

**The moderating influence of mindful consumption on
the relationship between household income disruption
and financial management during the COVID-19
pandemic**

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ABSTRACT

The COVID-19 pandemic has had an economic impact on a global scale never experienced before. Almost two years into the pandemic, all households would have been aware of financial hardship as they would have known someone who was impacted, if not impacted themselves. Lessons learned from previous crises are that households' financial behaviour generally change during such times. As a result, consumers would have become more mindful of their purchase behaviour based on an increased awareness of unstable market conditions.

The purpose of this study was to determine and describe how the financial management of households, across different income groups, was affected and subsequently adapted during the pandemic in South Africa, guided by a Mental Accounting approach, and explicated in terms of Prospect Theory. This research further aimed to explore the influence of mindful consumption on the relationship between households' income disruption and their financial management behaviour and to indicate how recent events have affected their financial planning for the future.

This was a quantitative study that adopted a positivist philosophy, executed as a cross-sectional endeavour. The researcher conducted an online survey using a questionnaire comprising a combination of self-generated questions, as well as adaptations of existing scales. A combination of convenience and snowball sampling techniques produced a sample size of 264 households from various income groups within South Africa.

The study showed that finances of different household income groups were impacted differently and that the upper-income households managed their finances better than the middle-income group. Indications are that households' savings, insurance maintenance, and credit management worsen as income disruption increases. Repetitive temperance, which is one of the dimensions of mindful consumption, was established as a significant moderator of the relationship between household income disruption and financial management behaviour. A conceptual model was developed for businesses in the financial sector to better understand households' financial choices, which could guide the choice of product and service offerings to households from different income groups during financial crises in the future.

KEYWORDS

Consumer behaviour; crisis management; COVID-19 pandemic; financial management; Mental accounting; mindful consumption; Prospect Theory.

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Contents

ABSTRACT	i
KEYWORDS	ii
DECLARATION	iii
LIST OF FIGURES	ix
LIST OF TABLES	x
ABBREVIATIONS	xiii

CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM..... **1**

1.1 Background of the study	1
1.2 Research problem	3
1.3 Research questions	4
1.4 Theoretical perspective.....	5
1.5 Research purpose	6
1.6 Theoretical contribution	6
1.7 Business contribution.....	7
1.8 Research design and methodology	7
1.9 Measures to eliminate error	7
1.10 Ethical considerations.....	8
1.11 Report structure	9

CHAPTER 2: LITERATURE REVIEW..... **10**

2.1 Introduction	10
2.2 Understanding the COVID-19 economic threat	10
2.3 Household income disruption caused by the economic threat	11
2.4 Understanding household financial management.....	13
2.4.1 Money management	13
2.4.2 Savings behaviour	14
2.4.3 Insurance maintenance.....	15
2.4.4 Credit management	15
2.5 Mindful consumption.....	16
2.6 Relevant theoretical perspectives.....	17
2.6.1 Prospect Theory.....	17
2.6.2 Mental Accounting	18

2.7	Chapter summary	19
CHAPTER 3: RESEARCH QUESTIONS, RELATED HYPOTHESES AND CONCEPTUAL MODEL		20
3.1	Introduction	20
3.2	Purpose of the research	20
3.3	Research questions	21
3.3.1	Research question 1	21
3.3.2	Research question 2	22
3.3.3	Research question 3	23
3.4	The conceptual model for the research	25
3.4.1	An overview of the conceptual model	25
CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY		27
4.1	Introduction	27
4.2	Research paradigm, research methodology and design	27
4.3	Population	29
4.4	Unit of analysis	29
4.5	Sampling method and size	30
4.6	Measurement instrument	32
4.7	Data gathering process	36
4.8	Data analysis	37
4.9	Quality control	39
4.9.1	Validity	39
4.9.2	Reliability	40
4.10	Research limitations	41
4.11	Ethics	41
4.12	Chapter summary	42
CHAPTER 5: RESULTS		43
5.1	Introduction	43
5.2	Description of the sample	43
5.3	Descriptive statistics	45
5.3.1	Household income disruption caused by the COVID-19 economic threat	45

5.3.2	Financial management behaviour.....	46
5.3.3	Mindful consumption.....	46
5.4	Exploratory Factor Analysis (EFA).....	47
5.4.1	Preparation of the data	47
5.4.2	Household income disruption.....	48
5.4.3	Financial management behaviour.....	50
5.4.4	Mindful consumption.....	56
5.5	Reliability	56
5.5.1	Reliability of household income disruption.....	57
5.5.2	Reliability of financial management behaviour.....	57
5.5.3	Reliability of mindful consumption.....	59
5.6	Descriptive statistics of empirical factors and conceptual model update..	60
5.7	Hypothesis testing	62
5.7.1	Research question 1.....	62
5.7.1.1	Relevant hypotheses	63
5.7.1.2	Test for normality	63
5.7.1.3	Comparison tests and independent samples t-tests	63
5.7.1.3.1	Household income disruption.....	63
5.7.1.3.2	Savings.....	64
5.7.1.3.3	Insurance maintenance	65
5.7.1.3.4	Credit management.....	65
5.7.1.4	Conclusion of Hypothesis 1	66
5.7.2	Research question 2.....	66
5.7.2.1	Relevant hypotheses	67
5.7.2.2	Hypothesis 2.1 testing.....	67
5.7.2.2.1	The relevant assumptions	67
5.7.2.2.2	Evaluation of the model.....	69
5.7.2.2.3	Evaluation of the independent variables	69
5.7.2.2.4	Conclusion of Hypothesis 2.1.....	70
5.7.2.3	Hypothesis 2.2 testing.....	70
5.7.2.3.1	The relevant assumptions	70
5.7.2.3.2	Evaluation of the model.....	71
5.7.2.3.3	Evaluation of the independent variables	72
5.7.2.3.4	Conclusion of Hypothesis 2.2.....	73

5.7.2.4	Hypothesis 2.3 testing.....	73
5.7.2.4.1	The relevant assumptions	73
5.7.2.4.2	Evaluation of the model.....	74
5.7.2.4.3	Evaluation of the independent variables	74
5.7.2.4.4	Conclusion of Hypothesis 2.3.....	75
5.7.3	Research question 3.....	75
5.7.3.1	Relevant hypotheses	75
5.7.3.2	Moderating influence procedure	77
5.7.3.3	Hypothesis 3.1 testing.....	78
5.7.3.3.1	The relevant assumptions	78
5.7.3.3.2	Evaluation of the model.....	79
5.7.3.3.3	Evaluation of independent and moderator variables	80
5.7.3.3.4	Conclusion of Hypothesis 3.1.....	80
5.7.3.4	Hypothesis 3.2 testing.....	80
5.7.3.4.1	The relevant assumptions	81
5.7.3.4.2	Evaluation of the model.....	82
5.7.3.4.3	Evaluation of independent and moderator variables	82
5.7.3.4.4	Conclusion of Hypothesis 3.2.....	84
5.7.3.5	Hypothesis 3.3 testing.....	84
5.7.3.5.1	Relevant assumptions.....	84
5.7.3.5.2	Evaluation of the model.....	85
5.7.3.5.3	Evaluation of independent and moderator variable.....	86
5.7.3.5.4	Conclusion of Hypothesis 3.3.....	86
5.8	Chapter summary	87
CHAPTER 6: DISCUSSION		89
6.1	Introduction	89
6.2	Measurement scales.....	89
6.3	Research question 1	91
6.3.1	Hypothesis 1.1	91
6.3.2	Hypothesis 1.2	92
6.3.3	Hypothesis 1.3	93
6.3.4	Hypothesis 1.4	95

6.4	Research question 2.....	96
6.4.1	Hypothesis 2.1	96
6.4.2	Hypothesis 2.2	98
6.4.3	Hypothesis 2.3	99
6.5	Research question 3.....	101
6.5.1	Hypothesis 3.1	102
6.5.2	Hypothesis 3.2	103
6.5.3	Hypothesis 3.3	104
6.6	Chapter summary	105
CHAPTER 7: CONCLUSION AND RECOMMENDATIONS		106
7.1	Introduction	106
7.2	Research question 1	106
7.3	Research question 2.....	108
7.4	Research question 3.....	109
7.5	Theoretical contribution	110
7.6	Recommendation for business	114
7.7	Limitations of the research.....	115
7.8	Ethical considerations.....	117
7.9	Recommendations for future research	118
7.10	Concluding statement.....	119
REFERENCES		121
APPENDICES		130
	APPENDIX 1 – CONSISTENCY MATRIX	130
	APPENDIX 2 – ETHICAL CLEARANCE.....	131
	APPENDIX 3 – INFORMED CONSENT	132
	APPENDIX 4 – QUESTIONNAIRE	133
	APPENDIX 5 – CERTIFICATION OF ADDITIONAL SUPPORT	136
	APPENDIX 6 – STATISTICAL RESULTS.....	137

LIST OF FIGURES

Figure 1: Theoretical conceptual model for the research	25
Figure 2: Updated conceptual model after EFA and reliability testing.....	61
Figure 3: Relationship between household income disruption and financial management behaviour.....	67
Figure 4: Mindful consumption as a moderator to the relationship between household income disruption and financial management behaviour.....	77
Figure 5: Plot of significant moderating effect for repetitive temperance.....	83
Figure 6: Final conceptual model	113

LIST OF TABLES

Table 1: Summary of hypothesis testing results.....	87
Table 2: Gender distribution of the sample.....	137
Table 3: Age distribution of the sample	137
Table 4: Monthly household income category distribution.....	138
Table 5: Percentage reduction of monthly household income of the sample	138
Table 6: Descriptive statistics of household income disruption caused by the COVID-19 economic threat	139
Table 7: Descriptive statistic of financial management behaviour.....	140
Table 8: Descriptive statistics of mindful consumption	141
Table 9: Correlation matrix for household income disruption	142
Table 10: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for household income disruption.....	142
Table 11: Communalities for household income disruption.....	143
Table 12: Total variance explained for household income disruption caused by the COVID-19 economic threat	143
Table 13: Factor matrix for household income disruption.....	144
Table 14: Correlation matrix for financial management behaviour.....	144
Table 15: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for financial management behaviour.....	145
Table 16: Communalities for financial management behaviour.....	145
Table 17: Total variance explained for financial management behaviour	146
Table 18: Rotated factor matrix of financial management behaviour	147
Table 19: Second-order factor analysis correlation matrix	147
Table 20: Second-order factor analysis KMO and Bartlett's test.....	148
Table 21: Second-order factor analysis communality.....	148
Table 22: Second-order factor analysis total variance explained.....	148
Table 23: Second-order factor analysis factor matrix.....	149
Table 24: Correlation matrix for mindful consumption	149
Table 25: Cronbach's Alpha and inter-item correlations for the components of the empirical construct financial management behaviour.....	150
Table 26: Cronbach's Alpha and inter-item correlation mean for theoretical financial management behaviour factors.....	150

Table 27: Descriptive statistics on empirical factors and questions	151
Table 28: Recoded income categories to form middle- and upper-income groups.....	151
Table 29: Kolmogorov-Smirnov test of normality.....	152
Table 30: Descriptive statistics between income groups for each factor	152
Table 31: Independent Samples Test.....	153
Table 32: Correlation between income disruption and savings	154
Table 33: Variance of correlation between income disruption and savings.....	154
Table 34: ANOVA of income disruption and savings.....	155
Table 35: Regression and collinearity results of income disruption and savings .	155
Table 36: Correlation between income disruption and insurance.....	156
Table 37: Variance of correlation between income disruption and insurance	156
Table 38: ANOVA of income disruption and insurance	157
Table 39: Regression and collinearity of income disruption and insurance.....	157
Table 40: Correlation between income disruption and credit management	158
Table 41: Variance in correlation between income disruption and credit management.....	158
Table 42: ANOVA of income disruption and credit management	159
Table 43: Regression of income disruption and credit management	159
Table 44: Correlations of income disruption, acquisitive temperance (D2), and financial management behaviour.....	160
Table 45: Variance of model with acquisitive temperance as moderator	161
Table 46: ANOVA of model with acquisitive temperance as moderator	161
Table 47: Multiple linear regression results for model with acquisitive temperance as moderator	162
Table 48: Correlations of income disruption, repetitive temperance (D7), and financial management behaviour.....	163
Table 49: Variance of model with repetitive temperance as moderator	163
Table 50: ANOVA of model with repetitive temperance as moderator	164
Table 51: Multiple linear regression results for model with repetitive temperance as moderator	164
Table 52: Correlations of income disruption, aspirational temperance (D9), and financial management behaviour.....	165
Table 53: Variance model with aspirational temperance as moderator.....	165

Table 54: ANOVA of model with aspirational temperance as moderator	166
Table 55: Multiple linear regression with aspirational temperance as a moderator	166

ABBREVIATIONS

COVID-19 – Coronavirus disease of 2019

EFA – Exploratory factor analysis

KMO – Kaiser-Meyer-Olkin

M – Mean

MC – Mean centred

MSA – Measure of sampling adequacy

PAF – Principal axis factoring

SD – Standard deviation

StatsSA – Statistics South Africa

VIF – Variance inflation factor

CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

This chapter outlines the background of the study and the research problem that guided the study, followed by the research questions that this study intended to answer. Thereafter, the theoretical perspectives that underpinned this research are discussed, followed by the purpose of research, explanation of the theoretical contribution, and the business contribution of the research findings. This section also provides an outline for the remaining sections of the research report.

1.1 Background of the study

The Coronavirus disease (COVID-19) outbreak began in China towards the latter part of 2019 and has since rapidly spread throughout the globe. Globally, the confirmed cases had reached 146 689 258 and a death toll of 3 102 410 by 26 April 2021 (World Health Organization, 2021). What started as a health threat had soon become a social and economic threat (Campbell, Inman, Kirmani, & Price, 2020) that brought businesses and households to a near-standstill globally (The World Bank, 2020). For instance, on the supply side of the economy, business operations were severely disrupted on very short notice as essential workers in agriculture, food and sanitation manufacturing, and transport were at risk of infection, resulting in reduced productivity and a cut in wages with devastating consequences for the livelihoods of people (Campbell et al., 2020; Chudik, Mohaddes, Pesaran, Raissi, & Rebucci, 2020). Additionally, enforced lockdowns implemented by various countries restricted the movement of raw materials and finished products (Harapko, 2021), further constraining business operations. In some instances, business operations were brought to a complete halt as enforced lockdowns and social distancing measures were implemented to contain the spread of the virus (Loxton et al., 2020).

The disruption in business operations had resulted in many people losing their jobs or facing a sudden reduction in salaries and household incomes. Statistics show that the impact of the pandemic in 2020 was equivalent to a cost of 225 million jobs worldwide (United Nations, 2021). The formal sector in South Africa had shed 648 000 jobs during the COVID-19 lockdown (StatsSA, 2020b). In a survey conducted by Maluleke (2020), in South Africa, 25.8% of respondents admitted to a reduction in

their incomes. Therefore, over a year into the pandemic, everybody would have been affected financially or knew someone who was, contributing to financial insecurity and anxiety.

The widespread economic impact of the pandemic meant that millions of households across the globe were placed under severe financial stress conditions because the lifestyles they had become accustomed to could no longer be maintained. This was evident in the reduction in consumer spending on discretionary products such as branded clothing, jewellery, furniture, and consumer electronics (McKinsey & Company, 2020). An apparent need to stock up on essential products such as canned food, toilet paper, and sanitary products exacerbated consumers' financial situations amid rumours regarding an expected scarcity of essential products (Harapko, 2021). During the COVID-19 pandemic, many households experienced reduced income due to job losses or an inability to work due to health reasons, which negatively impacted households' financial security. Households' financial security may have been negatively impacted even if they did not experience job losses personally, as they saw what happened to people around them.

Although the COVID-19 pandemic is recent and not yet under control, it is not a new phenomenon, and similar scenarios may certainly re-occur in the future in another form. The COVID-19 pandemic is a typical crisis that scholars have studied in the past (Campbell et al., 2020). For example, previous crises such as the 2002-2004 SARS outbreak which also originated in China (Loxton et al., 2020), Hurricane Katrina that caused havoc in 2005 in the south-eastern parts of the United States (Kennett-Hensel, Sneath, & Lacey, 2012), the 2007-2008 Global Financial Crisis (Loxton et al., 2020), and the 2011 Christchurch earthquake in New Zealand (Forbes, 2017), had all resulted in consumers reducing spending on discretionary goods and increased spending on essential goods.

The reality, therefore, is that many households have had to revise their household budgets to cope with the unexpected and sudden change in their financial circumstances or fear that what was happening to others might also affect them later on. Unavoidably, the tension in many households concerning financial security became rife.

1.2 Research problem

To date, the COVID-19 pandemic has had an economic impact that was nearly four times greater than the Global Financial Crisis in 2007-2008 (United Nations, 2021). Almost two years into the pandemic, all households would have been aware of financial hardship as a consequence of the pandemic as they would have known someone that was impacted, if not impacted themselves. As a result, consumers would have become more mindful of their purchase behaviour based on an increased awareness of unstable market conditions (Cohen, Bora, & Darby, 2020). Lessons learned from previous crises are that households' financial behaviour generally change during such times (Campbell et al., 2020; Kennett-Hensel et al., 2012; Loxton et al., 2020), in that consumers more cautiously contemplate their expenditure to make ends meet. Based on Maslow's hierarchy of needs (1943), this study assumed that most people were directly or indirectly affected, mentally and financially, in prioritising their financial needs and related expenditure within their budgets. According to this hierarchy, when times are tough, people's priorities tend to shift towards the base of the pyramid, focusing on more basic necessities (Forbes, 2017). Therefore, status-related items like branded clothing and non-essentials like grooming services would take the back seat in budgets. Another phenomenon that is typical during a crisis is panic buying (Loxton et al., 2020) - an occurrence when consumers purchase excessive quantities of certain products due to an expected shortage of the products in the future or the anticipation of significant price increases during the crisis (Loxton et al., 2020). Generally, panic buying results from fear and uncertainty that much needed essential products for everyday living might become scarce (Yuen, Wang, Ma, & Li, 2020).

On the other hand, social isolation due to lockdown restrictions positively impacted households' budgets to some extent in that certain expenses were reduced, such as the expenditure on socialising and travelling (Campbell et al., 2020). Furthermore, many consumers' travelling costs to work were cut because they had to work from home. Empirical evidence is lacking concerning how this additional money that was realised in households' budgets would have impacted their financial decisions. Lack of empirical evidence also exists regarding how changes in households' financial budgeting persisted more than a year into the pandemic, following some ease in

lockdown restrictions. Therefore, admitting that notable changes to households' budgets may have been required to cope during the initial period of the COVID-19 pandemic, it is unclear how households have adjusted their budgets to accommodate changes in income or changes to expense categories that became more important during the crisis. Although details of the changes have not yet been explored, financial expenditure undoubtedly became a pressing concern for many households during the recent pandemic, requiring many households to revise their budgets during the crisis (Campbell et al., 2020; Kennett-Hensel et al., 2012; Loxton et al., 2020). Empirical evidence is lacking concerning how households dealt with their budgeting, whether financially affected or not.

1.3 Research questions

The following research questions guided the research, which aims to better understand how households had dealt with different aspects of financial management during the COVID-19 pandemic. Additionally, this research aims to better understand the influence of mindful consumption on the relationship between household income disruption and households' financial management behaviour to indicate how recent circumstances and possible mindfulness may have influenced their financial planning for the future. The research questions that directed the research are:

1. How has the COVID-19 economic threat disrupted households' financial well-being?
2. How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?
3. How have the different forms of mindful consumption influenced households' financial management?

1.4 Theoretical perspective

Two theories were consulted to explain households' financial management behaviour during times of crisis. Firstly, the Prospect Theory developed by Kahneman and Tversky (1979) attempted to explain people's decision-making processes under conditions of uncertainty and risk, such as when people lose their jobs or think that their incomes may be jeopardised. Hereby, people would be more hesitant to spend money and would rather curb expenses during stressful times, probably elevating basic needs rather than pursuing higher-order needs. Kahneman and Tversky (1979) explained that consumers' financial choices are based on considering gains and losses in relation to a point of reference, specifically what the household is familiar with, thus the status quo. During times of a crisis, people become more risk-averse when experiencing gains but more risk-seeking regarding losses. Furthermore, Kahneman and Tversky (1979) explain that the degree to which a consumer experiences harm due to losses encountered exceeds the degree of gratification that consumers would experience from gains. This means that people are more prone to take risks to avoid or recover losses than taking risks to gain something. Eventually, risk aversion can help consumers to make better decisions. Secondly, as noted by Thaler (1999), Mental Accounting assumes that individuals and households implement certain processes to organise their financial activities to contemplate and keep track of their expenditure.

Therefore, this study is interested in indicating, through empirical evidence, across different income groups, how household income disruption caused by the recent COVID-19 pandemic has affected households' financial management behaviour. Furthermore, this study indicates how households' mindfulness may have moderated the relationship between household income disruption and their financial management behaviour.

1.5 Research purpose

The purpose of this study is to determine and describe how households' financial management behaviour, as indicated in their financial budgets, were affected and adapted during the recent COVID-19 pandemic in South Africa, assuming that many had to reconsider the allocation of available funds to deal with uncertainties and unforeseen circumstances. This will indicate how recent events that have caused financial disruption in many households have influenced their financial planning for the future. Furthermore, this research aims to better understand how households have dealt with different aspects of financial management during the COVID-19 pandemic and understand the influence of mindful consumption on the relationship between household income disruption and their financial management behaviour.

1.6 Theoretical contribution

Relying on the assumptions of two established theoretical perspectives, namely Prospect Theory (Kahneman & Tversky, 1979) and Mental Accounting (Thaler, 1999), to underpin the research approach, the insights gained from this study will add to existing literature related to households' financial management behaviour during times of a crisis. Thereby, insight concerning households' financial management behaviour will be gained so that financial institutions and financial departments in business could aptly assist households in the future during trying financial circumstances. Empirical evidence concerning households' budgeting behaviour during times of a severe crisis is scarce. In essence, a household budget indicates a household's attempt to make financial ends meet. Therefore, guided by the chosen theoretical perspectives, this research will significantly contribute to explaining households' financial management behaviour and guiding them to recovery.

This research will also expand literature concerning so-called mindful consumption during trying economic times. To date, mindful consumption has primarily been applied in sustainability literature. A measurement scale for measuring the different dimensions of mindful consumption has only recently been developed by Gupta and

Verma (2019). This will be adapted for application in this research, making a valuable methodological contribution to applying the instrument in alternative contexts.

1.7 Business contribution

This research has several implications for business. Firstly, it will provide important insights regarding short-term and long-term household financial behavioural changes caused by a pandemic that has caused major disruptions in households' financial well-being. With so many organisations dealing with debt relief, assistance with household debt, and financial planning, the findings of this research will provide empirical evidence of households' thought processes when confronted with stressful financial situations, hence facilitating informed support to vulnerable clients. Secondly, this study's outcomes are particularly important to the financial sector to adapt products and service offerings to concur with households' needs. The findings of this research would enable businesses to adjust their product offerings and business models to address households' needs accordingly.

1.8 Research design and methodology

This was a quantitative study that adopted a positivist philosophy, executed as a cross-sectional endeavour. An online survey, using a questionnaire comprising of a combination of self-generated questions and adaptations of existing scales, was used to gather data across different income groups across South Africa. A combination of convenience and snowball sampling techniques produced a sample size of 264 respondents. Data analysis involved descriptive statistics, exploratory factor analysis, reliability testing, independent samples t-test, and multiple linear regression.

1.9 Measures to eliminate error

Several measures were taken to eliminate errors to ensure validity and reliability. Content validity was established by thoroughly scrutinising literature, using highly ranked journals, and ensuring that the research questions were suitable for the study (Quinlan, Babin, Carr, Griffin, & Zikmund, 2019, p. 282). Existing scales that have been developed and validated by established researchers was adapted for the study. The final questionnaire was reviewed by the researcher's supervisor, after which a

pre-test was conducted with people within the researchers' social network that met the criteria for the sample.

The online questionnaire was programmed to limit multiple-choice questions to only one option and prevent submission without completing important questions. The data collected was reviewed for outliers and typographical errors, which were reported on but not used in the statistical analyses. Exploratory factor analysis (EFA) was conducted to improve the validity of the three constructs in the sample collected (Köhler, Landis, & Cortina, 2017). After completing the EFA, the Cronbach Alpha coefficients, and where necessary, the mean inter-item correlation, were calculated for each of the empirical factors to determine the reliability of the data collection method and analysis techniques used.

1.10 Ethical considerations

The researcher obtained ethical clearance from the University before collecting any data to ensure the method was sound and that any potential risks were identified and addressed proactively (Saunders & Lewis, 2018, p. 75). The participants were informed on the landing page of the questionnaire about what the study was about and that their participation was voluntary, anonymous and confidential (Saunders & Lewis, 2018, pp. 77–78; Zikmund, Carr, Babin, & Griffin, 2013, pp. 90–91). Anonymity was ensured names or other personal details were not requested in the questionnaire, information was reported in aggregated form, and data was stored without identifiers. Participants were made aware that they could withdraw at any time. Criteria for participating in the survey, such as being over the age of 18 and a resident of South Africa, was stipulated in the informed consent section, which required respondents to confirm their participation. Data was stored electronically on the researcher's hard drive, with a backup copy stored on the researcher's Google Drive account provided by the University of Pretoria, as well as uploaded on the GIBS Research Data Repository hosted on SharePoint where it will be stored for a minimum period of 10 years as per the University of Pretoria policy.

1.11 Report structure

This research report is structured in terms of seven chapters.

Chapter 1, the introduction, provides the background and definition of the problem, research questions, theoretical perspective, purpose of the study, theoretical and business contribution as discussed above in this chapter.

Chapter 2 presents a review of relevant literature to define constructs appropriately and contextualise the research in previous research. The theoretical perspectives are also presented in this chapter.

Chapter 3 presents the research questions that this study sought to answer, including the hypotheses derived from literature and the conceptual model for the research, which incorporates the constructs investigated in this study.

Chapter 4 focuses on the research methodology, explaining the research design and methodology, detailing how data was collected and analysed.

Chapter 5 presents the results, describing the sample, explaining the statistical procedures, including reliability and validity tests, and testing the hypotheses that enabled the research questions to be answered.

Chapter 6 presents a discussion of the results in relation to the literature and according to the research questions deduced from the research problem.

Chapter 7 concludes the document with a presentation of findings, a stipulation of the research contributions, and limitations encountered during the execution of the study. Recommendations are made for relevant entities and also making recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

A conceptual model for understanding how threats affect consumer behaviour developed by Campbell et al. (2020) was adapted for this study to include household income disruption, financial management behaviour, and mindful consumption. The literature review will cover the different components of the conceptual model. In addition, insights gained from literature on the current pandemic and households' financial management behaviour during crises that have occurred in the past are presented to better understand households' financial management behaviour during the recent COVID-19 pandemic. This will provide a basis to understand different factors that may contribute to sound financial management behaviour. Phenomena such as over-consumption and mindful consumption during a financial crisis are highlighted to describe consumers' behaviour when challenged and how decisions could ultimately affect their financial well-being. Lastly, the two theoretical perspectives of Prospect Theory and Mental Accounting will be presented.

2.2 Understanding the COVID-19 economic threat

Various categories of threats may be present during a crisis event, namely health, social, and economic threats (Campbell et al., 2020). A health threat brings about negative consequences to physical health, as was witnessed during the COVID-19 pandemic. A social threat displaces a person's need for love and belonging, such as when the COVID-19 pandemic required people to isolate in their homes during the severe lockdown, having to refrain from public gatherings such as bars, restaurants, movies, funerals, offices and restaurants, which led to limited physical interaction with family, friends, and colleagues (Campbell et al., 2020). Inevitably, an economic threat, such as a job loss or loss of income as experienced by many households globally, negatively impacts a households' financial well-being.

The extent of the threat impacts the relationship between the threat and the disruption caused (Campbell et al., 2020). The severity and scope of the threat influences the probability of occurrence, as well as the magnitude of the disruption. The severity of the threat refers to the degree of harm inflicted on a person or a

household's well-being. The harm caused by the COVID-19 disease culminated in mild illness for most people, also being fatal for others, especially for elderly people and people who already have diabetes or high blood pressure (World Health Organization, 2020). The scope of the threat refers to the duration, the potential number of people impacted, and the geographic reach of the threat. The existence of multiple threats exacerbated the severe disruptions caused by the recent pandemic. As the initial health threat of COVID-19 intensified, it expanded into a social and economic threat, causing havoc worldwide. Because this research seeks to provide a better understanding of how households adapted their financial behaviour during the pandemic, it will focus on the economic threat, whether real or anticipated.

2.3 Household income disruption caused by the economic threat

Threats bring about disruption in households' lives, impacting households' income and spending behaviour. As COVID-19 has introduced multiple threats, it has significantly disrupted households' income (Campbell et al., 2020).

