FACTORS THAT INFLUENCE SAVING BEHAVIOURS AMONG UNDERGRADUATE STUDENTS IN UTAR, KAMPAR

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A final year project submitted in partial fulfilment of the requirement for the degree of

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DECLARATION

We hereby declare that:

1) This undergraduate FYP is the end result of our own work, and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

3) Equal contribution has been made by each group member in completing the FYP.

4) The word count of this research report is _____18546_____.

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DEDICATION

This study is dedicated to every person who has made an effort to make this study a success. The efforts, regardless of being direct or indirect, are priceless.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CLT	Central Limit Theorem
FAS	Faculty of Arts and Social Sciences
FBF	Faculty of Business and Finance
FEGT	Faculty of Engineering and Green Technology
FICT	Faculty of Information and Communication Technology
FK	Financial Knowledge
FSc	Faculty of Sciences
GFC	Global Financial Crisis
ICS	Institute of Chinese Studies
LCH	Life Cycle Hypothesis
OLS	Ordinary Least Square
PTPTN	Perbadanan Tabung Pendidikan Tinggi Nasional
SB	Saving Behaviours
SC	Self-Control
SI	Social Influence
SPSS	Statistical Package of Social Science
TPB	Theory of Planned Behaviour
VDP	Variance Decomposition Proportion
VIF	Variance Inflation Factor
WLS	Weighted Least Square

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PREFACE

This study is very important for the completion of our undergraduate course which is Bachelor of Economics (Hons) Financial Economics offered by Universiti Tunku Abdul Rahman. The topic of this research is "Factor That Influence Saving Behaviours Among Undergraduate Students in UTAR Kampar". Hence, this study is carried out to figure out the factors that are significantly affect the saving behaviours among undergraduate students in the private university.

Due to the economic growth around the world, many consumers practice consumption and savings in their daily lives. As a result, saving behaviours become more and more concern from general public and government. Therefore, every party including the government, educational institutions, parents, and religious organizations needs to perform their role in encouraging saving behaviours. This can be achieved by influencing the saving behaviours of today's generation.

Therefore, this study examines the saving behaviours because it can have a deeper understanding on Malaysia's financial development. This research studies the influences of three factors, which are social influence, financial knowledge, and self-control. This study can offer important insights to the government, educational institutions, and religious organizations into how they can improve the saving behaviours among the undergraduate students.

ABSTRACT

Due to the rapidly changes in technology and the use of internet, saving behaviours become more important than past in recent year. Although this issue has received many concerns from different aspect such as government, corporates, and education institution, but the result of saving behaviours still remains uncertain. Therefore, much research on saving behaviours has been conducted around the world especially in both developed and developing countries. Anyhow, the role of undergraduate students especially in private universities in those developing countries such as Malaysia has been ignored although they are the main observation population. Thus, this study seeks to examine the how the factors such as social influence, financial knowledge, and self-control influence the saving behaviours among undergraduate student in UTAR by referring to previous research. In order to conduct the study, the questionnaires were distributed to 380 UTAR Kampar undergraduate students through google form. All the data collected from the respondents are used to analyse purpose by using Statistical Package for the Social Sciences (SPSS) version 29.0. The results show that there is a significant relationship between social influence, financial knowledge, and self-control with the dependent variable, saving behaviours among the undergraduate students in UTAR, Kampar.

Keywords: Saving Behaviours, Social Influence, Financial Knowledge, Self-Control

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter's introduction covered the background of the study. The issues with this research are also discussed through problem statement. The precise objectives of the study, questions, and hypotheses are next set forth. It also highlighted why this research is essential. The arrangement continues with a synopsis of each chapter's contents. The key concepts from chapter one is finally summed together in the conclusion.

1.1 Research Background

Saving was considered good moral throughout the medieval ages, but spending was immoral (Van Raaij, 2016). In the Middle Ages, "sumptuous laws" were passed to prevent the farmers and citizens, who made up the third social class, from overconsumption (Van Raaij, 2016). Austrian School philosopher Von Böhm-Bawerk developed the impatient saving hypothesis in 1888. People demand payment for delaying consuming because they are restless and want to do it now. According to Marshall (1890), choosing to save and doing so requires making a trade-off between immediate and long-term rewards. People must choose whether to spend money now or save it for later. Additionally, some individuals develop the practice of saving only for the reason of saving (Van Raaij, 2016).

Savings habits are essential for individuals to develop and put into practice to address any future expenditure decisions on their own (Saber, 2022). Saving is seen as both a preventative strategy and a means to lessen the risk of being unable to predict the future. We would know how much money may be required if we could predict the future (Saber, 2022). As the current economy continue to grow and develop, saving are

becoming more important to the new generation. Savings logically support investment, which sparks a nation's economic progress (Chia et al., 2011). Savings from households, businesses, and the government all play a significant part in its importance at various levels (Jamal et al., 2016). For instance, if families fail to save enough, they may struggle financially, and do not have adequate extra money or capital which can cause them more worried and put their health at risk (Prawitz et al., 2006).

As pointed out by Harrod (1939), the ability to save influences the rate of development in the economy since a high savings rate boosts the rate of investment, hence stimulating economic expansion. Furthermore, Tang (2010) claims that a great savings rate will boost investments, influence capital growth, and encourage economic growth. As a consequence, the rate of long-term economic development depends on one's ability to save. Similarly, Mahdzan and Tabiani (2013) emphasised that having a large amount of savings may safeguard countries from financial and economic crises, offering protection in the event of a shock, and being an important component of increasing well-being. Furthermore, it leads to the accumulation of money, which enables individuals to improve their quality of life and seize new opportunities. In other words, personal savings will benefit families and the whole nation (Jamal et al. 2016). To maintain economic progress, it is critical to comprehend the causes that impact people's saving habits.

Sonuga-Barke and Webley (1993) argue that people, assisted by institutional and other social elements and facilities, fulfil children's behaviour and concept of saving, which, like other economic activity, is formed inside the social group. Additionally, from a functional perspective, saving is a solution to the issue of an income restriction. Based on Furnham (1999), money spent on products in the present cannot be used again in the future. As a result, this knowledge helps us comprehend the connection between current and future consumption and the significance of saving.

To deal with potential future expenditure decision on their own, saving behaviour is the fundamental need for people to study and gain good financial skills in their lives (Saber, 2022). Due to the rapidly changes in technology and the use of internet, saving behaviour get more attention from people and play a significant role in boosting a country's economy. For instance, most of the investment are mainly come from the saving and the increasing of saving can increase investment level and encourage economy growth (Macini, 2023). In the other hand, saving behaviour also can lead to poor economy growth since people did not choose to spend their money but choose to save. When there is not spending, the available cash in money market will decrease and the market does not have enough money to go for industry activities such as investment and can lead to bankruptcy. Since saving behaviour is important in people daily life to deal with possible spending, thus, it is important to study the saving behaviour and understand the factors that may influence the saving behaviour. According to the research from Gerryn (n.d.), the bankruptcies are most likely to increase 26% at global level and the largest increases are expected in Australia, France, and Singapore although the vaccines for Covid-19 has been launched. This prediction is mostly based on the expectation that the local government will eliminate the fiscal support and restoration of bankruptcy procedures.

In the study of Aizuddin and Kadir (2019), a few factors, including the government budget, the rate of return on deposits, the population of young and elderly, rural and urban areas, financial debt, precautionary saving, expectations of income, and debts, may have an impact on domestic savings.

On the other hand, the study conducted by Chia et al. (2011) highlights that Malaysians lack of monetary literacy, excessively utilize credit, overspend, employ bad budgeting techniques, have poor buying and spending habits, and have significant debts. Up to April 2023, there will be 264,127 bankruptcy cases in Malaysia, 107 of which would include persons under 25—a rate of 0.31%, according to the Malaysian Department of Insolvency.

1.2 Problem Statement

Appendix 1.1 shows the percentage of the gross saving rate in ASEAN country which include Brunei, Singapore, Indonesia, Vietnam, India, Cambodia, Thailand, Malaysia, and Philippines. According to the appendix 1.1, Malaysia is having the lowest saving rate, 26.07% after the Philippines among the ASEAN countries. The low saving rate can be used to compare with the bankruptcy case in Malaysia since poor saving behaviour will lead to bankruptcy, one of the major problems in the country (Munikrishnan et al., 2023 & Ismail et al., 2020). In addition, as per research from Nurul Atikah (2023), by 2023, 55% of Generation Z, aged 12 to 27 will have monthly expenses that will be exactly equal to or exceed their income compared with 43% Generation Z in 2019. Thus, this leads to a decrease in savings rate among the generation Z. From the year 2015 to 2019, the research result shown that up to 26% of the total bankruptcy cases in Malaysia involved those ages between 25 to 34 (“Financial Literacy Among Youth Alarmingly Low,” 2020). In Malaysia, 16 people were declared as bankrupt due to personal loan and business loan each day, on average, due to the poor saving behaviour problem. Although the bankruptcy case looks like there is having a downward trend in Malaysia, but the data shown that nearly 70% people who announced as bankruptcy, had a debt margin of between RM100,000 and RM499,000 which is still a large amount (“16 People Declared Bankrupt Every Day,” 2023). Besides, the percentage of saving rate in Malaysia is lower because of the lack of saving knowledge. Thus, studying saving behaviour in Malaysia is important as it can be used to establish solutions to promote positive saving behaviour among Malaysian (Looi et al., 2022).

According to Khan et al. (2017), "gross domestic savings" refers to all savings made by households, the private sector, and the government together. In addition, domestic savings is essential in emerging countries as it can help local businesses adopt and

apply modern technologies for product creation instead of relying on foreign investments. However, based on the data gained from World Bank as shown in appendix 1.2, Malaysia's gross domestic savings dropped from 46.1% to 30.8% between 2000 and 2022. The decreasing in gross domestic saving is due to the Global Financial Crisis that happened in 2007 to 2008 and the Covid-19 from 2019 to 2020. Global Financial Crisis (GFC) was defined as the time period of greatest pressure between 2007 and 2008 not only in global financial markets, but also include the banking system (Reserve Bank of Australia, 2023). The saving rate in Malaysia is low during the GFC is because one of the financial firms in US, Lehman Brothers had collapse in September 2008 due to the financial stress. In addition, along with other financial firms that had failed or were close to failure at that time, this situation caused panic in financial markets around the world. As a result, investors started to take out their money from banks as they did not know which financial firm would be next to fail and what risks they might face system (Reserve Bank of Australia, 2023).

