F. 2002. Yielding to temptation: self-control failure, impulsive purchasing and consumer behaviour. *Journal of Consumer Research*, 28:670-676. [Online] Available from: DOI: 10.1086/338209 [Accessed: 2019-06-22].
- Biljanovska, N. & Palligkinis, S. 2018. Control thyself: self-control failure and household wealth. *Journal of Banking and Finance*, 92:280-294. [Online] Available from: <https://doi.org/10.1016/j.jbankfin.2016.10.010> [Accessed: 2020-02-06].
- Brown, S. & Gray, D. 2016. Household finances and well-being in Australia: an empirical analysis of comparison effects. *Journal of Economic Psychology*, 53:17-36. [Online] Available from: <https://doi.org/10.1016/j.joep.2015.12.006> [Accessed: 2019-08-02].
- Brüggen, E.C., Hogueve, J., Holmlund, M., Kabadayi, S. & Löfgren, M. 2017. Financial well-being: a conceptualization and research agenda. *Journal of Business Research*, 79:228-237. [Online] Available from: DOI: 10.1016/j.jbusres.2017.03.013 [Accessed: 2020-01-27].
- BusinessTech. 2023. *4 signs you're living beyond your means in South Africa*. [Online] Available <https://businesstech.co.za/news/finance/662167/4-signs-youre-living-beyond-your-means-in-south-africa/> [Accessed: 2023-06-18].
- Callan, M.J. & Ellard, J.H. 2010. Beyond blame and derogation of victims: just-world dynamics in everyday life. In: Bobocel, D.R., Kay, A.C., Zanna, M.P. & Olson, J.M. (eds.) *The psychology of justice and legitimacy (The Ontario Symposium, Vol. 11)*. New York, NY: Psychology Press. [Online] Available from: <https://doi.org/10.4324/9780203837658> [Accessed: 2020-04-30].
- Callan, M.J., Ellard, J.H., Shead, N.W. & Hodgins, D.C. 2008. Gambling as a search for justice: examining the role of personal relative deprivation in gambling urges and gambling behavior. *Personality and Social Psychology Bulletin*, 34(11):1514-1529. [Online] Available from: DOI: 10.1177/0146167208322956 [Accessed: 2020-04-30].
- Callan, M.J., Shead, N.W. & Olson, J.M. 2011. Personal relative deprivation, delay discounting and gambling. *Journal of Personality and Social Psychology*, 101(5):955-973. [Online] Available from: DOI: 10.1037/a0024778 [Accessed: 2020-03-28].
- Campbell, R., Vansteenkiste, M., Delesie, L. M., Mariman, A.N., Soenens, B., Tobbac, E., Van der Kaap-Deeder, J. & Vogelaers, D. 2015. Examining the role of psychological need satisfaction

- in sleep: a Self-Determination Theory perspective. *Personality and Individual Differences*, 77:199-204. [Online] Available from: <https://doi.org/10.1016/j.paid.2015.01.003> [Accessed: 2020-01-30].
- Chatterjee, D., Kumar, M. & Dayma, K.K. 2019. Income security, social comparisons and materialism: determinants of subjective financial well-being among Indian adults. *International Journal of Bank Marketing*, 37(4):1041-1061. [Online] Available from: DOI: 10.1108/IJBM-04-2018-0096 [Accessed: 2020-03-03].
- Chen, F., Jiang, G. & Gu, M. 2021. Household savings and subjective well-being: Evidence from China. *The Journal of Consumer Affairs*, 55:1489-1504. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1111/joca.12405> [Accessed: 2023 – 06 – 01].
- Chipp, K., Kleyn, N. & Manzi, T. 2011. Catch up and keep up: relative deprivation and conspicuous consumption in an emerging market. *Journal of International Consumer Marketing*, 23(2):117-134. [Online] Available from: <https://doi.org/10.1080/08961530.2011.543053> [Accessed: 2018-04-19].
- Collins, J.M. & Urban, C. 2019. Measuring financial well-being over the life course. *European Journal of Finance*, 10. [Online] Available from: <https://doi.org/10.1080/1351847X.2019.1682631> [Accessed: 2020-11-11].
- Consumer Financial Protection Bureau. 2015. *Measuring financial well-being: a guide to using the CFPB financial well-being scale*. [Online] Available from: https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf [Accessed: 2019-12-18].
- Consumer Financial Protection Bureau. 2019. *Find out your financial well-being*. [Online] Available from: <https://www.consumerfinance.gov/consumer-tools/financial-well-being/> [Accessed: 2019-12-18].
- Deci, E.L., Ryan, R.M., Gagné, M., Leone, D.R., Usunov, J. & Kornazheva, B.P. 2001. Need satisfaction, motivation and well-being in the work organizations of a former Eastern bloc country: a cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27(8):930-942. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1177/0146167201278002> [Accessed: 2019-03-05].

- Deloitte. 2023. *Global state of the consumer tracker*. [Online] Available from: <https://www2.deloitte.com/us/en/insights/industry/retail-distribution/consumer-behavior-trends-state-of-the-consumer-tracker.html> [Accessed: 2023-06-18].
- DeNeve, K.M. & Cooper, H. 1998. The happy personality: a meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124(2):197-229. [Online] Available from: DOI: 10.1037/0033-2909.124.2.197 [Accessed: 2019-02-05].
- Diaz, D., Stavraki, M., Blanc, A. & Gandarillas, B. 2015. The eudaimonic component of satisfaction with life and psychological well-being in Spanish cultures. *Psicothema*, 27(3):247-253. [Online] Available from: DOI: 10.7334/psicothema2015.5 [Accessed: 2020-04-30].
- Diener, E. 1984. Subjective well-being. *Psychological Bulletin*, 95(3):542-575. [Online] Available from: <https://doi.org/10.1037/0033-2909.95.3.542> [Accessed: 2019-02-05].
- Diener, E. & Chan, M.Y. 2011. Happy people live longer: subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-being*, 3(1):1-43. [Online] Available from: DOI: 10.1111/j.1758-0854.2010.01045.x [Accessed: 2020-04-18].
- Diener, E. & Seligman, M.E.P. 2004. Beyond money: toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1):1-31. [Online] Available from: DOI: 10.1111/j.0963-7214.2004.00501001.x [Accessed: 2020-04-18].
- Diener, E., Emmons, R.A., Larsen, R.J. & Griffin, S. 1985. The satisfaction with life scale. *Journal of Personality Assessment*, 49(1):71-75. [Online] Available from: DOI: 10.1207/s15327752jpa4901_13 [Accessed: 2020-04-30].
- Diener, E., Suh, E.M., Lucas, R.E. & Smith, H.L. 1999. Subjective well-being: three decades of progress. *Psychological Bulletin*, 125(2):276-302. [Online] Available from: DOI: 10.1037/0033-2909.125.2.276 [Accessed: 2020-12-12].
- Dittmar, H. 2001. Impulse buying in ordinary and “compulsive” consumers. In: Weber, E.U., Baron, J. & Loomes, G. (eds.) *Conflict and tradeoffs in decision making (Cambridge series on judgment and decision making)*. Cambridge, UK: Cambridge University Press.

- Eibner, C. & Evans, W.N. 2005. Relative deprivation, poor health habits and mortality. *Journal of Human Resources*, XL(3):591-620. [Online] Available from: DOI: 10.3368/jhr.XL.3.591 [Accessed: 2020/04/30].
- Festinger, L. 1954. A theory of social comparison processes. *Human Relations*, 7:117-140. [Online] Available from: DOI: 10.1177/001872675400700202 [Accessed: 2020-04-20].
- Field, A. 2018. *Discovering statistics using IBM SPSS statistics*. 5th ed. Los Angeles, CA: SAGE.
- Fornell, C. & Larcker, D.F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1):39-50. [Online] Available from: DOI: 10.1177/002224378101800104 [Accessed: 2021-01-16].
- Frazier, L. 2022. *Financial wellness is critical to your overall health: and financial literacy is the key*. [Online] Available from: <https://www.forbes.com/sites/lizfrazierpeck/2022/01/19/financial-wellness-is-critical-to-your-overall-healthand-financial-literacy-is-the-key/?sh=71807b852cdc> [Accessed: 2022-08-06].
- Gathergood, J. 2012. Self-control, financial literacy and consumer over-indebtedness. *Journal of Economic Psychology*, 33:590-602. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.11.006> [Accessed: 2019-06-22].
- Hafer, C.L. & Olson, J.M. 1993. Beliefs in a just world, discontent, and assertive actions by working women. *Personality and Social Psychology Bulletin*, 19:30-38. [Online] Available from: <https://doi.org/10.1177/0146167293191004> [Accessed: 2021-11-29].
- Hagerty, M.R. 2000. Social comparisons of income in one's community: evidence from national surveys of income and happiness. *Journal of Personality and Social Psychology*, 78(4):764-771. [Online] Available from: DOI: 10.1037/0022-3514.78.4.764 [Accessed: 2021-11-29].
- Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2010. *Multivariate data analysis*. 7th ed. Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P. & Ray, S. 2021. *Partial least squares structural equation modeling (PLS-SEM) using R: a workbook*. Cham, Switzerland: Springer. [Online] Available from: <https://doi.org/10.1007/978-3-030-80519-7> [Accessed: 2022-07-20].

- Hair, J.F., Matthews, L.M., Matthews, R.L. & Sarstedt, M. 2017. PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2):107-123.
- Halleröd, B. 2006. Sour grapes: relative deprivation, adaptive preferences and the measurement of poverty. *Journal of Social Policy*, 35(July):371-390. [Online] Available from: DOI: 10.1017/S0047279406009834 [Accessed: 2020/04/30].
- Haws, K.L., Bearden, W.O. & Nenkov, G.Y. 2012. Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40:695-710. [Online] Available from: DOI: 10.1007/s11747-011-0249-2 [Accessed: 2019-06-22].
- Hayes, A.F. 2018. *Introduction to mediation, moderation and conditional process analysis: a regression-based approach*. 2nd ed. New York, NY: The Guilford Press.
- Heck, A. & Wech, B.A. 2003. Samuel A. Stouffer and the American soldier: the serendipitous discovery of relative deprivation and its contribution to management thought. *Journal of Applied Management and Entrepreneurship*, 8(4):52-67. [Online] Available from: <https://www-proquest-com.uplib.idm.oclc.org/docview/203915436?accountid=14717> [Accessed: 2020-04-18].
- Howell, R.T. & Howell, C.J. 2008. The relation of economic status to objective well-being in developing countries: a meta-analysis. *Psychological Bulletin*, 134(4):536-560. [Online] Available from: DOI: 10.1037/0033-2909.134.4.536 [Accessed: 2019-03-05].
- Howell, R.T., Kurai, M. & Tam, L. 2013. Money buys financial security and psychological need satisfaction: testing need theory in affluence. *Social Indicators Research*, 110(1):17-29. [Online] Available from: DOI: 10.1007/s11205-010-9774-5 [Accessed: 2020-08-20].
- Hsee, C.K., Yang, Y., Li, N. & Shen, L. 2009. Wealth, warmth and well-being: whether happiness is relative or absolute depends on whether it is about money, acquisition or consumption. *Journal of Marketing Research*, XLVI(June):396-409. [Online] Available: DOI: 10.1509/jmkr.46.3.396 [Accessed: 2020-02-18].
- Hu, L. & Bentler, P.M. 1999. Cut-off criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1):1-55.

- Joo, S. 2008. Personal financial wellness. In: Xiao, J.J. (ed.) *Handbook of consumer finance research*. New York, NY: Springer. [Online] Available from: DOI: 10.1007/978-0-387-75734-6_2 [Accessed: 2020-01-28].
- Kasser, T., Ryan, R.M., Couchman, C.E. & Sheldon, K.M. 2004. Materialistic values: their causes and consequences. In: Kasser, T. & Kanner, A. (eds.) *Psychology and consumer culture: the struggle for a good life in a materialistic world*. Washington, DC: American Psychological Association. [Online] Available from: <https://doi.org/10.1037/10658-002> [Accessed: 2019-02-05].
- Keese, M. 2012. Who feels constrained by high debt burdens? Subjective vs objective measures of household debt. *Journal of Economic Psychology*, 33:125-141. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.08.002> [Accessed: 2019-08-02].
- Kivetz, R. & Simonson, I. 2002. Self-control for the righteous: toward a theory of precommitment to indulgence. *Journal of Consumer Research*, 29:199-217. [Online] Available from: DOI: 10.1086/341571 [Accessed: 2019-06-22].
- Kuykendall, L., Tay, L. & Ng, V. 2015. Leisure engagement and subjective well-being: a meta-analysis. *Psychological Bulletin*, 141(2):364-403. [Online] Available from: DOI: 10.1037/a0038508 [Accessed: 2019-03-05].
- Larsen, R.J. & Eid, M. 2008. Ed Diener and the science of subjective well-being. In: Eid, M. & Larsen, R.J. (eds.) *The science of subjective well-being*. New York, NY: Guilford. [Online] Available from: <https://smartlib.umri.ac.id/assets/uploads/files/77459-subjective-well-being.pdf#page=15> [Accessed: 2020-04-18].
- Lewis, J. 2014. *Income, expenditure and personal well-being*. [Online] Available from: <https://dam.ukdataservice.ac.uk/media/455199/lewis.pdf> [Accessed: 2020-04-18].
- Limbu, Y.B. & Sato, S. 2019. Credit card literacy and financial well-being of college students: a moderated mediation model of self-efficacy and credit card number. *International Journal of Bank Marketing*, 37(4):991-1003. [Online] Available from: DOI: 10.1108/IJBM-04-2018-0082 [Accessed: 2020-03-03].
- Livingstone, S.M. & Lunt, P.K. 1992. Predicting personal debt and debt repayment: psychological, social and economic determinants. *Journal of Economic Psychology*, 13:111-134. [Online] Available from: [https://doi.org/10.1016/0167-4870\(92\)90055-C](https://doi.org/10.1016/0167-4870(92)90055-C) [Accessed: 2020-02-06].