The COVID-19 pandemic has disrupted households' income in many forms. The prominent income disruption was due to job losses and reduced salaries or wages because businesses had to cut costs due to the constrained ability to generate revenue. As the economic recession continued, businesses experienced substantial financial loss, with many closing down. The easing of lockdown restrictions still required people to physically distance, which meant that many businesses that had survived the lockdown could not operate at full capacity, which limited their earning potential. As a result, 648 000 people in the formal sector in South Africa had lost their jobs during the COVID-19 lockdown in 2020 (StatsSA, 2020b). In a survey conducted by Maluleke (2020), 25.8% of respondents highlighted a reduction in their income at the time.

Unplanned purchases became a predicament. Previous crises such as the 2002-2004 SARS outbreak (Loxton et al., 2020), the 2007-2008 Global Financial Crisis (Loxton et al., 2020), and the 2011 Christchurch earthquake (Forbes, 2017), had resulted in a reduction in consumption of non-essential goods and increased consumption of essential goods. A similar pattern emerged during the COVID-19

pandemic, as essential goods such as hand sanitiser, disinfectant, toilet paper, and non-perishable food items were in high demand (McKinsey & Company, 2020). Severe disruption in business operations on very short notice added to the scarcity of essential goods. Essential workers in agriculture, food and sanitation manufacturing, and transport were at risk of infection, resulting in reduced productivity (Campbell et al., 2020; Chudik et al., 2020). Additionally, enforced lockdowns implemented by various countries restricted the movement of raw materials and finished products (Harapko, 2021), further constraining business operations, resulting in job reductions and salary cuts. At the same time, consumers' excessive demand for certain consumer goods such as canned food, toilet paper, and sanitary products fuelled the undersupply by manufacturers (Cannon, Goldsmith, & Roux, 2019), resulting in increased prices, further straining households' finances. The threat that essential goods might become scarce led to panic buying during the pandemic, which put a strain on many households' finances, as they rushed to buy items that they had not planned for, often at higher prices, while trying to cope with financial loss (Campbell et al., 2020).

Changes in interest rates benefited some but were to the detriment of others. To stimulate the South African economy, the South African Reserve Bank decreased the interest rate to encourage consumer borrowing to purchase goods (South African Reserve Bank, 2020). From a financial perspective, household members relying on the interest from savings and investments experienced a reduction in income, while households with debt, such as home loans and vehicle financing, welcomed reduced payments resulting from lower interest rates, hence experiencing an indirect increase in income (South African Reserve Bank, 2020).

On the positive side, social restrictions implied positive implications for household budgets in the sense that socialisation outside of the home was restricted because places patronised for socialising, such as bars, restaurants, and cinemas, had to close during the lockdown (Campbell et al., 2020). Households that had generally travelled to work before the pandemic and then had to work from home saved on travelling expenses, making some amends for a loss in income.

The vulnerability of lower-income households is undeniable. During periods of economic recession in the past, high-income households' financial security was less affected than low-income households' (Rauscher & Elliott, 2016). This is due to high-income household's having a higher initial wealth and more financial resources to safeguard them against the effects of loss in income or wealth than low-income households (Rauscher & Elliott, 2016). Therefore, during the economic recession caused by the effects of the COVID-19 pandemic, higher-income households' might have experienced the disruption in household income to a lesser extent than lower-income households.

2.4 Understanding household financial management

Households' financial well-being can be assessed by their financial behaviour, which implies multiple aspects such as money management, credit management, insurance maintenance, savings and investments (Dew & Xiao, 2011; Dowling, Corney, & Hoiles, 2009). A review of related literature follows in the sub-sections below.

2.4.1 Money management

Money management refers to the financial management of cash flow and expenses. A disruption to households' income leads to households revising their money management behaviour, as changes occur in consumption behaviour. A contraction in budgets generally leads to a reduction in expenditure (Ross, Meloy, & Carlson, 2020). The loss experienced by a household member generally makes them more aware of what they value highly, requiring them to prioritise their budgets accordingly (Ross et al., 2020). The more severe the budget contraction, the more deeply individuals need to assess their values when prioritising their budgets, and often, the prioritisation of budgets will persist even when income is restored (Ross et al., 2020). An exception are items that consumers have had to cut from their basket of goods, although they still found them appealing. As a result, these often constitute a larger share of their basket once the budgets are restored (Ross et al., 2020). A typical example of this behaviour could be seen in the excessive demand for alcohol, which was considered non-essential, after the alcohol ban was lifted in South Africa.

Another view by scholars is that individuals tend to cut back more severely on spending on a few items rather than cut expenses across many items when having to cut a budget (Carlson, Wolfe, Blanchard, Huber, & Ariely, 2015). This behaviour can be expected when framed in terms of Kahneman and Tversky's Prospect Theory (1979), in which losses are weighed more than an equivalent gain. As such, consumers would have reduced budgets on fewer items in a basket to curb the overall loss (Carlson et al., 2015).

Whilst the above focuses on households' money management behaviour and budgeting to cope with a contracting income, there would also be budgetary gains due to reduced expenses resulting from lockdown restrictions, working from home, and monetary policy changes. Entertainment budgets made up of spending at bars, restaurants, movies, and leisure sporting activities would have been eliminated during the strict lockdown restrictions. Consumers working from home would have benefited from savings on their fuel budget account. Also, the reduction in interest rates would have reduced payments on loan accounts. Empirical evidence is lacking in terms of how this additional money that realised in households' budgets would have impacted their financial decisions during the pandemic, as well as the longer-term implications of these allocations (Campbell et al., 2020).

Therefore, most households would have experienced a reconfiguration of their households' budgets to either cope with a loss in income or to realise extra money that became available through savings that culminated from restrictions posed on socialising, savings on travel costs, and changes in interest rates.

2.4.2 Savings behaviour

Households use savings as a coping mechanism to reduce the financial stress that affects their well-being. Research indicates that recessions that followed previous disruptions to households' incomes increased the tendency to save (Friedline, Chen, & Morrow, 2020). Savings improved households' liquidity, safeguarding them against the adverse effects of the recession (Friedline et al., 2020). However, the savings behaviour of different household income groups differs because higher-income households could save more to protect them against loss of income (Friedline et al., 2020).

Not surprisingly, therefore, people who have savings will not need to reallocate many budget items when experiencing a loss in income because the impact of the shortfall in income could be negated by using their savings (Ross et al., 2020). Therefore, consumers who had savings before the onset of the COVID-19 pandemic and who had experienced a loss in income during the pandemic might not necessarily have reduced their spending on non-essential items.

2.4.3 Insurance maintenance

Purchasing or maintaining insurance indicates good financial management behaviour (Dew & Xiao, 2011). Households that have adequate health, car, and home insurance (if owned) will generally reduce the risk of having unmet needs and protect against high costs associated with medical expenses, car repairs or replacement, and home repairs that could leave a household in a dire financial situation (Dew & Xiao, 2011). This, however, differs for people who do not purchase or maintain insurance policies because they do not own any assets or receive insurance benefits through their employer (Dew & Xiao, 2011).

2.4.4 Credit management

During an economic recession, households that experience a disruption in income may experience difficulty in meeting financial obligations (Friedline et al., 2020). Studies conducted during and after the Great Recession show that low-income households struggled to manage payments and relied on government subsidies for support (Kim & Wilmarth, 2016). Also, a loss in income was associated with households filing for bankruptcy (Bauchet & Evans, 2019).

During a crisis, some households opt to make full payments on credit card instalments (O'Neill & Xiao, 2012). A disruption in household income, or the threat thereof, may trigger the need to settle credit card balances to avoid additional interest charges as well as to be less vulnerable in case of a significant or total loss of income (O'Neill & Xiao, 2012). Carlson et al. (2015) suggest that households that have contracted financial obligations, such as a car or home loan, tend to instead focus on these obligations in their budgets when facing a reduction in income, reducing money devoted to the payment of non-contracted items.

2.5 Mindful consumption

The trend to consume mindfully rather than over-consume indicates the emergence of a “new” consumer (Milne, Villarroel, & Kaplan, 2020; Voinea & Filip, 2011). Being a new concept in academia, scholars have various definitions for mindful consumption. This mainly refers to awareness of the impact of their consumption choices, attention to stimuli both internal and external (Bahl et al., 2016), seeking authenticity (Voinea & Filip, 2011), and having a mindful mindset (Sheth, Sethia, & Srinivas, 2011) when making purchasing decisions.

Sheth et al. (2011) compiled a mindful consumption framework, explaining that a mindful mindset refers to consumers who care for their well-being, the environment, and the community. Their consumption choices are aligned with these values. Consumer behaviours that are considered mindful reflect three types of abstinence: repetitive, acquisitive, and aspirational temperance (Sheth et al., 2011). Acquisitive temperance refers to the exercise of restraint when purchasing products, hence not purchasing more than the prevailing need or capacity to consume (Sheth et al., 2011). For example, considering available storage space at home. Repetitive temperance is the ability to exercise restraint in the cycle of purchasing, discarding and purchasing again (Sheth et al., 2011). For example, purchasing reusable razor blades instead of disposable blades, repairing products rather than disposing, and replacing them with new items. Aspirational temperance is when a consumer exercises restraint in upgrading to larger and more luxurious products than needed (Sheth et al., 2011). For example, restraining from purchasing a bigger and more luxurious car, house, sophisticated home appliances, or designer clothing when the current commodities still aptly meet consumers' needs.

Consumers' shift towards more mindful consumption behaviour was prominent during the recession period that followed the 2007-2008 Global Financial Crisis, where consumers became more responsible and economical in their consumption (Voinea & Filip, 2011). As a result of the economic recession, the “new” consumer that was more responsible, simplified their demands and sought functional products, swiftly responded to price changes, and easily switched brands in search of the best prices (Voinea & Filip, 2011).

As this research seeks to understand households' financial management behaviour due to the recent COVID-19 pandemic, households' care for their financial well-being and the associated control of behaviour, as is typical of more mindful consumption, will be addressed in this study. Hereby, one would assume that households are aware of the effect of their purchasing decisions on their financial well-being and would be cautious about overspending and be more frugal during financial hardship (Milne et al., 2020).

2.6 Relevant theoretical perspectives

Two theoretical perspectives guided this research endeavour: Prospect Theory (Kahneman & Tversky, 1979) and Mental Accounting (Thaler, 1999), as explained in the following sections.

2.6.1 Prospect Theory

Prospect Theory explains people's decision-making behaviour under risk and uncertainty (Kahneman & Tversky, 1979), as may be the case when people lose their jobs or anticipates that their income will be jeopardized. Prospect theory suggests that individuals prefer certainty, even if the value is lower than the uncertain outcome (Kahneman & Tversky, 1979). Therefore, to improve certainty, they will adapt their financial behaviour. Additionally, consumers' financial choices are considered in relation to a point of reference, specifically what the consumer is familiar with, thus the status quo. Kahneman and Tversky (1979) further explain that people will be risk-seeking about losses and risk-averse when experiencing gains. Hence, consumers will experience harm due to losses to a greater degree than they would experience gratification due to gains. As such, people would be more prone to take risks to prevent or recover losses than they would to make gains. In terms of the financial impact due to the COVID-19 pandemic, consumers may have taken more risks to prevent or recover their loss in income (Campbell et al., 2020). Hereby, people who were not financially impacted would be more hesitant to spend money and curb expenses during stressful times, probably elevating basic needs rather than pursuing higher-order needs. Eventually, risk aversion can help consumers to make better decisions. Literature on prospect theory to explain consumers' financial behaviour

regarding consumer goods is scarce, as previous studies have mainly focused on gambling behaviour.

2.6.2 Mental Accounting

Mental Accounting is a theoretical perspective that describes people's cognitive processes to arrange, monitor and evaluate their finances (Thaler, 1999). The theory consists of three components. It focuses on how a consumer perceives the value of a purchase relative to the price paid. The price paid is compared to a referenced price point, usually what a consumer is accustomed to, can afford, or is willing to pay. Secondly, it relates to allocating income and expenditure to different accounts in a budget, prioritising budget items in terms of the amount of money and how compulsory the item is. Lastly, it refers to the frequency of a consumer's evaluation of the accounts (Thaler, 1999). The underlying concept underpinning the three components is that Mental Accounting goes against the economic concept of fungibility (exchangeability), meaning money is not valued the same irrespective of its source or use. For example, when money is derived from interest or hard-earned, and whether the same amount is spent on a movie ticket or medication. As Mental Accounting violates this concept of fungibility, consumption behaviour is influenced differently (Thaler, 1999).

Thaler (1999) further suggested that funds in a budget are allocated on three levels, namely income, wealth, and expenditure. Sources of income are furthermore categorised as regular or windfall. Regular income includes salary or wages, interest income, and rental income, if applicable. Windfalls include income received unexpectedly or not regularly, such as a bonus or money received as a gift (Heath & Soll, 1996). Wealth consists of different accounts such as a pension, savings, and investment in shares. Expenditures are assigned budgets for specific items such as food, clothing, fuel, entertainment, loan repayments, insurance, and toiletries.

For some, the disruption caused by the COVID-19 pandemic has resulted in a reduction in income due to pay cuts, reduced interest income due to the decrease in interest rates, and perhaps reduced rental income as tenants may have also been impacted financially. Other households may have experienced an increase in disposable income due to reduced loan repayments as a result of the lowered

interest rates, reduced fuel costs due to working from home, and reduced expenditure in entertainment due to the lockdown forcing bars, restaurants, and cinemas to close. Budget allocations for essential items may have increased as explained through Maslow's hierarchy of needs, for example, food, because people were at home for longer periods, and purchasing medication when people fell sick or to prevent sickness. Rising prices of essential items would also have compounded this expense category due to scarcity and high demand. As a result, consumers probably had to revise their budgets to accommodate the changes in disposable income, as well as expenses that they had little control over.

Consumers from different household income levels generally structure their budgets differently (Thaler, 1999), creating different spending patterns. Higher-income households tend to spend more on higher-order needs as they can comfortably afford lower-order needs, which would be in line with Maslow's hierarchy. Hence, Mental Accounting formed the basis to investigate how households across various income levels revised their budgets during the COVID-19 pandemic. Studies on changes in spending behaviour between different income groups during a crisis are scarce; therefore, this research would make a valuable contribution to the literature in terms of applying Mental Accounting to consumers' budgeting behaviour during times of a financial crisis.

2.7 Chapter summary

This chapter presented a review of literature for the three constructs of household income disruption, financial management behaviour, and mindful consumption. Insights on the current pandemic and households' financial management behaviour during crises that have occurred in the past were presented to provide a basis to understand different factors that may contribute to sound financial management behaviour during times of financial hardship.

A conceptual model for understanding how threats affect consumer behaviour developed by Campbell et al. (2020) was adapted for this study, which focuses on certain constructs, as presented in the next chapter, together with the research questions and the related hypotheses.

CHAPTER 3: RESEARCH QUESTIONS, RELATED HYPOTHESES AND CONCEPTUAL MODEL

3.1 Introduction

This chapter presents the three research questions and the related hypotheses, which were developed based on literature and guided the study to achieve the research purpose. The chapter concludes with a conceptual model that indicates the expected relationships between household income disruption, financial management behaviour, and mindful consumption.

3.2 Purpose of the research

The purpose of this study is to determine and describe how the financial management of households, across different household income groups, were affected and subsequently adapted during the recent COVID-19 pandemic in South Africa, guided by a Mental Accounting approach, and explicated in terms of Prospect Theory. This research further aimed to explore the influence of mindful consumption on the relationship between household income disruption and their financial management behaviour and to indicate how recent circumstances have influenced their financial planning for the future. This chapter firstly states the research questions with related hypotheses derived from existing research and concludes with a theoretical conceptual model that guided the flow of the study. The conceptual model integrates constructs derived from existing literature on consumer behaviour during crises, financial management behaviour, and mindful consumption. This research aimed to test the statistical significance of relationships between the constructs in the conceptual model, which would expand the literature on financial management behaviour during times of crisis. The study aimed to answer the research questions as presented in the following sub-sections to address the research problem.

3.3 Research questions

3.3.1 Research question 1

The COVID-19 pandemic started as a health threat, which became a social and economic threat to households (Campbell et al., 2020). Disruptions in business operations have resulted in many people losing their jobs or facing a sudden reduction in salaries and household incomes. Over a year into the pandemic, everybody would have been affected financially or knew someone who was, contributing to financial insecurity and anxiety. The widespread economic impact meant that many households were placed under severe financial stress conditions because the lifestyles that they had become accustomed to could no longer be maintained. The research question that aims to address how different households were impacted financially by the COVID-19 pandemic is:

How has the COVID-19 economic threat disrupted households' financial well-being?

The related hypotheses are:

- ***Hypothesis 1.1: The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups.***

Literature suggests that higher-income groups are less affected financially during economic recessions in comparison to lower-income groups (Rauscher & Elliott, 2016). The higher initial wealth and financial resources that the upper-income group possesses as compared to the middle- and the lower-income group provides additional protection against the loss of income or wealth during periods of recession (Rauscher & Elliott, 2016).

- ***Hypothesis 1.2: The savings behaviour of different household income groups during an economic threat, differs significantly.***

Literature suggests that savings improved households' liquidity, safeguarding them against the adverse effects of the recession (Friedline et al., 2020). However, the savings behaviour of different household income groups differs because higher-

income households could save more to protect them against loss of income (Friedline et al., 2020).

- ***Hypothesis 1.3: The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly.***

Literature suggests that households health-, car- and home insurance maintenance behaviour differs as certain households may not own any assets or receive insurance benefits through their employer (Dew & Xiao, 2011). Additionally, the financial resources that different households possess would affect the ability to purchase or maintain insurance.

- ***Hypothesis 1.4: The credit management behaviour of different household income groups during an economic threat, differs significantly.***

Studies conducted during and after the Great Recession show that low-income households struggled to manage payments and relied on government subsidies for support (Kim & Wilmarth, 2016). Also, a loss in income was associated with households filing for bankruptcy (Bauchet & Evans, 2019).

3.3.2 Research question 2

As households may have experienced a reduction in income, or a threat thereof, due to job losses or an inability to work due to health reasons, households' financial security would have been negatively impacted. Therefore, one could assume that many households had to revise their household budgets to cope with the unexpected and sudden change in their financial circumstances or fear that what was happening to others might also affect them later on. Although the COVID-19 pandemic is recent and not yet under control, it is not a new phenomenon, and similar scenarios may certainly re-occur in the future in another form. Therefore, the recent financial circumstances faced by households would have influenced households' financial planning for the future. The research question that aims to determine and describe how households coped financially with the reduction or threat of reduction in income is:

How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?

The related hypotheses for the study are:

- ***Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.***

Literature indicates that recessions that followed previous disruptions to households' incomes resulted in an increased tendency to save (Friedline et al., 2020). Households use savings as a coping mechanism to reduce the financial stress that affects their well-being.

- ***Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.***

Literature suggests that households' purchased or maintained health-, car- and home insurance to protect against high costs associated with medical expenses, car repairs or replacement, and home repairs that could leave a household in a dire financial situation (Dew & Xiao, 2011).

- ***Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.***

Literature suggests that during times of economic recession, households that experience a disruption in income may experience difficulty in meeting financial obligations (Friedline et al., 2020)

3.3.3 Research question 3

A trend in consumer behaviour that shifts from over-consuming towards more mindful consumption defines the "new" consumer (Milne et al., 2020; Voinea & Filip, 2011). It can be assumed that many households would have been aware of financial hardship due to the pandemic as they would have known someone who was

impacted, if not impacted themselves. As a result, consumers would have become more mindful of their purchase behaviour based on an increased awareness of unstable market conditions (Cohen et al., 2020). This leads to the research question:

How have the different forms of mindful consumption influenced households' financial management?

The related hypotheses are:

- ***Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.***

When household's face times of income disruption, they would consume more responsibly (Voinea & Filip, 2011), are more frugal (Milne et al., 2020), and tend not to purchase more than the prevailing need or capacity to consume (Sheth et al., 2011). Hence, further improving their financial well-being.

- ***Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.***

Literature suggests that when household's face times of income disruption, they tend to consume more economically (Voinea & Filip, 2011) by exercising restraint in the cycle of purchasing, discarding and purchasing again (Sheth et al., 2011). Households' chose to repair products rather than dispose and replacing with new items, therefore, further improving their financial well-being.

- ***Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.***

Literature suggests that when household's face times of income disruption, they would seek to exercise restraint in upgrading to larger and more luxurious products than needed (Sheth et al., 2011), therefore, further improving their financial well-being.

3.4 The conceptual model for the research

3.4.1 An overview of the conceptual model

A conceptual model for understanding how threats affect consumers' behaviour developed by Campbell et al. (2020) was adapted and used for this research, as shown in Figure 1.

A crisis is an event with a low probability of occurrence with a high impact that threatens a system (van der Vegt, Essens, Wahlstrom, & George, 2015; Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). The COVID-19 pandemic, a crisis on a global scale, had posed a significant economic threat that disrupted household incomes. These households had to alter their financial management behaviour to cope with the disruption in income. In addition, as consumers become more mindful of their consumption, impacting financial well-being, this behaviour may influence the relationship between household income disruption and financial management behaviour in the context of the COVID-19 pandemic.

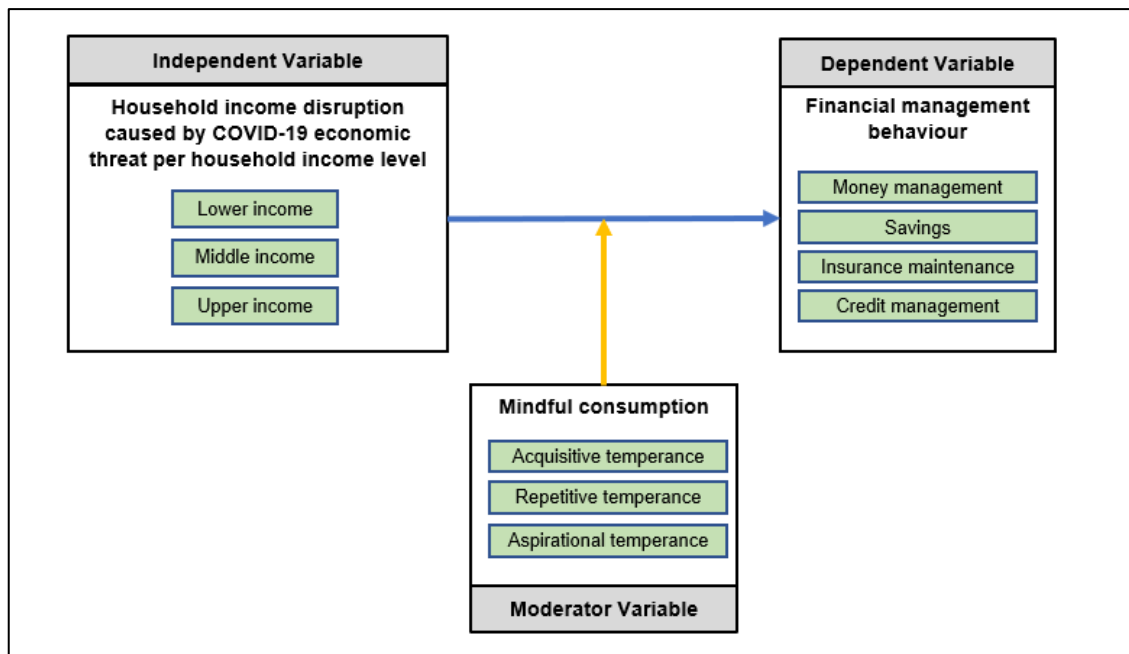


Figure 1: Theoretical conceptual model for the research

The independent variable in the model is the household income disruption caused by the COVID-19 economic threat per household income level (lower, middle, and upper income). The dependent variable is financial management behaviour, which comprises four dimensions: money management, credit management, insurance maintenance, and savings. An addition to the conceptual model developed by Campbell et al. (2020) is the moderating influence of mindful consumption on the relationship between household income disruption and household financial management behaviour. The mindful consumption construct comprises three dimensions: acquisitive temperance, repetitive temperance, and aspirational temperance.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

The purpose of this study was to determine and describe how households' financial management behaviour, as indicated in their financial budgets, were affected (and adapted) during the recent COVID-19 pandemic in South Africa. This research aimed to better understand how households dealt with different aspects of financial management after experiencing a disruption or becoming aware of financial disruptions due to the COVID-19 pandemic. Additionally, this research aimed to understand the influence of mindful consumption on the relationship between household income disruption and households' financial management behaviour and to indicate how recent circumstances had influenced households' financial planning for the future. This research was underpinned by two theoretical perspectives, Prospect Theory (Kahneman & Tversky, 1979) and Mental Accounting (Thaler, 1999), as presented in Chapter 2.

This chapter outlines the research design and methodology that directed this research, explicating the different elements of this process, such as the population, unit of analysis, sampling method and size, measurement instrument, data gathering process, data analysis approach, quality controls, research limitations, and ethical considerations.

4.2 Research paradigm, research methodology and design

The research design for this study was explorative and explanatory (Saunders & Lewis, 2018, p. 118). It sought to explain the relationship between variables in the conceptual model to better understand household financial management behaviour during the COVID-19 pandemic. This suggests a quantitative, positivist research approach in which the aim is to gather factual, numerical, and quantifiable data that represent households' financial behaviour (Barnham, 2015). A positivist approach is only concerned with phenomena that can be observed and measured to produce knowledge (Bhattacherjee, 2012, p. 18). As such, positivism uses methods that are highly structured to replicate studies that produce results that can be generalised

(Saunders & Lewis, 2018, p. 107). This philosophy is consistent with the intent of the research to explain households' financial behaviour to cope with income loss using established theoretical perspectives (Saunders & Lewis, 2018, p. 108).

A quantitative study involves the collection of numerical data, which involves metrics or numeric scores from a large sample of the population, which are analysed using relevant statistical techniques (Bhattacherjee, 2012, p. 35). The methodological choice was mono-method quantitative (Saunders, Lewis, & Thornhill, 2016, p. 166) due to the limited time to conduct this research as per the academic programme's requirements. According to Creswell and Creswell (2017, p. 21), surveys are typically used in a quantitative study. A survey was used to collect data in a standard format from a sizable population which was used to conduct statistical analyses to answer the research questions (Saunders & Lewis, 2018, pp. 148–149).

This research was framed in terms of the well-established theoretical perspectives of Prospect Theory (Kahneman & Tversky, 1979) and Mental Accounting (Thaler, 1999) to explain households' financial behaviour in the context of the COVID-19 pandemic. It was accordingly decided to follow the suggestion of Rahi (2017), namely to use a deductive approach that relies on empirical data to test the theory. Established literature was used to develop hypotheses that could be tested through structured data collection of numerical data in a survey format. Afterwards, statistical analysis was applied to explain the relationships between the independent (household income disruption) and dependent variables (financial management behaviour) and to explore the moderating influence of mindful consumption on the relationship mentioned above.

Due to time constraints for completion of the research, the study was cross-sectional (Sekaran & Bougie, 2016, p. 104), hence gathering data once, for three weeks, aiming to gather enough responses to conduct the envisaged analyses.

4.3 Population

The population is a complete set of the group that is being researched (Saunders & Lewis, 2018, p. 138). South Africa has a GINI coefficient of 0.65, which makes it one of the most unequal countries globally (StatsSA, 2020a). This income disparity was significant to this research as households across the income spectrum would have been affected financially by the COVID-19 pandemic. However, the severity of the impact would be vastly different, and therefore financial management behaviour exhibited by the different income groups would vary. According to StatsSA (2019), South Africa has an estimated population of 58.78 million in 2019. Of this population, 14.7 million people were employed in the formal sector in quarter three of 2020 (StatsSA, 2020c).

The population for this research was residents of South Africa from all household income groups. People needed to be 18 years and older who earned an income either through employment in the formal sector, through interest earned, or through self-employment, therefore people who could reflect on how their income flow was affected due to the COVID-19 pandemic.

4.4 Unit of analysis

The unit of analysis in research refers to the level of grouping of data that will be used for data analysis (Sekaran & Bougie, 2016, p. 102). Careful selection of the unit of analysis is important as it dictates what type of data and from whom it needs to be collected (Bhattacherjee, 2012, p. 10). As this research focused on households' financial management behaviour during the COVID-19 pandemic, the unit of analysis for the study was members of households, 18 years of age and older, who currently earned an income or who had earned an income before the onset of the pandemic, and who are consumers of products or services. No restrictions concerning geographic location within South Africa, gender, population group or citizenship were posed.

4.5 Sampling method and size

It was not practical to collect data from the entire population due to the large size of the population, time constraints, financial constraints, and lack of contact details. Therefore, a sample, which is a sub-group of the population, was selected from which data was collected (Saunders & Lewis, 2018, p. 138). As a list of the population was not available, a non-probability sampling technique had to be used to recruit respondents within the short period within which this academic research project had to be completed (Saunders & Lewis, 2018, p. 141).