Most of the research about saving behaviour are done for university or college students. In Malaysia, the number of public universities and private universities are 20 and 50 respectively (StudyMalaysia.com & WebWay E Services, 2022). In order to provide more opportunities to afford university education, education loan in Malaysia, Perbadanan Tabung Pendidikan Tinggi Nasional (PTPTN) was established on 1 July 1997. Therefore, people graduated from university described for the majority of the total residents in Malaysia. In this situation, university undergraduates become one of the most vital market sectors as their purchasing power is higher due to the accessibility of educational loans especially the educational services in Malaysia have been improved. Moreover, according to the research from Norasibah Abdul et al. (2020), the result of the research shown that common main source of the university undergraduates' income is from their parents and PTPTN. Thus, the monthly income that received from their parents also increased the purchasing power of the undergraduate students and this may affect their saving behaviours in daily life. In addition, university students are more likely to earn more income instead of other groups of population due to their high educational level (Kamarudin & Hashim, 2018). Besides, according to the research,

lack of saving behaviour and financial management skill that occur among young adults are caused by the overspending on needless items and lack of financial knowledge (Norvilitis et al., 2006; Kadir et al., 2021). Therefore, to overcome and prevent the percentage of gross saving rate keep decreasing and affect the economy growth in Malaysia, saving behaviour can be understood clearly through the education institution. This is because education can increase the financial knowledge and strengthen their planning and allocation skill which is useful in saving behaviour. As the university students are having large population, performing this research in universities can bring more efficient and significant effect on the saving behaviour in Malaysia.

As the total of private universities in Malaysia is more than the public universities, thus, there are more students studying at private universities compared to the public universities. As the university students are the main concern of saving behaviour, performing this research in private universities can bring more efficient and important effect on the saving pattern in Malaysia. Thus, the private university that chosen for this study is Universiti Tunku Abdul Rahman, Kampar. This is because the university has paid a lot of effort on spread the information about saving behaviour to ensure that students can have a deeply understanding on these issues.

According to the previous studies, saving behaviour can be influenced by many factors. However, in most of the research, some factors such as social influence, financial knowledge, and self-control are the regularly reasons that shown the significant relationship to influence saving behaviours especially among the university students. For instance, previous studies represented that social influence is suggestively impact the saving behaviour of university students (Mpaata et al., 2020; Zainudin & Shaharuddin, 2022). However, there is still an opposite result found in other researchers' study. For instance, according to the research from Saber (2022), social influence is having an insignificant relationship with the explained variable, saving behaviours.

Furthermore, there are also various previous research represented that financial knowledge is significantly affect the saving behaviour as well financial knowledge will

encourage saving behaviour (Kadir et al., 2021; Hilgert & Hogarth, 2003; Ismail et al., 2015). However, there is still an opposite result found in other researchers' study. For instance, according to the research from Perangin-Angin et al. (2022), the result shown that financial knowledge is having an insignificant relationship with the explained variable, saving behaviour among undergraduates.

Moreover, there are also some previous studies indicated that self-control is significantly affect the saving behaviour as students with higher self-control are able to forecast healthy financial behaviour in future (Strömbäck et al., 2017; Angela & Pamungkas, 2022). However, there is still an opposite result found in other researchers' study. For instance, according to the study from Kadir et al. (2021), the result shown that there is an insignificant relationship between self-control and saving behaviour as undergraduates are more likely to allocate their money on entertainment to keep updating themselves with the latest trend instead of saving the money.

In short, the previous studies showed the inconsistent relationship between social influence, financial knowledge, and self-control and saving behaviour which led the relationships cannot be understand clearly. This is because this research is focus on foreign country or public universities which lead to different result. Therefore, this is the gap to be filled up by performing this research on private university, UTAR in Malaysia. As a result, this study purposes to examine the interaction between social influence, financial knowledge, and self-control on saving behaviour among the undergraduate students in UTAR, Kampar.

1.3 Research Objectives

1.3.1 General Objectives

This research sets out to examine the relationship between social influence, financial knowledge, and self-control on the saving behaviours among the undergraduate students in UTAR, Kampar.

1.3.2 Specific Objectives

- To examine whether there is a significant relationship between social influence and saving behaviours among the undergraduate students in UTAR, Kampar.
- To examine whether there is a significant relationship between financial knowledge and saving behaviours among the undergraduate students in UTAR, Kampar.
- To examine whether there is a significant relationship between self-control and saving behaviours among the undergraduate students in UTAR, Kampar.

1.4 Research Questions

- Is there a significant relationship between social influence and saving behaviours among the undergraduate students in UTAR, Kampar?
- Is there a significant relationship between financial knowledge and saving behaviours among the undergraduate students in UTAR, Kampar?

- Is there a significant relationship between self-control and saving behaviours among the undergraduate students in UTAR, Kampar?

1.5 Hypotheses of the Study

H1: There is a significant relationship between social influence and saving behaviours among the undergraduate students in UTAR, Kampar.
H2: There is a significant relationship between financial knowledge and saving behaviours among the undergraduate students in UTAR, Kampar.
H3: There is a significant relationship between self-control and saving behaviours among the undergraduate students in UTAR, Kampar.

1.6 Significance of Study

Conducting this research is utmost importance as it can help in enriching the current information of saving behaviours, especially among university students. First, the conduct of the study can enrich the existing knowledge base in the saving behaviour. We would be able to point out the primary factors that influence saving behaviours among undergraduate students in Univerisiti Tunku Abdul Rahman (UTAR), Kampar campus. By including the predictor variables includes social influence, financial knowledge, and self-control, the saving behaviours among university students can be clearly understood. It can address financial literacy among university students and provides insight into students' financial knowledge and awareness. The results may be used to pinpoint the areas in which students are lacking in personal finance knowledge so that they can make informed decisions about their finances.

Besides that, after having completed this study, the results can aid in a deeper understanding of Malaysia' financial development. The financial health of its citizens significantly impacts on a nation's economic stability. A positive saving behaviour among students will result in more chances for investments, more capital accumulation and ultimately contribute to economic growth.

Lastly, the result of the research can become the reference materials for other researchers who having the same interest on saving behaviour topics. By identifying and understanding the important elements that impact saving behaviours among university students in Malaysia, the educators and policymakers pave the way for better savings behaviour by creating programs and courses that would assists universities students in managing their personal finances and avoiding debt. Consequently, retail banks' profitability and competitiveness can be raised.

1.7 Chapter Layout

This study is structured into a total of five chapter. Chapter one begins with the research background of the study. The problem statement that outlines the issues and reasons for selecting this research is examined afterwards. Then, the precise research objectives, issues, hypothesis, and significance of study is being explained in chapter one.

Chapter two firstly includes a review of earlier studies on saving behaviours. It included the review of the explanatory variables which include social influence, financial knowledge, and self-control, explained variable which is saving behaviours and the theoretical frameworks that were adapted in the earlier studies. The explanations of each variable are also given. Finally, chapter two logically stated the discovery of other researchers that relevant to saving behaviours.

Chapter three contains the description of research methodology that being implied in this study. This chapter provides detailed explanation of the design of study, sampling proportion selection, sampling approach, and research equipment. The process for the data clarification and interpretation are also explained in this chapter.

Chapter four discusses the outcome of this study. The accomplishment of the study objectives established in chapter one depends on the presentation and display of the research findings. The main elements of chapter four are the results of the investigation, including the descriptive findings, exploratory data structure, and expected analysis.

Chapter five gathers and captures the detailed discussion and interpretation of the study result through data analysis. There are also some suggestions on how the education institutions or government policymakers can use the findings to reinforce and enhance the present policy. In addition, the weaknesses of this research are examined, and some recommendations are provided for overcoming them.

1.8 Conclusion

In summary, bad saving habits can lead to several issues, including low economic growth, the failure of industries, and a decline in investment. Other circumstances, such as the financial crisis, trade disputes, Covid 19, etc., can also influence saving behaviour. However, we are focusing on the elements that may be in their control. Therefore, this research intends to recognise the key influences impacting the saving habits of Malaysian university students. Social relationships, financial knowledge, and self-control will all be examined in this study.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The second chapter begins with a comprehensive examination of previous research about the dependent variable, namely saving behaviours, as well as the independent factors, namely social influence, knowledge of finances, and self-control, that are pertinent to our study. The following sections consist of an analysis of theoretical models that have been used in previous investigations, as well as the presentation of a conceptual framework. Finally, theories have been formulated.

2.1 Underlying Theories

2.1.1 Theory of Planned Behaviour (TPB)

Theory of Planned Behaviour (TPB) that proposed by Icek Ajzen in 1991 is applied in this research. In general, TPB started as the Theory of Reasoned Action in 1980 which the aim is used to forecast an individual's target to perform a certain act at a specific time and location (Fishbein & Ajzen, 1975). Under TPB, there are few factors that may influence the behavioural intention of an individual or group which include attitude towards the behaviour, subjective norm and perceived behavioural.

According to the research from Ajzen (1991), behaviour intention refers to the motivational factors that affect an individual's behaviour. For instance, an individual will be more likely to perform the behaviour if there is a stronger

intention to participate in a given behaviour. The first factor that may influence the behavioural intention of an individual is attitude towards the behaviour. It is referred to the dimension to which an individual has a positive or negative judgement towards an action. Furthermore, the subjective norms refer to the social pressure that is received from the third party whether to engage or abstain from a particular behaviour. These social pressures can come from anyone who is a prominent referent such as family, peers or even colleagues. Finally, the TPB also includes perceived behavioural which refers to an individual's subjective assessment of the ease with they can engage in a particular behaviour. As a result, people believe that with a good and strong attitude, subjective norms and perceived behavioural, there is more likely for an individual to perform a specific action or behaviour.

Therefore, Theory of Planned Behaviour has been employed in this study to investigate the determinants of saving behaviour among undergraduate students in UTAR, Kampar. Subjective norms in the TPB are used in explaining the correlation between social influence and saving behaviour among the students. Social influence refers to parent socialization and peer influence in this study and mostly social pressures come from them. Thus, the saving behaviour of students can be affected by the people surrounding them to decide whether they tend to perform the saving behaviour or not.

In this research, with the help of attitude towards behaviour, the relationship between financial knowledge and saving behaviour among undergraduate students in UTAR, Kampar can be explained. In general, students with better financial knowledge will have a more comprehensive comprehension towards the advantages of saving behaviour and potential issues that may occur if it is not well-performed in daily life. Therefore, the students with better financial knowledge tend to perform the action since they are having a positive attitude towards the saving behaviour.