Losado-Otalero, M. & Alkire, L. 2019. Investigating the transformative impact of bank transparency on consumers' financial well-being. *International Journal of Bank Marketing*, 37(4):1062-1079. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0079 [Accessed: 2020-03-03].

Lun, V.M.C. & Bond, M.H. 2016. Achieving subjective well-being around the world: the moderating influence of gender, age and national goals for socializing children. *Journal of Happiness Studies*, 17:587-608. [Online] Available from: DOI: 10.1007/s10902-015-9614-z [Accessed: 2019-03-05].

Luttmer, E.F.P. 2005. Neighbours as negatives: relative earnings and well-being. *The Quarterly Journal of Economics*, 120(3):963-1002. [Online] Available from: DOI: 10.1093/qje/120.3.963 [Accessed: 2020-02-18].

López Turley, R.N. 2002. Is relative deprivation beneficial? The effects of richer and poorer neighbours on children's outcomes. *Journal of Community Psychology*, 30(6):671-686. [Online] Available from: DOI: 10.1002/jcop.10033 [Accessed: 2020-04-30].

Maloney, P.W., Grawitch, M.J. & Barber, L.K. 2012. The multi-factor structure of the brief self-control scale: discriminant validity of restraint and impulsivity. *Journal of Research in Personality*, 46(1):111-115. [Online] Available from: <https://doi.org/10.1016/j.jrp.2011.10.001> [Accessed: 2021-03-03].

Manganelli, L. & Forest, J. 2020. Using self-determination theory to understand when and how money buys happiness: a cross-sectional and intervention study. *Applied Research in Quality of Life*, 17:31-56. [Online] Available from: <https://doi.org/10.1007/s11482-020-09875-6> [Accessed: 2023 – 06 – 01].

Mende, M. & Van Doorn, J. 2015. Coproduction of transformative services as a pathway to improved consumer well-being: findings from a longitudinal study on financial counselling. *Journal of Service Research*, 18(3):351-368. [Online] Available from: DOI: 10.1177/1094670514559001 [Accessed: 2022-08-06].

Miotto, A.P.S.C. & Parente, J. 2015. Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Revista de Administração de Empresas*, 55(1). [Online] Available from: DOI: 10.1590/S0034-759020150106 [Accessed: 2019-09-22].

Muthén, L.K. & Muthén, B.O. 1998-2017. *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.

National Credit Regulator. 2019. *Credit bureau monitor: third quarter – September 2019*. [Online] Available from: <https://www.ncr.org.za/documents/CBM/CBM%20Q3%202019.pdf> [Accessed: 2020-01-19].

Nel, J. & Boshoff, C. 2017. Development of application-based mobile-service trust and online trust transfer: an elaboration likelihood model perspective. *Behaviour & Information Technology*, 36(8):809-826. [Online] Available from: DOI: 10.1080/0144929X.2017.1296493 [Accessed: 2021-01-16].

Netemeyer, R.G., Warmath, D., Fernandes, D. & Lynch, J.G. 2018. How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *Journal of Consumer Research*, 45:68-89. [Online] Available from: DOI: 10.1093/jcr/ucx109 [Accessed: 2019-10-16].

Ngidi, A. 2022. *Interest rates, poverty and the burden of debt*. [Online] Available from: <https://mg.co.za/thoughtleader/opinion/2022-12-15-interest-rates-poverty-and-the-burden-of-debt/> [Accessed: 2023-06-18].

Noll, H.H. & Weick, S. 2014. Consumption expenditures and subjective well-being: empirical evidence from Germany. *International Review of Economics*, 62:101-119. [Online] Available from: DOI: 10.1007/s12232-014-0219-3 [Accessed: 2020-02-18].

Norvilitis, J.M. & MacLean, M.G. 2010. The role of parents in college students' financial behaviours and attitudes. *Journal of Economic Psychology*, 31:55-63. [Online] Available from: doi:10.1016/j.joep.2009.10.003 [Accessed: 2020-02-06].

Norvilitis, J.M. & Mao, Y. 2013. Attitudes towards credit and finances among college students in China and the United States. *International Journal of Psychology*, 48(3):389-398. [Online] Available from: <http://dx.doi.org/10.1080/00207594.2011.645486> [Accessed: 2020-02-06].

Norvilitis, J.M., Merwin, M.M., Osberg, T.M., Roehling, P.V., Young, P. & Kamas, M.M. 2006. Personality factors, money attitudes, financial knowledge, and credit-card debt in college students. *Journal of Applied Social Psychology*, 36(6):1395-1413. [Online] Available from: DOI: 10.1111/j.0021-9029.2006.00065.x [Accessed: 2019-07-22].

Norvilitis, J.M., Szablicki, P.B. & Wilson, S.D. 2003. Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*, 33(5):935-947. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1111/j.1559-1816.2003.tb01932.x> [Accessed: 2019-07-22].

O'Connor, G.E., Newmeyer, C.E., Yee Ching Wong, N., Bayuk, J.B., Cook, L.A., Komarova, Y., Loibl, C., Lin Ong, L. & Warmath, D. 2019. Conceptualising the multiple dimensions of consumer financial vulnerability. *Journal of Business Research*, 100:421-430. [Online] Available from: <https://doi.org/10.1016/j.jbusres.2018.12.033> [Accessed: 2019-08-02].

Olson, J.M., Roese, N.J., Meen, J. & Robertson, D.J. 1995. The preconditions and consequences of relative deprivation: two field studies. *Journal of Applied Social Psychology*, 25:944-964. [Online] Available from: DOI: 10.1111/j.1559-1816.1995.tb02384.x [Accessed: 2021-11-29].

Pallant, J. 2016. *SPSS: survival manual*. 6th ed. Berkshire, UK: McGraw-Hill Education.

Pavot, W. & Diener, E. 1993. Review of the satisfaction with life scale. *Psychological Assessment*, 5(2):164-172. [Online] Available from: DOI: 10.1007/978-90-481-2354-4_5 [Accessed: 2021-11-02].

Pavot, W. & Diener, E. 2008. The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3(2):137-152. [Online] Available from: <https://doi.org/10.1080/17439760701756946> [Accessed: 2021-11-02].

Pijoo, I. 2021. *More than a third of South Africans "living beyond their means" as common goods prices rise*. [Online] Available from: <https://www.sowetanlive.co.za/news/south-africa/2021-12-02-more-than-a-third-of-south-africans-living-beyond-their-means-as-common-goods-prices-rise/> [Accessed: 2023-06-18].

Pirog, S.F. & Roberts, J.A. 2007. Personality and credit card misuse among college students: the mediating role of impulsiveness. *Journal of Marketing Theory and Practice*, 15(1):65-77. [Online] Available: DOI: 10.2753/MTP1069-6679150105 [Accessed: 2020-02-06].

Ponchio, M.C., Cordeiro, R.A. & Gonçalves, V.N. 2019. Personal factors as antecedents of perceived financial well-being: evidence from Brazil. *International Journal of Bank Marketing*, 37(4):1004-1024. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0077 [Accessed: 2020-03-03].

- Prawitz, A.D., Garman, E.T., Sorhaindo, B., O'Neill, B. Kim, J. & Drentea, P. 2006. InCharge financial distress/financial well-being scale: development, administration, and score interpretation. *Journal of Financial Counseling and Planning*, 17(1):34-50. [Online] Available from: DOI: 10.1037/t60365-000 [Accessed: 2020-03-10].
- Richins, M.L. 2011. Materialism, transformation expectation, and spending: implications for credit use. *Journal of Public Policy & Marketing*, 30(2):141-156. [Online] Available from: DOI: 10.1509/jppm.30.2.141 [Accessed: 2020-03-05].
- Rick, S.I., Cryder, C.E. & Loewenstein, G. 2008. Tightwads and spendthrifts. *Journal of Consumer Research*, 34(6):767-782. [Online] Available from: <https://doi.org/10.1086/523285> [Accessed: 2020-02-04].
- Riitsalu, L. & Murakas, R. 2019. Subjective financial knowledge, prudent behaviour and income: the predictors of financial well-being in Estonia. *International Journal of Bank Marketing*, 37(4):934-950. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0071 [Accessed: 2020-02-05].
- Rijnks, R.H., Koster, S. & McCann, P. 2019. The neighbour's effect on well-being: how local relative income differentials affect resident's subjective well-being. *Tijdschrift voor Economische en Sociale Geografie*, 110(5):605-621. [Online] Available from: DOI: 10.1111/tesg.12384 [Accessed: 2020-02-18].
- Rosenbaum, M.S., Corus, C., Ostrom, A.L., Anderson, L., Fisk, R.P., Gallan, A.S. Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Shirahada, K. & Williams, J.D. 2011. Conceptualisation and aspirations of transformative service research. *Journal of Research for Consumers*, 19:1-6. [Online] Available from: http://www.jrconsumers.com/academic_articles/issue_19/Transformative_services_academic5.pdf [Accessed: 2022-08-06].
- Ryan, R.M. & Deci, E.L. 2001. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52:146-166. [Online] Available from: DOI: 10.1146/annurev.psych.52.1.141 [Accessed: 2019-11-25].
- Ryan, R.M. & Deci, E.L. 2006. Self-regulation and the problem of human autonomy: does psychology need choice, self-determination and will? *Journal of Personality*, 74(6):1557-1585. [Online] Available from: DOI: 10.1111/j.1467-6494.2006.00420.x [Accessed: 2020-04-20].

- Sabri, M.F., Cook, C.C. & Gudmunson, C.G. 2012. Financial well-being of Malaysian college students. *Asian Education and Development Studies*, 1(2):153-170. [Online] Available from: DOI: 10.1108/20463161211240124 [Accessed: 2019-07-22].
- Santos, D.B., Mendes-Da-Silva, W., Flores, E. & Norvilitis, J.M. 2016. Predictors of credit card use and perceived financial well-being in female college students: a Brazil-United States comparative study. *International Journal of Consumer Studies*, 40:133-142. [Online] Available from: DOI: 10.1111/ijcs.12234 [Accessed: 2019-07-22].
- Schermelleh-Engel, K., Moosbrugger, H. & Müller, H. 2003. Evaluating the fit of structural equation models: test of significance and descriptive goodness-of-fit measures. *Methods of Psychology Research*, 8(2):23-74. [Online] Available from: DOI: 10.1037/0022-3514.45.3.513 [Accessed: 2022-07-18].
- Sebire, S.J., Standage, M. & Vansteenkiste, M. 2009. Examining intrinsic versus extrinsic exercise goals: cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, 31:189-210. [Online] Available from: DOI: 10.1123/jsep.31.2.189 [Accessed: 2020-04-19].
- Sekścińska, K., Rudzinska-Wojciechowska, J. & Jaworska, D. 2021. Self-control and financial risk taking. *Journal of Economic Psychology*, 85(2021):102386. [Online] Available from: <https://doi.org/10.1016/j.joep.2021.102386> [Accessed: 2023 – 06 – 01].
- Shifa, M. & Leibbrandt, M. 2018. Relative economic position and subjective well-being in a poor society: does relative position indicator matter? *Social Indicators Research*, 139:611-630. [Online] available from: DOI: 10.1007/s11205-017-1739-5 [Accessed: 2020-02-18].
- Soman, D. & Cheema, A. 2004. When goals are counterproductive: the effects of violation of a behavioural goal on subsequent performance. *Journal of Consumer Research*, 31(1):52-62. [Online] Available from: <https://doi.org/10.1086/383423> [Accessed: 2021-04-23].
- Sotiropoulos, V. & d'Astous, A. 2013. Attitudinal, self-efficacy and social norms determinants of young consumers' propensity to overspend on credit cards. *Journal of Consumer Policy*, 36:179-196. [Online] Available from: DOI: 10.1007/s10603-013-9223-3 [Accessed: 2020-01-27].
- Strayhorn, J.M. 2002. Self-control: theory and research. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(1):7-16. [Online] Available from: <https://doi.org/10.1097/00004583-200201000-00006> [Accessed: 2021-04-23].

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D. & Tinghög, G. 2017. Does self-control predict financial behaviour and financial well-being? *Journal of Behavioural and Experimental Finance*, 14:30-38. [Online] Available from: <https://doi.org/10.1016/j.jbef.2017.04.002> [Accessed: 2019-06-22].

Tangney, J.P., Baumeister, R.F. & Boone, A.L. 2004. High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72(2):271-324. [Online] Available from: DOI: 10.1111/j.0022-3506.2004.00263.x [Accessed: 2019-11-10].

The World Bank. 2022. New World Bank report assesses sources of inequality in five countries in Southern Africa. [Online] Available from: <https://www.worldbank.org/en/news/press-release/2022/03/09/new-world-bank-report-assesses-sources-of-inequality-in-five-countries-in-southern-africa#:~:text=South%20Africa%2C%20the%20largest%20country,World%20Bank%27s%20global%20poverty%20database> [Accessed: 2023-06-18].

Tougas, F., Lagacé, M., De La Sablonnière, R. & Kocum, L. 2004. A new approach to the link between identity and relative deprivation in the perspective of ageism and retirement. *International Journal of Aging and Human Development*, 59(1):1-26. [Online] Available: <https://doi.org/10.2190/3WTN-63QQ-EJMG-BGYA> [Accessed: 2020-05-28].

Van Praag, B.M.S., Frijters, P. & Ferrer-i-Carbonell, A. 2003. The anatomy of subjective well-being. *Journal of Economic Behaviour and Organisation*, 51(1):29-49. [Online] Available from: [https://doi.org/10.1016/S0167-2681\(02\)00140-3](https://doi.org/10.1016/S0167-2681(02)00140-3) [Accessed: 2019-09-24].