Convenience sampling and snowball sampling are two non-probability sampling techniques that were considered suitable for this research, given the lack of time and resources, as well as the inability to list the population who qualified to be included in the study. Convenience sampling entails collecting data from people that were easy to gain access to by the researcher (Rahi, 2017). This study applied snowball sampling by relying on referrals from acquaintances or people the researcher had initially contacted through social networks such as LinkedIn and Whatsapp to participate in the survey (Rahi, 2017). Snowball sampling served to obtain a larger sample size. Rahi (2017) cautions that convenience sampling may be subject to selection bias. However, Saunders and Lewis (2016, p. 304) suggest that convenient samples often meet purposive sampling criteria when a diverse sample is recruited and when the sample size is large, as were relevant to this research. A combination of convenience and snowball sampling was selected because responses could be obtained cost-effectively within a relatively short period (Rahi, 2017) whilst having a high likelihood of reaching a large number of people who met the desired criteria of the population (Kennett-Hensel et al., 2012).

VanVoorhis and Morgan (2007) suggest a sample size of 200 would be fair, and this guide was followed because existing time and resource constraints made it impossible to target a larger sample. Also, after discussion with the statistician, it was decided that a sample size of 200 would be viable to conduct the envisaged statistical procedures.

Data collection occurred in the form of self-administered electronic questionnaires (see Appendix 4). This strategy for data collection was selected as it was an economical way, in terms of time and cost, of reaching a geographically scattered population (Kennett-Hensel et al., 2012; Quinlan et al., 2019, p. 158). In addition, this strategy was chosen to prevent human contact due to safety concerns brought about by the COVID-19 pandemic.

This study was focused on how the household income disruption caused by the recent pandemic had affected households' financial management behaviour across different household income groups and the role that mindful consumption had played in influencing the relationship mentioned above. Household income categories derived from the study by Standard Bank (2016), which consisted of eight income categories, was adapted and used in the measuring instrument, as presented in question A3 in Appendix 4. The income categories were adapted by escalating the upper end of the income brackets by 5% per annum from 2016 to 2020 to account for inflation and then rounded off to simplify the categories. After data collection, these income categories were collapsed to fewer income categories for data analysis. The intent was to group the sample into low-, middle-, and upper-income categories that are similar in size to apply statistical tests for difference techniques. The study conducted by Standard Bank (2016) showed that low-income earners spent more than twice their income on essential goods, middle-income earners spent a third of their income on essential goods, and upper-income earners spent a tenth of their income on essential goods. The middle- and upper-income earners who would generally spend a sizable portion of their income on non-essential goods and services, would need to reallocate their budgets in these categories due to the impact of the pandemic. This links back to the aim of the research to explain households' financial management behaviour in response to household income disruption caused by the COVID-19 pandemic and the influence that mindful consumption had on the above relationship.

4.6 Measurement instrument

As this was a quantitative study, a survey questionnaire was used for collecting data, as suggested by Rahi (2017). Questionnaires are widely used for data collection and are appropriate for collecting data that needs to be standardised and distributed among many participants (Saunders & Lewis, 2018, p. 148). Furthermore, questionnaires offered the benefit of providing cost-effective means of collecting reliable and accurate data (Taherdoost, 2016). To further reduce costs and limit the resources required, questionnaires were administered electronically via email, an online platform that eliminated costs for printing and posting (Taherdoost, 2016). However, this method did not go without the introduction of bias as it may have excluded people that do not have internet access, such as the poor or elderly (Bhattacherjee, 2012, p. 75; Taherdoost, 2016). Previous studies focused on consumption shortly after a natural disaster (Kennett-Hensel et al., 2012) and mindful consumption (Gupta & Verma, 2019) were successfully conducted using online surveys to reach a geographically dispersed population with limited resources and time constraints.

A structured questionnaire served as the measurement instrument. It required participants to answer the same questions in the same order. The questionnaire was self-administered due to convenience and low cost. The questionnaire was created using Google Forms, an application offered freely by Google and is compatible with most web and mobile devices. Responses were automatically stored in a spreadsheet on the Google Drive account, thus saving time for data capture as in the case with paper-based questionnaires. The application has functionalities that were used to limit the selection of more than one option for multiple-choice questions and prevented submission of the questionnaire without completing mandatory questions. This would reduce the potential for errors on submitted surveys (Bhattacherjee, 2012, p. 75).

The dependability of this research was ensured by deriving questions from established scales for the financial management behaviour and mindful consumption behaviour variables. The questions for these variables used a 5-point Likert-type

scale, which is popular for measuring attitudes, behaviour, and observations (Rahi, 2017), ensuring dependability and consistent results.

Bhattacherjee (2012, p. 77) recommends restricting the time for completing the questionnaire to between 10-15 minutes to get better response rates from respondents. As such, questions from the Financial Management Behaviour Scale (Dew & Xiao, 2011) and Mindful Consumption Scale (Gupta & Verma, 2019) that seemed superfluous were cut under the guidance of the researchers' supervisor to keep the questionnaire at a manageable length without jeopardising the content needed to derive the anticipated outcomes of the study (Bhattacherjee, 2012, p. 77).

The questionnaire included nominal, continuous, and interval scales of measurement for the different sections. A nominal scale is categorical, which assigns a numerical value to an object for identification or classification only (Quinlan et al., 2019, p. 109). A continuous scale comprises numeric data consisting of real numbers (Wegner, 2016, p. 12). An interval scale has the properties of nominal and ordinal scales and can capture differences between quantities of a concept (Quinlan et al., 2019, p. 112). The following paragraphs describe the scale of measurement used for the different sections of the questionnaire.

Cover page: The questionnaire commenced with a cover page comprising an informed consent section and four main sections totalling 35 questions. The informed consent section provided a short brief of the research and the objective to be achieved. Participants were informed that their participation was voluntary in which they could withdraw at any time, and their responses would be confidential and anonymous. Anonymity was ensured as no respondents' names or other personal details were requested in the questionnaire, and information was reported in aggregated form. Data was stored without identifiers on the researcher's hard drive and the Google Drive account provided by the University of Pretoria, Gordon Institute of Business Science Business School. The informed consent is contained in Appendix 3. The informed consent section of the questionnaire also highlighted the pre-requisites for participation. The pre-requisites were that the participant needed to be a South African resident, be over the age of 18, and earn an income. Only participants who answered "Yes" to consent to participate in the study could proceed

with answering the questionnaire. See Appendix 4 for the final questionnaire that was used for data collection.

Section A: This section of the questionnaire consisted of demographic questions of gender, age, annual household income, and approximate percentage of household income reduction due to the COVID-19 pandemic. The gender question comprised of a nominal scale (Wegner, 2016, p. 11); age was a continuous scale (Wegner, 2016, p. 10); household income was an ordinal scale (Wegner, 2016, p. 11), with income categories adapted from the study by Standard Bank (2016) mentioned in Section 4.5 above. The household income categories from the questionnaire were further grouped into categories indicating the sample's low-, middle-, and upper-income groups after completion of data collection. The household income reduction question is a continuous scale that requests an estimated percentage of income reduction to describe the magnitude of financial loss that participants experienced. An answer of "0" for this question would indicate that participants were not impacted financially by COVID-19 and an answer of "100" meant that the participant experienced a total loss of income.

Section B: This section of the questionnaire focused on the independent variable of household income disruption caused by the COVID-19 pandemic. These questions were developed by the researcher and supervisor, as an established scale for this variable could not be sourced. A 5-point Likert-type scale was used for questions in this section with anchors "1=Strongly Disagree" to "5=Strongly Agree" to be consistent with the dimensions used in Section C and Section D of the questionnaire. Instructions for answering questions requested participants to reflect on their financial management behaviour over the past year.

Section C: This section of the questionnaire focused on the dependent variable of financial management behaviour as indicated in the research conceptual model in Section 3.4.1. The questions covered the different aspects of financial management behaviour, such as money management, credit management, savings, and insurance maintenance. The questions were derived from the Financial Management Behaviour Scale (Dew & Xiao, 2011), using a Likert-type scale with responses relating to frequency. However, this study focused on the strength of specific

behaviour that people exhibited due to the financial impact of COVID-19, and therefore the responses were adapted to an “Agreement” scale, specifically using the anchors “1=Strongly Disagree” to “5=Strongly Agree”. Additionally, the questions were adapted to get the participant to reflect on their own financial management behaviour over the past year by adding the pronoun “I” to the beginning of each statement. Furthermore, questions that were too broad were slightly adapted to be simpler and more specific to financial reasons for exhibiting specific types of behaviours. For example, the question “comparison shopped when purchasing a product or service” (Dew & Xiao, 2011) was adapted to “I did comparison shopping to get the best value for my money”.

Section D: This section of the questionnaire focused on the moderating variable of mindful consumption as indicated in the research conceptual model. The questions covered the different aspects of mindful consumption, such as acquisitive temperance, repetitive temperance, and aspirational temperance. The questions were derived from the Mindful Consumption Scale (Gupta & Verma, 2019), which is a 6-point Likert-type Agreement scale with the anchor points in reverse order to the standard convention (“1=Strongly Agree” to “6 = Strongly Disagree”). The researcher adapted this scale to a 5-point Likert-type scale using the conventional order for anchor points (“1 = Strongly Disagree” to “5 = Strongly Agree”) to ensure consistency of questions and prevent confusion when participants were responding to the questions. Additionally, the questions were adapted to read in the past tense as the study focused on the households' behaviours over the past year during the COVID-19 pandemic. The original questionnaire consisted of 15 questions, which were reduced to 10 when non-critical or repetitive questions were removed (Rahi, 2017).

The researcher slightly adapted the questions in sections C and D to ensure relevance to the context of the COVID-19 pandemic period. Additionally, negatively phrased questions were rephrased in the same direction as other items relating to the construct to avoid misinterpretation and the need for reverse coding of data in the analysis phase, which simplified the setting up of the statistical analysis model.

4.7 Data gathering process

This section outlines the process that was followed for collecting primary data. After the questionnaire was developed and ethical clearance was acquired, a pre-test was conducted with four people who met the sampling criteria for the study, recruiting respondents within the researcher's social network. The purpose of the pre-test was to see if the questionnaire worked by trying it with a small group similar to the unit of analysis for the research (Quinlan et al., 2019, p. 242; Saunders & Lewis, 2018, p. 156). A pre-test is important because it tests if the respondents may have difficulties answering any questions, the responses are correctly recorded, and the respondents can interpret the meaning of questions and instructions to be followed (Quinlan et al., 2019, p. 242; Saunders & Lewis, 2018, p. 156). Respondents were asked to make comments on the questionnaire so that it could be improved before launching the final version.

The pre-test did not reveal any problems, but the following recommendations were provided:

- On the cover page, information should be split into smaller paragraphs to make it easier to read
- The survey took under 10 minutes to complete
- Screening questions needed to be updated on the cover page to specify a minimum age, income status before COVID-19, and being a South African resident
- Confusion existed concerning own income and household income, and this had to be explained to indicate the monthly income of the entire household

A Google Forms link was then created, which contained the final questionnaire. It was first distributed to the researcher's personal and professional networks using digital channels such as email, LinkedIn, and WhatsApp Messenger. To obtain a large sample size quickly and efficiently, the respondents were requested to share the link to the questionnaire with other individuals in their network that met the qualifying criteria for the study, to participate in the research, which formed part of the snowball sampling technique (Kennett-Hensel et al., 2012).

The Google Forms link allowed access for three weeks due to the limited time for conducting the research. The responses were extracted to Microsoft Excel. Storage of the spreadsheet was on the researcher's hard drive, with a backup copy stored on the researcher's Google Drive account provided by the University of Pretoria, Gordon Institute of Business Science Business School. Additionally, the spreadsheet was uploaded on the GIBS Research Data Repository hosted on SharePoint, where it will be stored for a minimum period of 10 years as per the University of Pretoria policy.

The author admits that collecting data using the online questionnaire may have posed a challenge for the low-income earning group as they are digitally excluded due to the unaffordability of relevant technology (Gillwald & Mothobi, 2019). Therefore, fewer responses were expected for the low-income categories.

4.8 Data analysis

This section outlines the approach that was used to analyse the primary data that was collected. Quantitative data is categorical or numerical, and the analysis of this data requires the use of statistical methods (Quinlan et al., 2019, p. 351). The researcher made use of the IBM SPSS Statistics software package to conduct statistical analysis on quantitative data. The responses from the surveys were extracted to a spreadsheet format, reviewed for errors, and coded before being uploaded onto the IBM SPSS Statistics software. The coding of questions is included in the questionnaire table in Appendix 4. The number allocated to each column was used to code the corresponding response for each multiple-choice question.

Nominal data are categorical, which are grouped into categories that have no rank order (Saunders & Lewis, 2018, p. 182). Nominal data is descriptive and was used to report on the frequency and mode of responses which was presented in a table format (Quinlan et al., 2019, p. 111; Saunders & Lewis, 2018, p. 185). The question that gathered nominal data in this research was gender. This provided a summary of the basic characteristics of data, such as central tendency.

Ordinal data types grouped into categories with a rank order (Saunders & Lewis, 2018, p. 181) were used for the monthly household income categories.

Interval data is defined as "numerical data whose values are measured numerically so that the numerical difference between two values can be stated, but not the relative difference" (Saunders & Lewis, 2018, p. 181). The questions for household income disruption (Section B in the questionnaire), financial management behaviour (Section C in the questionnaire), and mindful consumption (Section D in the questionnaire) was interval type (5-point Likert-type). Descriptive statistics such as the mean (M) and standard deviation (SD) were used for the interval data (Dew & Xiao, 2011).

The research used a combination of self-developed questions and adapted questions from existing scales. Therefore, an exploratory factor analysis (EFA) using principal axis factoring (PAF) as the extraction method was conducted to determine the structure of the variables and to reduce the number of items into a smaller set in Section B (household income disruption), Section C (financial management behaviour), and Section D (mindful consumption). As Likert-type scales have a non-normal distribution (Keselman, Othman, & Wilcox, 2013), PAF was selected as it does not require the data to be normally distributed (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

The empirical factors that emerged from the exploratory factor analysis were then compared to the theoretical factors. The relationship between empirical factors was then tested for significance using inferential statistics: independent samples t-test and multiple linear regression. The independent samples t-test was used to distinguish income level differences in household income disruption and the dimensions of financial management behaviour. Multiple linear regression was used to test the relationship between independent (household income disruption) and dependent variables (financial management behaviour), with the income group as a control variable (Dew & Xiao, 2011). Multiple linear regression was also used to test the influence of the moderating variable of mindful consumption on the relationship between the independent variable of household income disruption on the dependent variable of financial management behaviour (Frazier, Tix, & Barron, 2004, p. 115).

4.9 Quality control

Data collection methods and analysis procedures were carefully selected to ensure the quality of the data collected. Quality assurance is important to ensure that the research findings are valid and reliable.

4.9.1 Validity

Validity refers to the accuracy of the data collection method to measure what was intended to be measured and whether the findings are truly what they meant to be based on literature (Saunders & Lewis, 2018, p. 134). Validity is further explained through content and face validity. Content validity refers to whether the questions used in the measurement instrument measured the items that they were supposed to in order to answer the research questions (Creswell & Creswell, 2017, p. 179). Content validity was established by thoroughly scrutinising literature, using highly ranked journals, and ensuring that the research questions were suitable and fully represented by the questions in the questionnaire (Quinlan et al., 2019, p. 282). Face validity is concerned with whether the question reasonably measures its underlying construct (Bhattacherjee, 2012, p. 58). The researcher built on existing scales that have been developed and validated by established researchers, which improves the validity (Quinlan et al., 2019, p. 283). A pre-test of the questionnaire was conducted to further improve validity (Quinlan et al., 2019, p. 283). Face validity was established by submitting the final questionnaire for review to the researcher's supervisor, an expert in the field, to test if the questionnaire was valid.

Data collected was checked before analysis commenced (Wegner, 2016, p. 18). The Google Forms application had built-in features to reduce errors, such as limited selections on multiple-choice questions to only one option being selected and preventing submission without completing important questions. After data gathering was concluded, surveys were reviewed for outliers and typographical errors. Surveys that contained outliers or typographical errors were reported on but were not used in the statistical analyses.

Exploratory factor analysis (EFA) was used to test validity in the sample collected (Köhler et al., 2017). Multiple questions were used to measure each construct in this

study, which was developed by the author and adapted from existing scales. EFA was used to identify the relevant factors that emerged from the data collected, therefore reducing the number of factors Section B (household income disruption) and Section C (financial management behaviour), and Section D (mindful consumption) of the questionnaire (Zikmund et al., 2013, p. 601). The detailed EFA for each construct is presented in Section 5.4.

The following rules to check suitability for conducting the EFA were used as suggested by Pallant (2007, p. 181): the sample size needs to be more than 150; correlation coefficients need to be above 0.3; the Kaiser-Meyer-Olkin value needs to be 0.6 or greater, and Bartlett's test of Sphericity must be statistically significant at a sig. of less than 0.05 for a 95% confidence level. Principal axis factoring (PAF) was the extraction method used for the factor analysis as Likert-type scales have a non-normal distribution (Keselman et al., 2013), and PAF did not require the data to be normally distributed (Fabrigar et al., 1999). Items with communalities at extraction above the threshold of 0.3, as suggested by Pallant (2007, p. 196) was considered strong items. The number of factors extracted was decided using the commonly used Kaiser's criterion, the Eigenvalue of one rule (Pallant, 2007, p. 182). Items in the final factor matrix with factor loadings above 0.4 were all considered strong (Pallant, 2007, p. 192).

4.9.2 Reliability

After completing the EFA, the Cronbach Alpha coefficients were calculated for each empirical factor to determine the reliability of the data collection method and analysis techniques used (Zikmund et al., 2013, p. 306). Reliability refers to the extent to which the methods for data collection and analysis will yield consistent results (Saunders & Lewis, 2018, p. 135). A Cronbach's alpha of 0.7 or greater was considered reliable (Pallant, 2007, p. 95).

Where the Cronbach's alpha was slightly below the threshold of 0.7, and there were less than 10 questions in a factor, then the mean inter-item correlation was used, in which values higher than the range of 0.2 to 0.4 were considered to be reliable (Pallant, 2007, p. 95). The reliability tests for the various empirical factors are presented in Section 5.5.

4.10 Research limitations

The mono-method for data collection may not have been as credible as using two or more data collection methods to enable triangulation of results (Saunders & Lewis, 2018, p. 128). Households' financial management behaviour may have been different at various periods throughout the pandemic. Therefore, there was a limitation with capturing and analysing these changes at different points of the pandemic due to the cross-sectional time horizon (Saunders & Lewis, 2018, p. 130). Frame error is when the researcher does not include all elements of the population in the study, which may lead to participants being incorrectly included or excluded in the study (Cavusgil & Das, 1997). Frame error was present due to the use of convenient and snowball sampling, which posed a risk of not obtaining a representative sample, which would impact the generalisability of the findings.

The focus on residents of South Africa as the population would not allow for the generalisability of the results to other countries. As the questionnaire was self-completed, the researcher could not probe respondents to get more information. Therefore, the data was unlikely to be as detailed as when combined with other strategies (Saunders & Lewis, 2018, p. 121). The comprehensiveness of the research was limited as the list of questions to be asked needed to be limited (Saunders & Lewis, 2018, p. 121).

4.11 Ethics

Ethics in research requires the researcher to behave morally when interacting with people who will be part of the study or be affected (Saunders & Lewis, 2018, p. 76; Zikmund et al., 2013, p. 90). The principles below highlight the measures taken to ensure ethical standards were met when conducting the research.

Firstly, the author obtained ethical clearance from the University before collecting any data to ensure the method was sound and that any potential risks were identified and addressed proactively (Saunders & Lewis, 2018, p. 75). The approved ethical clearance is attached in Appendix 2. Secondly, the participants were informed on the landing page of the questionnaire about what the study was about and that their

participation was voluntary, anonymous and confidential (Saunders & Lewis, 2018, pp. 77–78; Zikmund et al., 2013, pp. 90–91). Anonymity was ensured as no respondents' names or other personal details were requested in the questionnaire, information was reported in aggregated form, and data was stored without identifiers. Additionally, the participants were made aware that they could withdraw at any time. The minimum criteria for participating in the survey, such as being over the age of 18 and a resident of South Africa, was stipulated in the informed consent section, which required respondents to confirm their participation before answering the questionnaire.

Data was stored electronically on the researcher's hard drive, with a backup copy stored on the researcher's Google Drive account provided by the University of Pretoria, Gordon Institute of Business Science Business School. Additionally, the data was uploaded on the GIBS Research Data Repository hosted on SharePoint, where it will be stored for a minimum period of 10 years as per the University of Pretoria policy.

4.12 Chapter summary

This chapter provided an overview of the research methodology, explaining the rationale for the quantitative study, detailing how the research process was executed, and indicating measures to eliminate error and ensure ethical conduct. The following chapter presents the results of the research.

CHAPTER 5: RESULTS

5.1 Introduction

This chapter commences with the descriptive results of the research. Firstly, a description of the sample is given, followed by descriptive statistics of the three constructs, namely household income disruption caused by the COVID-19 economic threat, financial management behaviour, and mindful consumption. Thereafter, the exploratory factor analysis is presented that tests the validity of each construct, followed by reliability testing and descriptive statistics of the empirical factors.

Lastly, the results for the testing of hypotheses developed for the study based on theory are presented in the endeavour to answer the research questions.

An alphanumeric notation was used to refer to questions from the questionnaire in Appendix 4. The alphabet represents the section of the questionnaire, and the number is the question number in that section. For example, "A1" represents the question in Section A-Demographics, question 1: "What is your gender?".

5.2 Description of the sample

The study targeted a minimum of 200 respondents to allow for comparisons between three income groups. After distributing the questionnaire, a total of 266 responses were received after three weeks. The researcher then compared two income groups as the responses received were mainly for the middle- and upper-income categories (The grouping of the income categories is discussed in the hypothesis testing, research question 1 sub-section of this chapter). This could be attributed to the convenience sampling method, where respondents in the researcher's own network would be in similar income brackets. The snowballing technique would have meant that initial respondents would have distributed the questionnaire within their network, which may also be of similar income categories. Accessing lower-income households was particularly challenging due to COVID-19 restrictions. It was then decided to compare two income categories that distinguished middle- and high-income groups, for which the 266 responses were considered viable for analysis.

The landing page of the questionnaire had a screening question to ensure that respondents met the criteria for the study. The criteria consisted of being 18 years of age or older, a South African resident, and earning an income. From the 266 responses, two respondents selected “No” for meeting the criteria, and therefore they were excluded from the study, resulting in a final sample size of 264 respondents for further analysis. Section A of the questionnaire consisted of demographic questions such as gender (A1), age (A2), monthly household income (A3), and percentage reduction in household income due to COVID-19 (A4).

Gender: From the 264 respondents, 150 (56.8%) were males, 113 (42.8%) were females, and 1 (0.4%) preferred not to disclose gender. This was considered a good distribution between gender groups. Table 2 in Appendix 6 presents the gender distribution of the sample.

Age distribution: The age of respondents ranged from 18 to 74 years. The mean age was 37.62 years with a SD of 9.82 years. Table 3 in Appendix 6 presents the age distribution of the sample.

Monthly household income categories: Table 4 in Appendix 6 presents the distribution of monthly household income categories of the sample. The monthly household income category between R 70 000 and R 150 000 was represented by 89 (33.7%) respondents, followed by the monthly household income category between R 40 000 and R 70 000 with 76 (28.8%) respondents. The four lower monthly household income categories comprised 23.5% of the responses, which may be attributed to the convenience sampling method chosen. The researcher did not have sufficient access to gain a larger sample representation in these income categories, and due to time limitations, the data collection had to be terminated at some point.

Reduction in monthly household income: Table 5 in Appendix 6 summarises the percentage reduction in monthly household income of the sample, ranging from no reduction in income to a total loss of income. The mean reduction in monthly household income was 14.03%, with a SD of 19.26%. A total of 47.7% (n = 126) of

the sample had experienced no loss in income, indicating that the majority had indeed suffered an income cut.

5.3 Descriptive statistics

This section describes the responses to the questions related to the three constructs. The constructs are represented by the questions forming part of the different sections in the questionnaire. Household income disruption caused by the COVID-19 economic threat is represented by the questions in Section B of the questionnaire, financial management behaviour is represented by Section C of the questionnaire, and mindful consumption is represented by Section D of the questionnaire.

The response categories in Table 6, Table 7, and Table 8 in Appendix 6 were grouped together only for this section to simplify the description of the results. The responses for the strongly disagree and disagree categories were combined and presented as generally disagree. The responses for the strongly agree and agree categories were combined and presented as generally agree. The questions in each table were rearranged from highest to lowest means to quickly identify which questions were scored the highest and lowest within that construct.

5.3.1 Household income disruption caused by the COVID-19 economic threat

Table 6 in Appendix 6 shows in descending order for “Generally agree”, a summary of the percentage of the sample that responded in the respective agreement categories for questions in Section B of the questionnaire, which relate to household income disruption caused by the COVID-19 economic threat.

Figures indicate that approximately half of the sample decreased savings drastically (52.3%), had to revise their budget drastically (52.3%), and found that their ability to budget became very challenging (48.3%). About one-third of the sample’s household’s income was cut drastically (33.7%), while a sizeable percentage (26.1%) admitted an increase in their outstanding credit, while 14.4% had to cancel insurance to cope.

5.3.2 Financial management behaviour

Table 7 in Appendix 6 summarises the percentage of the sample that responded to questions in Section C of the questionnaire, which related to households' financial management behaviour.

Results indicate that 90.2% of households tried to pay their bills on time and not default on debt repayments. Between 70% and 80% stated that they had paid the required amount on loans (76.9%), paid credit card instalments in full each month (71.2%), maintained or purchased an adequate health insurance policy (75.8%), did comparison shopping to get the best value for their money (75.8%), and maintained or purchased adequate property insurance like a car- or home-owners insurance (75.8%). More than 60% contributed money to a retirement account (69.7%), maintained or purchased adequate life insurance (69.7%), kept a record of their monthly expenses (64.8%), and managed to stay within their budget or spending plan (63.3%). This indicates that the contrary was true for up to 40% of the sample regarding very important items in their budgets. Approximately half of the sample avoided the credit facility on their credit cards (54.2%), saved for a long-term goal such as a car, education, home, etc. (53.4%), and saved money in savings accounts every month (53.0%), meaning that approximately half of the sample could not financially plan for the future. A sizable, more fortunate group (46.6%) began or maintained an emergency savings fund and bought bonds, stocks, or mutual funds (34.5%).

5.3.3 Mindful consumption

Table 8 in Appendix 6 summarises the percentage of the sample that responded to questions in Section D of the questionnaire, which related to mindful consumption.

Results indicated that more than 80% of households thought that reusable products were better than disposable products (85.2%), did not compare their purchases with those of others who earned more money than they did (84.1%), gave away products for free rather than threw it away if it had no use for them (82.6%), refrained from buying bigger and more luxurious products and services than what they needed (80.7%), and mainly purchased the goods they needed (84.8%). More than 60% indicated that they repaired most products rather than replacing or throwing them

away (66.7%) and purchased goods according to existing storage space in their home (64.4%). Approximately half of the sample upgraded to a new version of a product if the current product was not working anymore (54.5%); and shared certain products rather than owning everything because it had social benefits (45.1%). Lastly, a small portion of households (14.4%) preferred to share or rent certain products such as sporting equipment, musical instruments, home appliances, home tools, and games rather than to own when given a choice.

5.4 Exploratory Factor Analysis (EFA)

5.4.1 Preparation of the data

Multiple questions were used to measure each construct in this study, some of which were developed by the author while others were adaptations from the financial management behaviour scale (Dew & Xiao, 2011) and mindful consumption scale (Gupta & Verma, 2019). Exploratory factor analysis was therefore conducted to explore dimensions of the scale in the context of this research, as well as the reliability of their content.

Pallant (2007, p. 181) suggests that the sample needs to meet the following conditions to be suitable to conduct exploratory factor analysis (EFA): the sample size needs to be more than 150; correlation coefficients need to be above 0.3; the Kaiser-Meyer-Olkin value needs to be 0.6 or greater, and Bartlett's test of Sphericity must be statistically significant at a sig. of less than 0.05 for a 95% confidence level. Hereby, the sample size criteria were met for this study, as the number of valid responses used for the analysis was 264. Principal axis factoring (PAF) was the extraction method used for the factor analysis. The statistical analyses were conducted on the SPSS Version 15 software. As Likert-type scales have a non-normal distribution (Keselman et al., 2013), PAF was selected as it does not require the data to be normally distributed (Fabrigar et al., 1999).