Moreover, to investigate the correlation between self-control and saving behaviour among the students can also be explained by using one of the components of TPB which is perceived behaviour. Self-control refers to an individual's ability to control their behaviour. When an individual has a high level of self-control, the individual is more likely to well-perform the saving behaviour easily compared to those individuals with lower self-control level. When a person has a high self-control level, they are more self-disciplined, can manage their preference effectively and practice delay gratification. As a result, the factors that may influence the saving behaviour such as social influence, financial knowledge and self-control can be explained by the Theory of Planned Behaviour.

2.1.2 Life Cycle Hypothesis

The Life Cycle Hypothesis (LCH) is a theory that formulated by Modigliani and Brumberg in 1954. It analyses how people spend and save money throughout their lifetimes. The LCH framework explains how consumption, income, wealth, and savings relate to one another throughout the stage of an individual's life. According to the hypothesis, people try to achieve the equilibrium in their lifetime consumption by borrowing during periods of low income and saving during periods of high income. The savings will increase and reach the peak at retirement age and start to decline, it generates an inverse U-shaped curve for the wealth accumulation.

The Life Cycle Hypothesis is applied in this study to examine the relationships between social influence, financial knowledge, self-control and saving behaviours among undergraduate students in UTAR, Kampar. According to the LCH, saving behaviour is future-focused and motivated by a desire to budget for future expenses. Social influence from friends, parents, and family members may have an impact on a person's understanding of the concept of saving and their future financial objectives, which in turn may have an impact on their saving

behaviour. According to the study conducted by Henry et al. (2005), undergraduate students lack knowledge about money or motivation on wealth planning. Hence, lacking financial knowledge among undergraduate students will overlook the importance of saving and negatively impact the saving behaviours. Based on theory, people will change their level of consumption according to the changes in wealth. Controlling consumption requires a certain degree of self-control. Hence, this theory can help in examining the relationships between self-control and saving behaviours. Based on LCH, people will smooth the consumption throughout their lifetime. Undergraduate students who take part in internships or part time jobs which have higher income tends to save more.

2.2 Review of Literature

2.2.1 Saving Behaviour

The term saving contains a wide range of definition. As a simplest way, the concept of saving can be characterized as the residual income after subtracting the expenditure over a specific duration (Browning & Lusardi, 1996; Keynes, 1936; Warneryd, 1999). In contrast, savings in psychological context is not using the money in the current period but to be used in the future (Warneryd, 1999). Savings is determined as a measurement of individual success and economic development (Chowa & Ansong, 2010). Saving behaviours is crucial and can be defined as a combination of a saving decision and consideration for future needs (Saber, 2022). Individuals who have good saving behaviours and know how to manage their finance can survive better in the future (Kassim et al., 2019). The positive or negative saving behaviour is linked to the regularity of savings (Esmail Alekam & Bt Md Salleh, 2018).

2.2.2 Social Influence

From Turner (1991), social influence can be defined as a process of people directly or indirectly influencing the others' thinking ways, feelings, and action taken. Social influence has a long history, and it includes a broad area such as peer pressure, social facilitation, and persuasion. Cialdini (2009) stated that there are six main influencing strategies which are reciprocity, commitment and consistency, social proof, authority, likability, and scarcity. Especially for social proof, the people who is unsure in the social situation will tend to follow the models surrounding them. They will choose family, individuals, peers, groups, or celebrities to become their models. In this study, social influence refers to parent socialisation and peer influence.

According to Bona (2018), family is one of the factors that infleunces saving behaviour among undergraduate students. Young people's saving behaviour will be affected by family's spending behaviour, savings plans and financial concepts (Kagotho et al., 2017). The more family discuss financial topics, the children will more understand about financial planning. Children will observe the financial concept and money management of their family and carry out into adulthood (Beutler & Dickson, 2008). Saving behaviours of undergraduate students also affected by people outside their families (Lusardi & Mitchell, 2014). Duflo and Saez (2002) indicated that there is a linkage between group and individual behaviour as people with same preferences and characteristics tend to be in the same group.

General findings identified that social influence and saving behaviour among university students are significantly correlated. Azlan et al. (2015), Looi et al. (2022), Jamal et al. (2016) and Juliana et al. (2021) identified the social influence is positively significant affecting saving behaviours among university students.

According to Jamal et al. (2016), undergraduates who contribute in social and financial activities with friends will greatly be impacted on their saving behaviours. In the same research, family influence also positively affects students' saving behaviours. Parental involvement in activities such as financial discussion, savings programs and financial seminars will influence children's saving behaviours (Van Campenhout, 2015). If children are asked by their parents to save money, the willingness to save money increases 16% (Bucciol & Veronesi, 2014).

Looi et al (2022) stated that parents play important roles in influencing the saving behaviour of their children but there is little or no influence of peers on saving behaviours among university students in Malaysia. This may be due to their growing experience having more significant influence compared to the money matters.

Juliana et al. (2021) found that parent socialization and peer influence are significantly affect saving behaviours among undergraduate students. Exposure of financial topics from parents before formal education will help in developing and shaping children's financial behaviours (Batty et al. 2015). Discussions about financial topic among peers is one of the most influential factors affecting saving behaviours among undergraduate students and this finding also supported by Noor Zaihan (2016). The saving and spending behaviour will be affected at the same time as some students spend most of their time with friends compared to family.

2.2.3 Financial Knowledge

To begin with, it is generally accepted that financial knowledge is a fundamental element of financial literacy. The term "financial literacy" is often used

synonymously with "financial knowledge." Financial literacy has been articulated by numerous researchers as a broad concept including financial awareness, skills, and attitudes that effect individuals' monetary conduct (Lusardi, 2011; Lusardi & Mitchell, 2013; Xiao et al., 2014; Tharanika & Andrew, 2017). Following the research conducted by Kempson et al. (2005), financial literacy is operationally defined as individuals' ability to acquire, interpret, and assess financial information. Garman and Forgue (2006), defined financial knowledge as the acquisition of enough information pertaining to personal finance facts and the principles behind effective management of finances.

As stated in Tharanika and Andrew (2017) and Jariwala (2013), the concept of financial literacy encompasses a comprehensive understanding of various financial products, including savings accounts, fixed deposits, and the distinction between fixed and floating interest rates. It also involves a grasp of fundamental financial concepts such as inflation, compounding, diversification, and credit ratings, as well as the mathematical skills needed for making secure financial decisions. Jariwala (2013) posits that individuals with high financial intelligence tend to possess diminished inflation expectations, possess a comprehensive understanding of the ramifications of inflation on investment returns, tend to engage in borrowing activities at low rates of interest while being mindful of associated fees, experience a heightened sense of empowerment in making investment choices, and demonstrate self-restraint in their spending habits.

Tharanika and Andrew's (2017) and Chia et al. (2011) study aims to evaluate university students' financial awareness and saving behaviour. Chia et al. (2011) focused on being more detailed in assessing university student holding behaviour.

Falahati and Paim (2011) conducted research that elucidates these discrepancies by demonstrating that male college students in Malaysia had higher financial resources than their female peers, due to gender inequalities. In addition, students who had a lower level of financial knowledge had more negative attitudes towards

money and made more erroneous financial choices (Jamal et al., 2016). Furthermore, Jamal et al. (2016) asserts that a deficiency in economic comprehension has an impact on students' ability to make informed assessments. Chia et al. (2011) propose that the use of the Theory of Planned Behaviour (TPB) might be employed as a means to examine the influences that impact the decision to save among undergraduates in Malaysia.

Studies on financial knowledge among college students (Chen & Volpe, 2002; Ibrahim et al., 2010; Lusardi et al., 2010; Mandell and Klein, 2009) indicate that students need help with their limited comprehension of financial concerns. The likelihood of university students saving after acquiring their student loans is reduced as a result of a deficiency in financial literacy. Many students have financial difficulties due to their tendency to spend irresponsibly on non-academic goals (Tharanika & Andrew, 2017). Nevertheless, it is well recognized that financial literacy plays a pivotal role in improving financial conduct and promoting personal financial welfare among those without financial expertise, such as college students. To cultivate an understanding among students about the significance of conserving money, educational institutions such as colleges should prioritize subjects associated with financial literacy (Asmawi, n.d.).

Additional limits will arise from the geographical and sample size limitations imposed by Chia et al. (2011), who state in their findings that only 420 university students in Peninsular Malaysia were included in the sample to denote the complete population of 1004409 undergraduates in Malaysia. The results may be less influential and less representative due to the insufficient sample size and the exclusion of university students from East Malaysia.

Moreover, as stated by Chia et al. (2011), self-report review is not without its limitations. They emphasize that students may inadvertently report inaccurate information or embellish their responses to gain an advantage. While students may sometimes be inclined to provide candid self-evaluations, self-reported

emotional intelligence may rely on a subjective perception of emotional capability (Zeng & Miller, 2001), which could potentially undermine the validity of the research.

In the paper by Sabri et al. (2010), the research could prove useful to retail banks, policymakers, and parents by distinguishing the attributes that influence the saving habits of university students. Jariwala (2013) posits that an enhancement in financial consciousness among college students would result in an amelioration of their saving behaviours.

Several studies suggest that financial knowledge is essential to university students (Sabri & MacDonald, 2010; Delafrooz et al., 2011; Hilgert et al., 2003). According to Jariwala (2013) and Tharanika & Andrew (2017), there is adequate data to infer that financial literacy is substantially associated with saving behaviour among university students.

Numerous scholarly investigations have concluded that financial literacy is critical for college students (Sabri & MacDonald, 2010; Hilgert et al., 2003; Delafrooz et al., 2011). Based on the findings of Jariwala (2013) and Tharanika & Andrew (2017), it can be deduced that financial literacy significantly influences the saving habits of college students.

2.2.4 Self-control

People's saving behaviour is related to their self-control capacity, and those with more self-control save more money. It implies that those with high self-control may refrain from unnecessary actions and thoroughly analyse their

options since they have the propensity to do so (Chalimah et al., 2019). According to Gottfredson and Hirschi's (1990) study, self-control is a behaviour that develops as a consequence of self-control learning. Savings behaviour improves with increased self-control (Petpairote, 2022).

An additional facet of self-control pertains to the capacity to classify and control one's feelings and wants. It is characterized by the ability to delay gratification, self-control, and determination (Baumeister, 2002). Lunt and Livingstone (1991) posit that the act of saving entails abstaining from making purchases to accumulate funds for future utilization. Additionally, individuals with a high level of self-control are capable of prioritizing their needs over transient indulgences. A study acted by Trzciska et al. (2018) discovered that saving behaviour is substantially impacted by self-control.