Vlaev, I. & Elliott, A. 2013. Financial well-being components. *Social Indicators Research*, 118(3):1103-1123. [Online] Available from: DOI: 10.1007/s11205-013-0462-0 [Accessed: 2020-03-05].

Vosylis, R., Žukauskienė, R. & Crocetti, E. 2020. Linking Identity Processes to Spending Self-Control Capacities in Emerging Adulthood: The Mediating Role of Self-Regulatory Identity Functions. *Emerging Adulthood*, 8(5):404-4011. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1177/2167696818820204> [Accessed: 2023 – 06 – 01].

Walker, I. 1999. Effects of personal and group relative deprivation on personal and collective self-esteem. *Group Processes & Intergroup Relations*, 2(4):365-380. [Online] Available from: <https://doi.org/10.1177/1368430299024004> [Accessed: 2020-04-18].

Walker, I. & Smith, H.J. 2002. *Fifty years of relative deprivation: development and integration*. Cambridge, UK: Cambridge University Press. [Online] Available from: DOI:10.1017/CBO9780511527753 [Accessed: 2020-04-18].

Webley, P. & Nyhus, E.K. 2001. Life-cycle and dispositional routes into problem debt. *British Journal of Psychology*, Vol 92(3):423-446 [Online] Available from: DOI: 10.1348/000712601162275 [Accessed: 2020-02-06].

Wen Wan, E., Chen, Z. & Vohs, K.D. 2014. Socially excluded people value money for what it can do for them – restore belongingness or control. *Association for Consumer Research*, 42:159-162. [Online] Available from: https://www.acrwebsite.org/volumes/v42/acr_v42_17405.pdf [Accessed: 2020-04-18].

Wilcox, K., Block, L.G. & Einstein, E.M. 2011. Leave home without it? The effects of credit card debt and available credit on spending. *Journal of Marketing Research*, XI.VIII(Special Issue 2011):S78-S90. [Online] Available from: DOI: 10.1509/jmkr.48.SPL.S78 [Accessed: 2020-02-04].

Winterich, K.P. & Nenkov, G.Y. 2015. Save like the Joneses: how service firms can utilize deliberation and informational influence to enhance consumer well-being. *Journal of Service Research*, 18(3):384-404. [Online] Available from: DOI: 10.1177/1094670515570268 [Accessed: 2022-08-06].

Xiao, J.J., Shim, S., Barber, B. & Lyons, A. 2007. *Academic success and well-being of college students: financial behaviors matter*. [Online] Available from: https://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1069&context=hdf_facpubs [Accessed: 2020-02-04].

Xiao, J.J., Tang, C. & Shim, S. 2009. Acting for happiness: financial behaviour and life satisfaction of college students. *Social Indicators Research*, 92(1):53-68. [Online] Available from: DOI: 10.1007/s11205-008-9288-6 [Accessed: 2020-02-06].

Zhao, X., Lynch, J.G. & Chen, Q. 2010. Reconsidering Baron and Kenny: myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2):197-206. [Online] Available from: <https://doi.org/10.1086/651257> [Accessed: 2021-01-31].

Zimmerman, S.L. 1995. *Understanding family policy: theories and applications*. 2nd ed. Thousand Oaks, CA: SAGE. [Online] Available from: <https://ebookcentral-proquest-com.uplib.idm.oclc.org/lib/pretoria-ebooks/reader.action?docID=996703&ppg=12> [Accessed: 2020-01-30].

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Despite studies reporting that consumers try to cut down on spending in today's challenging economic environment, higher levels of expenditure are still evident, with reports stating that many South African consumers lack self-control when it comes to spending behaviour (Hatting & Ramlakan, 2022; Hatting Magnus & Ramlakan, 2016; Momentum, 2021). Recognising the detrimental effect that poor CSSC can have on an individual and society, it is imperative that researchers better understand the way consumers control their spending behaviour (Haws, Bearden & Nenkov, 2012). Subsequently, consumer spending self-control (CSSC) served as the primary focus of this study. Since consumers differ in terms of their ability to exert CSSC, with some being better able to control their spending behaviour than others, their level of well-being will differ accordingly (Bandura, 1991).

The researcher turned to the self-determination theory (SDT) (Deci & Ryan, 2000) to provide the theoretical foundation against which this study was addressed. The SDT examines the interaction between extrinsic forces as well as people's inherent intrinsic motives and psychological needs, and the resulting impact on their well-being (Centre for Self-Determination Theory, 2022). Multiple SDT elements were incorporated into this study, including psychological needs, aspirational goals and well-being. In addition, CSSC was introduced as a regulatory behaviour, influencing the interaction between the dependent and independent variables. The role CSSC played in the relationship between the dependent and independent variables served as the primary purpose of this study. Thus, the primary objective of this study was to investigate the role of CSSC in the relationship between psychological needs (independent variable) and well-being (dependent variable).

The study's conceptual model was divided into three phases, representing the conceptual foundation for the three articles discussed in Chapters 2, 3 and 4 respectively. Chapter 2 (Article 1) evaluated the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. Chapter 3 (Article 2) explored the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. Finally, Chapter 4 (Article 3) examined the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction.

The main contribution of this study is to advance the CSSC literature on how psychological need satisfaction/frustration relates to CSSC and how CSSC influences financial well-being and life

satisfaction. The remainder of this chapter addresses the problem statement, objectives and hypotheses, main findings relating to the sample and the overall study, theoretical contributions and several practical contributions and recommendations. Finally, the chapter concludes with study limitations and suggestions for future research studies.

5.2 PROBLEM STATEMENT AND OBJECTIVES

An increasing number of South African consumers are turning to their savings or using credit to supplement their income to cope with daily financial obligations (Hatting *et al.*, 2016; TransUnion, 2019). Even though consumers try to cut down on their spending behaviour or delay purchases, continuing high levels of expenditure place consumers at risk of becoming financially vulnerable (Hatting *et al.*, 2016; Hatting & Ramlakan, 2022; Momentum, 2021). Therefore, consumers' expenditures are increasingly exceeding their income. One of the main reasons consumers spend beyond their means is their inability to demonstrate self-control regarding their spending behaviour (Momentum, 2021). However, this is not true for all, as people differ in self-control behaviour (Bandura, 1991). Thus, some people are better equipped to control their spending behaviour than others, but uncertainty exists as to why people differ in their ability to control their spending behaviour. Learning more about CSSC, that is, the ability to regulate and control one's spending behaviour and decisions according to a set of standards (Haws *et al.*, 2012), was thus this study's key focus.

In discovering why people differ in their ability to control spending behaviour, the researcher turned to the SDT, which posits that all individuals have three inherent psychological needs: autonomy, competence and relatedness (Deci & Ryan, 2000). When the three psychological needs are satisfied, positive outcomes follow, such as improved personal and social development and greater well-being (Ryan & Deci, 2000; Sheldon, Elliot, Kim & Kasser, 2001). However, when the psychological needs for autonomy, competence and relatedness are actively blocked or thwarted, psychological need frustration is experienced, which leads to negative outcomes and ill-being (Bartholomew, Ntoumanis, Ryan & Thøgersen-Ntoumani, 2011; Deci & Ryan, 2000). One example of a negative outcome related to psychological need frustration is a breakdown in self-control (Vansteenkiste & Ryan, 2013). Whether CSSC could be regarded as a positive behavioural outcome in response to psychological need satisfaction, or psychological need frustration could relate to a breakdown in CSSC was therefore explored in Article 1.

In addition to psychological needs, the SDT distinguishes between intrinsic and extrinsic aspirational goals (Deci & Ryan, 2000). Generally, people pursue one group of aspirational goals more

purposefully than the other (Kasser & Ryan, 1993, 1996), and the group of aspirational goals pursued influences psychological need satisfaction (Schmuck, Kasser & Ryan, 2000; Riediger & Freund, 2004). For example, the pursuit of intrinsic aspirational goals has been related to psychological need satisfaction and life satisfaction, while the opposite is true for extrinsic aspirational goals (Deci & Ryan, 2000; Kasser & Ryan, 1993, 1996). Given the association between psychological needs and aspirational goals, Article 1 investigated whether the pursuit of intrinsic and extrinsic aspirational goals influenced the strength of the relationship between psychological needs and CSSC.

The second article considered the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. Although the relationship between psychological needs and psychological well-being has been well researched in previous studies (Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013), Article 2 investigated well-being from a financial perspective and specifically considered the relationship between psychological needs and financial well-being. Furthermore, psychological need satisfaction has been related to various favourable outcomes and positive behaviours (Ahmad, Vansteenkiste & Soenens, 2013; Chen, Van Assche, Vansteenkiste, Soenens & Beyers, 2015; Ryan & Deci, 2000), of which one example of a positive behaviour is the ability to exert general self-control. By exerting self-control, people can save more, spend less, resist temptation and manage their finances better, leading to improved financial behaviour and financial well-being (Baumeister, 2002; Tangney, Baumeister & Boone, 2004). Whether the same holds true for a relationship between psychological need satisfaction and CSSC as a specific form of self-control was, however, evaluated in Article 2. Furthermore, whether CSSC is able to mediate the relationship between psychological need satisfaction and financial well-being also came under scrutiny.

On the contrary, when psychological needs are frustrated, people tend to experience a breakdown in self-control (Vansteenkiste & Ryan, 2013). When dealing with the discomfort caused by psychological need frustration, people often engage in reckless spending behaviour by purchasing products/services that act as need substitutes (Deci & Ryan, 2000). Thus, rather than directly addressing the frustrated need, people turn to other forms of satisfaction, albeit less adequate. Unless a form of self-control is applied and a need-relevant solution is obtained, the continuous experience of psychological need frustration can have detrimental effects on a consumer's well-being (Deci & Ryan, 2000). Therefore, Article 2 also investigated whether psychological need frustration led to a breakdown in CSSC specifically, and whether CSSC has a mediating effect on the relationship between psychological need frustration and financial well-being.

A final interaction effect measured as part of Article 2 was the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being. Since anyone can fall victim

to adverse shocks or financial hardship, anyone can be financially vulnerable, irrespective of education, income or wealth (O'Connor, Newmeyer, Yee Ching Wong, Bayuk, Cook, Komarova, Loibl, Lin Ong & Warmath, 2019). Recognising that having control over one's spending enables people to save more and spend less, thus assisting people in being better prepared for adverse shocks (Achtziger, Hubert, Kenning, Raab & Reisch, 2015; Baumeister, 2002; Miotto & Parente, 2015; Ponchio, Cordeiro & Gonçalves, 2019; Tangney *et al.*, 2004). Being financially prepared for any adverse shock contributes to greater financial well-being (Abrantes-Braga & Veludo-de-Oliveira, 2019; Consumer Financial Protection Bureau, 2015). Thus, the degree to which consumers are financially vulnerable influences the strength of the relationship between CSSC and financial well-being, as was assessed as part of this article.

Finally, Article 3 explored how financial well-being is an important contributor to a person's overall well-being (Frazier, 2022) and how financial institutions need to consider ways in which consumers' well-being can be improved (Losado-Otalaro & Alkire, 2019). This aligns with transformative service research (TSR), which encourages service organisations to conduct research on how to improve the well-being of people and society (Rosenbaum, Corus, Ostrom, Anderson, Fisk, Gallan Giraldo, Mende, Mulder, Rayburn, Shirahada & Williams, 2011). Financial institutions can assist consumers in improving their well-being by better understanding how consumers control their spending behaviour and, subsequently financial institutions can implement solutions to assist consumers with CSSC. Thus, Article 3 investigated, amongst others, the relationship between CSSC, financial well-being and life satisfaction, with life satisfaction representing the cognitive component of well-being.

The SDT recognises that extrinsic pressures may also influence how people respond within a given context, which can consequently influence well-being (Centre for Self-Determination Theory, 2022). One example of an extrinsic force influencing a person's behaviour relates to how people compare themselves to peer groups and the extent to which they feel relatively deprived in relation to their peer groups. Even though people with financial well-being are less likely to engage in social comparison behaviour (Norvilitis & Mao, 2013), Festinger (1954) posits that people naturally compare themselves to others. If, through social comparison, people feel they fall short in relation to what their peers have or they miss out on something they deserve, a sense of discontentment follows, which can lead to lower levels of well-being (Brown & Gray, 2016; Callan, Ellard, Shead & Hodgins, 2008; Callan, Shead & Olson, 2011; Chatterjee, Kumar & Dayma, 2019; Luttmmer, 2005; Walker & Smith, 2002). Thus, how relative deprivation influenced the strength of the relationship between financial well-being and life satisfaction was also investigated in Article 3, thereby providing a better understanding of how feeling relatively deprived influenced the relationship between financial well-being and life satisfaction.