5.4.2 Household income disruption

Section B of the questionnaire applies. An assessment of the correlation matrix in Table 9 below shows that all of the correlation coefficients are above 0.3, which meets the correlation criteria for factorability suggested by Pallant (2007, p. 181).

Table 9: Correlation matrix for household income disruption

		B1	B2	B3	B4	B5	B6
Correlation	B1	1.000	0.538	0.604	0.567	0.453	0.612
	B2	0.538	1.000	0.615	0.635	0.470	0.605
	B3	0.604	0.615	1.000	0.715	0.477	0.686
	B4	0.567	0.635	0.715	1.000	0.520	0.715
	B5	0.453	0.470	0.477	0.520	1.000	0.527
	B6	0.612	0.605	0.686	0.715	0.527	1.000

The measures of sampling adequacy (MSA) values in the anti-image matrix were all above 0.85. This is above the threshold of 0.6, indicating that there were no weak items (Pallant, 2007, p. 181).

Table 10 shows that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.907 is higher than the minimum of 0.6 (Pallant, 2007, p. 181) and Bartlett's test of sphericity sig. value is 0.00, which is less than 0.05 and is thus significant at a 95% confidence level (Pallant, 2007, p. 181). The results of the KMO and Bartlett's test of sphericity supported the factorability of the correlation matrix and were therefore suitable for conducting an exploratory factor analysis.

Table 10: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for household income disruption

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.907
Bartlett's Test of Sphericity	Approx. Chi-Square	846.280
	Df	15
	Sig.	0.000

For the extraction process, the principal axis factoring (PAF) method showed communalities at extraction ranging between 0.379 and 0.712 as seen in Table 11, which are above the threshold of 0.3 suggested by Pallant (2007, p. 196). Therefore,

all items in this section fit well with each other and that no questions needed to be removed. The common variance shared between all the items in this section of the questionnaire was 30%.

Table 11: Communalities for household income disruption

	Initial	Extraction
B1	0.465	0.513
B2	0.496	0.554
B3	0.614	0.682
B4	0.640	0.712
B5	0.345	0.379
B6	0.623	0.704

Extraction Method: Principal Axis Factoring.

The number of factors extracted was decided using the commonly used Kaiser's criterion, the Eigenvalue rule (Pallant, 2007, p. 182). Hereby, only one factor emerged, which explained 65.53% of the variance as per Kaiser's criterion (Pallant, 2007, p. 182), as presented in Table 12. Therefore, only one factor was extracted, concurring with the theoretical factor identified for household income disruption caused by the COVID-19 economic threat. All six questions in Section B of the questionnaire were retained under the extracted factor.

Table 12: Total variance explained for household income disruption caused by the COVID-19 economic threat

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.932	65.533	65.533	3.544	59.061	59.061
2	0.595	9.921	75.454			
3	0.478	7.960	83.414			
4	0.419	6.981	90.395			
5	0.309	5.156	95.551			
6	0.267	4.449	100.000			

Extraction Method: Principal Axis Factoring.

As only one factor was extracted, the solution could not be rotated. Table 13 below shows the factor matrix that indicates the questions with the highest factor loadings. Loadings ranged from 0.616 to 0.844, and being above 0.4, they were all considered strong (Pallant, 2007, p. 192).

The extracted factor was labelled:

Factor B1: Household income disruption. It contained questions B1, B2, B3, B4, B5, B6.

Table 13: Factor matrix for household income disruption

	Factor
	1
B4	0.844
B6	0.839
B3	0.826
B2	0.745
B1	0.716
B5	0.616

Extraction Method: Principal Axis Factoring.
a. 1 factors extracted. 5 iterations required.

5.4.3 Financial management behaviour

The exploratory factor analysis conducted on the financial management behaviour construct indicated four weak questions (C1, C3, C4, C6), which were removed. Question C1 was removed because the anti-image matrix indicated an MSA value of 0.529, which was below 0.6 (Pallant, 2007, p. 181). The second time the exploratory factor analysis was run, question C3 was removed because the anti-image matrix indicated it had an MSA value of 0.515 which was also below 0.6 (Pallant, 2007, p. 181). The third time the exploratory factor analysis was run, question C6 was removed because it had a communality at extraction of 0.132, which was less than 0.3 (Pallant, 2007, p. 196). The fourth time the exploratory factor analysis was run, question C4 was removed because it had communality at extraction of 0.154, which was less than 0.3 (Pallant, 2007, p. 196).

After the four weak questions were removed, an assessment of the final correlation matrix in Table 14 below showed that the correlation coefficients were above 0.3,

which met the correlation criteria for factorability suggested by Pallant (2007, p. 181). Questions with correlations below 0.3 were grouped with questions in another factor.

Items in the final anti-image matrix all had MSA values above 0.7, exceeding the threshold of 0.6, so no further questions needed to be removed (Pallant, 2007, p. 181). Therefore, no weak questions remained.

Table 14: Correlation matrix for financial management behaviour

		C2	C5	C7	C8	C9	C10	C11	C12	C13	C14	C15
Correlation	C2	1.00 0	0.34 3	0.32 5	0.20 9	0.13 6	0.15 8	0.18 2	0.12 8	0.11 9	0.23 7	0.11 1
	C5	0.34 3	1.00 0	0.55 6	0.21 7	0.21 0	0.14 2	0.19 1	0.13 4	0.18 5	0.34 0	0.21 8
	C7	0.32 5	0.55 6	1.00 0	0.15 4	0.10 3	0.08 2	0.31 3	0.13 8	0.34 0	0.41 3	0.33 9
	C8	0.20 9	0.21 7	0.15 4	1.00 0	0.60 9	0.55 0	0.31 4	0.26 5	0.29 2	0.21 6	0.17 0
	C9	0.13 6	0.21 0	0.10 3	0.60 9	1.00 0	0.61 0	0.39 5	0.31 2	0.23 0	0.24 2	0.22 4
	C10	0.15 8	0.14 2	0.08 2	0.55 0	0.61 0	1.00 0	0.44 1	0.44 0	0.18 9	0.24 5	0.21 9
	C11	0.18 2	0.19 1	0.31 3	0.31 4	0.39 5	0.44 1	1.00 0	0.31 9	0.36 0	0.37 0	0.42 8
	C12	0.12 8	0.13 4	0.13 8	0.26 5	0.31 2	0.44 0	0.31 9	1.00 0	0.24 1	0.29 9	0.22 6
	C13	0.11 9	0.18 5	0.34 0	0.29 2	0.23 0	0.18 9	0.36 0	0.24 1	1.00 0	0.59 3	0.54 5
	C14	0.23 7	0.34 0	0.41 3	0.21 6	0.24 2	0.24 5	0.37 0	0.29 9	0.59 3	1.00 0	0.48 1
	C15	0.11 5	0.21 8	0.33 9	0.17 0	0.22 4	0.21 9	0.42 8	0.22 6	0.54 5	0.48 1	1.00 0

An assessment of the final KMO measure of sampling adequacy and Bartlett's test of sphericity in Table 15 shows that the KMO measure of sampling adequacy was 0.807, thus higher than the minimum of 0.6 (Pallant, 2007, p. 181), and Bartlett's test of sphericity sig. value is 0.00, hence less than 0.05, and is thus significant at a 95% confidence level (Pallant, 2007, p. 181). The results of the KMO measure of sampling adequacy and Bartlett's test of sphericity supports the factorability of the correlation matrix and is therefore suitable for conducting an exploratory factor analysis.

Table 15: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for financial management behaviour

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.807
Bartlett's Test of Sphericity	Approx. Chi-Square	930.079
	Df	55
	Sig.	0.000

For the extraction process, the principal axis factoring (PAF) method showed that communalities at extraction for all questions, except C2 and C12, ranged between 0.388 and 0.679 as seen in Table 16, which is greater than 0.3, which indicates that these questions in this section fit well with each other (Pallant, 2007, p. 196). Questions C2 and C12 had communalities of 0.22 and 0.24 respectively, which is slightly lower than 0.3. Still, because the anti-image MSA values were high at 0.844 and 0.877 respectively, the researcher did not remove these two questions as they weren't weak enough to be removed.

Table 16: Communalities for financial management behaviour

	Initial	Extraction
C2	0.176	0.220
C5	0.376	0.579
C7	0.430	0.595
C8	0.463	0.493
C9	0.501	0.610
C10	0.515	0.679
C11	0.370	0.388
C12	0.242	0.240
C13	0.480	0.603
C14	0.468	0.550
C15	0.394	0.496

Extraction Method: Principal Axis Factoring.

The number of factors extracted was decided using the Kaiser's criterion (Pallant, 2007, p. 182). The total variance explained was assessed, as presented in Table 17, in which there were three eigenvalues above 1. The three factors collectively explained 62.38% of the variance in the data before rotation and 49.58% of the variance after rotation (Pallant, 2007, p. 182). Therefore, three factors were extracted, which differed from the theory, which suggested four factors.

Table 17: Total variance explained for financial management behaviour

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.937	35.791	35.791	3.457	31.428	31.428	2.161	19.647	19.647
2	1.688	15.346	51.138	1.264	11.488	42.916	1.876	17.057	36.704
3	1.236	11.238	62.376	0.733	6.662	49.577	1.416	12.873	49.577
4	0.795	7.223	69.599						
5	0.697	6.336	75.935						
6	0.673	6.120	82.055						
7	0.481	4.376	86.432						
8	0.461	4.195	90.627						
9	0.373	3.393	94.019						
10	0.348	3.167	97.186						
11	0.310	2.814	100.000						

Extraction Method: Principal Axis Factoring.

A first-order factor analysis was done using the principal axis factoring extraction method with Varimax rotation. The Varimax method is the most commonly used orthogonal rotation technique which gives a simplified structure with distinctive factors (Pallant, 2007, p. 183). In the rotated factor matrix using first-order rotation shown in Table 18 below, questions C8, C9, C10, C11, and C12 loaded the highest on Factor 1; questions C13, C14, and C15 loaded the highest on Factor 2; and questions C2, C5, and C7 loaded the highest on Factor 3.

Table 18: Rotated factor matrix of financial management behaviour

	Factor		
	1	2	3
C10	0.813	0.129	0.049
C9	0.764	0.120	0.108
C8	0.673	0.110	0.169
C11	0.424	0.424	0.169
C12	0.412	0.255	0.077
C13	0.159	0.751	0.115
C15	0.151	0.673	0.140
C14	0.172	0.654	0.305
C5	0.118	0.120	0.742
C7	0.003	0.352	0.686
C2	0.153	0.074	0.438

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Second-order factor analysis

A second-order factor analysis was done on the first-order results, which distinguished three factors, to test if all factors grouped together to form the overall construct of financial management behaviour. An oblique approach was used for rotation as it allows for factors to be correlated (Pallant, 2007, p. 183). The Direct Oblimin rotation technique was selected as it is used most commonly for the oblique approach (Pallant, 2007, p. 184).

In Table 19 below, the correlation matrix shows that many of the correlations were above the threshold of 0.3 (Pallant, 2007, p. 181). The KMO, shown in Table 20 below, was 0.631, which is greater than 0.6, and Bartlett's test had a sig. value of 0.00, which was less than 0.05, and therefore the factorability of the correlation matrix is supported at a 95% confidence level (Pallant, 2007, p. 181). The anti-image correlation showed that all MSA values were above the threshold of 0.60 (Pallant, 2007, p. 181).

Table 19: Second-order factor analysis correlation matrix

		SecC_F1	SecC_F2	SecC_F3
Correlation	SecC_F1	1.000	0.429	0.289
	SecC_F2	0.429	1.000	0.400
	SecC_F3	0.289	0.400	1.000

Table 20: Second-order factor analysis KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.631
Bartlett's Test of Sphericity	Approx. Chi-Square	103.891
	Df	3
	Sig.	0.000

The communalities, shown in Table 21, showed that Factor 1 and Factor 2 were above the threshold of 0.3 (Pallant, 2007, p. 196), whilst Factor 3 had a communality of 0.27, which is slightly lower than 0.3. This indicated that Factor 1 and Factor 2 grouped better together than with Factor 3. However, Factor 3 was not removed because the communality was very close to 0.3, and the anti-image MSA was acceptable.

As presented in Table 22, the total variance explained shows that there was one factor above the Eigenvalue of 1, which explained 58.27% of the variance in the data. The Factor Matrix, as presented in Table 23, shows that all three Factors loaded above 0.5, which are all strong, being above 0.4 (Pallant, 2007, p. 192). Factor 2 possessed the strongest loading.

The extracted factors were labelled as follows:

Factor C1: Savings. Consisting of questions C8, C9, C10, C11, C12.

Factor C2: Insurance maintenance. Consisting of questions C13, C14, C15.

Factor C3: Credit management. Consisting of questions C2, C5, C7.

Second-Order Factor: Financial management behaviour. Consisting of questions making up Factor C1, Factor C2, Factor C3.

Table 21: Second-order factor analysis communalities

	Initial	Extraction
SecC_F1	0.200	0.311
SecC_F2	0.267	0.590
SecC_F3	0.177	0.270

Extraction Method: Principal Axis Factoring.

Table 22: Second-order factor analysis total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.748	58.268	58.268	1.171	39.031	39.031
2	0.713	23.759	82.027			
3	0.539	17.973	100.000			

Extraction Method: Principal Axis Factoring.

Table 23: Second-order factor analysis factor matrix

	Factor
	1
SecC_F2	0.768
SecC_F1	0.558
SecC_F3	0.520

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 18 iterations required.

5.4.4 Mindful consumption

The component matrix showed that items D1 and D6 correlated negatively, which indicated that they needed to be reverse scored. However, because of the way the questions were phrased in section D, reverse scoring was not expected. Therefore, these two questions may be an indicator of weak items.

The correlation matrix presented in Table 24 showed almost no correlations above 0.3, and therefore a factor analysis would not be done (Pallant, 2007, p. 181). The questions, therefore, need to be used individually for the discussion of the mindful consumption construct.

Table 24: Correlation matrix for mindful consumption

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Correlation	D1	1.000	0.153	-0.062	-0.029	0.075	0.201	-0.118	0.106	-0.081	0.175
	D2	0.153	1.000	0.091	0.244	0.203	-0.095	0.140	0.035	0.325	0.084
	D3	-0.062	0.091	1.000	0.511	0.078	-0.103	0.090	-0.077	0.187	-0.033
	D4	-0.029	0.244	0.511	1.000	0.168	-0.005	0.123	0.109	0.208	0.079
	D5	0.075	0.203	0.078	0.168	1.000	0.014	0.266	0.195	0.149	0.153
	D6	0.201	-0.095	-0.103	-0.005	0.014	1.000	-0.083	0.129	-0.225	0.196
	D7	-0.118	0.140	0.090	0.123	0.266	-0.083	1.000	0.097	0.214	-0.067
	D8	0.106	0.035	-0.077	0.109	0.195	0.129	0.097	1.000	0.025	0.322
	D9	-0.081	0.325	0.187	0.208	0.149	-0.225	0.214	0.025	1.000	0.095
	D10	0.175	0.084	-0.033	0.079	0.153	0.196	-0.067	0.322	0.095	1.000

5.5 Reliability

The Cronbach's alpha was used to test the reliability of the scale used to collect data. This section shows the results for the empirical and theoretical reliabilities, which were used to select the most reliable set of factors for the hypotheses in the next section. Empirical reliabilities are from the factors of the factor analysis, and theoretical reliabilities are from the theoretical groupings from literature and the financial management behaviour scale (Dew & Xiao, 2011).

5.5.1 Reliability of household income disruption

The household income disruption caused by the COVID-19 economic threat construct had one empirical factor, which was the same as the theoretical factor of household income disruption. This factor consisted of 6 questions. The Cronbach's alpha was 0.894, which is greater than 0.7, and therefore this factor was considered reliable (Pallant, 2007, p. 95).

5.5.2 Reliability of financial management behaviour

The financial management behaviour construct presented three empirical factors whilst the theory suggests four factors.

Table 25 below shows the Cronbach Alpha's and inter-item correlation means for the three empirical factors that were identified through exploratory factor analysis. Table 26 below shows the Cronbach Alpha's and inter-item correlation means for the four theoretical factors.

Empirical factors: Cronbach's alpha

The empirical Factor C1, which was the same as the theoretical factor (savings), contained five questions, with a Cronbach alpha value of 0.786, therefore reliable (Pallant, 2007, p. 95).

The empirical Factor C2 concurred with the theoretical factor (insurance), consisting of three questions, with a Cronbach alpha of 0.777, therefore reliable (Pallant, 2007, p. 95).

The empirical Factor C3 was similar to the theoretical factor depicting credit management. The differences were due to the omission of question C6 for the theoretical credit management factor and the inclusion of question C2, which was originally part of the theoretical money management factor but correlated stronger with the credit management factor. Possibly, respondents interpreted the word "bills" in question C2 as outstanding bills, which would also be on credit. The empirical factor that was also named credit management had a Cronbach alpha of 0.679. Even though this is slightly below the threshold of 0.7, Pallant (2007, p. 95) suggests that if there are less than 10 questions in a factor and the Cronbach alpha is lower than

the threshold for reliability, then the mean inter-item correlation should be used due to the Cronbach alpha being sensitive to the number of questions in the scale (Pallant, 2007, p. 95). The mean inter-items correlation was 0.408, which is higher than the range of 0.2 to 0.4, suggesting that the questions for this factor are reliable (Pallant, 2007, p. 95).

The Second-Order Factor contains all the questions used after removing the four weak questions and then grouped into a single factor. This is the empirical equivalent of the theoretical factor, labelled financial management behaviour. The Cronbach alpha was 0.817, which is above 0.7 and is therefore reliable (Pallant, 2007, p. 95).

Table 25: Cronbach's Alpha and inter-item correlations for the components of the empirical construct financial management behaviour

	Cronbach's Alpha	Inter-item correlation mean*
Factor C1 – Savings	0.786	
Factor C2 – Insurance	0.777	
Factor C 3 – Credit management	0.679	0.408
2 nd Order Factor - Financial management behaviour	0.817	

* Used for scales with less than 10 questions that have a Cronbach alpha of less than 0.7 (Pallant, 2007, p. 95)

Theoretical factors: Cronbach's alpha

The theoretical Cronbach alpha for the factors in Table 26 used all questions from the questionnaire, including the weak questions.

The theoretical Cronbach alpha for money management, questions C1 to C4, was 0.492. The inter-item correlation mean was 0.198, which was less than 0.2 and therefore was not reliable (Pallant, 2007, p. 95).

The Cronbach alpha value of 0.546 for the theoretical factor credit management, questions C5 to C7, was below 0.7. Because the factor contained less than 10 questions, the inter-item correlation mean was used to test reliability (Pallant, 2007, p. 95). The inter-item correlation mean was 0.308, which was within the 0.2 to 0.4 range, and therefore it was reliable (Pallant, 2007, p. 95). However, for this construct, the empirical factor's reliability was higher.

The Cronbach alpha for the theoretical and empirical factors depicting savings and insurance were the same, and both were reliable as the Cronbach alpha values were higher than 0.7 (Pallant, 2007, p. 95).

The Cronbach alpha value for the theoretical factor, financial management behaviour, of 0.779 indicated that it was reliable, although the value was lower than the relevant empirical factor.

Table 26: Cronbach's Alpha and inter-item correlation mean for theoretical financial management behaviour factors

	Cronbach's Alpha	Inter-item correlation mean*
Theoretical money management	0.492	0.198
Theoretical savings	0.786	
Theoretical insurance	0.777	
Theoretical credit management	0.546	0.308
Theoretical financial management behaviour	0.779	

* Used for scales with less than 10 questions that have a Cronbach alpha less than 0.7 (Pallant, 2007, p. 95)

Since the empirical factors were more reliable than the overall theoretical factors, based on Cronbach's alpha values, the empirical factors were used to test the hypotheses in the hypothesis testing sub-section.

5.5.3 Reliability of mindful consumption

There were no reliability tests done on the mindful consumption construct as questions could not be grouped together as indicated in the exploratory factor analysis above. However, the researcher selected three questions to represent each of the theoretical factors of mindful consumption to simplify the hypothesis tests, which will be indicated as a limitation of the study.

With guidance from the researcher's supervisor, the selection of questions was based on which seemed most appropriate for the study:

1. To represent acquisitive temperance, question D2 "I only purchased the goods we needed", was selected.
2. To represent repetitive temperance, question D7 "I repaired most products rather than to replace or throw it away", was selected.
3. To represent aspirational temperance, question D9 "I refrained from buying bigger and more luxurious products and services than what I needed", was selected.

5.6 Descriptive statistics of empirical factors and conceptual model update

Table 27 shows the descriptive statistics for the empirical factors following the exploratory factor analysis, as well as the three questions that represent the different dimensions of the mindful consumption construct.

Household income disruption: The $M = 2.69$ (Maximum = 5) and $SD = 1.09$, indicates that the disruption experienced was moderate. For financial management behaviour, $M = 3.59$ and $SD = 0.72$ indicates fairly good financial management given the household income disruption, or threat thereof, caused by COVID-19. For credit management, $M = 4.06$, with $SD = 0.77$, indicates that households' credit management was excellent and was the best of all the factors related to household financial management. At the same time, savings generated the lowest mean, $M = 3.18$ with $SD = 0.99$. For insurance maintenance, $M = 3.78$, with $SD = 0.97$, indicates fairly good insurance maintenance by households. This indicates that households managed their credit and insurance quite well, although savings seemed to be a lower priority.

Mindful consumption: The means calculated for the questions selected to represent the acquisitive temperance, repetitive temperance, and aspirational temperance dimensions of the mindful consumption construct were $M = 3.98$, $M = 3.64$, and $M = 3.99$ respectively, with SD 's of 0.88, 0.96, and 1.06, indicating that households were rather mindful about their purchases.

Table 27: Descriptive statistics on empirical factors and questions

	N	Mean	Std. Deviation
Household income disruption	264	2.69	1.09
Savings	264	3.18	0.99
Insurance	264	3.78	0.97
Credit Management	264	4.06	0.77
Financial Management Behaviour	264	3.59	0.72
D2 – Acquisitive temperance	264	3.98	0.88
D7 – Repetitive temperance	264	3.64	0.96
D9 – Aspirational temperance	264	3.99	1.06

Figure 2 presents the updated conceptual model after the completion of EFA and reliability testing.

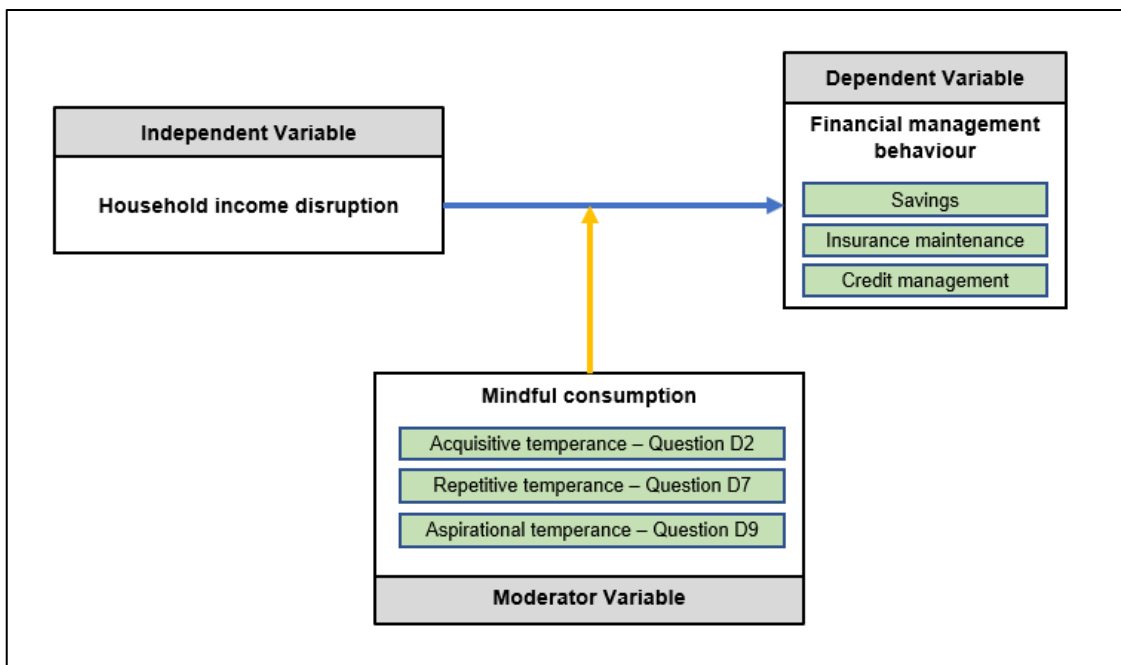


Figure 2: Updated conceptual model after EFA and reliability testing

The independent variable comprises the empirical factor of household income disruption. The dependent variable of financial management behaviour consists of three dimensions: savings, insurance maintenance, and credit management. Money management, as included in the theoretical conceptual model for the research in Figure 1 in Section 3.4.1, was not part of this model due to money management questions being omitted as they were weak items. The moderator variable of mindful

consumption consisted of three dimensions, namely: acquisitive temperance, repetitive temperance, and aspirational temperance. However, since no factors could be extracted for this construct, each dimension was represented by a single question that related to it.

5.7 Hypothesis testing

5.7.1 Research question 1

Research question 1: How has the COVID-19 economic threat disrupted households' financial well-being?

A test for difference between income groups was conducted to analyse how different household income groups were impacted and how they managed their finances due to the income disruption. A test for difference requires the sample groups to be larger than 30 and be of similar size, a ratio of 1.5 between the largest and smallest group sizes (Pallant, 2007, p. 204). Based on the sample for the study, the eight income categories in the questionnaire were regrouped to achieve similar group sizes that were still large enough and which made sense. The lowest three categories (less than R2 000, between R2000 and R9 000, Between R9 000 and R20 000) were removed due to the low frequencies. The fourth and fifth income categories (between R20 000 and R40 000, between R40 000 and R70 000) were combined, therefore grouping monthly household incomes between R20 000 and R70 000 together as the middle-income group, and not distinguishing lower middle- and upper middle-income groups, because the sample size did not allow for it to be done. The last three income categories (between R70 000 and R150 000, between R150 000 and R245 000, and more than R245 000) were merged as the upper-income group, again not distinguishing lower upper- and higher upper-income groups, due to the sample size. Table 28, listed in Appendix 6, presents the recoded income categories that formed the middle- and upper-income groups. The total sample size was reduced to 240 from 264 due to removing the 24 responses that fell in the lowest three income categories, which could not be analysed further. The resultant group sizes for the middle-income and upper-income groups were 114 (43.2%) and 126 (47.7%) respectively. These group sizes are considered similar as the group size ratio is less than 1.5 (Pallant, 2007, p. 204).

5.7.1.1 Relevant hypotheses

Hypothesis 1.1: The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups.

Hypothesis 1.2: The savings behaviour of different household income groups during an economic threat, differs significantly.

Hypothesis 1.3: The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly.

Hypothesis 1.4: The credit management behaviour of different household income groups during an economic threat, differs significantly.

5.7.1.2 Test for normality

The distribution of the sample was first checked to determine whether a parametric or non-parametric test should be used to compare income groups. The Kolmogorov-Smirnov test was used to test for normality of each factor per income group (Pallant, 2007, p. 62). Table 29, detailed in Appendix 6, shows that only the middle-income group for savings was normally distributed as the sig. value was greater than 0.05 (Pallant, 2007, p. 62). Even though not all the factors and respective income groups were normally distributed, the researcher used a parametric test, the independent samples t-test, as it is quite robust for deviations against normality because the sample sizes are larger than 30 and similar in size (Pallant, 2007, p. 204).

5.7.1.3 Comparison tests and independent samples t-tests

5.7.1.3.1 Household income disruption

When examining the severity of income disruption, $M = 2.75$, and $SD = 1.06$ for the middle-income group, compared to $M = 2.41$ and $SD = 1.01$ for the upper-income group, indicate that finances for both income groups were not drastically affected as formulated in the questionnaire, even though the disruption was more extensive for the middle-income group, and fluctuation within the upper-income group was notable.

The Levene's test for the middle- and upper-income groups showed equal variances assumed, with $p = 0.25$, which was higher than the threshold of 0.05 (Pallant, 2007, p. 234). The t-test for equality of means for the middle- and upper-income groups had a mean difference of 0.34, which was statistically significant as the 2-tailed sig. value was $p = 0.01$, which was below the threshold value of 0.05 (Pallant, 2007, p. 235). Therefore, there was a statistically significant difference between the middle- and upper-income groups concerning household income disruption at a 95% confidence level. Thus, although the finances for both income groups were not drastically affected, the disruption was significantly more severe for the middle-income group.

Therefore, Hypothesis 1.1: The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups, is supported.

5.7.1.3.2 Savings

An $M = 3.06$ and $SD = 0.88$ for the middle-income group, compared to $M = 3.40$, $SD = 1.06$ for the high-income group, indicates that the middle-income household group saved less than their upper-income counterparts.