Individuals who exhibit impulsive behaviours and lack of self-control are less susceptible to the influence of perceived dangers and future expenses, as stated by Cohran et al. (2008). Students who lack self-control are more likely to overspend and be unable to save money for a "rainy day," according to Cohran et al. (2008). This is due to the fact that they spent more likely to reflect their personal preferences. Each of these factors significantly influences the saving behavior of students. Nevertheless, the majority of prior research has focused on a single variable among the numerous that could potentially impact the behavior of students (Cohran et al., 2008).

The initial research in Nyhus and Webley's (2011) study tended to link personality to self-control. According to Nyhus and Webley (2001), various personality traits, such as extraversion, conscientiousness, and neuroticism, impact saving. In addition, those with high self-control put their requirements ahead of fleeting impulses. Money is never spent in total when received; instead, a part is always set aside (García & Vila, 2020).

Personal financial behaviour and subjective assessments of one's financial well-being are both influenced by self-control, as stated by Stromback et al. (2017). Moreover, studies done by Ameriks et al. (2007), Bijanovska & Palligkinis (2015), and Rha et al. (2006) revealed that individuals who possessed strong self-control were more inclined to consistently set aside funds from their paychecks. This suggests that such individuals are more equipped to handle unanticipated financial obligations and are more likely to arrive at retirement with sufficient funds.

There are limits on restraint and saving behaviour, nevertheless. According to Hartono and Isbanah's (2002) study, the management ramifications of students' poor saving behaviour demonstrate that the company's emphasis on promoting students' saving behaviour should be focused on something other than the students' self-control. They said that, while they were young, students still relied on their parents' money for financial support, which impacted financial service providers' ability to stimulate the external elements that influence students' saving habits. Undergraduate students are seen to have stronger self-control than college students (Hartono and Isbanah, 2002).

The survey conducted by Strömbäck et al. (2017) also has the drawback of using self-reported data, which may have social desirability problems. Additionally, a drawback of using self-reported data is that participants may have misunderstood the questions or provided false information either consciously or inadvertently. Petpairote (2022) contends that crime results from a person's lack of self-control, and self-control theory has often been used to examine saving practices overseas.

The research articles by Uddin (2020), García & Vila (2020), Esenvalde (2010), Jamal et al. (2016), Nyhus (2002), and Warneryd (1999) provide sufficient evidence to support the conclusion that self-control plays a crucial role in promoting saving behaviour. The research of Mexhuani and Ribaj (2018) as well

as Mpaata (2021) indicates that self-control has a significant effect on saving behavior. A similar claim was made by Biljanovska and Palligkinis (2018): individuals who exercise rigorous self-control save money more effectively. Additional indications of self-control include the capacity to alter undesirable behaviours, withstand initial inclinations, and transform poor habits (Baumeister, 2002; Fujita et al., 2006). Furthermore, Tharanika and Andrew (2017) establish a positive correlation between it and the saving behaviour of students. Chia et al. (2011) also identify a significant correlation between the self-control of university students in Malaysia and their propensity to save.

Self-control and saving behaviour can still show an adverse relationship (Hartono and Isbanah, 2022). Additionally, Budiman & Yanty's (2022) research finds that saving behaviour is unaffected by self-control. In their research, they discovered that people who cannot exercise personal self-control constantly follow current trends and technological advancements, which causes them to overspend financially.

On the other hand, other researchers utilize various approaches; for example, Tharanika & Andrew (2017) used multiple regression analysis in their study, while Budiman & Yanty (2022) used a qualitative approach.

2.3 Conceptual Framework

2.3.1 Social Influence

According to the previous research that discussed in the literature review, most of the results shown that the social influence such as parents, peers or colleagues are positively influence the saving behaviour. Therefore, people believe that undergraduate students who take part in more social activities and having good

connections with others are more likely to implement saving behaviour in their daily life (Looi et al., 2022). However, there is still have reverse result that shown social influence is negatively influence the saving behaviour which was found in the research from Saber (2022). Thus, this study would examine whether the social influence is having positive or negative relationship with saving behaviour among undergraduate students in UTAR, Kampar.

2.3.2 Financial Knowledge

Another major factor that might influence the saving behaviour is financial knowledge. Most of the research believe that financial knowledge is significant and having a positive relationship towards the saving behaviours. This is because people believe that by getting extra financial knowledge, it can increase the probability of saving behaviour (Nababan et al., 2022). However, according to the research from Perangin-Angin et al. (2022), the result shown that the financial knowledge is insignificant in explaining the saving behaviours. Therefore, this study would investigate whether the financial knowledge is having positive or negative relationship with saving behaviour among undergraduate students in UTAR, Kampar.

2.3.3 Self-Control

Besides, most of the research shown that self-control has significant and positive relationship with saving behaviours. For instance, people believe that by having the self-control in individuals, they are more likely to implement a successful saving behaviour in their daily life (Mpaata et al., 2021). Nevertheless, the opposite result was found in the study from Hartono & Isbanah (2022) that shown that self-control is negatively affect the saving behaviours. Therefore, this study

would investigate whether the self-control is having positive or negative relationship with saving activities among undergraduate students in UTAR, Kampar.

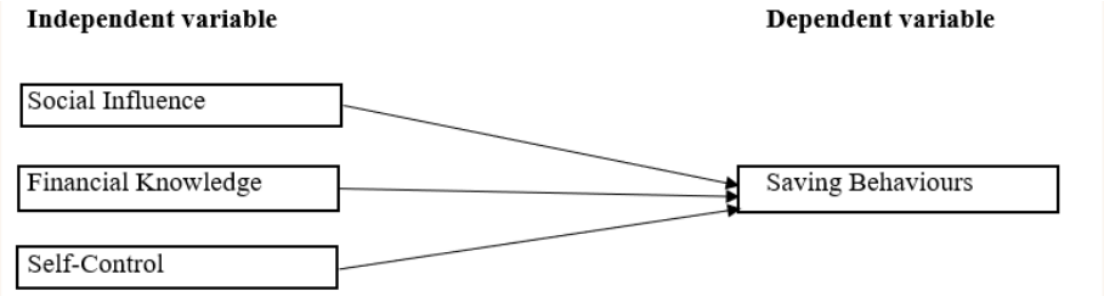


Figure 2.1 *Conceptual Framework*

The conceptual framework for this study is proposed in above figure, which to investigate the factors that influence the saving behaviours among the undergraduate students in UTAR, Kampar. The conceptual framework includes three independent variables which are social influence, financial knowledge, and self-control. According to the previous research result, all independent variables will be significantly affecting saving behaviours. Therefore, the conceptual framework will be used to review whether the assumption previous is correct or not. In consequences, all the hypotheses for each independent variables will be built based on the conceptual framework in following part.

2.4 Hypothesis Development

2.4.1 Social influence towards saving behaviours.

Saving behaviour can be significantly influenced by social influence. The research showed that there is a significant relationship between social influence

and saving behaviour (Juliana et al., 2021). This is because the social influence especially from family is more effective than other factors since the children tend to influence by their parents' saving behaviours. In addition, other research has investigated the relationship between social influence and saving behaviour and all the results showed that the social influence is significantly related to saving behaviour (Hira, 1997; Firmansyah, 2014; Jamal et al., 2015 & Homan, 2016). Therefore, the stronger social influence will contribute to a higher probability of saving behaviours based on the previous research. Hence, the hypothesis developed for this relationship is:

H1: There is a significant relationship between social influence and saving behaviours among undergraduate students in UTAR, Kampar.

2.4.2 Financial Knowledge towards saving behaviours.

Saving behaviour can be significantly influenced by financial knowledge. The research showed that there is a significant relationship between financial knowledge and saving behaviour. This is because the people believe that with the limited financial knowledge, there will be a poor saving behaviour (Nababan et al., 2022). In addition, other research has investigated the relationship between financial knowledge and saving behaviour and all the results showed that there is an important relationship between the variables (Henager & Mauldin, 2015; Tang & Baker, 2016; Kamarudin & Hashim, 2018). Therefore, the higher financial knowledge will contribute to a higher probability of saving behaviours based on the previous research. Hence, the hypothesis developed for this relationship is:

H1: There is a significant relationship between financial knowledge and saving behaviours among undergraduate students in UTAR, Kampar.

2.4.3 Self-control towards saving behaviours.

Saving behaviours can also be significantly influenced by self-control. The studies demonstrated a direct relationship between self-control and saving behaviours. This is because people believe that by having the self-control, individuals are better able to handle their financial situation. For instance, the research showed that individuals unlikely or having less opportunity to save sufficient capital for their future retirement purpose if they are having a poor self-control (Choi et al., 2011). In addition, other research has investigated the association between self-control and saving behaviour and all the outcomes showed that there is an important connection between the explanatory and explained variables (Noor Zaihan, 2016; Biljanovaska & Palligkinis, 2018; Mpaata et al., 2021). Therefore, the higher self-control will contribute to a higher probability of saving behaviours based on the previous research. Hence, the hypothesis developed for this relationship is:

H1: There is a significant relationship between self-control and saving behaviours among undergraduate students in UTAR, Kampar.

2.5 Conclusion

In this chapter, we first examined the fundamental ideas, namely the Theory of Planned Behaviour. In addition, the literature review elucidates the three distinct explanatory factors, namely social influence, financial understanding, and self-control, alongside the explained variable of saving behaviour. The following paragraphs elucidate the conceptual connection between independent factors and saving behaviour. Finally, the three hypotheses of this investigation have been formulated.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

This chapter converses about the research methodology that important for leading us to achieve our objective which is examining factors that influence saving behaviours among undergraduate students in UTAR, Kampar. First, research design is addressed. Data collection, sampling data, research instrument, scales and definition are explained at the following parts. Next, data processing and data analysis are conducted. Online questionnaire is utilised in this study to gather the primary data.

3.1 Research Design

Research design is a basis of research methodologies and procedures a investigator selects to conduct a study (Kerlinger, 1986; Chen, 1995, De Vaus, 2001). It is a strategy used to answer the objective of the study. It helps the researchers to ensure the investigation is valid, reliable, and meaningful. Qualitative research and quantitative research are the two types of the research design.

Quantitative research includes a range of techniques using statistical and numerical data to methodically investigate natural and social science (Watson, 2015). Measurement is the foundation of quantitative research, which also makes the assumption that the phenomena being examined can be quantified. It aims to provide precise estimations, quantification of opinions and behaviours, explanation of phenomena, audience segmentation, and hypotheses testing (Sukamolson, 2007).

While qualitative research collects and analyse non-numerical data such as attitudes, beliefs, experiences, interactions, and motivation, to better understand people's reality in society (Kalra et al., 2013). Qualitative research methods include in-depth interview, observations, and written documents (Patton, 2005). It facilitates the investigation and comprehension of the complexities of human behaviour, meaning and experiences, and social phenomena (Fossey, 2002).