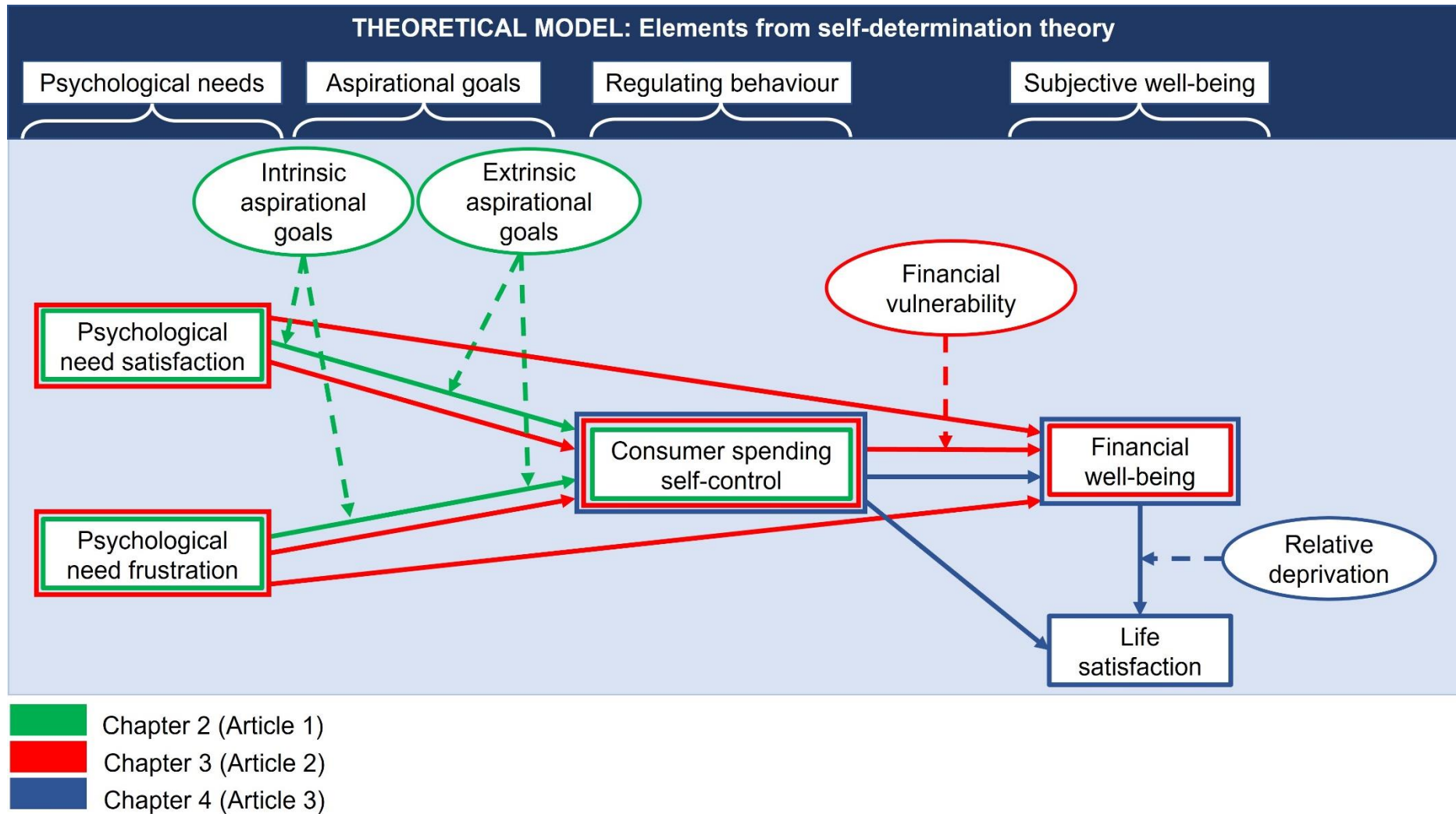
To conclude, the primary objective of the overall study was to investigate the role of CSSC in the relationship between psychological needs and well-being. To address the primary objective, the researcher set three secondary objectives, argued in three articles in the second, third and fourth chapters. Chapter 2 (Article 1) examined the moderating effect of aspirational goals on the relationship between psychological needs and CSSC. The third chapter (Article 2) addressed the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being. Finally, Chapter 4 (Article 3) explored the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction. The articles' overall objectives, secondary objectives and hypotheses are outlined in Table 5.1 and are followed by the complete conceptual framework for the study in Figure 5.1.

Table 5.1: Outline of objectives and hypotheses per article

Article	Overall objective	Secondary objectives	Hypotheses	Result
Chapter 2 (Article 1)	Explore the moderating effect of aspirational goals on the relationship between psychological needs and CSSC.	1. Determine whether a relationship between psychological need satisfaction/frustration and CSSC exist. 2. Determine whether aspirational goals moderate the relationship between psychological need satisfaction/frustration and CSSC.	H1: There is a positive relationship between psychological need satisfaction and CSSC.	Supported SE = 0.258 p = 0.0001*
			H2: There is a negative relationship between psychological need frustration and CSSC.	Not supported SE = -0.070 p = 0.150
			H3: Intrinsic aspirational goals strengthen the positive relationship between psychological need satisfaction and CSSC.	Not supported Interaction effect = -0.4484 [-1.0657; 0.1689] p = 0.1542
			H4: Extrinsic aspirational goals weaken the positive relationship between psychological need satisfaction and CSSC.	Not supported Interaction effect = 0.4491 [-0.1678; 1.659] p = 0.1533
			H5: Intrinsic aspirational goals weaken the negative relationship between psychological need frustration and CSSC.	Moderation was not assessed since there was no significant relationship between psychological need frustration and CSSC.
			H6: Extrinsic aspirational goals strengthen the negative relationship between psychological need frustration and CSSC.	
Chapter 3 (Article 2)	Examine the roles of CSSC and financial vulnerability in the relationship between psychological needs and financial well-being.	1. Explore the mediating effect of CSSC on the relationship between psychological need satisfaction/frustration and financial well-being. 2. Investigate the moderating effect of financial vulnerability on the relationship between CSSC and financial well-being.	H1: There is a positive relationship between psychological need satisfaction and financial well-being.	Supported SE = 0.157 p = 0.001*
			H2: There is a negative relationship between psychological need frustration and financial well-being.	Not supported SE = -0.070 p = 0.062
			H3: There is a positive relationship between psychological need satisfaction and CSSC.	Supported SE = 0.264 p < 0.001*
			H4: There is a negative relationship between psychological need frustration and CSSC.	Not supported SE = -0.057 p = 0.239
			H5: There is a positive relationship between CSSC and financial well-being.	Supported SE = 0.562 p < 0.001*
			H6a: CSSC mediates the relationship between psychological need satisfaction and financial well-being.	Supported (Partial complementary mediation) Indirect effect = 0.159 [0.101; 0.224]

Article	Overall objective	Secondary objectives	Hypotheses	Result
			H6b: CSSC mediates the relationship between psychological need frustration and financial well-being.	Supported (Partial complementary mediation) Indirect effect = -0.094 [-0.147; -0.044]
			H7: Financial vulnerability has a moderating effect on the relationship between CSSC and financial well-being.	Not supported Interaction effect = -0.120 [-0.272; 0.033] p = 0.124
Chapter 4 (Article 3)	Investigate the roles of financial well-being and relative deprivation in the relationship between CSSC and life satisfaction.	<p>1. Investigate the mediating effect of financial well-being on the relationship between CSSC and life satisfaction.</p> <p>2. Explore the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction.</p>	H1: There is a positive relationship between CSSC and life satisfaction.	Not supported SE = 0.035 p = 0.494
			H2: There is a positive relationship between CSSC and financial well-being.	Supported SE = 0.623 p < 0.001*
			H3: There is a positive relationship between financial well-being and life satisfaction.	Supported SE = 0.661 p < 0.001*
			H4: Financial well-being mediates the relationship between CSSC and life satisfaction.	Supported (Partial complementary mediation) Indirect effect = 0.283 [0.226; 0.341]
			H5: Relative deprivation moderates the relationship between financial well-being and life satisfaction.	Supported Interaction effect = 0.040 [0.007; 0.072] p = 0.018*

Figure 5.1: Complete conceptual framework based on the theoretical model of the SDT



5.3 SUMMARY OF MAIN FINDINGS

5.3.1 Main findings relating to the sample

Although the final questionnaire was distributed to a sample of 628 respondents, only 608 respondents qualified for data analysis purposes. The demographic characteristics of the sample are outlined in Table 5.2.

Table 5.2: Demographic characteristics of the sample

Demographic variable	Categories	Results (%)
Age	Youngest (18 years)	0.2
	Mean (36 years)	3.3
	Oldest (85 years)	0.2
Gender	Male	52.6
	Female	47.4
Population group	Asian	0.03
	Black	56.4
	Coloured	10.9
	Indian	5.1
	White	26.6
	Other	0.07
Monthly take-home pay	R0 – R10 000	25.7
	R10 001 – R20 000	37.3
	R20 001 – R30 000	20.4
	R30 001 – R40 000	9.2
	R40 001 – R50 000	4.4
	More than R50 000	3.0

The results relating to respondents' credit behaviour are outlined in Table 5.3.

Table 5.3: Credit behaviour of respondents

Credit product	Ownership of credit product (N/%)	Number of respondents with credit products in arrears (N)	Proportion of respondents in arrears
Credit card	393 (64.6%)	51	13.0%
Home loan	159 (26.6%)	10	6.3%
Personal loan	307 (50.5%)	60	19.6%
Retail account	301 (49.5%)	46	15.3%
Vehicle financing	243 (40.0%)	15	6.2%
Other	33 (5.4%)	5	15.6%

When considering respondents' credit behaviour, it was evident that a great majority of respondents made use of credit cards (64.6%), followed by personal loans (50.5%) and retail accounts (49.5%). Only 26.6% of respondents indicated they were responsible for repaying home loans. Several other credit products were listed, including cell phone contracts, educational loans and insurance. Repayment on personal loans was most likely to be in arrears (19.6%), followed by retail accounts (15.3%) and credit cards (13.0%). Those respondents in arrears were so for between one and 24 months.

Three questions, summarised in Table 5.4, were included in the questionnaire to assess respondents' level of financial vulnerability.

Table 5.4: Results of the financial vulnerability questions

Demographic variable	Categories	Results (%)
Monthly income allows you to get to the end of the month.	Very easily – I manage to save a fair amount	21.2
	Easily – I manage to save some amount	35.9
	With some difficulty – I only just manage to make ends meet	27.3
	With difficulty – I have to withdraw from savings	7.9
	With great difficulty – I have to borrow from a third party	7.7
Ability to cope with an unexpected expense of R1 000.00.	Very easily	25.0
	Easily	33.2
	With some difficulty	23.8
	With great difficulty	13.0
	Not at all	4.9
Ability to survive given current liabilities after losing your job.	18 months or longer	12.7
	12 months	14.0
	6 months	20.4
	3 months	15.0
	Less than 3 months	20.6
	Not at all	17.4

The results revealed that just over a third of respondents (35.9%) found that their monthly income allowed them to get to the end of the month relatively easily while still being able to save some money. A third of respondents (33.2%) also found it relatively easy to cope with an unexpected expense of R1 000.00, while 4.9% of respondents indicated that they would not be able to cope with an unexpected expense of R1 000.00. In the case of losing employment, 20.6% of respondents indicated that they would survive for three months, followed by 20.4% being able to survive for six months. Shockingly, 17.4% of respondents indicated that they could not survive if they lost their jobs.

5.3.2 Main findings of the overall study

CSSC was the main construct under investigation in this study. The overall purpose of the study was to better understand the role of CSSC in the relationship between psychological needs and well-being. Although several hypotheses were set throughout the study, the following tables summarise the hypotheses supported. Table 5.5 provides a summary of the linear hypotheses assessed.

Table 5.5: Standardised estimates of the structural paths in the structural model

Relationship	Standardised estimates	S.E. Est	p -value	t-value
PNS → CSSC	0.258	0.053	$p < 0.001^*$	4.870
PNS → FWB	0.157	0.047	0.001*	3.338
CSSC → FWB	0.562	0.034	$p < 0.001^*$	16.460
FWB → LS	0.661	0.046	$p < 0.001^*$	14.501

Note: *Statistically significant at $p < 0.05$, two-tailed; PNS = Psychological need satisfaction; CSSC = Consumer spending self-control; FWB = Financial well-being; LS = Life satisfaction.

Psychological need satisfaction had a significant and positive relationship with CSSC, which provided further proof that when psychological needs are satisfied, positive outcomes follow, in this case, greater CSSC (Campbell, Vansteenkiste, Delesie, Mariman, Soenens, Tobbach, Van der Kaap-Deeder & Vogelaers, 2015; Chen, Van Assche *et al.*, 2015, Vansteenkiste, Niemiec & Soenens, 2010). Psychological need satisfaction also had a significant positive relationship with financial well-being. Furthermore, CSSC showed a significant, positive relationship with financial well-being, providing empirical substantiation that CSSC results in greater overall financial well-being. Finally, the linear relationship between financial well-being and life satisfaction proved to be significantly positive, which aligns with previous studies linking satisfaction in specific life domains (in this case, the financial domain) to overall life satisfaction (Diener, Suh, Lucas & Smith, 1999).

In addition to evaluating linear relationships, several mediation effects were also assessed throughout the study, and the results of the supported mediation hypotheses are outlined in Table 5.6.

Table 5.6: Summary of mediation interaction effects

Variables	Direct effect [LLCI; ULCI]	SE	Indirect effect [LLCI; ULCI]	Boot SE	Result
PNS → CSSC → FWB	0.197 [0.114; 0.280]	0.042	0.159 [0.101; 0.224]	0.031	Supported (Partial complementary mediation)
PNF → CSSC → FWB	-0.138 [-0.217; -0.059]	0.040	-0.094 [-0.147; -0.044]	0.026	Supported (Partial complementary mediation)
CSSC → FWB → LS	0.180 [0.093; 0.268]	0.044	0.283 [0.226; 0.341]	0.030	Supported (Partial complementary mediation)

Note: *Statistically significant at $p < 0.05$, two-tailed; PNS = Psychological need satisfaction; PNF = Psychological need frustration; CSSC = Consumer spending self-control; FWB = Financial well-being; LS = Life satisfaction; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval.

The results revealed that CSSC had a mediating effect on the relationships between psychological need satisfaction and financial well-being, and psychological need frustration and financial well-being. In both cases, the mediation could be classified as partial, complementary mediation. In other words, a part of the relationships between psychological need satisfaction and financial well-being, and psychological need frustration and financial well-being could be explained by CSSC. Thus, consumers experiencing psychological need satisfaction have more control over their spending behaviour, resulting in greater financial well-being. Furthermore, even though consumers experience psychological need frustration, the ability to exert CSSC could have a positive effect on financial well-being. The results also showed that financial well-being had a partial, complementary mediating effect on the relationship between CSSC and life satisfaction. Thus, despite the linear relationship between CSSC and life satisfaction not being significant, by including financial well-being as an intervening variable, the relationship between CSSC and life satisfaction became significant. In other words, CSSC leads to greater financial well-being, resulting in greater life satisfaction.