The Levene's test for the middle- and upper-income groups showed equal variances not assumed, with $p = 0.03$, which was less than the threshold of 0.05 (Pallant, 2007, p. 234). The t-test for equality of means for the middle- and upper-income groups revealed a mean difference of -0.34, which was statistically significant, as the 2-tailed sig. value was $p = 0.01$, which was below the threshold value of 0.05 (Pallant, 2007, p. 235). Therefore, there was a statistically significant difference between the middle- and upper-income groups' savings behaviour, at a 95% confidence level. The middle-income group was significantly less successful in saving than their upper-income counterparts, although neither managed to perform particularly well ($M < 3.5$).

Therefore, Hypothesis 1.2: The savings behaviour of different household income groups during an economic threat, differs significantly, is supported.

5.7.1.3.3 Insurance maintenance

The ability of the middle-income group ($M = 3.63$; $SD = 0.93$) to maintain insurance was lower than the upper-income group ($M = 4.13$; $SD = 0.77$), indicating that both income groups maintained insurance rather well, although the upper-income group was more successful in doing so.

The Levene's test for the middle and upper-income groups showed that equal variances could not be assumed, with $p = 0.01$, which was less than the threshold of 0.05 (Pallant, 2007, p. 234). The t-test for equality of means for the middle and upper-income groups indicated a means difference of -0.5, which was statistically significant as the 2-tailed $p = 0.00$, which was below the threshold value of 0.05 (Pallant, 2007, p. 235). Therefore, there was a statistically significant difference between the middle- and upper-income groups' managing of their insurance at a 95% confidence level. The upper-income group managed significantly better in managing their insurance portfolios ($M > 4$) compared to the middle-income group, that managed fairly well ($M > 3.6$).

Therefore, Hypothesis 1.3: The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly, is supported.

5.7.1.3.4 Credit management

The middle-income group ($M = 3.94$; $SD = 70$) was slightly less successful in managing credit compared to upper-income households ($M = 4.27$; $SD = 0.75$), although both income groups seemed to have prioritised managing their credit during the trying times.

The Levene's test for the middle and upper-income groups showed equal variances assumed, as the $p = 0.58$, which was more than the threshold of 0.05 (Pallant, 2007, p. 234). The t-test for equality of means for the middle- and upper-income groups had a difference in mean of -0.33 groups which was statistically significant, as the 2-tailed $p = 0.00$, which was below the threshold value of 0.05 (Pallant, 2007, p. 235). Therefore, there was a statistically significant difference in the middle- and upper-income groups' credit management at a 95% confidence level. Although both groups

managed their credit rather well, the upper-income group's credit management was significantly better ($M > 4$).

Therefore, Hypothesis 1.4: The credit management behaviour of different household income groups during an economic threat, differs significantly, is supported.

Details are provided in Appendix 6 in Table 30: Descriptive statistics between income groups for each factor, and Table 31: Independent Samples Test.

5.7.1.4 Conclusion of Hypothesis 1

Hypothesis 1.1 to 1.4 relating to all the dimensions of financial management were supported, hence for income disruption, savings, insurance maintenance, and credit management behaviours when comparing the middle- and upper-income groups at a 95% confidence level. For all the dimensions, the disruption was significantly more severe for the middle-income group. They were significantly less successful in maintaining savings, maintaining insurance portfolios, and managing their credit.

5.7.2 Research question 2

Research question 2: How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?

The results from Hypothesis 1 in the previous sub-section showed a significant difference in the disruption experienced, as well as the financial management behaviours demonstrated by the middle- and upper-income groups. As such, the researcher used the income group as a control variable in the model for testing the relationship between household income disruption (dependent variable) and the three dimensions of financial management behaviours (dependent variables), as seen in Figure 3 below.

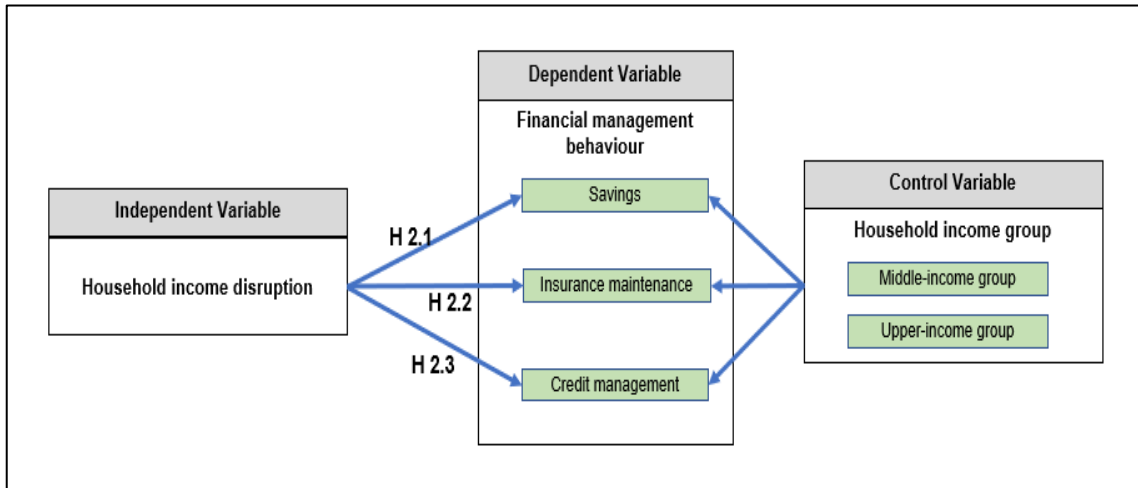


Figure 3: Relationship between household income disruption and financial management behaviour.

5.7.2.1 Relevant hypotheses

Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.

Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.

Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.

5.7.2.2 Hypothesis 2.1 testing

Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.

5.7.2.2.1 The relevant assumptions

In order to conduct a multiple linear regression analysis, three assumptions needed to be met, which relate to outliers and normal distribution, correlation, and multicollinearity.

Outliers and normal distribution

The first assumption is that the dataset should not have any outliers that can be identified by examining the standardised residuals plot for values outside the range of -3.3 and 3.3, which then needs to be removed (Pallant, 2007, p. 149).

The savings factor showed no outliers, and it followed a normal distribution as the standardised regression plot indicated residuals were between -3.3 and 3.3 (Pallant, 2007, p. 149). Therefore, 240 responses for the middle- and upper-income groups were used for the analysis. For savings, $M = 3.24$ and $SD = 0.99$; and for income disruption, $M = 2.57$, and $SD = 1.04$.

Correlation

The second assumption is that the residual values, as indicated on the standardised residual plot, must be normally distributed about the dependent variable (Pallant, 2007, p. 149). The residual values also must have a linear relationship with the dependent variable (Pallant, 2007, p. 149).

The Pearson correlation coefficient for the relationship between household income disruption and savings, as indicated in Table 32 in Appendix 6, was -0.45, which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. Household income disruption, therefore, had a moderately strong negative correlation to savings. The greater the household income disruption, the lower the savings.

The Pearson correlation coefficient for the relationship between income group and savings was 0.17, which was below 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. The income group had a weak positive correlation to savings. The higher the income group, the better the savings behaviour demonstrated. See in Appendix 6 for Table 32: Correlation between income disruption and savings.

Multicollinearity

The third assumption is that there must be no multicollinearities. That is, the relationship between the independent variables must not have a high correlation with each other which is indicated by a correlation coefficient of greater than 0.7, tolerance of less than 0.1, and a variance inflation factor (VIF) of more than 10 (Pallant, 2007, pp. 155–156).

The data revealed that the correlation between the two independent variables of household income disruption and income group was -0.16, which is less than the 0.7 threshold (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that this weak relationship is significant.

The collinearity statistics in Table 35, as shown in Appendix 6, shows a tolerance of 0.97, which is well above the minimum of 0.1, and a VIF of 1.03, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, both independent variables were added to the regression model.

5.7.2.2 Evaluation of the model

The R square value in Table 33, as presented in Appendix 6, shows that 21.3% of the variance in savings is explained by household income disruption and income level. The ANOVA, as illustrated in Table 34 in Appendix 6, shows a sig. value of less than 0.05. Therefore, the household income disruption and income group are jointly significant in explaining savings behaviour (Pallant, 2007, p. 158).

Refer to Appendix 6 for details presented in Table 33: Variance of correlation between income disruption and savings, as well as Table 34: ANOVA of income disruption and savings.

5.7.2.3 Evaluation of the independent variables

The correlations between the independent and dependent variables, as seen in Table 32 in Appendix 6, were done in isolation. The income group was treated as an independent variable rather than a control variable. For the multiple regression analysis, the income group was controlled for when the relationship between household income disruption and savings was tested. Refer to Table 35 in Appendix

6 for a summary of the multiple regression results. Results show that the income group did not make a statistically significant unique contribution in predicting savings, as the sig value of 0.086 exceeds 0.05 (Pallant, 2007, p. 159). However, household income disruption made a statistically significant unique contribution in predicting saving as the sig. value was less than 0.05 (Pallant, 2007, p. 159). Household income disruption had a standardized beta of -0.434, which indicates a moderately strong negative relationship with savings. Household income disruption also had an unstandardized coefficient (B) of -0.41, which meant that for every unit increase in household income disruption, the savings would decrease by 0.41 units. Even though the income group significantly correlated with savings, it wasn't a significant control variable in the model. Appendix 6 presents the relevant Table 35: Regression and collinearity results of income disruption and savings.

5.7.2.2.4 Conclusion of Hypothesis 2.1

Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour, is supported. There was a moderately strong negative relationship between household income disruption and savings which concurs with literature, being significant at a 95% confidence level. Therefore, the more severe the household income disruption, the worse the savings behaviour.

5.7.2.3 Hypothesis 2.2 testing

Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.

5.7.2.3.1 The relevant assumptions

Outliers and normal distribution

For the insurance factor, the standardised regression plot indicated two residual outliers lower than -3.3, which were then omitted (Pallant, 2007, p. 149). After the outliers were omitted, the standard regression plot indicated a more normally distributed dataset. Therefore, a total of 238 responses for the middle- and upper-income groups were retained for the analysis. For insurance, $M = 3.92$ and $SD = 0.85$, and for household income disruption, $M = 2.58$ and $SD = 1.04$.

Correlation

The Pearson correlation coefficient for the relationship between household income disruption and insurance maintenance, as presented in Table 36 in Appendix 6, was -0.31, which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. Household income disruption, therefore, exerted a moderately weak negative correlation to insurance maintenance. Hence the greater the household income disruption, the lower the insurance maintenance.

The Pearson correlation coefficient for the relationship between income group and insurance maintenance was 0.29, which was below 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. The income group, therefore, had a moderately weak positive correlation with insurance maintenance. The higher the income, the better the insurance maintenance behaviour was. Table 36: Correlation between income disruption and insurance is presented in Appendix 6.

Multicollinearity

The correlation between the two independent variables of household income disruption and income group was -0.17, which is less than the 0.7 threshold (Pallant, 2007, p. 155), and had a sig. (1-tailed) value less than 0.05, indicating that this weak relationship is significant. Details are presented in Table 36 and Table 39 in Appendix 6. The collinearity statistics show a tolerance of 0.97, which is well above the minimum of 0.1 and a VIF of 1.03, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, both independent variables were added to the regression model.

5.7.2.3.2 Evaluation of the model

As presented in Table 37 in Appendix 6, the R square value shows that 15.73% of the variance in insurance behaviour is explained by household income disruption and income level. The ANOVA, as presented in Table 38 in Appendix 6, shows a sig. value of less than 0.05, therefore the household income disruption and income group are jointly significant in explaining insurance maintenance behaviour (Pallant, 2007, p. 158).

See Appendix 6 for the following tables:

Table 37: Variance of correlation between income disruption and insurance

Table 38: ANOVA of income disruption and insurance

Table 39: Regression and collinearity of income disruption and insurance

5.7.2.3.3 Evaluation of the independent variables

As seen in Table 36 in Appendix 6, the correlations between the independent and dependent variables were done in isolation. The income group was treated as an independent variable rather than a control variable. For the regression analysis, the income group was controlled for when the relationship between household income disruption and insurance maintenance was tested. Refer to Table 39 in Appendix 6 for a summary of the multiple regression results.

The constant, income group and household income disruption made statistically significant unique contributions in predicting insurance maintenance behaviour as the sig. value were all less than 0.05 (Pallant, 2007, p. 159). Household income disruption had a standardized beta of -0.27, indicating a moderately weak negative relationship with insurance maintenance. The income group had a standardized beta of 0.25, indicating a moderately weak positive relationship with insurance maintenance. Even though household income disruption was the stronger predictor of insurance maintenance as indicated by the higher absolute value standardised beta coefficient, they were very close. Therefore, both variables were important in the model for predicting insurance maintenance behaviour.

Household income disruption had an unstandardized coefficient (B) of -0.22, which meant that for every unit increase in household income disruption, the insurance maintenance would decrease by 0.22 units. The income group had an unstandardised coefficient (B) of 0.42, which meant that the score of the upper-income group was 0.42 higher than the middle-income group for insurance maintenance. See Appendix 6 for Table 39: Regression and collinearity of income disruption and insurance.

5.7.2.3.4 Conclusion of Hypothesis 2.2

Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour, is supported. There was a moderately weak negative relationship between household income disruption and insurance maintenance, which concurs with literature that is significant at a 95% confidence level. Therefore, the greater the household income disruption, the worse the insurance maintenance behaviour. There was also a moderately weak positive correlation between the income group and insurance maintenance, which was statistically significant at a 95% confidence level. The higher income group demonstrated better insurance maintenance behaviour.

5.7.2.4 Hypothesis 2.3 testing

Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.

5.7.2.4.1 The relevant assumptions

Outliers and normal distribution

For the credit management factor, the standardised regression residual indicated one residual outlier lower than -3.3, which was then omitted (Pallant, 2007, p. 149). After the outliers were omitted, the standard regression plot indicated a more normally distributed dataset. Therefore, 239 responses for the middle- and upper-income groups were used for the analysis. For credit management, $M = 4.12$ and $SD = 0.72$; and for household income disruption, $M = 2.58$ and $SD = 1.04$.

Correlations

The Pearson correlation coefficient for the relationship between household income disruption and credit management, as seen in Table 40 depicted in Appendix 6, was -0.39, which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. Household income disruption had a moderately weak negative correlation to credit management. The greater the household income disruption, the lower the credit management.

The Pearson correlation coefficient for the relationship between income group and credit management was 0.25, which was below 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. The income group had a weak positive correlation to credit management. The higher the income, the better the credit management behaviour. See Appendix 6 for Table 40: Correlation between income disruption and credit management.

Multicollinearity

The correlation between the two independent variables of household income disruption and income group was -0.16, which is less than the 0.7 threshold (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that this weak relationship is significant.

The collinearity statistics in Table 43, as presented in Appendix 6, showed a tolerance of 0.98, which is well above the minimum of 0.1 and a VIF of 1.03, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, both independent variables were added to the regression model.

5.7.2.4.2 Evaluation of the model

The R square value in Table 41, as depicted in Appendix 6, shows that 18.6% of the variance in credit management behaviour is explained by household income disruption and income groups. The ANOVA, as presented in Table 42, in Appendix 6, shows a sig. value is less than 0.05; therefore, the household income disruption and income group are jointly significant in explaining credit management behaviour (Pallant, 2007, p. 158).

5.7.2.4.3 Evaluation of the independent variables

As seen in Table 40 in Appendix 6, the correlations between the independent and dependent variables were done in isolation. The income group was treated as an independent variable rather than a control variable. For the regression analysis, the income group was controlled for when the relationship between household income disruption and credit management was tested. Refer to Table 43 in Appendix 6 for a summary of the multiple regression results.

The constant, income group and household income disruption made statistically significant unique contributions in predicting credit management behaviour as the sig. value was less than 0.05 (Pallant, 2007, p. 159). Household income disruption had a standardized beta of -0.36, indicating a moderately weak negative relationship with credit management. The income group had a standardized beta of 0.19, which indicates a weak positive relationship with credit management. Household income disruption was the stronger predictor of credit management than income level, as indicated by the higher absolute standardised beta coefficient.

Household income disruption had an unstandardized coefficient (B) of -0.25, which meant that for every unit increase in household income disruption, the credit management would decrease by 0.25 units. Income level had an unstandardized coefficient (B) of 0.28, which meant that the upper-income group scored 0.28 higher than the middle-income group for credit management.

5.7.2.4.4 Conclusion of Hypothesis 2.3

Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour, is supported. There was a moderately weak negative relationship between household income disruption and credit management, which was statistically significant at a 95% confidence level. The greater the household income disruption, the worse the credit management behaviour. There was a weak positive correlation between the income group and credit management, which was statistically significant at a 95% confidence level. Hence, the higher income group demonstrated better credit management behaviour.

5.7.3 Research question 3

Research question 3: How have the different forms of mindful consumption influenced households' financial management?

5.7.3.1 Relevant hypotheses

Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

No factors emerged from the EFA for the mindful consumption construct. The researcher identified one question per construct to represent each of the theoretical factors of mindful consumption (acquisitive temperance, repetitive temperance, aspirational temperance), based on the definitions for the constructs in literature. This was done to simplify the hypothesis tests. With guidance from the researcher's supervisor, the selection of questions was based on which seemed most appropriate for the study:

1. To represent the acquisitive temperance factor, question D2 "I only purchased the goods we needed", was selected.
2. To represent the repetitive temperance factor, question D7 "I repaired most products rather than to replace or throw it away", was selected.
3. To represent the aspirational temperance factor, question D9 "I refrained from buying bigger and more luxurious products and services than what I needed", was selected.

A conceptual model that guided the hypothesis testing is shown in Figure 4 below. The independent variable was household income disruption. The difference between household income groups in terms of mindfulness was not within the scope of this study. Therefore, all income categories were used in the data set, which entailed 264 responses. Furthermore, the research aimed to understand how households' mindfulness regarding consumption influenced their financial management behaviour. As such, the construct of financial management behaviour was used as the dependent variable and not its individual factors as was done for research

questions 1 and 2. Lastly, the individual question for the three dimensions of mindful consumption was used as moderators.

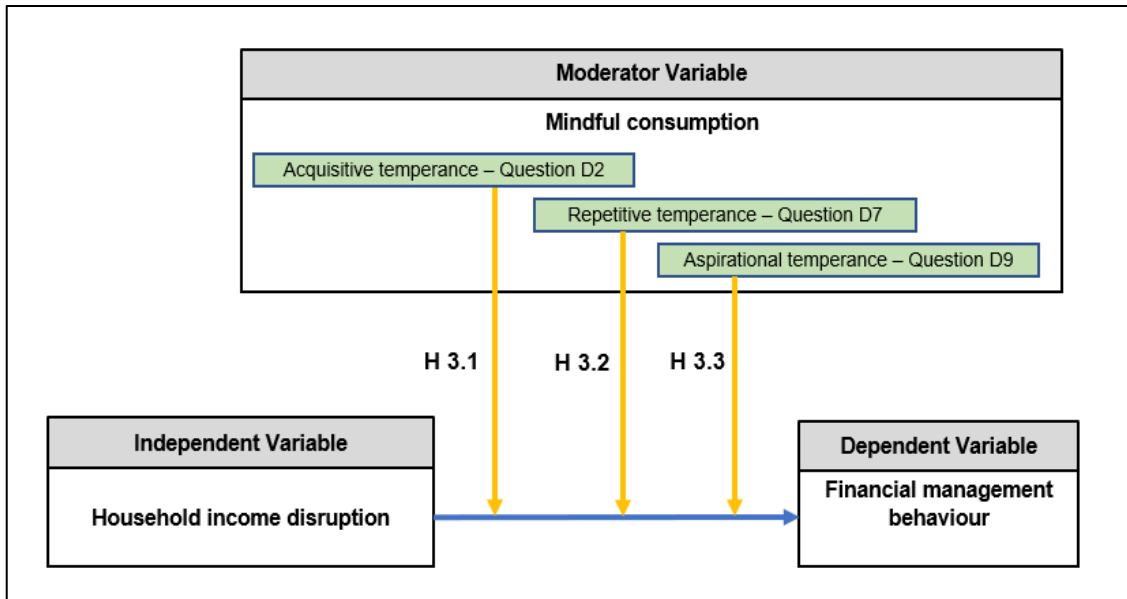


Figure 4: Mindful consumption as a moderator to the relationship between household income disruption and financial management behaviour

5.7.3.2 Moderating influence procedure

Frazier, Tix, and Barron (2004, p. 115) recommend using multiple regression as it is a technique that is widely accessible in major statistical software packages to analyse moderator effects.

For correlations with interactions, not all the independent variables need to correlate with the dependent variable. There may be variables that don't correlate in isolation, but when combined with other variables, they will impact the outcome. Whether the independent variables correlate with the dependent variable in isolation or not, it was included in the model as interaction cannot be done without the main effects of the independent variables.

The procedure for testing the moderation influence of mindful consumption first tested the relationship between the independent variables of household income disruption and the moderating variable consisting of the question used as a proxy for

the mindful consumption factor and the dependent variable of financial management behaviours in isolation.

Thereafter, the interaction effect of the independent and moderating variables with the dependent variable was tested. The assumption is that if the R square change between the two tests is significant, then there exists a significant moderator effect (Hair, Black, Babin, Anderson, & Tatham, 2006, p. 202).

As regression analysis requires that there should be no multicollinearities (Pallant, 2007, p. 149), the independent and moderator variable in the model were mean centred, which is a procedure used to reduce issues that are associated with multicollinearity (Frazier et al., 2004, p. 120).

5.7.3.3 Hypothesis 3.1 testing

Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Question D2, “I only purchased the goods we needed”, represented the acquisitive temperance factor for the mindful consumption construct. The notation “MC” signifies mean centred. The notation “Int_D2” signifies the product term that represents the interaction between household income disruption (independent variable) and question D2 (moderator) which represents acquisitive temperance.

5.7.3.3.1 The relevant assumptions

Outliers and normal distribution

The financial management behaviour factor showed no outliers, and it followed a normal distribution as the standardised regression residuals were between -3.3 and 3.3 (Pallant, 2007, p. 149). Therefore, a total of 264 responses were used for the analysis. The financial management behaviour had $M = 3.59$ and $SD = 0.72$.

Correlation

The Pearson correlation coefficient for the relationship between mean centred household income disruption and financial management behaviour, as seen in Table

44, as depicted in Appendix 6, was -0.55, which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. The mean centred household income disruption had a strong negative correlation to financial management behaviour. The greater the household income disruption, the worse the financial management behaviour. The correlations for D2 and Int_D2 with financial management behaviour was not significant as the sig. values were greater than 0.05.

Multicollinearity

The collinearity statistics in Table 47, as depicted in Appendix 6, showed tolerances well above the minimum of 0.1 and VIF, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, the independent and moderating variables were added to the regression model.

5.7.3.3.2 Evaluation of the model

Two models were used for determining the significance of the interaction effect. The first model consisted of the two main effects of MC_Household income disruption and MC_D2. The second model consisted of adding the interaction effect, Int_D2, to the two main effects. Table 45 and Table 46, as presented in Appendix 6, provides a summary of the variance results.

In model 1, the R square value indicates that 32% of the variance in financial management behaviour is explained by having D2 and household income disruption as independent variables.

In model 2, the R square stayed the same when the interaction effect, Int_D2, was added to the main model. Since there was no change in R square, introducing D2 as a moderator did not add any additional value to the model. This indicated that question D2, representing acquisitive temperance, did not have a significant moderating effect on the relationship between household income disruption and financial management behaviour (Hair et al., 2006, p. 202).

5.7.3.3.3 Evaluation of independent and moderator variables

Table 47, as shown in Appendix 6, summarises the multiple linear regression results. Household income disruption and D2 as the main effect was significant as the sig. value was less than 0.05 (Pallant, 2007, p. 159). The addition of the interaction effect, Int_D2, with the two main effects indicated that only the main effects were significant but not the interaction. Question D2 was still a predictor of financial management behaviour but as an independent variable and not as a moderator. The unstandardized coefficient (B) of -0.37 means that for every 1 unit increase in household income disruption, financial management behaviour will decrease by 0.37 units. For every 1 unit increase in D2, the financial management behaviour increases by 0.10 units.

5.7.3.3.4 Conclusion of Hypothesis 3.1

Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households, is not supported. The interaction effect, Int_D2, on the main effects model did not change the R square. Therefore, introducing acquisitive temperance (question D2) as a moderator did not add additional value to the model.

However, household income disruption and acquisitive temperance (question D2) as main effects, without the interaction, had a significant correlation to financial management behaviour. The higher the household income disruption, the worse the financial management behaviour. The higher the acquisitive temperance, the better the financial management behaviour. This relationship will be a suggestion for future research.

5.7.3.4 Hypothesis 3.2 testing

Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Question D7, "I repaired most products rather than to replace or throw it away", represented the repetitive temperance factor for the mindful consumption construct. The notation "MC" signifies mean centred. The notation "Int_D7" signifies the product

term that represents the interaction between household income disruption (independent variable) and question D7 (moderator) which represents repetitive temperance.

5.7.3.4.1 The relevant assumptions

Outliers and normal distribution

The financial management behaviour factor showed one outlier was removed, resulting in a more normally distributed dataset (Pallant, 2007, p. 149). Therefore, a total of 263 responses were used for the analysis. The financial management behaviour had $M = 3.59$ and $SD = 0.71$.

Correlation

The Pearson's correlation coefficient for the relationship between mean centred household income disruption and financial management behaviour, as seen in Table 48, as depicted in Appendix 6, was -0.57 , which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05 , indicating that the relationship is significant. This indicated that household income disruption has a strong negative correlation with financial management behaviour. Hence, the greater the household income disruption, the worse the financial management behaviour. The Pearson correlation coefficient for the relationship between mean centred repetitive temperance (D7) as the main effect and financial management behaviour was not significant as the sig. value was higher than 0.05 . The correlation between the interaction, Int_D7, and financial management behaviour was -0.15 and had a sig. (1-tailed) value less than 0.05 , indicating that the relationship is significant.

Results indicate a weak negative interaction effect of repetitive temperance (question D7) on financial management behaviour. Therefore, the higher the household income disruption, the lower the effect of repetitive temperance on financial management. See details in Appendix 6 for Table 48: Correlations of income disruption, repetitive temperance (D7), and financial management behaviour.

Multicollinearity

As presented in Table 51 in Appendix 6, the collinearity statistics showed tolerances well above the minimum of 0.1 and VIF, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, the independent and moderating variables were added to the regression model.

5.7.3.4.2 Evaluation of the model

Two models were used to determine the significance of the interaction effect. The first model consisted of the two main effects of MC_ Household income disruption and MC_D7. The second model consisted of adding the interaction effect, Int_D7, to the two main effects. Table 49 and Table 50 in Appendix 6 provides a summary of the variance results.

In model 1, the R square value indicates that 32.5% of the variance in financial management behaviour is explained by having D7 and household income disruption as independent variables by themselves. This was significant as the sig. value was less than 0.05.

In model 2, the R square was 34.2%. The R square change was 1.7% which was significant as the sig. value was less than 0.05. Since there was a statistically significant change in R square, introducing repetitive temperance (question D7) as a moderator adds additional value to the model. This indicated that question D7, representing repetitive temperance, had a significant moderating effect on the relationship between household income disruption and financial management behaviour. (Hair et al., 2006, p. 202).

5.7.3.4.3 Evaluation of independent and moderator variables

Table 51, as presented in Appendix 6, provides a summary of the multiple linear regression results. Household income disruption as the main effect was significant as the sig. value was less than 0.05 (Pallant, 2007, p. 159). Question D7 as the main effect was not significant as the sig. value was greater than 0.05. The interaction effect, Int_D7, was significant as the sig. value was greater than 0.05.

The unstandardized coefficient (B) for the main effect of household income disruption indicated that for every 1 unit increase in household income disruption, financial management behaviour would worsen by 0.38 units. The unstandardized coefficient (B) for the interaction effect of D7 was -0.081.

In order to interpret significant moderation effects, Frazier et al. (2004, p. 122) recommends plotting the predicted values for the dependent variable (financial management) for representative groups of the independent variable (household income disruption) and moderating variable (repetitive temperance, represented by question D7). See Figure 5 below, which presents a graph for the significant moderation effects. The “Below Average” line represents respondents that generally did not repair products, whilst the “Above Average” line represents respondents that generally repaired products. The graph indicates that when the household income disruption was low, the households that generally repaired most products rather than replacing or throwing them away had slightly better financial management than households that did not opt to rather repair most products. As the household income disruption increases, the financial management of both groups deteriorates. However, the households that generally repaired most products demonstrated slightly poorer financial management than households that did not generally repair most products.