Quantitative research is utilized in this study. To examine the factors influencing saving behaviours, Zainudin & Shaharuddin (2022) used this research design.

3.2 Data Collection

The process of collecting data is an essential stage in conducting the study. The investigation of research depends on the data collected. Therefore, the efficiency and precision will greatly impact the findings of the study and achievement of study objectives. Dato collection divided into two types which are primary data collection and secondary data collection (Sekaran & Bougie, 2010). In this research, primary data is chosen to examine the relationship between social influence, financial knowledge, and self-control with the explained variable, saving behaviours.

3.2.1 Primary Data

Primary data is the information gathered for the first time used to address particular issue on hand or serve a particular goal (Bordens & Abbott, 2022). The primary data can be collected through the experiment, social survey, interviews, observations, questionnaires, and others. Collecting primary data for obtaining research objectives, questionnaires are adapted in this research and distributed to target population. Questionnaires can be defined as a set of written or mimeographed questions that is filled out by or for a respondent to express his

view (Roopa & Rani, 2012). Questionnaires is suitable in this study as it offers a standardized way to collect data and enable researchers to analyse the data quickly using statistical tools. In addition, it is also cost-effective and scalable, allowing researchers to reach a large sample size. Hence, a series of question that are linked to saving behaviours are designed in the questionnaires and distributed to the target respondents. Ismail et al. (2020), Jamal et al. (2016) and Looi et al. (2022) used questionnaires to examine the factors influencing saving behaviours.

3.3 Sampling Design

3.3.1 Target Population

The target population refers to a specific group of individuals with characteristics and traits that may be identified and studied by researchers (Creswell, 2012). To reach the objectives of the research, the researchers need to make sure the respondents are meet the requirements of the survey for getting the correct data. In this study, the objective is examining the factors that influence savings behaviours among undergraduate students in UTAR Kampar campus. Hence, all the undergraduate students in UTAR Kampar campus are the target population and eligible for the survey.

3.3.2 Sampling Frame and Sampling Location

A sampling frame is the actual collection of units, and it is not relevant for this study as it needs to completely includes all members of the target population. Sampling location is the area that is selected to collect the data. The targeted

population for this study is all undergraduate students in UTAR Kampar campus, hence UTAR Kampar campus is selected as sampling location.

3.3.3 Sampling Elements

The sampling elements are the individual units or case of analysis that are selected from a population to be included in a sample for the research. It determines the representativeness of the population. Some sampling elements from the target population are selected in the study to be measured through certain sampling techniques. The target populations are the students from different faculties and courses of study in UTAR Kampar campus. To obtain a more accurate and generalized results, the respondents selected are different in their ages, genders, and ethnicities.

3.3.4 Sampling Technique

Utilising sampling techniques, data is gathered by asking respondents to reply to predetermined study questions (Mrug, 2012). Probability sampling and non-probability sampling are the two categories into which sampling techniques may be split (Taherdoost, 2016).

Each component in the population has an equal chance of being included in the sample when it comes to probability sampling. According to Zikmud's (2002) study, one method for doing random sampling would be to first create a sampling frame before using a computer program that generates random numbers to choose samples from the frame. While qualitative research and case study research design is often connected with non-probability sampling.

The convenience sample approach, a non-probability sampling technique, was used in our research to choose respondents from the UTAR Kampar Campus. Convenience sampling is a sampling technique that involves selecting samples based on their easy accessibility in a particular area or via an Internet service (Edgar & Manz, 2017). Furthermore, Chia et al. (2011), Jamal et al. (2016), Alshebami & Aldhyani (2022), Kamarudin & Hashim (2018), and Naradin et al. (2017) also used the convenience sample technique in their research on saving behaviour among university students.

3.3.5 Sampling Size

The sample size is the quantity of participants or observations used in a study. Typically, the sign for the number is n. A sample that is bigger than required will be more accurate since it will be more representative of the population (Andrade, 2020).

According to the school's website, UTAR students will exceed 20,000 in 2022 (WebWay E Services, n.d.). Therefore, if we use the Table for Determining Sample Size from a Given Population in Appendix 3.1, we should estimate that we need 377 samples.

3.4 Research Instrument

3.4.1 Questionnaire

The questionnaire's objective is to gather data from respondents on their attitudes, experiences, and opinions. To distribute the questionnaires online for our research, we are utilizing Google Forms. By using an online survey, Alshebami & Aldhyani

(2022) investigated factors among Saudi youth and the moderating impact of self-control.

The survey questionnaire for our research is divided into five components. Section A's initial objective is to gather data on the target respondents' demographic information. We have four questions about this demographic data: gender, age, ethnicity, and year of study. Additionally, Sections B, C, and D describe each independent variable connected to saving behaviour. Under Section E, there is a question asking respondents' thoughts on their saving habits. In Sections B through E, five-point Likert scales are used. According to reports, Babakus and Mangold (1992) used a five-point Likert scale to increase the quantity and quality of responses. Strongly disagree (SD) and strongly agree (SA), the two extreme responses on a five-point Likert scale, provide participants with the freedom to reply in any manner that is fair and symmetrical in either direction (Joshi et al., 2015).

3.4.2 Pilot-Test

A pilot test is undertaken to ascertain if the respondents can comprehend and reply to the questions without any ambiguities or difficulties (Saunders et al., 2009). A pilot test may be conducted either as an internal study integrated into the research strategy of the main study or as a separate external study. To get outcomes of superior quality, it is important to conduct a robust research study that incorporates a suitable experimental design and meticulous execution (In, 2017). Furthermore, Hill (1998) suggests that a pilot test should ideally include a sample size ranging from ten to thirty responders. In this study, a total of thirty questionnaires are being used for the pilot test, while we are using Krejcie & Morgan (1970)’s table for determining sample size for a finite population, so the whole number of respondents for this research amounts to 377 respondents.

3.5 Constructs Measurement (Scale and Operational Definitions)

For research constructs to become more tangible, quantifiable, and testable, they must be transformed from mental abstractions or abstract mental conceptions. To preserve the validity and efficacy of the study's results, construct measurement is vital and pertinent.

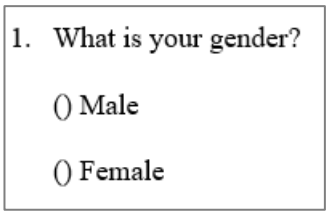
3.5.1 Scale of Measurement

Stevens's (1946) study distinguishes between two classifications of measurement scales: non-metric and metric. In contrast to the metric scale, which also incorporates a ratio scale, the non-metric scale consists solely of ordinal and nominal scales. Our research employs various types of scale measurement which include nominal scale, ordinal scale, interval scale and ratio scale.

3.5.1.1 Nominal Scale

Typically, nominal scales are applied only to quantitative variables or to situations in which numbers have no significance. Access to nominal scale information is subject to specific limitations. In our study, the nominal scale was be appropriate to the demographic variables of gender, ethnicity, faculty, and primary source of income in Section A of the questionnaire.

Figure 3.1*: Example of nominal scale*


1. What is your gender?

() Male

() Female

3.5.1.2 Ordinal Scale

Ordinal scale refers to a classification of data according to a specific order. This scale exclusively measures the arrangement and ranking of data. It could facilitate the researcher in efficiently examining and understanding the extent of concurrence regarding the sequence of variables as indicated by the respondents. These values are not divisible or multipliable. In our research, the ordinal scale is utilized in Sections B through E of the questionnaire.

Figure 3.2: *Example of ordinal scale*

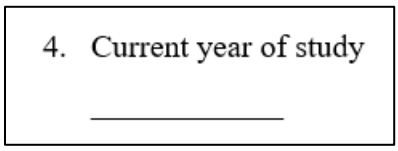
	SD	D	N	A	SA
1. My parents are a good example for me when it comes to saving.	1	2	3	4	5

3.5.1.3 Interval Scale

Although the deviation between data points may be measured, the interval scale incorporates aspects of nominal and ordered data. Both the variables' relative positions in the data set and their precise differences are shown. The scale is further distinguished by the ambiguous interpretation of the number zero. In this study, a five-point Likert scale was worked since it is regarded as an interval scale (Joshi

et al., 2015). In our study, year of study in demographic part we used is interval scale.

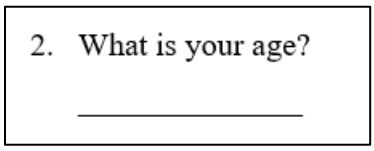
Figure 3.3: *Example of interval scale*



3.5.1.4 Ratio Scale

The ratio scale is a statistical scale with a real zero and homogeneous distances between adjacent points. The ratio scale allows for the collection of frequency distributions expressed as percentages or integers, as well as the mode, mean, and median statistics for determining the central tendency and the range, standard deviation, and variance statistics for illustrating variability. Since the age have true zero exits, in our study, the age is under the ratio scale.

Figure 3.4: *Example of ratio scale*



3.5.2 Origin of Construct

Table 3.1 *Summary of Measures used for present study*.

Variables	Adapted from	Items	Scale
Dependent variable: Saving Behaviours	Alshebami & Aldhyani, (2022); Mpaata et al. (2021); Furnham (1999)	6 items	Strongly Disagree (1) to Strongly Agree (5)
Independent variable 1: Social Influence	Alshebami & Aldhyani, (2022); Dangol & Maharjan (2018); Chia et al. (2011); Nawi et al. (2022)	6 items	Strongly Disagree (1) to Strongly Agree (5)
Independent variable 2: Financial Knowledge	Alshebami & Aldhyani, (2022); Mpaata et al. (2021); Prevett et al., 2020	6 items	Strongly Disagree (1) to Strongly Agree (5)
Independent variable 3: Self-Control	Chia et al. (2011); Omar et al. (2019); Asmawi (n.d.); Ling (2021)	6 items	Strongly Disagree (5) to Strongly Agree (1)

3.5.3 Measurement of Independent Variables and Dependent Variable: Operational Definition

There are three explanatory variables chosen in this study that will influence the saving behaviours which include social influence, financial knowledge, and self-control. To measure for the explanatory variables and explained variable, the Five-point Likert Scale is applied in this study. The format that will be used

in this research is one equals to “Strongly Disagree” and five equals to “Strongly Agree”.

3.5.3.1 Social Influence

Social influence measure the interaction and connection of the individuals with others in their environment such as family, friends, and colleagues. In this research, there are six items that adapted from Alshebami & Aldhyani, (2022); Dangol & Maharjan (2018); Chia et al. (2011) and Nawi et al. (2022). For instance, “My parents are a good example for me when it comes to saving.”, “Saving is something I do regularly because my parents wanted me to save when I was young.”, “I always discuss about saving with my friends.” and so on.