The final hypothesis supported in this study related to the moderating effect of relative deprivation on the relationship between financial well-being and life satisfaction. The result is highlighted in Table 5.7.

Table 5.7: Summary of moderation interaction effect

Variables			Interaction effect [LLCI; ULCI]	SE	<i>p</i> -value (t-value)
X	W	Y			
FWB	RD	LS	0.040 [0.007; 0.072]	0.017	0.018* (2.371)

Note: *Statistically significant at $p < 0.01$, two-tailed; LLCI = Lower-level confidence interval; ULCI = Upper-level confidence interval; FWB = Financial well-being; RD = Relative deprivation; LS = Life satisfaction.

The moderation analysis revealed that relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction. The simple slope analysis revealed that the group of respondents experiencing lower levels of relative deprivation, compared to the group with higher relative deprivation, showed a stronger positive association between financial well-being and life satisfaction, at low levels of financial well-being. However, as financial well-being increased, life satisfaction increased accordingly, but the conditional effect for the high relative deprivation group became stronger. In other words, there was a bigger difference between the low and high relative deprivation groups when financial well-being was low, while the difference between the two groups became smaller as financial well-being increased. In effect, this showed that an increase in financial well-being undermined the influence of relative deprivation on the relationship between financial well-being and life satisfaction. Furthermore, since relative deprivation had a significant moderating effect on the relationship between financial well-being and life satisfaction at low, medium and high levels of relative deprivation, the entire range represented a region of significance (Hayes, 2018). These results prove the importance of social comparison and the accompanying feeling of deprivation on the relationship between financial well-being and overall life satisfaction.

In conclusion, CSSC was positively associated with psychological need satisfaction and financial well-being. Although psychological need satisfaction was also positively associated with financial well-being, CSSC was partly responsible for explaining the positive relationship between psychological need satisfaction and financial well-being. Furthermore, while psychological need frustration did not have a significant association with CSSC or financial well-being, CSSC could explain a part of the relationship between psychological need frustration and financial well-being. Finally, while CSSC was not directly related to life satisfaction, CSSC could influence life satisfaction via financial well-being. In terms of relative deprivation, it was established that when people experienced greater financial well-being, relative deprivation became less of a concern.

5.4 THEORETICAL CONTRIBUTIONS

The main theoretical contribution that this study makes is by advancing the literature on CSSC. This was the first study to introduce CSSC as a regulatory behaviour within the SDT context, as it investigated whether CSSC acted as a mechanism through which psychological needs influence well-being. Although general self-control and CSSC show many similarities, by obtaining a more specific understanding of CSSC, marketers can better explain people's spending behaviour rather than their general behaviour in response to general self-control (Haws *et al.*, 2012). A better understanding of consumers' spending behaviour is particularly important given their daily financial challenges and the devastating effect a breakdown in CSSC can have on an individual and society's financial circumstances (Haws *et al.*, 2012).

This study commenced with an investigation into psychological needs acting as motivators of CSSC. Even though previous research studies found a relationship between psychological needs and general self-control (Moller, Deci & Ryan, 2006; Vansteenkiste & Ryan, 2013), uncertainty still existed in terms of psychological needs' influence on CSSC. Therefore, to the researcher's knowledge, this was the first study that investigated the relationship between psychological need frustration and CSSC. Although the relationship between psychological need frustration and CSSC did not show significance, it is still a contribution, as it presents researchers with future research opportunities to explore possible mediators between psychological need frustration and CSSC. Refer to Section 5.6 for a discussion of possible future research opportunities.

In addition to psychological needs, aspirational goals as motivators of CSSC were also investigated. Previous studies mainly investigated linear relationships between psychological needs and aspirational goals (Brdar, Majda & Dubravka, 2009; Sebire, Standage & Vansteenkiste, 2009; Vansteenkiste, Soenens & Duriez, 2008). In contrast, this study has contributed to SDT by assessing intrinsic and extrinsic aspirational goals as moderators on the relationship between psychological needs and CSSC. Furthermore, how intrinsic and extrinsic aspirational goals were measured also contributes to SDT theory and provides initial support for assessing intrinsic and extrinsic aspirational goals in a trade-off manner. Measuring intrinsic and extrinsic aspirational goals using pairwise comparisons compelled respondents to indicate a preferred goal, which was done to obtain a more accurate response from them.

Even though money and finance have been around for centuries, research on financial well-being is still in its infancy and relatively dispersed across a variety of disciplines (Brüggen, Hogreve, Holmlund, Kabadayi & Löfgren, 2017; Netemeyer, Warmath, Fernandes & Lynch, 2018; Ponchio

et al., 2019). Thus, there is still much scope for learning more about this construct. Most previous studies within SDT focus on the relationship between psychological needs and psychological well-being (Chen, Vansteenkiste, Beyers, Boone, Deci, Van der Kaap-Deeder, Duriez, Lens, Matos, Mouratidis, Ryan, Sheldon, Soenens, Van Petegem & Verstuyf, 2015; Deci & Ryan, 2000; Haerens, Aelterman, Vansteenkiste, Soenens & Van Petegem, 2015). However, to the researcher's knowledge, this is the first study investigating the relationship between psychological needs and financial well-being. Furthermore, CSSC as a regulating behaviour had a partial, complementary mediating effect on the relationship between psychological need satisfaction/frustration and financial well-being, thereby providing insight into how control over one's spending behaviour can influence the relationship between psychological needs and financial well-being.

The relationship between general self-control and subjective well-being has been well researched in previous studies – in contrast to the relationship between CSSC as a specific domain of self-control and life satisfaction (Deci, Ryan, Gagné, Leone, Usunov & Kornazheva, 2001; Lun & Bond, 2016; Ryan & Deci, 2006). Although the relationship between CSSC and life satisfaction was not significant, discovering that financial well-being had a mediating effect on the relationship between CSSC and life satisfaction further emphasised that well-being within a specific domain is positively associated with overall life satisfaction (Kuykendall, Tay, & Ng, 2015; Pavot & Diener, 2008). Thus, inspired by the TSR movement, a better understanding of how CSSC, financial well-being and life satisfaction fit together provides direction in terms of how service organisations (e.g., financial institutions) can educate consumers on the importance of CSSC to increase well-being (Anderson & Ostrom, 2015).

A final theoretical contribution to the literature on well-being has been the investigation of how relative deprivation moderates the relationship between financial well-being and life satisfaction. Although people with greater financial well-being engage less in social comparison behaviour (Norvilitis & Mao, 2013) and hence are less likely to experience a sense of relative deprivation, other researchers report that relative deprivation could have a negative impact on well-being (López Turley, 2002). This study contributes to the current literature on relative deprivation and well-being by providing further evidence that relative deprivation became less of a concern as people's level of financial well-being increased.

5.5 PRACTICAL CONTRIBUTIONS AND RECOMMENDATIONS

Based on the results of the supported hypotheses, several practical contributions and recommendations are suggested. The practical contributions and recommendations are presented from a TSR perspective encouraging service organisations to conduct research on how to improve

people's and society's well-being (Rosenbaum *et al.*, 2011). This study has suggested that service organisations can assist consumers in improving their well-being by better understanding how consumers control their spending behaviour. Deeper insight into consumers' motivations and well-being regarding their spending behaviour provides service organisations and marketers with an opportunity to consider alternative segmentation bases and develop marketing strategies focusing on improving CSSC and, subsequently, financial well-being and life satisfaction.

A great deal can be said about a person when looking at their spending behaviour. A consumer's actual spending behaviour, that is, what their money is spent on and how, when and where it is spent, gives service organisations significant insight into whether their psychological needs are satisfied or frustrated. This aligns with the SDT, which postulates that the consequences or outcomes of behaviour indicate whether psychological needs are satisfied (Deci & Ryan, 2000). Depending on whether consumers' psychological needs are satisfied or frustrated sets a foundation for need-based segmentation opportunities whereby consumers are categorised into a market that is content (i.e., psychological needs are satisfied) or discontent (i.e., psychological needs are frustrated). Recognising that people differ depending on the extent to which their psychological needs are satisfied or frustrated presents service organisations with the opportunity to target a specific market and position their product/service offerings accordingly to encourage CSSC.

The consumers whose psychological needs were satisfied showed a positive association with CSSC. Therefore, service organisations should realise that these consumers are more likely to control their spending and, thus, less likely to part with their money. Therefore, a more persuasive sales approach is needed whereby service organisations must convince these consumers of the product/service offerings' benefits. Furthermore, service organisations, such as financial institutions and clothing retailers, can develop products/services to assist consumers in managing their spending behaviour. For example, service organisations can employ more stringent credit application requirements, restricted overdraft facilities or introduce consumer loans, credit and repayment systems to facilitate responsible spending behaviour. With consumers portraying greater CSSC, more timely repayments and less defaulting can be expected, limiting service organisations' financial losses and increasing their profits.

Psychological need satisfaction was positively associated with financial well-being, indicating that a market with satisfied psychological needs has already tasted the benefit of financial well-being. This insight allows marketers to sell additional product/service offerings aimed at further enhancing consumers' financial well-being. Possible product/service offerings marketers can present to these consumers include high-return saving and investment opportunities, financial planning solutions, risk advice and wealth-management advice. Thus, when targeting consumers whose psychological

needs are satisfied, marketers should follow a more persuasive approach to convince consumers of their products/services' benefits and suggest product/service solutions to further enhance consumers' financial well-being.

Irrespective of whether psychological needs were satisfied or frustrated, CSSC was a regulatory mechanism through which psychological needs influenced financial well-being. This insight presents marketers with the opportunity to educate consumers on how controlling their spending behaviour can lead to improved financial well-being. For example, financial institutions can develop products/services to assist people with controlling their spending behaviour, such as budgeting techniques, debt-supporting services, financial planning and/or financial management services. Clothing retailers can, for example, put a limit on the overdraft facility on their retailer store cards or consider implementing smarter ways to pay (e.g., interest-free payments when settling an account over three months versus paying interest when settling the account over six months). Furthermore, showing consumers what their future financial situation may look like if spending behaviour is controlled could encourage consumers to regulate their current spending behaviour, subsequently improving their financial well-being and, thus, the organisations' financial standing.

CSSC not only influences well-being within a financial context but also plays a role within the broader spectrum of well-being. The researcher showed that financial well-being acted as a mechanism through which CSSC influenced life satisfaction. This allows marketers to develop new product/service solutions to improve financial well-being for the here and now and emphasise how the solution can contribute to a better life overall. Marketing messages could, for example, highlight how being satisfied with one's financial well-being provides peace of mind or how financial well-being helps people obtain satisfaction in life. Furthermore, service organisations can capitalise on the relationship between life satisfaction and social relationships (Diener & Seligman, 2004; Larsen & Eid, 2008) by establishing long-term relationships with consumers engaging in CSSC. With the service organisation and consumer committed to the relationship, it is possible to implement relationship marketing initiatives that benefit both parties in the long run. Consumers feel a sense of belonging and peace of mind having a service organisation by their side, while the service organisation can assist consumers with their spending behaviour, resulting in increased financial well-being and life satisfaction. By establishing relationships with consumers, service organisations can increase customer lifetime value and grow the relationship marketing initiatives' return on investment.

Lastly, the study showed that the extent to which a person felt deprived in relation to peer groups influenced the strength of the relationship between financial well-being and life satisfaction. This

insight illustrates how important social comparison with peer groups is. Recognising that the feeling of relative deprivation influences people's well-being presents marketers with various marketing opportunities. Marketers can, for example, be more responsible in their marketing strategies by emphasising that a person's life satisfaction depends on their own actions and behaviours rather than those of the people around them. Alternatively, marketers can use role models and opinion leaders to convey the message that each person is responsible for their own financial well-being and life satisfaction.

5.6 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

As with all empirical studies, this study is not without its limitations. Since the study relied on respondents' self-reported behaviour, it was subject to social desirability bias. Therefore, respondents could have answered questions in such a manner to make themselves look good or provide answers aligned with social norms. Given the personal and sensitive nature of some of the constructs incorporated in this study, respondents may have provided answers that make them look better than they are. Future studies can use alternative research methodologies, such as experimentation, to more accurately understand respondents' behaviour and sidestep social desirability bias. By placing respondents in a controlled or natural environment, which is a more realistic representation of life, the resulting behaviour can be observed and recorded as a truer reflection of actual behaviour.

Another limitation of using a self-administered online survey is the subjective nature of the data collected. Even though subjective measures provide valuable information in terms of respondents' opinions and perceptions, they tend to be unreliable (Keese, 2012; Prawitz, Garman, Sorhaindo, O'Neill, Kim & Drentea, 2006; Xiao, 2008). Therefore, the researcher suggests that the subjective measures be combined with objective measures (e.g., income, credit-card balances, saving and debt levels) to more holistically understand the problem and overcome the subjective nature of the data collected. In this way, future researchers can obtain a respondent's opinions and perceptions, and a fact-based justification for their behaviour. However, due to the sensitive and personal nature of people's financial information, permission to access the data must be obtained from each respondent.

Since a cross-sectional design considers only the current situation, the researcher cannot draw conclusions about directional effects (Campbell *et al.*, 2015; Sebire *et al.*, 2009). As a result, the long-term effect cannot be assessed. Similarly, unless a respondent has faced an adverse shock at the time of data collection, they cannot provide an accurate opinion on their financial vulnerability. Therefore, future research should consider using longitudinal studies to more accurately understand

the long-term effects of the various constructs and relationships. In this way, researchers can obtain more in-depth insight into the long-term effects of psychological need satisfaction/frustration, CSSC, financial well-being and life satisfaction.