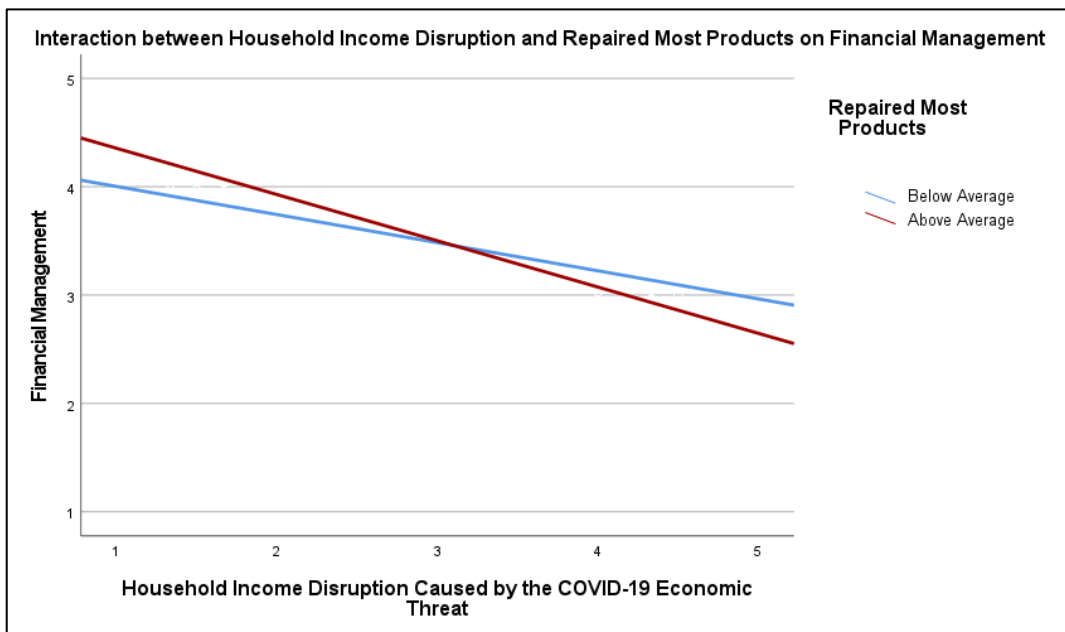


Figure 5: Plot of significant moderating effect for repetitive temperance

5.7.3.4.4 Conclusion of Hypothesis 3.2

Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households, is supported. The interaction effect of repetitive temperance (question D7) on the main effects model changed the R square by 1.7%, which was significant at a 95% confidence level. Therefore, introducing repetitive temperance as a moderator adds additional value to the model.

When the household income disruption is low, the effect of rather repairing than replacing is high on the relationship between household income disruption and financial management. The effect of rather repairing is smaller when the household income disruption is greater. This could be because the disruption in income is so considerable that repairs won't improve your financial management behaviour.

5.7.3.5 Hypothesis 3.3 testing

Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Question D9 "I refrained from buying bigger and more luxurious products and services than what I needed" represented the aspirational temperance factor for the mindful consumption construct. The notation "MC" signifies mean centred. The notation "Int_D9" signifies the product term that represents the interaction between household income disruption (independent variable) and question D9 (moderator) which represents aspirational temperance.

5.7.3.5.1 Relevant assumptions

Outliers and normal distribution

The financial management behaviour factor showed two outliers that were removed, resulting in a more normally distributed dataset (Pallant, 2007, p. 149). Therefore, a total of 262 responses were used for the analysis. The financial management behaviour had an $M = 3.60$ and $SD = 0.71$.

Correlation

The Pearson's correlation coefficient for the relationship between mean centred household income disruption and financial management behaviour was -0.59, as seen in Table 52 (see Appendix 6), which was above the threshold of 0.3 (Pallant, 2007, p. 155) and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. This indicated that household income disruption had a strong negative correlation to financial management behaviour. The higher the household income disruption, the worse the financial management behaviour. The Pearson's correlation coefficient for the relationship between mean centred aspirational temperance (question D9) and financial management behaviour was -0.12 and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. This indicated a weak negative correlation between the main effect of aspirational temperance (question D9) on financial management behaviour. The higher the aspirational temperance, the lower the financial management. The Pearson's correlation coefficient for the relationship between Int_D9 and financial management behaviour was -0.16 and had a sig. (1-tailed) value less than 0.05, indicating that the relationship is significant. The higher the household income disruption, the lower the effect of D9 on financial management.

Multicollinearity

The collinearity statistics in Table 55 (see Appendix 6) showed tolerances well above the minimum of 0.1 and VIF, which is well below the threshold of 10 (Pallant, 2007, p. 156). Since there was no indication of multicollinearities, the independent and moderating variables were added to the regression model.

5.7.3.5.2 Evaluation of the model

Two models were used for determining the significance of the interaction effect. The first model consisted of the two main effects of MC_Household income disruption and MC_D9. The second model consisted of adding the interaction effect, Int_D9, to the two main effects. Table 53 and Table 54 can be perused in Appendix 6, which summarises the variance results.

In model 1, the R square value indicates that 34.4% of the variance in financial management behaviour is explained by having D9 and household income disruption as independent variables by themselves. This was significant as the sig value was less than 0.05.

In model 2, the R square was 35.2%. The R square change was 0.8%, which was not significant as the sig. F change value of 0.08 was greater than 0.05. This indicated that question D9, representing aspirational temperance, did not have a significant moderating effect on the relationship between household income disruption and financial management behaviour. (Hair et al., 2006, p. 202).

5.7.3.5.3 Evaluation of independent and moderator variable

Table 55 (see Appendix 6) presents a summary of the multiple linear regression results. Household income disruption as the main effect was significant as the sig. value was less than 0.05 (Pallant, 2007, p. 159). Question D9 as the main effect, as well as an interaction effect, was not significant as the sig. values were greater than 0.05. Therefore, aspirational temperance (question D9) is not a moderator, neither is it an independent variable.

5.7.3.5.4 Conclusion of Hypothesis 3.3

Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households, is not supported. The interaction effect of aspirational temperance (question D9) on the main effects model was not significant at a 95% confidence level. Therefore, introducing aspirational temperance as a moderator added no additional value to the model. Furthermore, aspirational temperance was not an independent variable as the main effect was not significant at a 95% confidence level.

5.8 Chapter summary

This chapter presented the results of the statistical tests conducted. Table 1 below summarises the outcomes of the hypothesis testing for this study.

Table 1: Summary of hypothesis testing results

Research question	Hypothesis	Section	Result
RQ 1: How has the COVID-19 economic threat disrupted households' financial well-being?	Hypothesis 1.1: The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups.	5.7.1.3.1	Supported
	Hypothesis 1.2: The savings behaviour of different household income groups during an economic threat, differs significantly.	5.7.1.3.2	Supported
	Hypothesis 1.3: The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly.	5.7.1.3.3	Supported
	Hypothesis 1.4: The credit management behaviour of different household income groups during an economic threat, differs significantly.	5.7.1.3.4	Supported
RQ 2: How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?	Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.	5.7.2.2	Supported
	Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.	3	Supported
	Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.	5.7.2.4	Supported
RQ 3: How have the different forms of mindful consumption influenced households' financial management?	Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.	5.7.3.3	Not supported
	Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income	5.7.3.4	Supported

	disruption and the financial management of households.		
	Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.	5.7.3.5	Not supported

CHAPTER 6: DISCUSSION

6.1 Introduction

The purpose of this chapter is to answer the three research questions presented in Chapter 3, which aimed to better understand how households have dealt with different aspects of financial management during the COVID-19 pandemic, and to understand the influence of mindful consumption on the relationship between household income disruption and their financial management behaviour. As such, this section will address each research question by discussing the findings of the results as presented in Chapter 5 in terms of existing literature in Chapter 2 and will also be linked to the theoretical perspectives of Prospect Theory and Mental Accounting.

This chapter presents a discussion of the measurement scale that was developed and adapted for the study, followed by a discussion of findings from the hypotheses specific to each of the three research questions.

6.2 Measurement scales

The final scale used for the study consisted of questions developed by the author and adaptations from the financial management behaviour scale (Dew & Xiao, 2011) and mindful consumption scale (Gupta & Verma, 2019). As such, validity was tested using exploratory factor analysis for each construct to explore which questions grouped together using the principal axis factoring extraction method.

The household income disruption construct, which consisted of questions developed by the author with guidance from the supervisor, resulted in one factor being extracted with statistically significant factor loadings that were above 0.62 (Table 13 in Section 5.4.2). Therefore, construct validity for household income disruption was confirmed.

The financial management behaviour construct, which consisted of questions adapted from the financial management behaviour scale (Dew & Xiao, 2011), resulted in four questions being removed due to weak MSA and communalities. The

three factors extracted were savings, insurance maintenance, and credit management. The factor loadings for savings, insurance maintenance and credit management were statistically significant and higher than 0.41, 0.65, and 0.44 respectively (Table 18 in Section 5.4.3). A second-order factor analysis was done on the three extracted factors to test the groupings of these factors to form the financial management behaviour construct. This resulted in one factor being extracted that was statistically significant and, therefore, valid to be part of the overall construct (Table 23 in Section 5.4.3). Thus, construct validity for financial management behaviour was confirmed.

The mindful consumption construct, which comprised questions adapted from the mindful consumption scale (Gupta & Verma, 2019), resulted in almost no correlations above 0.3; therefore, factor analysis was not done. This meant that each of the questions for the mindful consumption construct would need to be used in isolation when testing hypotheses. To simplify the testing of hypotheses that included the mindful consumption construct (in Section 6.5 below), a single question was selected to represent each of the theoretical factors that formed part of the mindful consumption construct. Further limitations are highlighted in Section 7.7.

The following questions were selected with guidance from the researcher's supervisor and based on appropriateness for the study:

1. To represent the acquisitive temperance factor, question D2 "I only purchased the goods we needed", was selected.
2. To represent the repetitive temperance factor, question D7 "I repaired most products rather than to replace or throw it away", was selected.
3. To represent the aspirational temperance factor, question D9 "I refrained from buying bigger and more luxurious products and services than what I needed", was selected.

The reliability of the extracted factors from the EFA was tested, which showed that household income disruption, savings, insurance, and credit management were all reliable (Section 5.5.1 and Table 25 in Section 5.5.2).

6.3 Research question 1

Research question 1: How has the COVID-19 economic threat disrupted households' financial well-being?

The effects of the COVID-19 pandemic brought about significant disruptions in business operations, resulting in many people losing their jobs or facing a sudden reduction in salaries and household incomes. The widespread economic impact meant that many households were placed under severe financial stress conditions because the lifestyles that they had become accustomed to could no longer be maintained. As such, this research question aimed to address how different households were impacted financially by the COVID-19 pandemic.

The results of the four hypotheses in Section 5.7.1 will be discussed in the subsections below, which relate to differences in household income disruption, savings behaviours, insurance maintenance behaviours, and credit management behaviours. The discussion aims to provide insight into how the COVID-19 economic threat disrupted households' financial well-being.

The different households were categorised into the middle- and upper-income groups, which were similar in size as seen in Table 28, in Appendix 6. The resultant sample size was 240, comprised 114 (43.2%) for the middle-income group and 126 (47.7%) for the upper-income group.

6.3.1 Hypothesis 1.1

Hypothesis 1.1: The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups.

The aim of Hypothesis 1.1 was to provide evidence of the level of household income disruption experienced by the different household income groups. This was developed empirically in line with the literature.

The results of the independent samples t-test (see Section 5.7.1) supported this hypothesis as the middle- and upper-income groups, assuming equal variances ($p=0.25$) for the Levene's test, had a difference in mean of 0.34, which was statistically significant (2-tailed $p = 0.01$) at a 95% confidence level. The upper-income group ($M = 2.75$) disagreed to a greater extent than the middle-income group ($M = 2.41$) for disruptions in their income.

Literature suggests that higher income groups are less affected financially during economic recessions in comparison to lower-income groups (Rauscher & Elliott, 2016). Even though this study only focused on the differences between the middle- and upper-income groups, as opposed to upper-, middle-, and lower-income groups, the result still concurs with the views of Rauscher and Elliot (2016). The higher initial wealth and financial resources that the upper-income group possessed compared to the middle-income group provided some protection against the loss of income or wealth during periods of recession (Rauscher & Elliott, 2016).

From a Prospect Theory perspective (Kahneman & Tversky, 1979), the difference in household financial choices between the two income groups would consider the household income disruptions (losses) in relation to their respective monthly income as a reference point. Thus, the middle-income group perhaps experienced the losses more severely than the upper-income group.

In summary, the findings for Hypothesis 1.1 indicate that even though the disruption in households' income for both income groups was not drastic, the middle-income household group experienced the income disruption to a greater extent than the upper-income group, which supports Hypothesis 1.1.

6.3.2 Hypothesis 1.2

Hypothesis 1.2: The savings behaviour of different household income groups during an economic threat, differs significantly.

The aim of Hypothesis 1.2 was to understand the savings behaviour adopted by different household income groups during the COVID-19 pandemic. This was developed empirically in line with the literature.

The results of the independent samples t-test (see Section 5.7.1) supported this hypothesis as the middle- and upper-income groups, with equal variances not assumed ($p = 0.03$) for the Levene's test, had a difference in mean of -0.34 , which was statistically significant (2-tailed $p = 0.01$) at a 95% confidence level. The upper-income group ($M = 3.40$) agreed to a greater extent than the middle-income group ($M = 3.06$) for savings behaviours adopted.

The results were supported by literature suggesting that savings improve households' liquidity and safeguard them against the adverse effects of a recession (Friedline et al., 2020). However, higher-income households could save more than lower-income groups to protect themselves against a loss of income (Friedline et al., 2020).

The result confirms what is stated in Prospect Theory (Kahneman & Tversky, 1979). The difference in household financial choices between the two income groups would consider the losses they experience in relation to their respective monthly income as a reference point and, therefore, would culminate in different savings behaviour.

The result also confirms what is stated in Mental Accounting, which suggests that consumers from different household income groups generally structure their budgets differently (Thaler, 1999).

In summary, the findings for Hypothesis 1.2, that the middle-income group was significantly less successful in saving than their upper-income counterparts, although neither managed to perform particularly well ($M < 3.5$), supports Hypothesis 1.2.

6.3.3 Hypothesis 1.3

Hypothesis 1.3: The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly.

The aim of Hypothesis 1.3 was to understand the insurance maintenance behaviour adopted by different household income groups during the COVID-19 pandemic. This was developed empirically whilst guided by literature.

The results of the independent samples t-test (see Section 5.7.1) supported this hypothesis as the middle- and upper-income groups, with equal variances not assumed ($p = 0.01$) for the Levene's test, had a difference in mean of -0.5, which was statistically significant (2-tailed $p = 0.00$) at a 95% confidence level. The upper-income group ($M = 4.13$) agreed to a greater extent than the middle-income group ($M = 3.63$) for the insurance maintenance behaviours adopted.

Literature suggests that households health-, car- and home insurance maintenance behaviour differs as certain households may not own any assets or receive insurance benefits through their employer (Dew & Xiao, 2011). Additionally, the financial resources that different households possess would affect the ability to purchase or maintain insurance.

The result confirms what is stated in Prospect Theory (Kahneman & Tversky, 1979). The difference in household financial choices between the two income groups would consider the losses they experience in relation to their respective monthly income as a reference point and, therefore, would culminate in different insurance management behaviour.

The result also confirms what is stated in Mental Accounting, which suggests that consumers from different household income groups generally structure their budgets differently (Thaler, 1999). Furthermore, the difference may be attributed to households perceiving the value of a purchase relative to the price paid due to what they can afford after the income disruption.

In summary, the findings for Hypothesis 1.3 indicate that both income groups purchased or maintained insurance. However, the upper-income group managed significantly better in managing their insurance portfolios ($M > 4$) compared to the middle-income group, that managed fairly well ($M > 3.6$), which supports Hypothesis 1.3.

6.3.4 Hypothesis 1.4

Hypothesis 1.4: The credit management behaviour of different household income groups during an economic threat, differs significantly.

The aim of Hypothesis 1.4 was to understand the credit management behaviour adopted by different household income groups during the COVID-19 pandemic. This was developed empirically whilst guided by literature.

The results of the independent samples t-test (see Section 5.7.1) supported this hypothesis as the middle- and upper-income groups, assuming equal variances ($p = 0.58$) for the Levene's test, had a difference in mean of -0.33 , which was statistically significant (2-tailed $p = 0.00$) at a 95% confidence level. The upper-income group ($M = 4.27$) agreed to a greater extent than the middle-income group ($M = 3.94$) for credit management behaviours adopted.

The results were supported by literature as studies conducted during and after the Great Recession indicated that lower-income households had difficulty servicing credit obligations (Kim & Wilmarth, 2016). Additionally, the financial resources that different households possess would affect the ability to meet credit obligations.

The result confirms what is stated in Prospect Theory (Kahneman & Tversky, 1979). The difference in household financial choices between the two income groups would consider the losses they experience in relation to their respective monthly income as a reference point and, therefore, would have different credit management behaviour.

The result also confirms what is stated in Mental Accounting which suggests that consumers from different household income groups generally structure their budgets differently (Thaler, 1999).

In summary, the findings for Hypothesis 1.4 indicate that both income groups managed their credit rather well, even though the upper-income group's credit management was significantly better ($M > 4$), which supports Hypothesis 1.4.

6.4 Research question 2

Research question 2: How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?

Households' financial security would have been negatively impacted by a reduction in income, or a threat thereof, due to job losses or an inability to work due to health reasons. As a result, one could assume that many households had to revise their financial management behaviour to cope with the unexpected and sudden change in their financial circumstances or fear that what was happening to others might also affect them later on. As such, this research question aimed to address how changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future.

The results of the three hypotheses in Section 5.7.2 will be discussed in the subsections below, which focuses on the relationship between the independent variable of household income disruption and the three independent variables of savings behaviour, insurance maintenance behaviour, and credit management behaviour, with income group as the control variable. The discussion aims to provide insight into how households' financial management behaviour was affected by the changes in household income, or threat thereof, due to the COVID-19 pandemic.

6.4.1 Hypothesis 2.1

Hypothesis 2.1: Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.

The aim of Hypothesis 2.1 was to understand the relationship between household income disruption and the savings behaviour adopted by households as a coping mechanism. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test supported this hypothesis. The results in Table 35 of Appendix 6 show a moderately strong negative relationship ($\beta = -0.434$) between household income disruption and savings, which was statistically

significant at a 95% confidence level, indicating that the greater the income disruption, the worse the savings behaviour.

Income level did not make a statistically significant unique contribution in predicting savings as the sig value of 0.086 was higher than 0.05 (Pallant, 2007, p. 159), and therefore was not a significant control variable in the model.

The results are supported by literature, as studies indicated that disruptions to households' income affected households' ability to save money (Friedline et al., 2020). According to Friedline et al. (2020), savings improve households' liquidity and are used as a coping mechanism to reduce the financial stress that affects their well-being.

Interestingly, households generally agreed more to saving for the long term, such as retirement (69.7% of responses) and long term goals (53.4% of responses), whilst scoring the lowest for shorter-term savings in an emergency fund (46.6% of responses) or investing in bonds and stocks (34.5% of responses) (See Table 7 in Section 5.3.2).

This outcome is interesting from a Prospect Theory perspective which suggests that individuals prefer certainty, even if the value is lower than the uncertain outcome (Kahneman & Tversky, 1979). Households tended to prioritize long-term savings accounts to increase certainty for future income instead of investing in stocks which generally entails higher risk, especially with the disruptions caused by the pandemic, but may provide better returns if recovered.

This is also an important finding from a Mental Accounting perspective, which indicates how households prioritised their wealth accounts regarding how important the item was to them at the time (Thaler, 1999).

In summary, the findings indicated a moderately strong negative relationship between households' income disruption and savings behaviour. The study findings indicate that savings declined as the income disruption increased and therefore supports hypothesis 2.1. Additionally, households seemed to prioritise saving for the long-term, such as retirement and long-term goals such as a car, education, or home,

rather than short-term and more accessible savings such as an emergency fund or investing in bonds or stocks.

6.4.2 Hypothesis 2.2

Hypothesis 2.2: Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.

The aim of Hypothesis 2.2 was to understand the relationship between the household income disruption and the insurance maintenance behaviour adopted by households as a coping mechanism. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test supported this hypothesis. The results in Table 39 Appendix 6 show a moderately weak negative relationship ($\beta = -0.272$) between income disruption and insurance maintenance which was statistically significant at a 95% confidence level. This meant that the greater the income disruption, the worse the insurance maintenance behaviour. Additionally, the income group had a moderately weak positive relationship ($\beta = 0.247$) with insurance maintenance, which was statistically significant at a 95% confidence level and, therefore, a significant control variable in the model.

The results are supported by literature as studies indicate that households' purchased or maintained health-, car- and home insurance to protect against high costs associated with medical expenses, car repairs or replacement, and home repairs that could leave a household in a dire financial situation (Dew & Xiao, 2011).

An important finding is that households generally prioritized purchasing or maintaining health insurance (75.8% of responses), which would mitigate against excessive medical bills should one contract the COVID-19 virus and require hospitalisation, followed by insuring of property such as cars and homes (75.8% of responses but with a slightly lower mean), and the lowest for life insurance (68.9%) (see Table 7 in Appendix 6).

This outcome is interesting from a Prospect Theory perspective which suggests that individuals prefer certainty (Kahneman & Tversky, 1979). Households tended to

prioritize health insurance to improve the certainty of being able to pay for medical bills and property insurance to protect against damage and theft.

This is also an important finding from a Mental Accounting perspective which indicates how households prioritised their insurance accounts in terms of how important the different insurance items were to them at the time (Thaler, 1999).

In summary, the findings indicate a moderately weak negative relationship between households' income disruption and insurance maintenance behaviour. The study findings indicate that insurance maintenance worsened as the household income disruption increased, supporting Hypothesis 2.2. Additionally, the income group was a significant control variable in the model. Furthermore, households seemed to prioritise health insurance the most, followed by property such as cars and homes, and lastly, life insurance.

6.4.3 Hypothesis 2.3

Hypothesis 2.3: Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.

The aim of Hypothesis 2.3 was to understand the relationship between household income disruption and the credit management behaviour adopted by households as a coping mechanism. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test supported this hypothesis. The results in Table 43 in Appendix 6 show a moderately weak negative relationship ($\beta = -0.357$) between income disruption and credit management, which was statistically significant at a 95% confidence level. This meant that the greater the income disruption, the worse the credit management behaviour. Additionally, the income group had a moderately weak positive relationship ($\beta = 0.193$) with credit management, which was statistically significant at a 95% confidence level and, therefore, a significant control variable in the model.

The results were supported by literature as households that experience a disruption in income during an economic recession may experience difficulty meeting financial

obligations (Friedline et al., 2020). The findings of this study indicate that the income disruption of the sample was not drastically affected; therefore, households' adopted good credit management behaviours in which they tended to pay monthly credit bills.

The need to settle debt stems from avoiding additional interest charges and being less vulnerable in case of a significant or total loss of income (O'Neill & Xiao, 2012). Households with debt welcomed reduced payments resulting from lower interest rates, hence experiencing an indirect increase in income (South African Reserve Bank, 2020), which may have contributed to households' managing their credit payments. Carlson et al. (2015) suggest that households that have contracted financial obligations, such as a car or home loan, tend to rather focus on these obligations in their budgets when facing a reduction in income.

The credit management questions generated the highest mean score compared to questions related to savings and insurance maintenance behaviour (See Table 7 in Appendix 6). This outcome is interesting from a Prospect Theory perspective which suggests that individuals prefer certainty (Kahneman & Tversky, 1979). Households prioritized paying their debts to reduce interest expenses and improve the certainty of not losing their possessions or damaging their credit scores due to non-payments.

This is also an important finding from a Mental Accounting perspective which indicates how households prioritised the management of their credit accounts over their savings and insurance accounts (Thaler, 1999).

In summary, the findings indicated a moderately weak negative relationship between households' income disruption and credit management behaviour. The study findings indicate that credit management would worsen as the income disruption increases, and therefore supports Hypothesis 2.3. Additionally, the income group was a significant control variable in the model. Interestingly, households generally met their credit obligations each month (see Table 7 in Appendix 6). Perhaps this ties in with the literature that suggests households want to reduce debt in order to reduce the amount of interest they would need to pay back or fear of losing possessions should they end up in a position of not being able to pay the debt. Additionally, the interest

rate cuts would have made home loans and vehicle loan repayments more manageable.

6.5 Research question 3

Research question 3: How have the different forms of mindful consumption influenced households' financial management?

A trend in consumer behaviour that shifts from over-consuming towards a more mindful consumption is defining the “new” consumer (Milne et al., 2020; Voinea & Filip, 2011). It can be assumed that many households would have been aware of financial hardship due to the pandemic as they would have known someone who was impacted, if not impacted themselves. As a result, consumers would have become more mindful of their purchase behaviour based on an increased awareness of unstable market conditions (Cohen et al., 2020), ultimately affecting their financial well-being. As such, this research question aimed to address how aspects of mindful consumption influenced households' financial management behaviour, taking into account the household income disruption already faced.

The results of the three hypotheses in Section 5.7.3 will be discussed in the subsections below to provide insight into the moderating influence of mindful consumption's different dimensions on the relationship between the independent variable of household income disruption and the independent variables of financial management behaviour.

As no factors emerged from the exploratory factor analysis for the mindful consumption construct, the researcher selected three questions to represent each of the theoretical factors of mindful consumption (acquisitive temperance, repetitive temperance, acquisitive temperance), with guidance from the supervisor, to simplify the hypothesis tests. The questions selected were as follows:

1. To represent the acquisitive temperance factor, question D2 “I only purchased the goods we needed”, was selected.
2. To represent the repetitive temperance factor, question D7 “I repaired most products rather than to replace or throw it away”, was selected.

3. To represent the aspirational temperance factor, question D9 "I refrained from buying bigger and more luxurious products and services than what I needed", was selected.

6.5.1 Hypothesis 3.1

Hypothesis 3.1: Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

The aim of Hypothesis 3.1 was to understand the influence that acquisitive temperance has on the relationship between household income disruption and the overall financial management behaviour adopted by households to cope. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test did not support this hypothesis. The results in Table 45 in Appendix 6 shows no change in the R square value when the interaction effect of acquisitive temperance, Int_D2, was included on the main effects model between household income disruption and financial management behaviour. This indicated that acquisitive temperance did not have a significant moderating influence on the relationship between household income disruption and financial management behaviour.

The results were not supported by literature which suggests that when households face times of income disruption, they will consume more responsibly (Voinea & Filip, 2011), are more frugal (Milne et al., 2020), and tend not to purchase more than the prevailing need, or capacity to consume (Sheth et al., 2011), therefore, further improving their financial well-being.

This finding for acquisitive temperance, which can be considered to be risk-averse from a financial perspective, does not influence the relationship between household income disruption and financial management, and therefore, cannot confirm what is stated in Prospect Theory and Mental Accounting, which relates to how people make financial choices and prioritize within their budgets.

In summary, the findings indicated that acquisitive temperance did not have a significant moderating influence on the relationship between household income disruption and financial management behaviour. Therefore, Hypothesis 3.1 was not supported.

6.5.2 Hypothesis 3.2

Hypothesis 3.2: Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

The aim of Hypothesis 3.2 was to understand the influence that repetitive temperance has on the relationship between the household income disruption and the overall financial management behaviour adopted by households to cope. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test supported this hypothesis. Table 49 in Appendix 6 shows a 1.7% change in the R square value, which was significant as the sig. value was less than 0.05 when the interaction effect of repetitive temperance, Int_D7, was included on the main effects model between household income disruption and financial management behaviour.

The unstandardized coefficient (B) for the interaction effect of repetitive temperance was -0.081 (see Table 51 in Appendix 6). When the household income disruption was low, the households that generally repaired most products rather than replacing or throwing them away demonstrated slightly better financial management than those who opted not to repair most products (See Figure 5 in Section 5.7.3.4.3). As the household income disruption increases, the financial management of both groups deteriorates.

The results were supported by literature which suggests that when household's face times of income disruption, they tend to consume more economically (Voinea & Filip, 2011) by exercising restraint in the cycle of purchasing, discarding and purchasing again (Sheth et al., 2011). Households' chose to repair products rather than dispose and replacing with new items, therefore, further improving their financial well-being.

This finding for repetitive temperance, which can be considered to be risk-averse from a financial perspective, influences the relationship between household income disruption and financial management, and therefore, confirms what is stated in Prospect Theory and Mental Accounting, which relates to how people make financial choices and prioritize their budgets.

In summary, the findings indicated that repetitive temperance had a significant negative moderating influence on the relationship between household income disruption and financial management behaviour. When the household income disruption is low, the effect of repetitive temperance is high on the relationship between household income disruption and financial management. The effect of repetitive temperance is lower when the household income disruption is greater. Therefore, Hypothesis 3.2 is supported.