3.5.3.2 Financial Knowledge

Financial knowledge is used to measure in how extent the knowledge level for someone in understanding the financial concept. There are six items that adapted from Alshebami & Aldhyani, (2022); Mpaata et al. (2021) and Prevett et al., 2020 are being used in this research. For instance, “Given the amount borrowed and the interest rate, I can calculate the interest paid over a year.”, “I have a good understanding of financial instrument such as stock.”, “I could recognise a financial scam when I see or read about one.” and so on.

3.5.3.3 Self-Control

Self-control is used to measure the ability to recognize and manage one's feelings and impulses. In this study, there are six questionnaire items

adapted from Chia et al. (2011); Omar et al. (2019); Asmawi (n.d.); Ling (2021). For instance, “I always failed to control myself from spending money”, “I don’t save because it is too hard to me.”, “I enjoy spending money on things that are unnecessary.”, and so on.

3.5.3.4 Saving Behaviours

Saving behaviours used to measure how extent the behaviour adopted by the individuals in their saving habit. To measure this, there are six questionnaire items adapted from from Alshebami & Aldhyani, (2022); Mpaata et al. (2021) and Furnham (1999). For instance, “I always follow a careful monthly budget so I can save money.”, “I always save money for the emergency event”, “I save money regularly against future needs and so on.

3.5.4 Questionnaires Designing

The survey comprises five fragments which are part A, B, C, D and E. The questionnaire starts with understanding the demographic information by collecting the personal details from target respondents. There are six inquiries in this part include age, gender, ethnicity, current year of study, faculty, and main source of income.

Part B, C, and D of the questionnaire are related to the explanatory variables that will influence the saving behaviours which are social influence, financial knowledge, and self-control respectively. Each of these parts includes six questions. The scale of measurement used in these parts is interval scale which is numerical category without the true zero point and the Five-point Likert Scale is applied in designing the questionnaire. The respondents have to choose one

from the scale one to five points according to the questions. For the questionnaires in part B and C, 1 – "Strongly Disagree", 2 – "Disagree", 3 – "Neutral", 4 – "Agree" and 5 – "Strongly Agree". On the other hand, for the questionnaires in part D, 5 – "Strongly Disagree", 4 – "Disagree", 3 – "Neutral", 2 – "Agree" and 1 – "Strongly Agree"

For part E, there is also six questions that related to the dependent variable, saving behaviours. Five-Point Likert Scale also applied in this part and the points distributed are same with part B and C. After collecting the data from participants which are the undergraduates from Universiti Tunku Abdul Rahman (UTAR), Kampar campus, the data is being ran by using the SPSS 29.0 to obtain the result for this research.

3.6 Data Processing

The process that refers to the eradicating of primary data that collected from the survey to the convenient information through the process of organizing, arranging, and preforming is known as data processing (Huang, 2019). The convenient information refers to those significant and important connections or trend that are useful to solve or predict some issues. The primary steps for data processing include investigating, editing, coding, and interpreting (Kveder & Galico, 2008). After the raw data are gathered from participants, data processing is carried out in a centralized manner to ensure that all data is entered correctly and to prevent data errors. Statistical analysis software, SPSS 29.0 has been used in data processing to transform the data into effective information.

3.6.1 Data Checking

First stage of data processing is data checking. The purpose of data checking is to ensure the questionnaires that distributed to the target respondents are accurate and convincing for the research purpose. This step is important as the questionnaires may include some mistakes such as data omission, gaps, or inconsistent response. Data checking includes identifying and specifying the type of error that occurred and qualifying the data to error free data in the mean while it can also confirm the integrity of the data collected (Mark & Edwin, 2020). To avoid this type of error, a pilot test can be implemented to evaluate the feasibility and performance of the research which can further modify the questionnaire items.

3.6.2 Data Editing

Next stage of the data processing is data editing. The steps that conducted in this data editing include checking and adjusting the removed or uncertain answer that has been filled up by the target respondents. Data editing is significant in data processing to ensure that the research can achieve data consistency. For instance, if there is any missing answer, the result of the research would be inconsistent with respondents' responses pattern. Therefore, by using data editing, it can minimize the uncertain answer to increase the consistency and relationship between the explanatory and explained variables to attain the purpose of the research.

3.6.3 Data Coding

Next, data coding is conducted in this research. Data coding refers to the action of using the numerical codes or symbols to label the answer which was collected from the target respondents (Sekaran & Bougie, 2009). In this study, numerical codes such as 1 to 5 are being used for the data coding. After coding all the answers, the numerical codes will be used and entered into the SPSS 29.0 software to perform the following stage.

For all the variables such as social influence, financial knowledge, and saving behaviours, the answers for all questions are coded by using the Five-Point Likert Scale as below:

Table 3.2 *Data coding for social influence, financial knowledge, and saving behaviours.*

Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

For the independent variable, self-control, the answers for all questions are coded by using Five-Point Likert Scale as below:

Table 3.3 *Data coding for self-control.*

Strongly Disagree	5
Disagree	4
Neutral	3
Agree	2
Strongly Agree	1

3.6.4 Data Transcribing

The last step of data processing is data transcribing. In data transcribing, all raw data that collected from target respondents will be turned into effective and actionable information to use in the following part. The four steps of data processing were carried out by using the statistical analysis software, SPSS 29.0.

3.7 Data Analysis

After four stages of data processing, data analysis is being conducted. Data analysis refers to the procedure where the unprocessed figures that gathered from target respondents are ordered and organized to convert into a meaningful information (Islam, 2020 & Taherdoost, 2022). In data analysis, data are being analysing and deriving into useful and effective information by using the appropriate method. Thus, data analysis shows a significant position in this research because it assists the investigators to conduct a valid conclusion from raw data that collected from respondents (Creswell, 2014). In this research, all the data analysis such as descriptive analysis, reliability test, multicollinearity test, normality test and inferential analysis are conducted by using SPSS 29.0.

3.7.1 Descriptive Analysis

Sekaran and Bougie (2016) claimed that the goal of descriptive analysis is to review and describe the collected data from respondents without any inferences from probability theory. The descriptive analysis includes those easy understanding approaches such as frequency distribution tables, percentage, measure of central tendency or even the graphical representation (Kaliyadan & Kulkarni, 2019). The objective of descriptive analysis which to produce a clear summary of the data collected is helpful for the researchers as it can show the clear pattern or trend that presented in the descriptive analysis.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

Reliability refers to the consistency or stability of a study's findings or measurement over the time, in different settings, or by different evaluators or observatory. The most common measurement that used in the reliability test is Cronbach's alpha. Cronbach's alpha is important in evaluation the questionnaires as it enable the researchers to predict the quantity to increase the validity and accuracy to interpret the data presented (Tavakol & Dennick, 2011). In general, the Cronbach's alpha value of 0.7 or higher is considered acceptable to fulfil the research objective, however, a value of 0.8 or higher is required for more rigorous investigation or high-risk judgements (George & Mallery, 2003). Table 3.4 showed the Cronbach's alpha value and the level of reliability.

Table 3.4 *Cronbach's Alpha Rule of Thumb*

Cronbach's Alpha Value	Level of Reliability
0.80 – 0.95	Excellent
0.70 – 0.80	Good
0.60 – 0.70	Fair
< 0.60	Poor

Source: Sekaran & Bougie (2010)

3.7.3 Preliminary Data Screening

3.7.3.1 Multicollinearity

The preliminary data screening starts with detecting the multicollinearity problem. When there is a high correlated or connection between the explanatory variables in the regression model and the variables are not orthogonal, the situation is known as multicollinearity problem (Alin, 2010). When the multicollinearity problem exists, it will increase the probability that the interpretation of the relationships based on the result will be incorrect. Thus, it will affect the significance of the study if the predictors variables are fully correlated (Daoud, 2017).

There are many tools can be used to detect multicollinearity problem such as Variance Inflation Factor (VIF), condition index, Variance Decomposition Proportion (VDP) and tolerance factor. In this study, VIF and tolerance factor will be used to detect whether the multicollinearity problem exists or not. According to the previous research (Daoud, 2017 & Kim, 2019), when the multicollinearity problem exists in the regression model, the standard error of the explanatory variables' coefficient will increase, and this will lead to the

variance of the explanatory's coefficient being enlarged. Variance Inflation factor (VIF) is the tool that used to compute how degree of the variances of the predicted regression coefficient is enlarged if the explanatory variables are correlated with each other. Table 3.5 showed the value of VIF and level of correlated between independent variables (Shrestha, 2020). In the other hand, tolerance factor is the variation in one explanatory variable that cannot be supported by the other explanatory variables, and it is in fact $1\text{-}R^2$. The regression model consists of multicollinearity problem if the tolerance value is less than 0.10.

Table 3.5: *Variance Inflation Factor (VIF)*

Value of Variance Inflation Factor (VIF)	Level of correlated between explanatory variables
VIF = 1	Not correlated
1 < VIF < 5	Moderate correlated
VIF ≥ 5 to 10	Highly correlated
VIF > 10	Feebly estimated due to multicollinearity

3.7.3.2 Normality

The next step in preliminary data screening is normality test. Normality test plays an important role and is a significant step to decide the measurement of central tendency and statistical method for data analysis in following chapter. The objective of normality test is to determine whether the distribution of the data set in sample or population is normally distributed or not. According to the previous research from Mishra et al. (2019), when the data is normally distributed, the shape of the curve is bell-shaped and thus, the data can be used to make predictions for statistical studies such as correlation, regression, t-test,

analysis of variance (ANOVA). In normality test, skewness and kurtosis of the data are being used to determine whether the data is normally distributed or not. When the value of skewness and kurtosis for the data is near to zero, the data is assumed to be normally distributed.

3.7.4 Inferential Analysis

Inferential analysis is the very crucial data analysis, and it is used to draw and measure the reliability of the conclusion made towards the population that based on the data gathered from the sample of population (Farren, 2014). As the data are collected from a fragment of the population, thus the outcome gained from the inferential analysis will be subject to some degree of uncertainty. To explore the connection between social influence, financial knowledge, and self-control with the explained variable, saving behaviours, the inferential analysis has been used in this research.

3.7.4.1 Ordinary Least Square Regression Analysis

Ordinary least square regression analysis (OLS) is a common technique for estimating coefficients of linear regression equations which describe the relationship between one or more independent variables with a dependent variable. By using OLS, it can identify the significant effect on each of the independent variable with the dependent variable. There are some assumptions for holding OLS which include linearity and homoscedasticity for the model, no autocorrelation problem and multicollinearity problem, model is normally distributed and having a constant error of variance (Burton, 2021). Thus, in this research, ordinary least square will be tested to analyse the relationships between social influence, financial knowledge, and self-control with the

dependent variable, saving behaviours among the undergraduate students in UTAR, Kampar.