In terms of sampling, this study conducted research amongst South Africans who were credit active, 18 years or older and permanently employed or self-employed at the time of data collection. This included a broad spectrum of people: those in good standing, in arrears and just getting by every month. Future studies could focus on a specific group of credit-active South Africans to better understand the specific challenges faced within a given market. For example, future studies can conduct research amongst individuals under debt review, in arrears on payment or blacklisted.

Based on this study's conceptual framework, several additional directions for future research can be investigated, especially regarding how psychological need frustration influences CSSC and financial well-being. For example, since psychological need frustration can result in a breakdown in general self-control (Vansteenkiste & Ryan, 2013) – yet no significant relationship with CSSC was established in this study – future research studies can explore whether general self-control mediates the relationship between psychological need frustration and CSSC or whether self-control as a regulatory behaviour mediates the relationship between psychological need frustration and financial well-being. Furthermore, other factors, such as a materialistic perspective, personality or a tendency to engage in impulsive behaviour (Baumeister, 2002; Ryan & Deci, 2000), might act as mediators or moderators influencing the relationship between psychological need frustration and CSSC. Similarly, these factors can also be investigated as possible mediators influencing the relationship between psychological need frustration and financial well-being.

Since the results found no significant relationship between psychological need frustration and CSSC, the moderating effect of intrinsic and extrinsic aspirational goals could not be assessed. Rather, future studies can investigate whether intrinsic and/or extrinsic aspirational goals could mediate the relationship between psychological needs and CSSC. Rather than influencing the strength of the relationship between psychological needs and CSSC, intrinsic and extrinsic aspirational goals might act as a mechanism through which psychological needs influence CSSC. Alternatively, a linear relationship between intrinsic and extrinsic aspirational goals as the independent variables and CSSC as the dependent variable can also be investigated. In addition, whether psychological needs have a moderating effect on the relationship between aspirational goals and CSSC can be explored. Although the SDT recognises that people have three inherent psychological needs and are driven by goals, the exact order in which they occur is not specified (Deci & Ryan, 2000). This is also evident if one considers that previous studies proved that psychological needs influence aspirational goals and vice versa (Kasser & Ryan, 1996; Vansteenkiste *et al.*, 2008)).

Another suggestion for future research is to examine whether financial vulnerability has a moderating effect on the relationship between psychological needs and CSSC. Thus, irrespective of whether psychological needs are satisfied or frustrated, the level of financial vulnerability experienced might influence how much control consumers have over their spending behaviour.

5.7 CONCLUSION

The primary objective of the overall study was to explore the role of CSSC in the relationship between psychological needs and well-being. The SDT developed by Deci and Ryan (2000) served as the theoretical underpinning for this study. By incorporating three SDT elements – psychological needs, aspirational goals and well-being – a conceptual framework was developed, which set the roadmap for the three articles documented in Chapters 2, 3 and 4. After conducting a detailed literature review, a cross-sectional study using a self-administered online survey was designed and fielded amongst South African consumers who were credit active and 18 years or older, either permanently employed or self-employed. Microsoft Excel, Mplus Version 8.3, SPSS Statistics Version 26 and Hayes' Process Macro for SPSS Version 3.5 were used for data analysis.

The study showed that psychological need satisfaction was significantly related to CSSC and financial well-being. Furthermore, CSSC had a mediating effect on the relationship between psychological need satisfaction and financial well-being. Although the relationships between psychological need frustration and CSSC, and psychological need frustration and financial well-being were not significant, CSSC had a mediating effect on the relationship between psychological need frustration and financial well-being. Even though CSSC was positively related to financial well-being, it was not significantly related to life satisfaction. However, with financial well-being acting as an intervening variable, CSSC was related to life satisfaction. Finally, the results showed that relative deprivation had a moderating effect on the relationship between financial well-being and life satisfaction.

Several recommendations were made based on the study results, particularly in terms of segmentation and targeting, developing new product/service offerings and marketing communication strategies. Study limitations included social desirability bias, the subjective nature of the data and the study's cross-sectional design. Suggestions on how the limitations can be addressed were highlighted. Finally, various directions for future research studies were also suggested, mainly regarding the relationships between psychological needs, CSSC and financial well-being.

Inspired by the TSR phenomenon, this study has provided insight into people's ability to exert CSSC to improve their well-being. As a result, financial marketers can take what this researcher has discovered and design and develop marketing strategies to help consumers control their spending behaviour, leading to enhanced financial well-being and, ultimately, greater life satisfaction.

5.8 LIST OF REFERENCES

- Abrantes-Braga, F.D.M.A. & Veludo-de-Oliveira, T. 2019. Development and validation of financial well-being related scales. *International Journal of Bank Marketing*, 37(4):1025-1040. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0074 [Accessed: 2020-03-03].
- Achtziger, A., Hubert, M., Kenning, P., Raab, G. & Reisch, L. 2015. Debt out of control: the links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49:141-149. [Online] Available from: <http://dx.doi.org/10.1016/j.joep.2015.04.003> [Accessed: 2020-02-06].
- Ahmad, I., Vansteenkiste, M. & Soenens, B. 2013. The relations of Arab Jordanian adolescents' perceived maternal parenting to teacher-rated adjustment and problems: the intervening role of perceived need satisfaction. *Developmental Psychology*, 49:177-183. [Online] Available from: <http://dx.doi.org/10.1037/a0027837> [Accessed: 2021-01-03].
- Anderson, L. & Ostrom, A.L. 2015. Transformative service research: advancing our knowledge about service and well-being. *Journal of Service Research*, 18(3):243-249. [Online] Available from: DOI: 10.1177/1094670515591316 [Accessed: 2022-08-06].
- Bandura, A. 1991. Social cognitive theory of self-regulation. *Organisational Behaviour and Human Decision Processes*, 50:248-287. [Online] Available from: <https://doi.org/10.1146/annurev.psych.52.1.1> [Accessed: 2019-07-19].
- Bartholomew, K.J., Ntoumanis, N., Ryan, R.M. & Thøgersen-Ntoumani, C. 2011. Psychological need thwarting in the sport context: assessing the darker sides of athletic experience. *Journal of Sport and Exercise Psychology*, 33:75-102. [Online] Available from: DOI: 10.1037/0033-2909.117.3.497 [Accessed: 2020-01-28].
- Baumeister, R.F. 2002. Yielding to temptation: self-control failure, impulsive purchasing and consumer behaviour. *Journal of Consumer Research*, 28:670-676. [Online] Available from: DOI: 10.1086/338209 [Accessed: 2019-06-22].
- Brdar, I., Majda, R. & Dubravka, M. 2009. Life goals and well-being: are extrinsic aspirations always detrimental to well-being? *Psychological Topics*, 18(2):317-334. [Online] Available from: <https://hrcak.srce.hr/file/74340> [Accessed: 2019-02-05].

- Brown, S. & Gray, D. 2016. Household finances and well-being in Australia: an empirical analysis of comparison effects. *Journal of Economic Psychology*, 53:17-36. [Online] Available from: <https://doi.org/10.1016/j.joep.2015.12.006> [Accessed: 2019-08-02].
- Brüggen, E.C., Hogreve, J., Holmlund, M., Kabadayi, S. & Löfgren, M. 2017. Financial well-being: a conceptualization and research agenda. *Journal of Business Research*, 79:228-237. [Online] Available from: DOI: 10.1016/j.jbusres.2017.03.013 [Accessed: 2020-01-27].
- Callan, M.J., Ellard, J.H., Shead, N.W. & Hodgins, D.C. 2008. Gambling as a search for justice: examining the role of personal relative deprivation in gambling urges and gambling behavior. *Personality and Social Psychology Bulletin*, 34(11):1514-1529. [Online] Available from: DOI: 10.1177/0146167208322956 [Accessed: 2020-04-30].
- Callan, M.J., Shead, N.W. & Olson, J.M. 2011. Personal relative deprivation, delay discounting and gambling. *Journal of Personality and Social Psychology*, 101(5):955-973. [Online] Available from: DOI: 10.1037/a0024778 [Accessed: 2020-03-28].
- Campbell, R., Vansteenkiste, M., Delesie, L.M., Mariman, A.N., Soenens, B., Tobbac, E., Van der Kaap-Deeder, J. & Vogelaers, D. 2015. Examining the role of psychological need satisfaction in sleep: a Self-Determination Theory perspective. *Personality and Individual Differences*, 77:199-204. [Online] Available from: <https://doi.org/10.1016/j.paid.2015.01.003> [Accessed: 2020-01-30].
- Centre for Self-Determination Theory. 2022. *The theory*. [Online] Available from: <https://selfdeterminationtheory.org/the-theory/> [Accessed: 2022-10-15].
- Chatterjee, D., Kumar, M. & Dayma, K.K. 2019. Income security, social comparisons and materialism: determinants of subjective financial well-being among Indian adults. *International Journal of Bank Marketing*, 37(4):1041-1061. [Online] Available from: DOI: 10.1108/IJBM-04-2018-0096 [Accessed: 2020-03-03].
- Chen, B., Van Assche, J., Vansteenkiste, M., Soenens, B. & Beyers, W. 2015. Does psychological need satisfaction matter when environmental or financial safety are at risk? *Journal of Happiness Studies*, 16:745-766. [Online] Available from: DOI: 10.1007/s10902-014-9532-5 [Accessed: 2020-01-11].
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E.L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R.M., Sheldon, K.M., Soenens, B., Van Petegem, S.

& Verstuyf, J. 2015. Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39:216-236. [Online] Available from: DOI: 10.1007/s11031-014-9450-1 [Accessed: 2020-01-11].

Consumer Financial Protection Bureau. 2015. *Measuring financial well-being: a guide to using the CFPB financial well-being scale*. [Online] Available from: https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf [Accessed: 2019-12-18].

Deci, E.L. & Ryan, R.M. 2000. The “what” and “why” of goal pursuits: human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4):227-268. [Online] Available from: DOI: 10.1207/S15327965PLI1104_01 [Accessed: 2018-04-20].

Deci, E.L., Ryan, R.M., Gagné, M., Leone, D.R., Usunov, J. & Kornazheva, B.P. 2001. Need satisfaction, motivation and well-being in the work organizations of a former Eastern bloc country: a cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27(8):930-942. [Online] Available from: <https://doi-org.uplib.idm.oclc.org/10.1177/0146167201278002> [Accessed: 2019-03-05].

Diener, E. & Seligman, M.E.P. 2004. Beyond money: toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1):1-31. [Online] Available from: DOI: 10.1111/j.0963-7214.2004.00501001.x [Accessed: 2020-04-18].

Diener, E., Suh, E.M., Lucas, R.E. & Smith, H.L. 1999. Subjective well-being: three decades of progress. *Psychological Bulletin*, 125(2):276-302. [Online] Available from: DOI: 10.1037/0033-2909.125.2.276 [Accessed: 2020-12-12].

Festinger, L. 1954. A theory of social comparison processes. *Human Relations*, 7:117-140. [Online] Available from: DOI: 10.1177/001872675400700202 [Accessed: 2020-04-20].

Frazier, L. 2022. *Financial wellness is critical to your overall health: and financial literacy is the key*. [Online] Available from: <https://www.forbes.com/sites/lizfrazierpeck/2022/01/19/financial-wellness-is-critical-to-your-overall-healthand-financial-literacy-is-the-key/?sh=71807b852cdc> [Accessed: 2022-08-06].

Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B. & Van Petegem, S. 2015. Do perceived autonomy-supportive and controlling teaching relate to physical education students'

motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of Sport & Exercise*, 16:126-136. [Online] Available from: <https://doi.org/10.1016/j.psychsport.2014.08.013> [Accessed: 2020-01-30].

Hatting, D. & Ramlakan, S. 2022. *Stretched South African consumers put health and sustainability on the shopping list*. [Online] Available from: <https://www.mckinsey.com/za/our-insights/stretched-south-african-consumers-put-health-and-sustainability-on-the-shopping-list> [Accessed: 2022-06-27].

Hatting, D., Magnus, K.H. & Ramlakan, S. 2016. *South Africa's cautious consumer*. *Consumer packaged goods, July 2016*. [Online] Available from: <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/south-africas-cautious-consumer> [Accessed: 2022-06-27].

Haws, K.L., Bearden, W.O. & Nenkov, G.Y. 2012. Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40:695-710. [Online] Available from: DOI: 10.1007/s11747-011-0249-2 [Accessed: 2019-06-22].

Hayes, A.F. 2018. *Introduction to mediation, moderation and conditional process analysis: a regression-based approach*. 2nd ed. New York, NY: The Guilford Press.

Kasser, T. & Ryan, R.M. 1993. A dark side of the American dream: correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65:410-422. [Online] Available from: DOI: 10.1037/0022-3514.65.2.410 [Accessed: 2018-11-10].

Kasser, T. & Ryan, R.M. 1996. Further examining the American dream: differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22:280-287. [Online] Available from: <https://doi.org/10.1177/0146167296223006> [Accessed: 2018-11-10].

Keese, M. 2012. Who feels constrained by high debt burdens? Subjective vs objective measures of household debt. *Journal of Economic Psychology*, 33:125-141. [Online] Available from: <https://doi.org/10.1016/j.joep.2011.08.002> [Accessed: 2019-08-02].

Kuykendall, L., Tay, L. & Ng, V. 2015. Leisure engagement and subjective well-being: a meta-analysis. *Psychological Bulletin*, 141(2):364-403. [Online] Available from: DOI: 10.1037/a0038508 [Accessed: 2019-03-05].