6.5.3 Hypothesis 3.3

Hypothesis 3.3: Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

The aim of Hypothesis 3.3 was to understand the influence that aspirational temperance has on the relationship between the household income disruption and the overall financial management behaviour adopted by households to cope. This was developed empirically whilst guided by literature.

The results of the multiple linear regression test did not support this hypothesis. The results in Table 53 in Appendix 6 shows no significant change in the R square value when the interaction effect of aspirational temperance, Int_D9, was included on the main effects model between household income disruption and financial management behaviour. This indicated that aspirational temperance did not have a significant moderating influence on the relationship between household income disruption and financial management behaviour.

The results were not supported by literature which suggests that when household's face times of income disruption, they would seek to exercise restraint in upgrading to larger and more luxurious products than needed (Sheth et al., 2011), therefore, further improving their financial well-being.

This finding for aspirational temperance, which can be considered to be risk-averse from a financial perspective, does not have a significant influence on the relationship between household income disruption and financial management, and therefore, cannot confirm what is stated in Prospect Theory and Mental Accounting which proposes how people make financial choices and prioritize their budgets.

In summary, the findings indicate that aspirational temperance did not have a significant moderating influence on the relationship between household income disruption and financial management behaviour. Therefore, Hypothesis 3.3 was not supported.

6.6 Chapter summary

This chapter discussed the measurement scale that was developed and adapted for the study, followed by a discussion of findings from the hypotheses specific to each of the three research questions in relation to literature. The three research questions presented in Chapter 3 aimed to better understand how households have dealt with different aspects of financial management during the COVID-19 pandemic and understand the influence of mindful consumption on the relationship between household income disruption and their financial management behaviour was answered. The next chapter consists of the conclusion to the study and recommendations for future research and business.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The purpose of this study was to determine and describe how the financial management of households in South Africa, across different household income groups, were affected and subsequently adapted during the recent COVID-19 pandemic, guided by a Mental Accounting approach (Thaler, 1999) and explicated in terms of Prospect Theory (Kahneman & Tversky, 1979). This research further aimed to explore the influence of mindful consumption on the relationship between household income disruption and their financial management behaviour and to indicate how recent circumstances have influenced their financial planning for the future.

The preceding chapters of this report consisted of an introduction to the research problem (Chapter 1), a review of literature that is related to the problem (Chapter 2), a summary of the research questions, hypotheses and conceptual model that guided the study (Chapter 3), the research design and methodology used for data collection and analysis (Chapter 4), a presentation of the results (Chapter 5), and a discussion of the results in terms of the three research questions and related hypotheses in relation to literature (Chapter 6).

In this final concluding chapter, the study's main findings are presented in terms of the three research questions, followed by the theoretical contribution and the final updated conceptual model as per the results of the study. Thereafter, the recommendation for business specifically in the financial sector, the limitations of the research, ethical considerations, and recommendations for future research will be presented, and lastly, a concluding statement.

7.2 Research question 1

Research question 1: How has the COVID-19 economic threat disrupted households' financial well-being?

This research question aimed to address how households from the middle- and upper-income groups were impacted financially by the COVID-19 pandemic considering differences in household income disruption encountered, their savings-, insurance maintenance-, and credit management behaviours.

- ***Household income disruption***

The results indicated statistically significant differences in household income disruption between the middle- and upper-income groups and that the disruption was less severe for the upper-income group. Even though the disruption in households' income for both income groups was not drastic, the effect on the middle-income group was significantly more severe.

- ***Savings***

A statistically significant difference was found in the savings behaviour of the middle-income group compared to the upper-income group. Although neither managed to perform particularly well in terms of maintaining their savings behaviour, the upper-income households were significantly more successful in saving than their lower-income counterparts.

- ***Insurance maintenance***

The study indicated a statistically significant difference in insurance maintenance behaviour between the middle- and upper-income groups. The upper-income group performed significantly better in maintaining their insurance obligations. Even though both income groups maintained their insurance portfolios rather well, indicating sound financial management behaviour, the upper-income group performed significantly better.

- ***Credit management***

A statistically significant difference was found in the credit management behaviour of the middle- and upper-income groups. Even though both income groups managed their credit rather well throughout the pandemic, which indicates good financial management behaviour overall, the upper-income group's credit management was significantly better.

7.3 Research question 2

Research question 2: How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?

This research question aimed to address how changes in households' income, or a potential threat due to the COVID-19 pandemic, has affected their financial management behaviour in terms of the savings, insurance maintenance, and credit management dimensions.

- ***Savings***

The study indicated a moderately strong, statistically significant negative relationship between households' income disruption and savings behaviour. This means that savings deteriorated significantly as the income disruption increased. Noteworthy is that income level did not make a statistically significant unique contribution in predicting households' savings and was therefore not a significant control variable in the model. This dimension of financial management behaviour was thus retained in the final conceptual model presented in Section 7.5.

In addition, households seemed to prioritise saving for the long-term, such as retirement and longer-term goals such as a car, education, or home, more so than short-term and more accessible savings such as an emergency fund or investing in bonds or stocks.

- ***Insurance maintenance***

The study found a moderately weak yet statistically significant negative relationship between households' income disruption and insurance maintenance behaviour. This means that insurance maintenance worsened significantly as household income disruption increased. In this case, the income group was indeed a significant control variable in the model, and therefore financial management behaviour was retained in the final conceptual model presented in Section 7.5.

In addition, households generally prioritized purchasing or maintaining health insurance to mitigate excessive medical bills should someone contract the COVID-19 virus and require hospitalisation. This was followed by insuring of property such as cars and homes, and lastly, life insurance.

- ***Credit management***

The study indicated a moderately weak, statistically significant negative relationship between households' income disruption and credit management behaviour. This means that credit management would worsen as the income disruption increased. The income group was a significant control variable for credit management in the model. This dimension of financial management behaviour was therefore retained in the final conceptual model presented in Section 7.5.

Results indicated that households generally met their credit obligations each month, which ties in with the literature indicating that households would want to reduce debt in order to reduce the amount of interest they would need to pay back, or fear of losing possessions should they end up in a position of not being able to pay the debt. Additionally, the interest rate cuts would have made home loans and vehicle loan repayments more manageable. Lastly, the credit management questions generated the highest mean score compared to questions related to savings and insurance maintenance behaviour, indicating how households prioritized their budgets.

7.4 Research question 3

Research question 3: How have the different forms of mindful consumption influenced households' financial management?

This research question aimed to address how the different dimensions of mindful consumption influenced households' financial management behaviour, taking into account the household income disruption faced.

- ***Acquisitive temperance***

The study indicated that acquisitive temperance, which refers to being mindful about quantities purchased, did not have a significant moderating influence on the

relationship between income disruption and financial management behaviour. This dimension of mindful consumption was therefore removed in the final conceptual model presented in Section 7.5.

- ***Repetitive temperance***

The study indicated that repetitive temperance, which refers to exercising restraint about purchases in, for example, doing repairs rather than replacing and opting for recyclable products when possible, had a statistically significant negative moderating influence on the relationship between household income disruption and financial management with a 1.7 % change in R square. Therefore, with a lower household income disruption, the households that demonstrated repetitive temperance, as explained, managed to slightly better control their finances, compared to counterparts who did not continue to replace rather than repair, as an example. This dimension of mindful consumption was therefore retained in the final conceptual model presented in Section 7.5.

- ***Aspirational temperance***

Results indicated that aspirational temperance, which refers to the ability to control the urge to upgrade commodities when it is not necessary to do so, did not have a significant moderating influence on the relationship between income disruption and financial management behaviour. This dimension of mindful consumption was therefore removed in the final conceptual model presented in Section 7.5. Therefore, only one dimension of mindfulness, namely repetitive temperance, significantly influenced households' financial management behaviour. Doing repairs rather than to replace when income disruption increased, favourable contributed to households' financial management.

7.5 Theoretical contribution

This research makes theoretical contributions in terms of crisis literature, mindful consumption, Prospect Theory, and Mental Accounting, as explained in the following section. A final conceptual model based on the findings of the study will also be presented.

- ***Contribution to financial management during crisis literature***

This study contributes to the literature on consumer financial behaviour during crises as empirical evidence concerning households' budgeting behaviour during times of a severe crisis is scarce.

Firstly, a measurement scale for measuring the different dimensions of financial management behaviour as developed by Dew and Xiao (2011) was adapted for application in this research with good results, making a valuable methodological contribution towards applying the instrument in alternative contexts. Three factors were extracted concerning financial management, namely savings, insurance maintenance, and credit management, in accordance with existing literature. Four weak questions were removed: all related to the money management dimension as presented in the literature, indicating that they should be excluded in research in future, with similar contexts.

Secondly, the literature suggests that households tend to save more during economic recessions in which there is a reduction of household income, or a threat thereof, in order to improve their liquidity (Friedline et al., 2020). This study found that savings declined as the income disruption increased or prolonged and that saving was a lower priority for households considering other dimensions such as credit management and insurance maintenance.

Thirdly, the literature suggests that credit management worsens during an economic recession, as many households may find it difficult to meet financial obligations (Friedline et al., 2020). Almost two years into the pandemic, this study found that the middle- and upper-income households managed their credit payments quite well.

- ***Contribution to mindful consumption literature***

This study expanded on literature concerning mindful consumption during trying economic times. To date, mindful consumption has primarily been applied in sustainability literature.

Firstly, a measurement scale for measuring the different dimensions of mindful consumption has only recently been developed by Gupta and Verma (2019), and this

was adapted for application in this research. Therefore, this study makes a valuable methodological contribution indicating that the construct and measurement scale need to be further refined to improve reliability for future research.

Secondly, three dimensions of mindful consumption (acquisitive temperance, repetitive temperance, aspirational temperance) were tested in the COVID-19 pandemic context to assess how this might have influenced households' financial management. The study found that acquisitive temperance and aspirational temperance were not significant moderators of the relationship between household income disruption and financial management behaviour. Therefore, it would not be part of the envisaged conceptual model. However, repetitive temperance was a significant negative moderator of the relationship between household income disruption and financial management behaviour and was retained in the conceptual model. While this is a noteworthy outcome, this could be further explored in future research.

- ***Contribution to Prospect Theory***

Literature on Prospect Theory (Kahneman & Tversky, 1979) to explain consumers' financial behaviour regarding consumer goods is scarce. Previous studies have mainly focused on gambling behaviour. The study's findings, which was underpinned by this theoretical perspective, indicated that the difference in household financial choices between income groups could be attributed to losses experienced in relation to their respective monthly income as a reference point. Furthermore, the study's outcome indicated how households' financial choices varied in terms of their preference for enhancing certainty concerning their financial well-being, even if the value was lower than the uncertain outcome (Kahneman & Tversky, 1979). Therefore, this study confirms the relevance of this theoretical perspective in alternative scenarios that could be very useful in consumer behaviour, marketing, and business studies in the future.

- ***Contribution to Mental Accounting***

Studies on changes in spending behaviour between different income groups during a crisis are scarce; therefore, this research makes a valuable contribution to the literature in terms of applying Mental Accounting (Thaler, 1999) to an understanding

of the outcomes of a study concerning households' budgeting behaviour during times of a financial crisis. Hence, Mental Accounting formed the framework to understand how households across various income levels revised their budgets during the COVID-19 pandemic. As such, households' prioritisation of the three so-called mental accounts, namely savings, insurance maintenance, and credit management during the pandemic, could be empirically examined and contemplated to understand households' prioritisation better, rather than merely rank their priorities quantitatively.

- **Final conceptual model**

The final conceptual model is presented in Figure 6 below. In the model, the independent variable is household income disruption; the dependent variable is financial management behaviour with three dimensions: savings, insurance maintenance, and credit management. The moderator variable is the repetitive temperance dimension of mindful consumption. The household income group is the control variable for Hypotheses 1.1 to 1.4 and 2.1 to 2.3. The model also shows the negative significance, indicating the negative relationship between household income disruption and the three dimensions of financial management behaviour. Additionally, the model presents the negative moderating influence that repetitive temperance, a dimension of mindful consumption, has on the relationship between household income disruption and financial management behaviour.

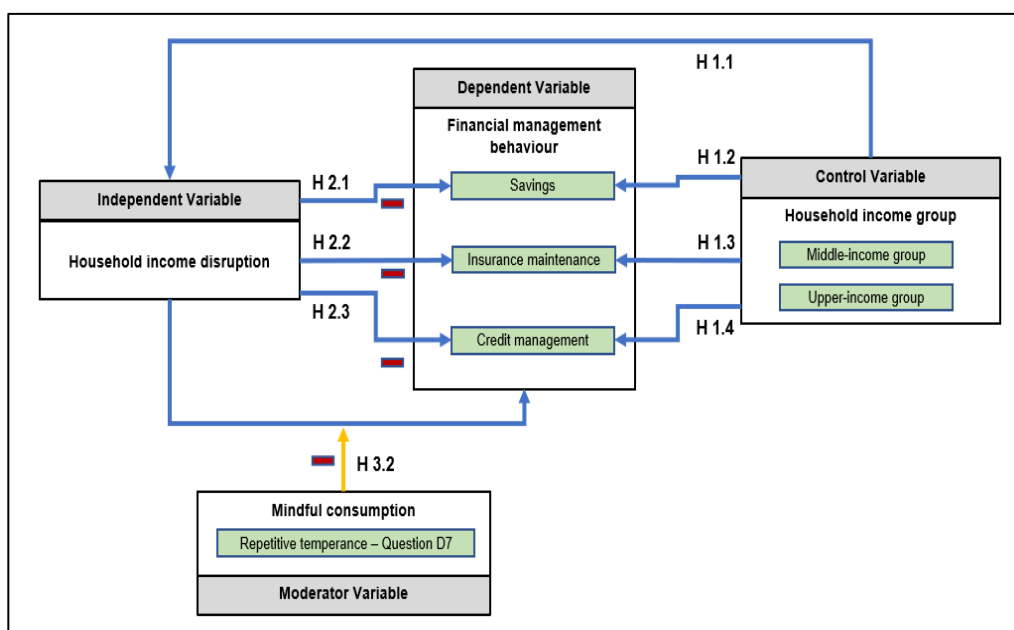


Figure 6: Final conceptual model

7.6 Recommendation for business

This research has several implications for business. Thereby, insight concerning households' financial management behaviour was gained so that financial institutions and financial departments in business could aptly assist households in maintaining savings, optimising insurance products, and credit facilities in the future during trying financial circumstances.

- ***Savings products***

Important insights regarding how households prioritised short-term and long-term savings due to the impact of the pandemic that disrupted households' financial well-being, was gained and should guide financial institutions on how to structure their product and service offerings. Firstly, the study results indicate that financial products that provide saving for retirement are a high priority, followed by long term savings for homes, education, and vehicles as households try to secure their finances for the long term. Therefore, an opportunity exists for financial institutions to extract value by promoting these types of products. Secondly, households require a flexible and easily accessible savings product to ensure liquidity for emergencies. It should be understood that financial products related to stocks and bonds are a lower priority as households see these as high-risk during times of economic hardship. Thirdly, savings products should be tailored to the different income groups as the study showed that the middle-income group did not fare particularly well in maintaining savings behaviour. In contrast, the upper-income group performed relatively well.

- ***Insurance products***

Important insights regarding how households prioritised different insurance products due to the impact of the pandemic that disrupted households' financial well-being, was gained and should guide financial institutions on how to structure and present their offerings. Firstly, as insurance maintenance behaviours are expected to worsen with increased income disruptions, as was found in this study, existing insurance policies should be amended temporarily, perhaps by reducing or freezing premiums whilst still maintaining cover, to assist households with maintaining the policies rather than cancelling them or seeking cheaper insurance elsewhere. Secondly, health insurance products that provided cover for excessive medical bills were highly

prioritised by households, followed closely by property (home and vehicle) insurance to protect households against damage and theft. This confirms opportunities that financial institutions should optimise. In this study, life insurance products were a lower priority. Thirdly, insurance products should be tailored to the different income groups. The study showed that the middle-income group struggled more than the upper-income group to maintain their insurance portfolios during the pandemic.

- ***Credit products***

Important insights regarding how households managed credit during the pandemic that disrupted their financial well-being were gained and should guide financial institutions on structuring their offerings. Firstly, as credit management behaviours are expected to worsen with increased income disruptions as found by the study, existing credit accounts should be amended temporarily when the income disruption is severe, perhaps by restructuring repayments to assist households in managing their debt. The study showed that the middle- and upper-income households prioritised servicing their debt more than maintaining insurance and savings to avoid liquidation, excessive interest charges or a bad credit record which would affect their ability to access credit in the future. Secondly, credit arrangements should be tailored in accordance with households' income level, as the study found that the middle-income group's credit management behaviour was worse than that of the upper-income group, even though both groups managed their credit well.

7.7 Limitations of the research

This section presents the limitations of this research which include the researchers' biases, measurement instrument, data collection, and generalisability of the study.

- ***Researcher's bias***

The researcher experienced an income disruption during the COVID-19 pandemic; however, this was not severe enough for the researcher to make drastic changes to his household budget. As such, the researcher might not have the necessary empathy or not fully comprehend what people were experiencing when their incomes were severely disrupted. Additionally, due to the fortunate financial situation of the researcher, mindful consumption for financial reasons may not have attracted the

attention concerning the researcher's own financial choices and understanding of the phenomenon. Therefore, the measuring instrument needed to be chosen well (which he tried to accomplish), and the statistical analysis needed to speak for itself (which the researcher strived to do).

- ***Measurement instrument***

Firstly, the measurement instrument consisted of a combination of questions that were developed by the author and supervisor (household income disruption) and an adaptation of established scales (financial management behaviour scale and mindful consumption scale). This would pose a limitation in terms of the validity and reliability of the final instrument. This limitation was evident when none of the questions from the mindful consumption scale was grouped into coherent factors and therefore did not represent a suitable scale for this study. However, mindful consumption was an important part of the study, so the researcher selected three questions to represent each of the theoretical factors of mindful consumption to simplify the hypothesis testing. As such, the results for mindful consumption would not be reliable, but it presents a golden opportunity for future research.

Secondly, as insurance maintenance differs for people who do not purchase or maintain insurance policies because they do not own any assets or receive insurance benefits through their employer (Dew & Xiao, 2011), this would have posed a limitation as people who didn't have insurance might have abandoned the survey or may have selected the neutral response or disagree options which would affect the overall scores for the insurance factor.

- ***Data collection***

Firstly, the mono-method used for data collection poses a limitation on the reliability of the study as results could not be triangulated. Secondly, the cross-sectional time horizon limited the study in that households' financial behaviour may have been different at various points of the pandemic, and therefore could not be accounted for. Thirdly, the comprehensiveness of the research was limited as the number of questions needed to be limited. Additionally, as the questionnaire was self-completed, the researcher could not probe respondents to get more information, and the data was unlikely to be as detailed as generated through other strategies, such

as interviews (Saunders & Lewis, 2018, p. 121). Lastly, from a Mental Accounting perspective, there was a limitation in that the different types of household income (regular and windfall) were not distinguished, which may have provided further nuances in the financial behaviours that households demonstrated. Additionally, the study did not account for households that may have seen an increase in income, perhaps through working overtime, reduced interest rates, reduced fuel costs and entertainment expenses, and analysing how their financial choices were affected despite others' income being affected negatively.

- ***Generalisation of the study***

The generalisation of the study is limited in terms of geography and income level. The focus on households in South Africa would not allow for the generalisability of the results to other countries. Furthermore, the sample may have been concentrated in certain provinces. Therefore, nuances in financial management behaviours of households in all nine provinces within South Africa may not have been accounted for.

Secondly, frame error was present due to the researcher's convenient and snowball sampling method in that a sufficient sample size for the lower-income group was not obtained. Therefore, the lower-income group could not be included in the statistical tests that required comparison between income groups (hypothesis 1.1 to hypothesis 1.4), as well as statistical tests that had income group as a control variable (hypothesis 2.1 to hypothesis 2.3). Therefore, generalisation is limited only to middle- and upper-income households.

7.8 Ethical considerations

The principles in this section highlight the measures taken and the outcome thereof to ensure ethical standards were met when conducting the research. Firstly, the author obtained ethical clearance on the first attempt from the University of Pretoria before collecting any data. Secondly, the participants were informed on the landing page of the questionnaire that their participation was voluntary, anonymous and confidential. Given that monthly income and reduction in income is sensitive information, a high response rate was still achieved. This is an indication that

respondents trusted the researcher would keep the data collected anonymous and confidential. Thirdly, two respondents did not meet the sample criteria for the study and were not allowed to proceed with the questionnaire, indicating that the inclusion of the screening question with the built-in feature of not allowing respondents to proceed if not meeting the criteria on the landing page of the questionnaire was successful.

7.9 Recommendations for future research

The three dimensions of mindful consumption as found in literature contribute to the conceptual model, although the mindful consumption scale (Gupta & Verma, 2019) that was used was not a clear instrument to measure this construct. A better scale for measuring the three dimensions of mindful consumption more reliably needs to be established and is therefore recommended for future research.

To improve the reliability of the study, the researcher proposes the collection and analysis of secondary data, such as trends of different saving types, spending on insurance products, and payments of credit during the COVID-19 pandemic, to triangulate the results of this study. Additionally, a longitudinal study is proposed for future research to see how households' financial behaviour changes over time as the economy recovers from the pandemic.

To contribute further to the Mental Accounting literature, a study that includes the different types of household income (regular and windfall) should be distinguished, providing additional insight into the financial behaviours that households demonstrated. Additionally, a study that focuses on households that may have seen an increase in income, perhaps through working overtime, reduced interest rates, reduced fuel costs and entertainment expenses, is proposed for future research to see how their financial choices were affected despite others income being affected negatively.

To expand the generalisability of the study, the researcher proposes to conduct the study with lower-income groups in order to get a full view of financial management behaviour across all income groups. Additionally, a study comprising a larger sample

that sufficiently covers all provinces in South Africa would enable the generalisation more reliable.

An interesting topic for future research would be understanding how households' financial choices regarding savings, maintaining insurances and managing credit change once their income is restored.

Lastly, the moderating influence of the three dimensions of mindfulness on the relationship between household income disruption and financial management behaviour deserves to be further explored to understand the intricate nuances among the different temperance types on households' financial management as household income disruption increases.

7.10 Concluding statement

Household financial behaviour during times of crisis is highly relevant, considering the scale and magnitude of the disruption that the COVID-19 pandemic has caused. As such, this study demonstrated how the COVID-19 economic threat disrupted households' financial well-being and how changes in their income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future.

The study showed that finances of different household income groups were impacted differently and that the upper-income households generally managed their finances better than the middle-income group. Furthermore, the study showed that savings, insurance maintenance, and credit management would, unfortunately, worsen as households' income disruption increased. Additionally, repetitive temperance, one of the dimensions of mindful consumption, was a significant moderator of the relationship between household income disruption and financial management behaviour.

The study contributed significantly to the literature on financial management during crises, shed light on the role of mindful consumption, and how the theoretical perspectives of Prospect Theory and Mental Accounting could serve to interpret the

findings. The findings are theoretically relevant and are important for businesses in the financial sector as they will guide their structure of product and service offerings to households from different income groups during similar crises in future.

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APPENDICES

APPENDIX 1 – CONSISTENCY MATRIX

Research questions	Hypotheses	Literature review	Data collection	Analysis technique
Research question 1: How has the COVID-19 economic threat disrupted households' financial well-being?	H1.1, H1.2, H1.3, H1.4	(Campbell et al., 2020); (Cannon et al., 2019) (Rauscher & Elliott, 2016).	Questionnaire: Section B + C	Descriptive statistics; Exploratory factor analysis; Reliability test; Independent samples t-test
Research question 2: How have changes in households' income during the COVID-19 pandemic affected their financial management behaviour and their financial planning for the future?	H2.1, H2.2, H2.3	(Campbell et al., 2020); (Carlson et al., 2015); (Dew & Xiao, 2011); (Dowling et al., 2009); (Friedline et al., 2020); (Loxton et al., 2020); (Ross et al., 2020); (Kim & Wilmarth, 2016); (Bauchet & Evans, 2019); (O'Neill & Xiao, 2012).	Questionnaire: Section B + C	Descriptive statistics; Exploratory factor analysis; Reliability test; Multiple linear regression
Research question 3: How have the different forms of mindful consumption influenced households' financial management?	H3.1, H3.2, H3.3	(Bahl et al., 2016); (Milne et al., 2020); (Sheth et al., 2011); (Voinea & Filip, 2011).	Questionnaire: Section B + C + D	Descriptive statistics; Exploratory factor analysis; Reliability tests; Multiple linear regression

Hypothesis 1.1 (H1.1): The household income disruption culminating from the COVID-19 economic threat differs significantly for different household income groups.

Hypothesis 1.2 (H1.2): The savings behaviour of different household income groups during an economic threat, differs significantly.

Hypothesis 1.3 (H1.3): The insurance maintenance behaviour of different household income groups during an economic threat, differs significantly.

Hypothesis 1.4 (H1.4): The credit management behaviour of different household income groups during an economic threat, differs significantly.

Hypothesis 2.1 (H2.1): Household income disruption caused by the COVID-19 economic threat is significantly related to households' savings behaviour.

Hypothesis 2.2 (H2.2): Household income disruption caused by the COVID-19 economic threat is significantly related to households' insurance maintenance behaviour.

Hypothesis 2.3 (H2.3): Household income disruption caused by the COVID-19 economic threat is significantly related to households' credit management behaviour.

Hypothesis 3.1 (H3.1): Acquisitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Hypothesis 3.2 (H3.2): Repetitive temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

Hypothesis 3.3 (H3.3): Aspirational temperance, as a form of mindfulness, significantly moderates the relationship between household income disruption and the financial management of households.

APPENDIX 2 – ETHICAL CLEARANCE

Gordon Institute of Business Science University of Pretoria	Ethical Clearance Approved
<p>Dear [REDACTED]</p> <p>Please be advised that your application for Ethical Clearance has been approved. You are therefore allowed to continue collecting your data. We wish you everything of the best for the rest of the project.</p> <p>Ethical Clearance Form</p> <p>Kind Regards</p>	
<p>This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.</p>	

APPENDIX 3 – INFORMED CONSENT

The informed consent what displayed on the landing page of the questionnaire developed using Google Forms.

The moderating influence of mindful consumption on the relationship between household income disruption and financial management during the COVID-19 pandemic

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfilment of an MBA. I am conducting research to explain factors that influence households' financial management behaviour during the COVID-19 pandemic.

To that end, you are asked to complete a survey about financial management behaviour. This will help me better understand the impact that COVID-19 had on household's financial management behaviour and should take no more than 10 minutes of your time.

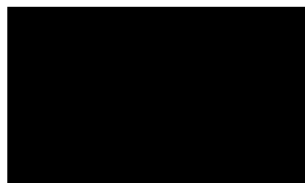
Your participation is voluntary, and you can withdraw at any time without penalty. Your participation is anonymous and only aggregated data will be reported.

Participants for this survey must be a South African resident, be over the age of 18, and must be earning an income. By completing the survey, you indicate that you voluntarily participate in this research and meet the qualifying criteria for residency, age, and income earner.

If you have any concerns, please contact my supervisor or me. Our details are provided below:

Researcher Name:
Email:

Research Supervisor:
Email:



*Required

I am over the age of 18, earn an income, and a South African resident: *

Yes

No

APPENDIX 4 – QUESTIONNAIRE

The questions in the following table were derived from various scales as cited in the respective sub-sections. The questions in Section C and Section D are an adaptation of the original scales for the purpose of the study. The questionnaire was created on Google Forms and distributed electronically.

The researcher and supervisor developed questions in Sections A and B.

Section A – Demographics	1	2	3	4	5	6	7	8
1. What is your gender?	Male	Female	Prefer not to disclose					
2. What is your age in years? Please indicate in figures, for example, 21	*Numeric free text							
3. What is your monthly household income before deductions? This should be a sum of all household members income.	Less than R 2000	Between R2 000 and R9 000	Between R9 000 and R20 000	Between R20 000 and R40 000	Between R40 000 and R70 000	Between R70 000 and R150 000	Between R150 000 and R245 000	More than R245 000
4. By what percentage (approximately) was your total household income reduced due to COVID-19? Only indicate the figures, for example, 30. Enter 0 if not affected.	*Numeric free text							

Section B - Household income disruption caused by the effect of the COVID-19 pandemic. Please select the answer most applicable to you. Over the last year:	1	2	3	4	5
1. Our household's income was cut drastically	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2. Our household's outstanding credit increased drastically	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3. Our savings decreased drastically	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4. Our ability to budget became very challenging	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. We had to cancel insurance to cope	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
6. We had to revise our budget drastically	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Questions in Section C were adapted from Financial Management Behaviour Scale developed by Dew and Xiao (2011).