3.7.4.2 Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical method for predicting the result of a dependent variable by using a group of explanatory variables (Theofani & Sediyono, 2022). The objective of multiple regression is to establish the linear connection equation and to test the relationship between two or more independent variable with the response variable (Aldrich, 2019). Thus, this method is being used in this study as it included three independent variables.

The model will be assessed once the regression has been conducted by using model summary table, analysis of variance (ANOVA) table and coefficients table. R square (R^2) included in the model summary table is one of the measurements that used in this study to detect how extent the variance in the dependent variable is influenced by the independent variables (Filho et al., 2011). Besides, p-value techniques and F-statistic are another two methods that available to examine whether the model is significant in explaining the changes in response variable (Andrade, 2019). In this study, the significance level is alpha value equal to 0.05, thus, the independent variables and model are significant when the p-value is less than alpha level.

Following is the multiple linear regression model for this study:

$SB_i = \beta_0 + \beta_1 SI_i + \beta_2 FK_i + \beta_3 SC_i + \mu_i$ where,

SB_i = Saving Behaviours

SI_i = Social Influence

FK_i = Financial Knowledge

SC_i = Self-Control

μ_i = error term

3.7.4.2 Heteroscedasticity

Heteroscedasticity is a common econometric problem that is usually defines as the error variance for the model is not constant or in the other words, when there is an additional explanatory variable add into the model, the remaining residual variability will change (Cohen et al., 2013). As a result, the heteroscedasticity that exists in the model will lead to the unreliable result as the standard error and test statistics gained become biased. Thus, further action needs to be taken to solve the heteroscedasticity problem in the model (Astivia & Zumbo, 2019). In case that there is a heteroscedasticity problem exists in the model, the OLS estimates are still unbiased, but the result become inefficient. Thus, to solve this problem, Weighted Least Square (WLS) can be used to overcome the heteroscedasticity problem (Fransiska et al., 2022). In this research, heteroscedasticity problem will be tested by using E-view.

3.8 Conclusion

This chapters describes the methodologies used in conducting the research. Before running the real test, the pre-test and pilot test will be conducted. The data obtained from the questionnaires will be run and processed based on descriptive and inferential analysis.

CHAPTER 4: RESEARCH RESULTS

4.0 Introduction

This chapter focuses on the utilization of the Statistical Package for the Social Sciences (SPSS) software application for the objective of doing data analysis. This chapter starts with descriptive analysis, which is subsequently followed by a reliability test. Additionally, preliminary data screening is done to guarantee the reliability of the obtained data. During this step, multicollinearity test and normality test would be carried out. Lastly, inferential analysis will be conducted.

4.1 Descriptive Analysis

Descriptive analysis is performed to better understand the attributes of the responses of the survey questionnaire. The pattern or trend of the collected data can be clearly described and presented through easy understanding frequency distribution and percentage distribution.

4.1.1 Demographic Information

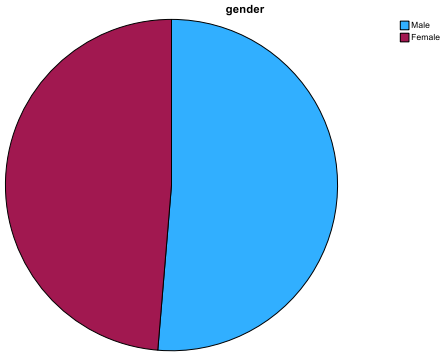
This research involves six categories of demographic information which are gender, age, ethnicity, current year of study, faculty, and main source of income. Each of them is being analyzed accordingly in the next sections.

4.1.1.1 Gender

Table 4.1: *Descriptive Analysis for Gender*

Gender	Frequency	Percentage (%)
Male	195	51.30
Female	185	48.70
Total	380	100.00

Figure 4.1: *Descriptive Analysis for Gender*



Firstly, all the participants are categorized by the gender, specifically male and female. The data presented in the table showed that a total of 380 UTAR Kampar undergraduate students has taken part into the survey. The data presented in Table 4.1 and Figure 4.1 shows 51.3% (195 respondents) are identified as male, while 48.7% (185 respondents) are identified as female.

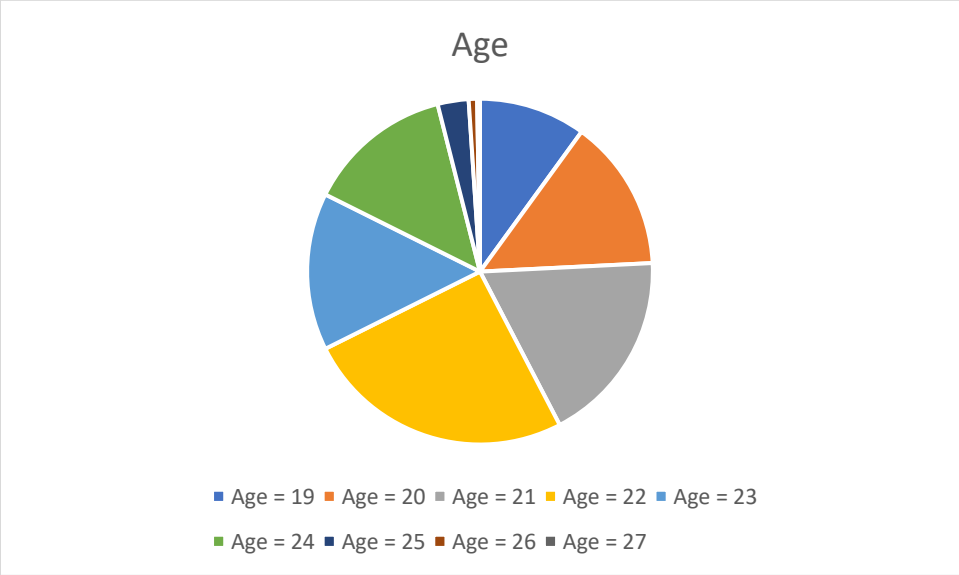
4.1.1.2 Age

Table 4.2: *Descriptive Analysis for Age*

Age	Frequency	Percentage (%)
19	38	10.00
20	54	14.21
21	69	18.16
22	96	25.26
23	56	14.74
24	52	13.68

25	11	2.89
26	3	0.79
27	1	0.26
Total	380	100.00

Figure 4.2: *Descriptive Analysis for Age*



The respondents of the survey questionnaire also classified by their age. According to Table 4.2 and Figure 4.2, 10% (38 respondents) of them are 19 years old, 14.21% (54 respondents) are 20 years old, 18.16% (69 respondents) are 21 years old, 25.26% (96 respondents) are 22 years old, 14.74% (56 respondents) are 23 years old, 13.68% (52 respondents) are 24 years old, 2.89% (11 respondents) are 25 years old, 0.79% (3 respondents) are 26 years old and only 0.26% (1 respondent) is 27 years old.

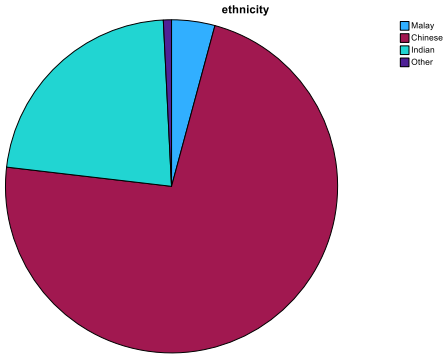
4.1.1.3 Ethnicity

Table 4.3: *Descriptive Analysis for Ethnicity*

Ethnicity	Frequency	Percentage (%)
Malay	16	4.20
Chinese	276	72.60

Indian	85	22.40
Others	3	0.80
Total	380	100.00

Figure 4.3: *Descriptive Analysis for Ethnicity*



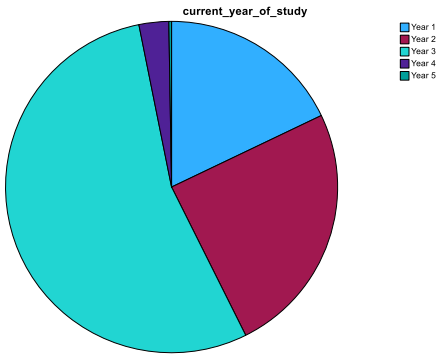
The next category is ethnicity. There are four different ethnics took part in this survey questionnaire. Based on Table 4.3 and Figure 4.3, Chinese accounted the largest group in this survey which is 72.6% (276 respondents), followed by Indian 22.4% (85 respondents), Malay 4.2% (16 respondents) and others 0.8% (3 respondents).

4.1.1.4 Current Year of Study

Table 4.4: *Descriptive Analysis for Current Year of Study*

Current Year of Study	Frequency	Percentage (%)
Year 1	68	17.90
Year 2	94	24.70
Year 3	206	54.20
Year 4	11	2.90
Year 5	1	0.30
Total	380	100.00

Figure 4.4: *Descriptive Analysis for Current Year of Study*



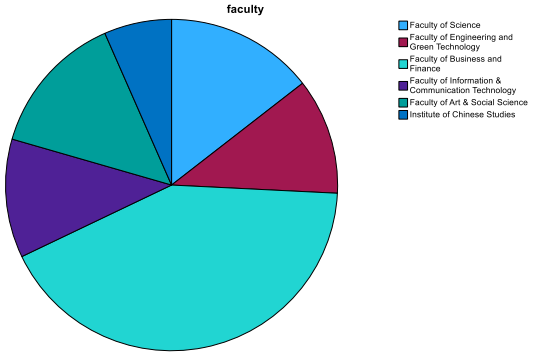
The following section is current year of study. According to the Tale 4.4 and Figure 4.4, 54.2% (206 respondents) of them are year 3 students. Next, 24.7% (94 respondents) are year 2 students, 17.9% (68 respondents) are year 1 students, 2.9% (11 respondents) are year 4 students and only 0.3% (1 respondent) are year 5 students.