- Larsen, R.J. & Eid, M. 2008. Ed Diener and the science of subjective well-being. In: Eid, M. & Larsen, R.J. (eds.) *The science of subjective well-being*. New York, NY: Guilford Publications. [Online] Available from: <https://smartlib.umri.ac.id/assets/uploads/files/77459-subjective-well-being.pdf#page=15> [Accessed: 2020-04-18].
- López Turley, R.N. 2002. Is relative deprivation beneficial? The effects of richer and poorer neighbours on children's outcomes. *Journal of Community Psychology*, 30(6):671-686. [Online] Available from: DOI: 10.1002/jcop.10033 [Accessed: 2020-04-30].
- Losado-Otalero, M. & Alkire, L. 2019. Investigating the transformative impact of bank transparency on consumers' financial well-being. *International Journal of Bank Marketing*, 37(4):1062-1079. [Online] Available from: DOI: 10.1108/IJBM-03-2018-0079 [Accessed: 2020-03-03].
- Lun, V.M.C. & Bond, M.H. 2016. Achieving subjective well-being around the world: the moderating influence of gender, age and national goals for socializing children. *Journal of Happiness Studies*, 17:587-608. [Online] Available from: DOI: 10.1007/s10902-015-9614-z [Accessed: 2019-03-05].
- Luttmer, E.F.P. 2005. Neighbours as negatives: relative earnings and well-being. *The Quarterly Journal of Economics*, 120(3):963-1002. [Online] Available from: DOI: 10.1093/qje/120.3.963 [Accessed: 2020-02-18].
- Miotto, A.P.S.C. & Parente, J. 2015. Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Revista de Administração de Empresas*, 55(1). [Online] Available from: DOI: 10.1590/S0034-759020150106 [Accessed: 2019-09-22].
- Moller, A.C., Deci, E.L. & Ryan, R.M. 2006. Choice and ego-depletion: the moderating role of autonomy. *Personality and Social Psychology Bulletin*, 32(8). [Online] Available from: <https://doi.org/10.1177/0146167206288008> [Accessed: 2019-07-23].
- Momentum. 2021. *Consumers more financially vulnerable due to pressures on income and savings. Momentum-Unisa consumer financial vulnerability index, Q2, 2021*. [Online] Available from: <https://retail.momentum.co.za/documents/financial-wellness/consumer-financial-vulnerability-index-Q2-2021.pdf> [Accessed: 2022-06-28].
- Netemeyer, R.G., Warmath, D., Fernandes, D. & Lynch, J.G. 2018. How am I doing? Perceived financial well-being, its potential antecedents, and its relation to overall well-being. *Journal of*

Consumer Research, 45:68-89. [Online] Available from: DOI: 10.1093/jcr/ucx109 [Accessed: 2019-10-16].

Norvilitis, J.M. & Mao, Y. 2013. Attitudes towards credit and finances among college students in China and the United States. *International Journal of Psychology*, 48(3):389-398. [Online] Available from: <http://dx.doi.org/10.1080/00207594.2011.645486> [Accessed: 2020-02-06].

O'Connor, G.E., Newmeyer, C.E., Yee Ching Wong, N., Bayuk, J.B., Cook, L.A., Komarova, Y., Loibl, C., Lin Ong, L. & Warmath, D. 2019. Conceptualising the multiple dimensions of consumer financial vulnerability. *Journal of Business Research*, 100:421-430. [Online] Available from: <https://doi.org/10.1016/j.jbusres.2018.12.033> [Accessed: 2019-08-02].

Pavot, W. & Diener, E. 2008. The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3(2):137-152. [Online] Available from: <https://doi.org/10.1080/17439760701756946> [Accessed: 2021-11-02].

Ponchio, M.C., Cordeiro, R.A. & Gonçalves, V.N. 2019. Personal factors as antecedents of perceived financial well-being: evidence from Brazil. *International Journal of Bank Marketing*, 37(4):1004-1024. [Online] Available from: DOI 10.1108/IJBM-03-2018-0077 [Accessed: 2020-03-03].

Prawitz, A.D., Garman, E.T., Sorhaindo, B., O'Neill, B., Kim, J. & Drentea, P. 2006. InCharge financial distress/financial well-being scale: development, administration, and score interpretation. *Journal of Financial Counseling and Planning*, 17(1):34-50. [Online] Available from: DOI: 10.1037/t60365-000 [Accessed: 2020-03-10].

Riediger, M. & Freund, A.M. 2004. Interference and facilitation among personal goals: differential associations with subjective well-being and persistent goal pursuit. *Personality and Social Psychology Bulletin*, 30(12):1511-1523. [Online] Available from: <https://doi.org/10.1177/0146167204271184> [Accessed: 2019-03-05].

Rosenbaum, M.S., Corus, C., Ostrom, A.L., Anderson, L., Fisk, R.P., Gallan, A.S. Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Shirahada, K. & Williams, J.D. 2011. Conceptualisation and aspirations of transformative service research. *Journal of Research for Consumers*, 19:1-6. [Online] Available from: http://www.jrconsumers.com/academic_articles/issue_19/Transformative_services_academic5.pdf [Accessed: 2022-08-06].

- Ryan, R.M. & Deci, E.L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55(1):68-78. [Online] Available from: DOI: 10.1037/0003-066X.55.1.68 [Accessed: 2018-04-20].
- Ryan, R.M. & Deci, E.L. 2006. Self-regulation and the problem of human autonomy: does psychology need choice, self-determination and will? *Journal of Personality*, 74(6):1557-1585. [Online] Available from: DOI: 10.1111/j.1467-6494.2006.00420.x [Accessed: 2020-04-20].
- Schmuck, P., Kasser, T. & Ryan, R.M. 2000. Intrinsic and extrinsic goals: their structure and relationship to well-being in German and U.S. college students. *Social Indicators Research*, 50:225-241. [Online] Available from: DOI: 10.1023/A:1007084005278 [Accessed: 2019-02-05].
- Sebire, S.J., Standage, M. & Vansteenkiste, M. 2009. Examining intrinsic versus extrinsic exercise goals: cognitive, affective, and behavioral outcomes. *Journal of Sport & Exercise Psychology*, 31:189-210. [Online] Available from: DOI: 10.1123/jsep.31.2.189 [Accessed: 2020-04-19].
- Sheldon, K.M., Elliot, A.J., Kim, Y. & Kasser, T. 2001. What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80:325-339. [Online] Available from: DOI: 10.1037/0022-3514.80.2.325 [Accessed: 2021-01-30].
- Tangney, J.P., Baumeister, R.F. & Boone, A.L. 2004. High self-control predicts good adjustment, less pathology, better grades and interpersonal success. *Journal of Personality*, 72(2):271-324. [Online] Available from: DOI: 10.1111/j.0022-3506.2004.00263.x [Accessed: 2019-11-10].
- TransUnion. 2019. *South Africans are increasingly reliant on credit to make ends meet*. [Online] Available from: <https://www.transunion.co.za/archives-article/south-africans-reliant-on-credit> [Accessed: 2022-06-27].
- Vansteenkiste, M. & Ryan, R.M. 2013. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 3:263-280. [Online] Available from: DOI: 10.1037/a0032359 [Accessed: 2020-01-28].
- Vansteenkiste, M., Niemiec, C.P. & Soenens, B. 2010. The five minitheories of self-determination theory: an historical overview, emerging trends, and future directions. In: Urdan, T.C. & Karabenick, S.A. (eds.) *Advances in motivation and achievement: Vol. 16, Part A. The decade*

ahead: theoretical perspectives on motivation and achievement. Bingley, UK: Emerald. [Online] Available from: [http://dx.doi.org/10.1108/S0749-7423\(2010\)000016A007](http://dx.doi.org/10.1108/S0749-7423(2010)000016A007) [Accessed: 2021-01-30].

Vansteenkiste, M., Soenens, B. & Duriez, B. 2008. Presenting a positive alternative to strivings for material success and the thin ideal: understanding the effects of extrinsic relative to intrinsic goal pursuits. In: Lopez, S.J. (ed.) *Positive psychology: exploring the best in people*. Westport, CT: Greenwood Press. [Online] Available from: https://www.researchgate.net/publication/237703070_Presenting_a_Positive_Alternative_to_Strivings_for_Material_Success_and_the_Thin_Ideal_Understanding_the_Effects_of_Extrinsic_Relative_to_Intrinsic_Goal_Pursuits [Accessed: 2020-03-28].

Walker, I. & Smith, H.J. 2002. *Fifty years of relative deprivation: development and integration*. Cambridge, UK: Cambridge University Press. [Online] Available from: DOI: 10.1017/CBO9780511527753 [Accessed: 2020-04-18].

Xiao, J.J. 2008. Applying behaviour theories to financial behaviours. In: Xiao, J.J. (ed.) *Handbook of consumer finance research*. New York, NY: Springer. [Online] Available from: DOI: 10.1007/978-0-387-75734-6_5 [Accessed: 2020-01-27].

APPENDICES

6.1 APPENDIX A

- Declaration regarding plagiarism -

DEPARTMENT OF MARKETING MANAGEMENT

Declaration Regarding Plagiarism / Declaration of originality

The Department of Marketing Management emphasises integrity and ethical behaviour with regard to the preparation of all written assignments.

Although the lecturer will provide you with information regarding reference techniques, as well as ways to avoid plagiarism (see the “*Guidelines on Referencing*” document), you also have a responsibility to fulfil in this regard. Should you at any time feel unsure about the requirements, you must consult the lecturer concerned before submitting an assignment.

You are guilty of plagiarism when you extract information from a book, article, web page or any other information source without acknowledging the source and pretend that it is your own work. This does not only apply to cases where you quote directly, but also when you present someone else’s work in a somewhat amended (paraphrased) format or when you use someone else’s arguments or ideas without the necessary acknowledgement. You are also guilty of plagiarism if you copy and paste information directly from an electronic source (e.g., a web site, e-mail message, electronic journal article, or CD ROM), without paraphrasing it or placing it in quotation marks, even if you acknowledge the source.

You are not allowed to submit another student’s previous work as your own. You are furthermore not allowed to let anyone copy or use your work with the intention of presenting it as his/her own.

Students who are guilty of plagiarism will forfeit all credits for the work concerned. In addition, the matter will be referred to the Committee for Discipline (Students) for a ruling. Plagiarism is considered a serious violation of the University’s regulations and may lead to your suspension from the University. The University’s policy regarding plagiarism is available on the Internet at <http://www.library.up.ac.za/plagiarism/index.htm>.

For the period that you are a student at the Department of Marketing Management, the following declaration must accompany all work that is submitted for evaluation. No work will be accepted unless the declaration has been completed and is included in the particular assignment.

I, the undersigned, declare that:

1. I understand what plagiarism entails and am aware of the University’s policy in this regard.
2. I declare that this assignment is my own, original work. Where someone else’s work was used (whether from a printed source, the Internet or any other source) due acknowledgement was given and reference was made according to departmental requirements.
3. I did not copy and paste any information directly from an electronic source (e.g., a web page, electronic journal article or CD ROM) into this document.
4. I did not make use of another student’s previous work and submitted it as my own.
5. I did not allow and will not allow anyone to copy my work with the intention of presenting it as his/her own work.

Full names and surname of student: Laureane du Plessis
Student nr: 98194616
Date submitted: 2022 – 12 – 15

Topic of work: The role of consumer spending self-control in the relationship between psychological needs and well-being

Supervisors’ names: Prof Yolanda Jordaan
Prof Liezl-Marié van der Westhuizen

Signature: 

6.2 APPENDIX B
- Confirmation of professional editing -



Elize Berman Editing

GRAMMAR EDITING SERVICES

elize@elizebermanediting.com

www.elizebermanediting.com

CONFIRMATION OF PROFESSIONAL EDITING

22 November 2022

To whom it may concern,

I hereby confirm that I have copy-edited L. Du Plessis's dissertation titled:

THE ROLE OF CONSUMER SPENDING SELF-CONTROL IN THE
RELATIONSHIP BETWEEN PSYCHOLOGICAL NEEDS AND
WELL-BEING

I addressed language and grammar use, consistency, referencing style and formatting. I did not change the content, nor did I rewrite the document. I returned the document to the author with comments and tracked changes; therefore, the correct implementation thereof lies with the author.

Yours sincerely,



Elize Berman

BSc Hons (cum laude); MSc (cum laude)

Professional Editors' Guild member

Please contact me if you require more information.

6.3 APPENDIX C
- Final questionnaire used for this study -



Letter of Introduction and Informed Consent
Department of Marketing Management
Consumption Behaviour of Credit-active South Africans

Research conducted by:
Mrs L. du Plessis (98194616)
Email: Laureane.duplessis@gmail.com

Dear participant,

You are invited to participate in an academic research study conducted by Laureane du Plessis, a PhD student from the Department of Marketing Management at the University of Pretoria.

The purpose of the study is to investigate the consumption behaviour of credit-active South Africans.

Please note the following:

- This is an anonymous study survey, as your name will not appear on the questionnaire. The answers you give will be treated as strictly confidential, as you cannot be identified in person based on the answers you give.
- Your participation in this study is very important to us. You may, however, choose not to participate, and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the online questionnaire as completely and honestly as possible. This should not take more than 20 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal.
- Please contact me via email at Laureane.duplessis@gmail.com if you have any questions or comments regarding the study.

By continuing with this online survey, you indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

YES, I consent

NO, I do not consent

UNIVERSITY OF PRETORIA SURVEY

Consumption Behaviour of Credit-active South Africans

Screening Questions

1. Are you 18 years or older?

Yes	No
1	2

{If NO, terminate the questionnaire}

2. Are you currently permanently or self-employed?

Yes	No
1	2

{If NO, terminate the questionnaire}

3. **Are you currently a credit-active consumer?** (i.e., do you make use of ANY form of credit, such as a credit card, personal loan, home loan, vehicle financing or retail account?)