Section C - Financial management behaviour. Please indicate how you have dealt with your finances in the past year, amid the COVID-19 pandemic:	1	2	3	4	5
1. I did comparison shopping to get the best value for my money	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2. I tried to pay all our bills on time	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3. I kept a record of our monthly expenses	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4. I managed to stay within our budget or spending plan	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. I paid my credit card instalments in full each month	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
6. I avoided the credit facility on my credit cards	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
7. I paid the required amount on loans	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
8. I began or maintained an emergency savings fund	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
9. I saved money in a savings account every month	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
10. I saved for a long-term goal such as a car, education, home, etc.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
11. I contributed money to a retirement account	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
12. I bought bonds, stocks, or mutual funds	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
13. I maintained or purchased an adequate health insurance policy	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
14. I maintained or purchased adequate property insurance like a car- or home-owners insurance	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
15. I maintained or purchased adequate life insurance	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

Questions in Section D were adapted from the Mindful Consumption Scale developed by Gupta and Verma (2019).

Section D - Mindful Consumption. Please indicate your level of agreement for the following statements over the past year:	1	2	3	4	5
1. I purchased goods according to existing storage space in my home	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2. I mostly purchased the goods we needed	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3. When given the choice, I preferred to share, or rent certain products rather than to own. For example, sporting equipment, musical instruments, home appliances, home tools, games.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4. Sharing certain products rather than owning everything, has social benefits	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. Reusable products are better than disposable products	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
6. I upgraded to a new version of a product if my current product was not working anymore	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
7. I repaired most products rather than to replace or throw it away	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
8. If a product had no use for me, I gave it away for free rather than throwing it away	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
9. I refrained from buying bigger and more luxurious products and services than what I needed	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
10. I did not compare my purchases with those of others who earn more money than I do	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

APPENDIX 5 – CERTIFICATION OF ADDITIONAL SUPPORT

(Additional support retained or not - to be completed by all students)

Please note that failure to comply and report on this honestly will result in disciplinary action

I hereby certify that (please indicate which statement applies):

- *I DID NOT RECEIVE any additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report:*
.....
- *I RECEIVED additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report*
Yes - Statistical services
.....

If any additional services were retained– *please indicate below which:*

Statistician

Transcriber

Editor

Other (please specify:.....)

Please provide the name(s) and contact details of all retained:

NAME: [REDACTED]

EMAIL ADDRESS: [REDACTED]

CONTACT NUMBER: [REDACTED]

TYPE OF SERVICE: *Statistical consultation and analysis for research report*

I hereby declare that all statistical write-ups and thematic interpretations of the results for my study were completed by myself without outside assistance

NAME OF STUDENT: [REDACTED]

SIGNATURE: [REDACTED]

STUDENT NUMBER: 20802642
.....

STUDENT EMAIL ADDRESS: 20802642@myglbs.co.za
.....

APPENDIX 6 – STATISTICAL RESULTS

Table 2: Gender distribution of the sample

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	150	56.8	56.8	56.8
Female	113	42.8	42.8	99.6
Prefer not to disclose	1	0.4	0.4	100
Total	264	100	100	

Table 3: Age distribution of the sample

N		Mean	Median	Mode	Std. Deviation	Minimum	Maximum
Valid	Missing						
264	0	37.62	35.00	30	9.82	18	74

Table 4: Monthly household income category distribution

Monthly household income category	Frequency	Percent	Valid Percent	Cumulative Percent
Less than R 2000	1	0.4	0.4	0.4
Between R2 000 and R9 000	5	1.9	1.9	2.3
Between R9 000 and R20 000	18	6.8	6.8	9.1
Between R20 000 and R40 000	38	14.4	14.4	23.5
Between R40 000 and R70 000	76	28.8	28.8	52.3
Between R70 000 and R150 000	89	33.7	33.7	86.0
Between R150 000 and R245 000	25	9.5	9.5	95.5
More than R245 000	12	4.5	4.5	100
Total	264	100	100	

Table 5: Percentage reduction of monthly household income of the sample

N		Mean	Median	Mode	Std. Deviation	Minimum	Maximum
Valid	Missing						
264	0	14.03 %	7.50 %	0 %	19.26%	0 %	100 %

Table 6: Descriptive statistics of household income disruption caused by the COVID-19 economic threat

Code	Question	Generally disagree	Neither agree nor disagree	Generally agree	Total	Mean	Std. Dev.
B3	Our savings decreased drastically	40.5%	7.2%	52.3%	100%	3.10	1.41
B6	We had to revise our budget drastically	39.4%	8.3%	52.3%	100%	3.08	1.40
B4	Our ability to budget became very challenging	43.2%	8.3%	48.5%	100%	3.02	1.36
B1	Our household's income was cut drastically	56.4%	9.8%	33.7%	100%	2.56	1.43
B2	Our household's outstanding credit increased drastically	65.2%	8.7%	26.1%	100%	2.38	1.29
B5	We had to cancel insurance to cope	79.2%	6.4%	14.4%	100%	1.98	1.16

Table 7: Descriptive statistic of financial management behaviour

Code	Question	Generally disagree	Neither agree nor disagree	Generally agree	Total	Mean	Std. Dev.
C2	I tried to pay all our bills on time	6.1%	3.8%	90.2%	100%	4.25	0.85
C7	I paid the required amount on loans	10.6%	12.5%	76.9%	100%	4.03	1.04
C5	I paid my credit card instalments in full each month	12.9%	15.9%	71.2%	100%	3.91	1.07
C13	I maintained or purchased an adequate health insurance policy	17.4%	6.8%	75.8%	100%	3.87	1.15
C1	I did comparison shopping to get the best value for my money	13.3%	11.0%	75.8%	100%	3.85	1.07
C14	I maintained or purchased adequate property insurance like car- or home-owners' insurance	17.8%	6.4%	75.8%	100%	3.81	1.12
C11	I contributed money to a retirement account	24.2%	6.1%	69.7%	100%	3.69	1.30
C15	I maintained or purchased adequate life insurance	23.5%	7.6%	68.9%	100%	3.66	1.22
C3	I kept a record of our monthly expenses	20.8%	14.4%	64.8%	100%	3.61	1.12
C4	I managed to stay within our budget or spending plan	25.0%	11.7%	63.3%	100%	3.50	1.13
C6	I avoided the credit facility on my credit cards	31.8%	14.0%	54.2%	100%	3.40	1.32
C10	I saved for a long-term goal such as a car, education, home, etc.	38.6%	8.0%	53.4%	100%	3.23	1.36
C9	I saved money in a savings account every month	38.6%	8.3%	53.0%	100%	3.20	1.30
C8	I began or maintained an emergency savings fund	43.2%	10.2%	46.6%	100%	3.11	1.34
C12	I bought bonds, stocks, or mutual funds	58.0%	7.6%	34.5%	100%	2.69	1.41

Table 8: Descriptive statistics of mindful consumption

Code	Question	Generally disagree	Neither agree nor disagree	Generally agree	Total	Mean	Std. Dev.
D5	Reusable products are better than disposable products	3.8%	11.0%	85.2%	100%	4.13	0.81
D10	I did not compare my purchases with those of others who earn more money than I do	9.1%	6.8%	84.1%	100%	4.08	0.96
D8	If a product had no use for me, I gave it away for free rather than throwing it away	8.0%	9.5%	82.6%	100%	4.02	0.88
D9	I refrained from buying bigger and more luxurious products and services than what I needed	11.0%	8.3%	80.7%	100%	3.99	1.06
D2	I mostly purchased the goods we needed	9.8%	5.3%	84.8%	100%	3.98	0.88
D7	I repaired most products rather than to replace or throw it away	13.6%	19.7%	66.7%	100%	3.64	0.96
D1	I purchased goods according to existing storage space in my home	22.3%	13.3%	64.4%	100%	3.55	1.09
D6	I upgraded to a new version of a product if my current product was not working anymore	25.4%	20.1%	54.5%	100%	3.38	1.09
D4	Sharing certain products rather than owning everything, has social benefits	30.3%	24.6%	45.1%	100%	3.11	1.13
D3	When given the choice, I preferred to share, or rent certain products rather than to own. For example, sporting equipment, musical instruments, home appliances, home tools, games.	64.4%	21.2%	14.4%	100%	2.27	1.07

Table 9: Correlation matrix for household income disruption

		B1	B2	B3	B4	B5	B6
Correlation	B1	1.000	0.538	0.604	0.567	0.453	0.612
	B2	0.538	1.000	0.615	0.635	0.470	0.605
	B3	0.604	0.615	1.000	0.715	0.477	0.686
	B4	0.567	0.635	0.715	1.000	0.520	0.715
	B5	0.453	0.470	0.477	0.520	1.000	0.527
	B6	0.612	0.605	0.686	0.715	0.527	1.000

Table 10: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for household income disruption

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.907
Bartlett's Test of Sphericity	Approx. Chi-Square	846.280
	Df	15
	Sig.	0.000

Table 11: Communalities for household income disruption

	Initial	Extraction
B1	0.465	0.513
B2	0.496	0.554
B3	0.614	0.682
B4	0.640	0.712
B5	0.345	0.379
B6	0.623	0.704

Extraction Method: Principal Axis Factoring.

Table 12: Total variance explained for household income disruption caused by the COVID-19 economic threat

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.932	65.53	65.53	3.54	59.06	59.06
2	0.595	9.92	75.45			
3	0.478	7.96	83.41			
4	0.419	6.98	90.40			
5	0.309	5.16	95.55			
6	0.267	4.45	100			

Extraction Method: Principal Axis Factoring.

Table 13: Factor matrix for household income disruption

	Factor
	1
B4	0.844
B6	0.839
B3	0.826
B2	0.745
B1	0.716
B5	0.616

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 5 iterations required.

Table 14: Correlation matrix for financial management behaviour

		C2	C5	C7	C8	C9	C10	C11	C12	C13	C14	C15
Correlation	C2	1.000	0.343	0.325	0.209	0.136	0.158	0.182	0.128	0.119	0.237	0.111
	C5	0.343	1.000	0.556	0.217	0.210	0.142	0.191	0.134	0.185	0.340	0.218
	C7	0.325	0.556	1.000	0.154	0.103	0.082	0.313	0.138	0.340	0.413	0.339
	C8	0.209	0.217	0.154	1.000	0.609	0.550	0.314	0.265	0.292	0.216	0.170
	C9	0.136	0.210	0.103	0.609	1.000	0.610	0.395	0.312	0.230	0.242	0.224
	C10	0.158	0.142	0.082	0.550	0.610	1.000	0.441	0.440	0.189	0.245	0.219
	C11	0.182	0.191	0.313	0.314	0.395	0.441	1.000	0.319	0.360	0.370	0.428
	C12	0.128	0.134	0.138	0.265	0.312	0.440	0.319	1.000	0.241	0.299	0.226
	C13	0.119	0.185	0.340	0.292	0.230	0.189	0.360	0.241	1.000	0.593	0.545
	C14	0.237	0.340	0.413	0.216	0.242	0.245	0.370	0.299	0.593	1.000	0.481
	C15	0.111	0.218	0.339	0.170	0.224	0.219	0.428	0.226	0.545	0.481	1.000

Table 15: Kaiser-Meyer-Olkin and Bartlett's test of sphericity for financial management behaviour

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.807
Bartlett's Test of Sphericity	Approx. Chi-Square	930.079
	Df	55
	Sig.	0.000

Table 16: Communalities for financial management behaviour

	Initial	Extraction
C2	0.176	0.220
C5	0.376	0.579
C7	0.430	0.595
C8	0.463	0.493
C9	0.501	0.610
C10	0.515	0.679
C11	0.370	0.388
C12	0.242	0.240
C13	0.480	0.603
C14	0.468	0.550
C15	0.394	0.496

Extraction Method: Principal Axis Factoring.

Table 17: Total variance explained for financial management behaviour

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.937	35.791	35.791	3.457	31.428	31.428	2.161	19.647	19.647
2	1.688	15.346	51.138	1.264	11.488	42.916	1.876	17.057	36.704
3	1.236	11.238	62.376	0.733	6.662	49.577	1.416	12.873	49.577
4	0.795	7.223	69.599						
5	0.697	6.336	75.935						
6	0.673	6.120	82.055						
7	0.481	4.376	86.432						
8	0.461	4.195	90.627						
9	0.373	3.393	94.019						
10	0.348	3.167	97.186						
11	0.310	2.814	100						

Extraction Method: Principal Axis Factoring.

Table 18: Rotated factor matrix of financial management behaviour

	Factor		
	1	2	3
C10	0.813	0.129	0.049
C9	0.764	0.120	0.108
C8	0.673	0.110	0.169
C11	0.424	0.424	0.169
C12	0.412	0.255	0.077
C13	0.159	0.751	0.115
C15	0.151	0.673	0.140
C14	0.172	0.654	0.305
C5	0.118	0.120	0.742
C7	0.003	0.352	0.686
C2	0.153	0.074	0.438

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 5 iterations.

Table 19: Second-order factor analysis correlation matrix

		SecC_F1	SecC_F2	SecC_F3
Correlation	SecC_F1	1.000	0.429	0.289
	SecC_F2	0.429	1.000	0.400
	SecC_F3	0.289	0.400	1.000

Table 20: Second-order factor analysis KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.631
Bartlett's Test of Sphericity	Approx. Chi-Square	103.891
	Df	3
	Sig.	0.000

Table 21: Second-order factor analysis commnality

	Initial	Extraction
SecC_F1	0.200	0.311
SecC_F2	0.267	0.590
SecC_F3	0.177	0.270

Extraction Method: Principal Axis Factoring.

Table 22: Second-order factor analysis total variance explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.748	58.268	58.268	1.171	39.031	39.031
2	0.713	23.759	82.027			
3	0.539	17.973	100			

Extraction Method: Principal Axis Factoring.

Table 23: Second-order factor analysis factor matrix

	Factor
	1
SecC_F2	0.768
SecC_F1	0.558
SecC_F3	0.520

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 18 iterations required.

Table 24: Correlation matrix for mindful consumption

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Correlation	D1	1.000	0.153	-0.062	-0.029	0.075	0.201	-0.118	0.106	-0.081	0.175
	D2	0.153	1.000	0.091	0.244	0.203	-0.095	0.140	0.035	0.325	0.084
	D3	-0.062	0.091	1.000	0.511	0.078	-0.103	0.090	-0.077	0.187	-0.033
	D4	-0.029	0.244	0.511	1.000	0.168	-0.005	0.123	0.109	0.208	0.079
	D5	0.075	0.203	0.078	0.168	1.000	0.014	0.266	0.195	0.149	0.153
	D6	0.201	-0.095	-0.103	-0.005	0.014	1.000	-0.083	0.129	-0.225	0.196
	D7	-0.118	0.140	0.090	0.123	0.266	-0.083	1.000	0.097	0.214	-0.067
	D8	0.106	0.035	-0.077	0.109	0.195	0.129	0.097	1.000	0.025	0.322
	D9	-0.081	0.325	0.187	0.208	0.149	-0.225	0.214	0.025	1.000	0.095
	D10	0.175	0.084	-0.033	0.079	0.153	0.196	-0.067	0.322	0.095	1.000

Table 25: Cronbach's Alpha and inter-item correlations for the components of the empirical construct financial management behaviour

	Cronbach's Alpha	Inter-item correlation mean*
Factor C1 – Savings	0.786	
Factor C2 – Insurance	0.777	
Factor C 3 – Credit management	0.679	0.408
2 nd Order Factor - Financial management behaviour	0.817	

* Used for scales with less than 10 questions that have a Cronbach alpha of less than 0.7 (Pallant, 2007, p. 95)

Table 26: Cronbach's Alpha and inter-item correlation mean for theoretical financial management behaviour factors

	Cronbach's Alpha	Inter-item correlation mean*
Theoretical money management	0.492	0.198
Theoretical savings	0.786	
Theoretical insurance	0.777	
Theoretical credit management	0.546	0.308
Theoretical financial management behaviour	0.779	

* Used for scales with less than 10 questions that have a Cronbach alpha less than 0.7 (Pallant, 2007, p. 95)

Table 27: Descriptive statistics on empirical factors and questions

	N	Mean	Std. Deviation
Household income disruption	264	2.69	1.09
Savings	264	3.18	0.99
Insurance	264	3.78	0.97
Credit Management	264	4.06	0.77
Financial Management Behaviour	264	3.59	0.72
D2 – Acquisitive temperance	264	3.98	0.88
D7 – Repetitive temperance	264	3.64	0.96
D9 – Aspirational temperance	264	3.99	1.06

Table 28: Recoded income categories to form middle- and upper-income groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Middle income group (Between R20 000 and R70 000)	114	43.2	47.5	47.5
	Upper income group (More than R70 000)	126	47.7	52.5	100
	Total	240	90.9	100	
Missing	System	24	9.1		
Total		264	100		

Table 29: Kolmogorov-Smirnov test of normality

		Statistic	Df	Sig.
Income Disruption	Middle income	0.119	114	0.000
	Upper income	0.086	126	0.024
Savings	Middle income	0.074	114	0.172
	Upper income	0.085	126	0.025
Insurance	Middle income	0.162	114	0.000
	Upper income	0.217	126	0.000
Credit Management	Middle income	0.194	114	0.000
	Upper income	0.178	126	0.000

Table 30: Descriptive statistics between income groups for each factor

		N	Mean	Std. Deviation	Std. Error Mean
Income Disruption	Middle income	114	2.75	1.059	0.099
	Upper income	126	2.41	1.007	0.090
Savings	Middle income	114	3.06	0.877	0.082
	Upper income	126	3.40	1.062	0.095
Insurance	Middle income	114	3.63	0.930	0.087
	Upper income	126	4.13	0.767	0.068
Credit Management	Middle income	114	3.94	0.702	0.066
	Upper income	126	4.27	0.750	0.067

Table 31: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Income Disruption	Equal variances assumed	1.310	0.254	2.546	238	0.012	0.340	0.133	0.077	0.602
Savings	Equal variances not assumed	4.575	0.033	-2.711	236.089	0.007	-0.340	0.125	-0.587	-0.093
Insurance	Equal variances not assumed	6.823	0.010	-4.495	219.676	0.000	-0.498	0.111	-0.716	-0.280
Credit Management	Equal variances assumed	0.312	0.577	-3.525	238	0.001	-0.332	0.094	-0.517	-0.146

Table 32: Correlation between income disruption and savings

		Savings	Income group	Income Disruption
Pearson Correlation	Savings	1.000	0.172	-0.451
	Income group	0.172	1.000	-0.163
	Income disruption	-0.451	-0.163	1.000
Sig. (1-tailed)	Savings		0.004	0.000
	Income group	0.004		0.006
	Income disruption	0.000	0.006	
N	Savings	240	240	240
	Income group	240	240	240
	Income disruption	240	240	240

Table 33: Variance of correlation between income disruption and savings

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462 ^a	0.213	0.206	0.883

a. Predictors: (Constant), Income disruption, Income group

b. Dependent Variable: Savings

Table 34: ANOVA of income disruption and savings

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	50.053	2	25.026	32.072	.000 ^b
	Residual	184.937	237	0.780		
	Total	234.989	239			

a. Dependent Variable: Savings

b. Predictors: (Constant), Income disruption, Income group

Table 35: Regression and collinearity results of income disruption and savings

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.998	0.251		15.942	0.000		
	Income group	0.200	0.116	0.101	1.726	0.086	0.973	1.027
	Income disruption	-0.413	0.055	-0.434	-7.435	0.000	0.973	1.027

Table 36: Correlation between income disruption and insurance

		Insurance	Income group	Income disruption
Pearson Correlation	Insurance	1.000	0.293	-0.313
	Income group	0.293	1.000	-0.168
	Income disruption	-0.313	-0.168	1.000
Sig. (1-tailed)	Insurance		0.000	0.000
	Income group	0.000		0.005
	Income disruption	0.000	0.005	
N	Insurance	238	238	238
	Income group	238	238	238
	Income disruption	238	238	238

Table 37: Variance of correlation between income disruption and insurance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.397 ^a	0.157	0.150	0.783

a. Predictors: (Constant), Income disruption, Income group

b. Dependent Variable: Insurance

Table 38: ANOVA of income disruption and insurance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.910	2	13.455	21.930	.000 ^b
	Residual	144.186	235	0.614		
	Total	171.096	237			

a. Dependent Variable: Insurance

b. Predictors: (Constant), Income disruption, Income group

Table 39: Regression and collinearity of income disruption and insurance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.850	0.225		17.150	0.000		
	Income group	0.419	0.103	0.247	4.064	0.000	0.972	1.029
	Income disruption	-0.221	0.050	-0.272	-4.470	0.000	0.972	1.029

Table 40: Correlation between income disruption and credit management

		Credit management	Income group	Income disruption
Pearson Correlation	Credit management	1.000	0.249	-0.387
	Income group	0.249	1.000	-0.158
	Income disruption	-0.387	-0.158	1.000
Sig. (1-tailed)	Credit management		0.000	0.000
	Income group	0.000		0.007
	Income disruption	0.000	0.007	
N	Credit management	239	239	239
	Income group	239	239	239
	Income disruption	239	239	239

Table 41: Variance in correlation between income disruption and credit management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.432 ^a	0.186	0.179	0.651

a. Predictors: (Constant), Income disruption, Income group

b. Dependent Variable: Credit management

Table 42: ANOVA of income disruption and credit management

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.876	2	11.438	27.003	.000 ^b
	Residual	99.968	236	0.424		
	Total	122.844	238			

a. Dependent Variable: Credit management

b. Predictors: (Constant), Income disruption, Income group

Table 43: Regression of income disruption and credit management

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.335	0.185		23.449	0.000		
	Income group	0.277	0.085	0.193	3.243	0.001	0.975	1.026
	Income disruption	-0.246	0.041	-0.357	-6.000	0.000	0.975	1.026

Table 44: Correlations of income disruption, acquisitive temperance (D2), and financial management behaviour

		Financial management behaviour	MC_Income disruption	MC_D2	Int_D2
Pearson Correlation	Financial management behaviour	1.000	-0.552	0.081	-0.091
	MC_Income disruption	-0.552	1.000	0.072	0.115
	MC_D2	0.081	0.072	1.000	-0.209
	Int_D2	-0.091	0.115	-0.209	1.000
Sig. (1-tailed)	Financial management behaviour		0.000	0.094	0.070
	MC_Income disruption	0.000		0.123	0.031
	MC_D2	0.094	0.123		0.000
	Int_D2	0.070	0.031	0.000	
N	Financial management behaviour	264	264	264	264
	MC_Income disruption	264	264	264	264
	MC_D2	264	264	264	264
	Int_D2	264	264	264	264

Table 45: Variance of model with acquisitive temperance as moderator

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.565 ^a	0.320	0.314	0.594	0.320	61.324	2	261	0.000
2	.565 ^b	0.320	0.312	0.595	0.000	0.000	1	260	0.983

a. Predictors: (Constant), MC_D2, MC_Income disruption

b. Predictors: (Constant), MC_D2, MC_Income disruption, Int_D2

c. Dependent Variable: Financial management

Table 46: ANOVA of model with acquisitive temperance as moderator

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	43.323	2	21.662	61.324	.000 ^b
	Residual	92.193	261	0.353		
	Total	135.516	263			
2	Regression	43.323	3	14.441	40.727	.000 ^c
	Residual	92.193	260	0.355		
	Total	135.516	263			

a. Dependent Variable: Financial management behaviour

b. Predictors: (Constant), MC_D2, MC_Income disruption

c. Predictors: (Constant), MC_D2, MC_Income disruption, Int_D2

Table 47: Multiple linear regression results for model with acquisitive temperance as moderator

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.587	0.037		98.057	0.000		
	MC_Income disruption	-0.370	0.034	-0.561	-10.960	0.000	0.995	1.005
	MC_D2	0.099	0.042	0.121	2.371	0.018	0.995	1.005
2	(Constant)	3.587	0.037		97.614	0.000		
	MC_Income disruption	-0.370	0.034	-0.561	-10.838	0.000	0.977	1.023
	MC_D2	0.099	0.043	0.121	2.304	0.022	0.947	1.056
	Int_D2	-0.001	0.039	-0.001	-0.022	0.983	0.939	1.065

Table 48: Correlations of income disruption, repetitive temperance (D7), and financial management behaviour

		Financial management behaviour	MC_Income disruption	MC_D7	Int_D7
Pearson Correlation	Financial management behaviour	1.000	-0.565	-0.052	-0.154
	MC_Income disruption	-0.565	1.000	0.222	0.022
	MC_D7	-0.052	0.222	1.000	-0.151
	Int_D7	-0.154	0.022	-0.151	1.000
Sig. (1-tailed)	Financial management behaviour		0.000	0.201	0.006
	MC_Income disruption	0.000		0.000	0.363
	MC_D7	0.201	0.000		0.007
	Int_D7	0.006	0.363	0.007	
N	Financial management behaviour	263	263	263	263
	MC_Income disruption	263	263	263	263
	MC_D7	263	263	263	263
	Int_D7	263	263	263	263

Table 49: Variance of model with repetitive temperance as moderator

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.570 ^a	0.325	0.320	0.588	0.325	62.533	2	260	0.000
2	.585 ^b	0.342	0.334	0.581	0.017	6.760	1	259	0.010

a. Predictors: (Constant), MC_D7, MC_Income disruption

b. Predictors: (Constant), MC_D7, MC_Income disruption, Int_D7

c. Dependent Variable: Financial management behaviour

Table 50: ANOVA of model with repetitive temperance as moderator

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.194	2	21.597	62.533	.000 ^b
	Residual	89.795	260	0.345		
	Total	132.989	262			
2	Regression	45.478	3	15.159	44.866	.000 ^c
	Residual	87.511	259	0.338		
	Total	132.989	262			

a. Dependent Variable: Financial management behaviour

b. Predictors: (Constant), MC_D7, MC_Income disruption

c. Predictors: (Constant), MC_D7, MC_Income disruption, Int_D7

Table 51: Multiple linear regression results for model with repetitive temperance as moderator

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.594	0.036		99.186	0.000		
	MC_IncomeDisr	-0.381	0.034	-0.582	-11.137	0.000	0.951	1.052
	MC_D7	0.058	0.039	0.078	1.484	0.139	0.951	1.052
2	(Constant)	3.613	0.037		98.841	0.000		
	MC_IncomeDisr	-0.376	0.034	-0.574	-11.092	0.000	0.947	1.055
	MC_D7	0.042	0.039	0.056	1.067	0.287	0.926	1.079
	Int_D7	-0.081	0.031	-0.133	-2.600	0.010	0.974	1.027

Table 52: Correlations of income disruption, aspirational temperance (D9), and financial management behaviour

		Financial management behaviour	MC_Income disruption	MC_D9	Int_D9
Pearson Correlation	Financial management behaviour	1.000	-0.585	-0.115	-0.158
	MC_Income disruption	-0.585	1.000	0.266	0.106
	MC_D9	-0.115	0.266	1.000	-0.403
	Int_D9	-0.158	0.106	-0.403	1.000
Sig. (1-tailed)	Financial management behaviour		0.000	0.031	0.005
	MC_Income disruption	0.000		0.000	0.044
	MC_D9	0.031	0.000		0.000
	Int_D9	0.005	0.044	0.000	
N	Financial management behaviour	262	262	262	262
	MC_Income disruption	262	262	262	262
	MC_D9	262	262	262	262
	Int_D9	262	262	262	262

Table 53: Variance model with aspirational temperance as moderator

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.587 ^a	0.344	0.339	0.575	0.344	67.938	2	259	0.000
2	.593 ^b	0.352	0.344	0.573	0.008	3.041	1	258	0.082

a. Predictors: (Constant), MC_D9, MC_Income disruption

b. Predictors: (Constant), MC_D9, MC_Income disruption, Int_D9

c. Dependent Variable: Financial management

Table 54: ANOVA of model with aspirational temperance as moderator

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.982	2	22.491	67.938	.000 ^b
	Residual	85.742	259	0.331		
	Total	130.724	261			
2	Regression	45.981	3	15.327	46.663	.000 ^c
	Residual	84.743	258	0.328		
	Total	130.724	261			

a. Dependent Variable: Financial management behaviour

b. Predictors: (Constant), MC_D9, MC_Income disruption

c. Predictors: (Constant), MC_D9, MC_Income disruption, Int_D9

Table 55: Multiple linear regression with aspirational temperance as a moderator

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.603	0.036		101.338	0.000		
	MC_IncomeDisr	-0.389	0.034	-0.597	-11.430	0.000	0.929	1.076
	MC_D9	0.029	0.035	0.044	0.837	0.403	0.929	1.076
2	(Constant)	3.621	0.037		98.154	0.000		
	MC_IncomeDisr	-0.374	0.035	-0.574	-10.714	0.000	0.875	1.143
	MC_D9	-0.001	0.039	-0.002	-0.033	0.973	0.741	1.349
	Int_D9	-0.061	0.035	-0.098	-1.744	0.082	0.789	1.268