Yes	No
1	2

{If NO, terminate the questionnaire}

SECTION A: Aspirational Goal Trade-offs

INSTRUCTION: If completing the survey on a mobile device, it is recommended to turn the mobile device to landscape.

Each statement below shows **different pairs of goals**. Carefully read each pair of goals, and indicate which goal is more important, as well as how much more important it is, by moving the slider to the chosen value.

NOTE: If you want to select 1 ('Equally important'), move the slider to any other value and back to 1 to ensure your response is captured.

	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Personal growth	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Appealing image	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Meaningful relationships	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fame	
Wealth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	
	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Personal growth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Appealing image	
Personal growth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Meaningful relationships	
Personal growth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fame	
Personal growth	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	
	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Appealing image	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Meaningful relationships	
Appealing image	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fame	
Appealing image	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	
	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Meaningful relationships	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Fame	
Meaningful relationships	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	
	Extremely important		Very strong importance		Strong importance		Moderately important		Equally important		Moderately important		Strong importance		Very strong importance		Extremely important		
Fame	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Contributing to community	

SECTION B: Importance of Aspirational Goals

Below, we ask you about the importance different goals have in your life. Please read each goal carefully and indicate how important each goal is to you on a scale of 1 to 7, ranging from 1 = 'Not at all important' to 7 = 'Extremely important'.

How important is it...		Not at all important					Extremely important	
		1	2	3	4	5	6	7
1	...to be a very wealthy person?	1	2	3	4	5	6	7
2	...to grow and learn new things?	1	2	3	4	5	6	7
3	...to have my name known by many people?	1	2	3	4	5	6	7
4	...to have good friends that I can count on?	1	2	3	4	5	6	7
5	...to successfully hide the signs of ageing?	1	2	3	4	5	6	7
6	...to work for the betterment of society?	1	2	3	4	5	6	7
7	...to have many expensive possessions?	1	2	3	4	5	6	7
8	...to be able to look back at the end of my life as meaningful and complete?	1	2	3	4	5	6	7
9	...to be admired by many people?	1	2	3	4	5	6	7
10	...to share my life with someone I love?	1	2	3	4	5	6	7
11	...to have people comment often about how attractive I look?	1	2	3	4	5	6	7
12	...to assist people who need it, asking nothing in return?	1	2	3	4	5	6	7
13	...to be financially successful?	1	2	3	4	5	6	7
14	...to choose what I do, instead of being pushed along by life?	1	2	3	4	5	6	7
15	...to be famous?	1	2	3	4	5	6	7
16	...to have committed, intimate relationships?	1	2	3	4	5	6	7
17	...to keep up with fashions in hair and clothing?	1	2	3	4	5	6	7
18	...to work to make the world a better place?	1	2	3	4	5	6	7
19	...to be rich?	1	2	3	4	5	6	7
20	...to know and accept who I really am?	1	2	3	4	5	6	7
21	...to have my name appear frequently in the media?	1	2	3	4	5	6	7
22	...to feel that there are people who really love me, and whom I love?	1	2	3	4	5	6	7
23	...to achieve the 'look' that I have been after?	1	2	3	4	5	6	7
24	...to help others improve their lives?	1	2	3	4	5	6	7
25	...to have enough money to buy everything I want?	1	2	3	4	5	6	7
26	...to gain increasing insight into why I do the things I do?	1	2	3	4	5	6	7
27	...to be admired by lots of different people?	1	2	3	4	5	6	7
28	...to have deep enduring relationships?	1	2	3	4	5	6	7
29	...to have an image that others find appealing?	1	2	3	4	5	6	7
30	...to help people in need?	1	2	3	4	5	6	7

SECTION C: Basic Psychological Need Satisfaction and Frustration

Below, we ask you about your **current life experience in general**. Please read each statement carefully and indicate to which degree the statement is true for you at this point in your life on a scale of 1 to 7, ranging from 1 = 'Not at all true' to 7 = 'Completely true'.

Statement		Not at all true			Completely true			
		1	2	3	4	5	6	7
1	I feel a sense of choice and freedom in the things I undertake.	1	2	3	4	5	6	7
2	Most of the things I do, I feel like 'I have to do'.	1	2	3	4	5	6	7
3	I feel that the people I care about also care about me.	1	2	3	4	5	6	7
4	I feel excluded from the group I want to belong to.	1	2	3	4	5	6	7
5	I feel confident that I can do things well.	1	2	3	4	5	6	7
6	I have serious doubts about whether I can do things well.	1	2	3	4	5	6	7
7	I feel that my decisions reflect what I really want.	1	2	3	4	5	6	7
8	I feel forced to do many things I wouldn't choose to do.	1	2	3	4	5	6	7
9	I feel connected with people who care for me and for whom I care.	1	2	3	4	5	6	7
10	I feel that people who are important to me are cold and distant towards me.	1	2	3	4	5	6	7
11	I feel capable at what I do.	1	2	3	4	5	6	7
12	I feel disappointed with many of my performances.	1	2	3	4	5	6	7
13	I feel my choices express who I really am.	1	2	3	4	5	6	7
14	I feel pressured to do too many things.	1	2	3	4	5	6	7
15	I feel close and connected with other people who are important to me.	1	2	3	4	5	6	7
16	I have the impression that people I spend time with dislike me.	1	2	3	4	5	6	7
17	I feel competent to achieve my goals.	1	2	3	4	5	6	7
18	I feel insecure about my abilities.	1	2	3	4	5	6	7
19	I feel I have been doing what really interests me.	1	2	3	4	5	6	7
20	My daily activities feel like a chain of obligations.	1	2	3	4	5	6	7
21	I experience a warm feeling with the people I spend time with.	1	2	3	4	5	6	7
22	I feel the relationships I have are just superficial.	1	2	3	4	5	6	7
23	I feel I can successfully complete difficult tasks.	1	2	3	4	5	6	7
24	I feel like a failure because of the mistakes I make.	1	2	3	4	5	6	7

SECTION D: Subjective Well-being

1. Below, we ask you how you feel **in comparison to your peers in general**. Please read each statement carefully and indicate to what extent you agree or disagree with the statement on a scale of 1 to 7, ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree'.

Statement		Strongly disagree							Strongly agree
		1	2	3	4	5	6	7	
1	I feel deprived when I think about what I have compared to what other people like me have.	1	2	3	4	5	6	7	
2	I feel privileged compared to other people like me.	1	2	3	4	5	6	7	
3	I feel resentful when I see how prosperous other people like me seem to be.	1	2	3	4	5	6	7	
4	When I compare what I have with what others like me have, I realise that I am quite well off.	1	2	3	4	5	6	7	
5	I feel dissatisfied with what I have compared to what other people like me have.	1	2	3	4	5	6	7	

2. Below, we ask you about your **satisfaction in life in general**. Please read each statement carefully and indicate to what extent you agree or disagree with the statement on a scale of 1 to 7, ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree'.

Statement		Strongly disagree							Strongly agree
		1	2	3	4	5	6	7	
1	In most ways, my life is close to my ideal.	1	2	3	4	5	6	7	
2	The conditions of my life are excellent.	1	2	3	4	5	6	7	
3	I am satisfied with my life.	1	2	3	4	5	6	7	
4	So far, I have gotten the important things I want in life.	1	2	3	4	5	6	7	
5	If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7	

3. Please read each statement carefully and indicate to what extent you agree or disagree with the statement on a scale of 1 to 7, ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree'.

Statement In general...		Strongly disagree							Strongly agree
1	2	3	4	5	6	7			
1	I closely monitor my spending behaviour.	1	2	3	4	5	6	7	
2	I am able to work effectively toward long-term financial goals.	1	2	3	4	5	6	7	
3	I carefully consider my needs before making purchases.	1	2	3	4	5	6	7	
4	I often delay taking action until I have carefully considered the consequences of my purchase decisions.	1	2	3	4	5	6	7	
5	When I go out with friends, I keep track of what I am spending.	1	2	3	4	5	6	7	

Statement		Strongly disagree					Strongly agree	
In general...								
6	I am able to resist temptation in order to achieve my budget goals.	1	2	3	4	5	6	7
7	I know when to say 'no' regarding how much I spend.	1	2	3	4	5	6	7
8	During my social interactions, I am generally aware of what I am spending.	1	2	3	4	5	6	7
9	Having objectives related to spending is important to me.	1	2	3	4	5	6	7
10	I am responsible when it comes to how much I spend.	1	2	3	4	5	6	7

SECTION E: Financial Well-being

1. How well does this statement describe you or your situation under NORMAL CIRCUMSTANCES (before the COVID-19 pandemic emerged)?

Please mark the relevant option on a scale of 1 to 7, ranging from 1 = 'Not at all' to 7 = 'Definitely'.

Statement		Not at all							Definitely	
1	I could handle a major unexpected expense.	1	2	3	4	5	6	7		
2	I am securing my financial future.	1	2	3	4	5	6	7		
3	Because of my money situation, I feel like I will never have the things I want in life.	1	2	3	4	5	6	7		
4	I can enjoy life because of the way I am managing my money.	1	2	3	4	5	6	7		
5	I am just getting by financially.	1	2	3	4	5	6	7		
6	I am concerned that the money I have or will save won't last.	1	2	3	4	5	6	7		

2. How often does this statement apply to you under NORMAL CIRCUMSTANCES (before the COVID-19 pandemic emerged)?

Please mark the relevant option on a scale of 1 to 7, ranging from 1 = 'Never' to 7 = 'Always'.

Statement		Never							Always	
1	Giving a gift for a wedding, birthday or other occasion would put a strain on my finances for the month.	1	2	3	4	5	6	7		
2	I have money left over at the end of the month.	1	2	3	4	5	6	7		
3	I am behind with my finances.	1	2	3	4	5	6	7		
4	My finances control my life.	1	2	3	4	5	6	7		

3. To what extent does your monthly income allow you to get to the end of the month under **NORMAL CIRCUMSTANCES (before the COVID-19 pandemic emerged)?**

Very easily – I manage to save a fair amount.	1
Easily – I manage to save some amount.	2
With some difficulty – I only just manage to make ends meet.	3
With difficulty – I have to withdraw from savings.	4
With great difficulty – I have to borrow from a third party.	5

4. To what extent would you be able to cope with an unexpected expense of R1 000.00 under **NORMAL CIRCUMSTANCES (before the COVID-19 pandemic emerged)?**

Very easily	1
Easily	2
With some difficulty	3
With great difficulty	4
Not at all	5

5. If you lose your job, how long can you survive, considering current liabilities? Please mark the most applicable option.

18 months or longer	1
12 months	2
6 months	3
3 months	4
Less than 3 months	5
Not at all	6

SECTION F: Credit Behaviour

1. Please mark all the current credit products for which you are responsible for repayment. Indicate ALL the applicable options.

Credit card	1
Home loan	2
Personal loan	3
Retail account	4
Vehicle financing	5
Other, please specify by typing the name of the credit product in the box below	6

INSTRUCTION: If completing the survey on a mobile device, it is recommended to turn the mobile device to landscape.

2. Indicate whether you are up to date with your monthly payments on your credit products under **NORMAL CIRCUMSTANCES (before the COVID-19 pandemic emerged)**.

{Question to be set up to only include the applicable credit products selected in Q1}

Credit product	Normal circumstances (Before COVID-19)	
	Yes	No
Credit card	Yes, up to date	No, not up to date
Home loan	Yes, up to date	No, not up to date
Personal loan	Yes, up to date	No, not up to date
Retail account	Yes, up to date	No, not up to date
Vehicle financing	Yes, up to date	No, not up to date
Other, please specify	Yes, up to date	No, not up to date

*{If all payments are up to date, skip to Section G}
 {If any one credit product is behind on payment, continue with Question 3}*

3. Indicate the number of months you are behind on your monthly payments for your credit products under **NORMAL CIRCUMSTANCES (before the COVID-9 pandemic emerged)?**

{Question to be set up to only include the applicable credit products indicated in Q2}

Credit card	
Home loan	
Personal loan	
Retail account	
Vehicle financing	
Other, please specify	

SECTION G: Demographics

1. What is your year of birth? _ _ _ _

2. What is your gender?

Male	Female	Other	Prefer not to answer
1	2	3	4

3. To which population group do you belong (according to the Statistics South Africa classification)? (*For statistical purposes*)

Asian	Black	Coloured	Indian	White	Other
1	2	3	4	5	6

4. Please provide an indication of your monthly take-home pay. (*For statistical purposes*)

R0 – R10 000 per month	1
R10 001 – R20 000 per month	2
R20 001 – R30 000 per month	3
R30 001 – R40 000 per month	4
R40 001 – R50 000 per month	5
More than R50 000 per month	6

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

6.4 APPENDIX D
- Ethical clearance letter -



Approval Certificate

12 June 2020

Mrs L. Du Plessis
 Department: Marketing Management

Dear Mrs L. Du Plessis,

The application for ethical clearance for the research project described below served before this committee on:

Protocol no:	EMS102/20
Principal researcher:	Mrs L. du Plessis
Research title:	The moderating effect of consumer spending self-control and financial vulnerability on psychological needs and well-being
Student/Staff no:	98194616
Degree:	Doctoral
Supervisor/promoter:	Prof. Y. Jordaan
Department:	Marketing Management

The decision by the committee is reflected below:

Decision:	Approved
Conditions (if applicable):	
Period of approval:	2020-06-25 – 2021-12-31

The approval is subject to the researcher abiding by the principles and parameters set out in the application and research proposal in the actual execution of the research. The approval does not imply that the researcher is relieved of any accountability in terms of the Codes of Research Ethics of the University of Pretoria if action is taken beyond the approved proposal. If during the course of the research it becomes apparent that the nature and/or extent of the research deviates significantly from the original proposal, a new application for ethics clearance must be submitted for review.

We wish you success with the project.

Sincerely



PROF. J.A. NEL
CHAIR: COMMITTEE FOR RESEARCH ETHICS