4.1.1.5 Faculty

Table 4.5: *Descriptive Analysis for Faculty*

Faculty	Frequency	Percentage (%)
Faculty of Science	55	14.50
Faculty of Engineering and Green Technology	43	11.30
Faculty of Business and Finance	160	42.10
Faculty of Information and Communication	44	11.60
Faculty of Arts and Social Science	53	13.90
Institute of Chinese Studies	25	6.60
Total	380	100.00

Figure 4.5: *Descriptive Analysis for Faculty*



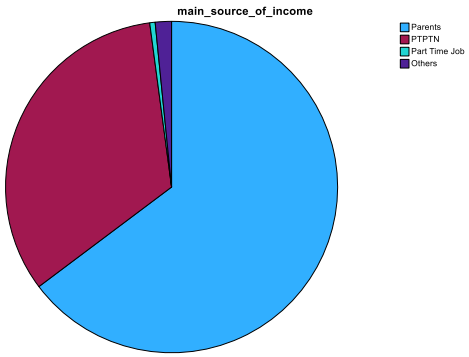
The respondents also categorized based on the faculty. According to the Table 4.5 and Figure 4.5, most of the respondents accounted from Faculty of Business and Finance (FBF) which accounted of 42.1% (160 respondents). It followed by respondents from Faculty of Sciende (FSc) which is 14.5% (55 respondents), 13.9% (53 respondents) from Faculty of Art and Social Science (FAS), 11.6% (44 respondents) from Faculty of Information and Communication Technology (FICT), 11.3% (43 respondents) from Faculty of Engineering and Green Technology (FEGT) and only 6.6% (25 respondent) from Institute of Chinese Studies (ICS).

4.1.1.6 Main Source of Income

Table 4.6: *Descriptive Analysis for Main Source of Income*

Main Source of Income	Frequency	Percentage (%)
Parents	246	64.70
PTPTN	126	33.20
Part time job	2	0.50
Others	6	1.60
Total	380	100.00

Figure 4.6: *Descriptive Analysis for Main Source of Income*



Lastly, the respondents are grouped by main sourse of income. According to the Table 4.6 and Figure 4.6, most of the respondents' income come from their parents which accounted for 64.7% (246 respondents). Main income of 33.2% of them (126 respondents) come from Perbadanan Tabung Pendidikan Tinggi Nasional (PTPTN), 1.6% (6 respondents) come from others and only 0.5% (2 respondents) come from part time job.

4.1.2 Central Tendencies and Dispersion Measurement of Constructs

Following this, the participant-completed questions related to saving behaviours and independent variables were analyzed. The analyses are conducted utilizing the mean and standard deviation for each variable and dependent variable.

4.1.2.1 Social Influence

Table 4.7: *Central Tendencies Measurement of Social Influence*

Question	Statement	Sample Size, N	Mean	Standard Deviation	Mean Ranking	Standard Deviation Ranking
SI1	My parents are a good example for me when it comes to saving.	380	4.2	0.651	3	6
SI2	I appreciate it when my parents give me advice about what to save my money.	380	4.282	0.6555	2	5
SI3	Saving is something I do regularly because my parents wanted me to save when I was young.	380	4.4	0.683	1	4
SI4	Sometimes it is good to let my parents take care of my money to help me save.	380	3.9	0.769	4	3
SI5	I save because my friends also save.	380	3.52	0.867	6	2
SI6	I always discuss about saving with my friends.	380	3.71	0.908	5	1

The inquiries about social influence are initially ascertained. Table 4.7 displays the greatest mean, 4.4, which is attributed to SI3 and has a standard deviation of 0.683. SI2 exhibited the second-highest mean with a value of 4.282, accompanied by a standard deviation of 0.6555. SI1 possesses the subsequent mean value of 4.2 accompanied by the smallest standard deviation of 0.651. In addition, the SI4 data set exhibits a subsequent mean of 3.9 and a standard deviation of 0.769. The question that follows, which has a mean of 3.71 and a

standard deviation of 0.867, is classified as SI5. SI6 possesses the smallest mean value of 3.52 and the largest standard deviation of 0.908.

4.1.2.2 Financial Knowledge

Table 4.8: *Central Tendencies Measurement of Financial Knowledge*

Question	Statement	Sample Size, N	Mean	Standard Deviation	Mean Ranking	Standard Deviation Ranking
FK1	Given the amount borrowed and the interest rate, I can calculate the interest paid over a year.	380	4.01	0.721	2	3
FK2	I can give examples of the causes of inflation.	380	3.96	0.666	3	5
FK3	I have a good understanding of financial instrument such as stock.	380	3.62	0.840	5	1
FK4	I could provide an informed commentary on current issues in the financial industry.	380	3.59	0.835	6	2
FK5	I could recognise a financial scam when I see or read about one.	380	4.08	0.614	1	6
FK6	I could determine the intended audience for an advertisement from a financial service producer.	380	3.82	0.691	4	4

In addition, the analysis was succeeded by inquiries into the second independent variable, which was financial knowledge. Table 4.8 indicates that FK5, with a mean of 4.08, has a minimum standard deviation of 0.614. FK1 subsequently exhibited the second-greatest mean, 4.01, accompanied by a standard deviation of 0.721. The maximum mean value for FK2 is 3.96, accompanied by a standard deviation of 0.666. Furthermore, the subsequent greatest mean is 0.619 standard deviations and 3.82 means, followed by FK6. The mean value of FK3 is 3.62, while its greatest standard deviation is 0.840. The FK4 with the smallest mean and standard deviation is 3.59 and 0.835, respectively.

4.1.2.3 Self-Control

Table 4.9: *Central Tendencies Measurement of Self-Control*

Question	Statement	Sample Size, N	Mean	Standard Deviation	Mean Ranking	Standard Deviation Ranking
SC1	I always failed to control myself from spending money.	380	4.00	0.809	5	6
SC2	'I see it, I like it, I buy it' describes me.	380	4.16	0.879	2	4
SC3	I don't save because it is too hard to me.	380	4.13	0.890	3	3
SC4	When I set saving goals for myself, I rarely achieve them.	380	4.02	0.922	4	2
SC5	When I received pocket money, I rapidly spent it within 2 days.	380	4.18	0.937	1	1

SC6	I enjoy spending money on things that are unnecessary.	380	3.96	0.875	6	5

Furthermore, the analysis was succeeded by inquiries on self-control, an additional independent variable. The mean with the greatest standard deviation, 0.937, is SC5, which has a value of 4.18 (Table 4.9). SC2 subsequently exhibited the second-greatest mean, 4.16, accompanied by a standard deviation of 0.876. The greatest mean value for SC3 is 4.13, accompanied by a standard deviation of 0.890. In addition, the subsequent greatest mean is SC4, with a mean of 4.02 and a standard deviation of 0.922. SC1 exhibited a mean of 4.00 and a standard deviation of 0.809. SC6 exhibits the minimum mean value of 3.96, accompanied by a standard deviation of 0.875.

4.1.2.4 Saving Behaviours

Table 4.10: *Central Tendencies Measurement of Saving Behaviours*

Question	Statement	Sample Size, N	Mean	Standard Deviation	Mean Ranking	Standard Deviation Ranking
SB1	I always follow a careful monthly budget so I can save money.	380	4.05	0.784	6	1
SB2	I always save money for the emergency event.	380	4.23	0.753	4	4
SB3	I save to achieve certain goal.	380	4.26	0.706	1	6
SB4	I receive money at the beginning of month, and	380	4.25	0.767	3	3

	still have monthly left as saving.					
SB5	I save money regularly against future needs.	380	4.26	0.720	1	5
SB6	I save money just because I want to buy something special.	380	4.10	0.796	5	1

The final portion of the query pertains to inquiries concerning conserving behaviours. According to the data presented in Table 4.10, SB3 and SB5 have the highest means at 4.26. However, SB3 has the smallest standard deviation at 0.706, while SB5 has a standard deviation of 0.720. SB4 subsequently exhibited the second-greatest mean, 4.25, accompanied by a standard deviation of 0.767. SB2 has the subsequent greatest mean of 4.23, accompanied by a standard deviation of 0.753. In addition, the subsequent greatest mean is SB6, which has a mean of 4.10 and a standard deviation of 0.796. SB1 exhibited a minimum mean value of 4.05 and a maximum standard deviation of 0.784.

4.2 Scale Measurement

4.2.1 Reliability Test

Table 4.11: *Cronbach's Alpha Reliability Test*

No	Variables	Number of Items	Cronbach's Alpha	Reliability Test
1	Social Influence	6	0.721	Good
2	Financial Knowledge	6	0.789	Good
3	Self-Control	6	0.855	Excellent

4	Saving Behaviours	6	0.787	Good

Table 4.11 above shown the Cronbach's Alpha Reliability Test for each of the explanatory and explained variables. The main objective of Cronbach's Alpha test is to examine whether each question that used in the questionnaires are reliable to measure for the respectively variable. As the Cronbach's Alpha values for social influence and financial knowledge are between 0.70 and 0.80, thus this is considered the independent variables are having a good reliability. While for the self-control variable, as the value shows in above table is between 0.80 and 0.95, it measured is having an excellent reliability. On the other hand, the dependent variable for this study, saving behaviours also shown a good reliability as the Cronbach's Alpha is in between 0.70 and 0.80.

Furthermore, to increase the reliability for each variable, all questions for each variable with new Cronbach's Alpha value if one of the items deleted are shown as below:

Table 4.12: *Cronbach's Alpha Value of Social Influence*

	Cronbach's Alpha if Item Deleted
SI1	0.681
SI2	0.681
SI3	0.714
SI4	0.672
SI5	0.689
SI6	0.649

Table 4.13: *Cronbach's Alpha Value of Financial Knowledge*

	Cronbach's Alpha if Item Deleted
FK1	0.752
FK2	0.744

FK3	0.751
FK4	0.744
FK5	0.780
FK6	0.767

Table 4.14: *Cronbach's Alpha Value of Self-control*

	Cronbach's Alpha if Item Deleted
SC1	0.841
SC2	0.826
SC3	0.823
SC4	0.823
SC5	0.836
SC6	0.836

However, according to the new Cronbach's Alpha values if one of the questions deleted, the reliability level for the research will decrease compared to the original value for all the independent variables (social influence, financial knowledge, and self-control). Thus, none of the questionnaire items is suggested to delete to maintain the consistency of the research.

Table 4.15: *Cronbach's Alpha Value of Saving Behaviours*

	Cronbach's Alpha if Item Deleted
SB1	0.742
SB2	0.736
SB3	0.757
SB4	0.749
SB5	0.740
SB6	0.797

While for the dependent variable of the study, saving behaviours, although the reliability level will remain same as good, but the SB6 can be deleted to increase the value of Cronbach's Alpha from 0.787 to 0.797.

4.3 Preliminary Data Screening

In the stage of preliminary data screening, the objective of the data screening is to make sure that the previous result gained from the research are reliable before conducting the next stage of the process. In preliminary data screening, there are two analysis that would be carried out which include multicollinearity test and normality test.

4.3.1 Multicollinearity Test

According to the research from Shrestha (2020), multicollinearity test is to check whether there is a correlation among the independent variables. If the study consists of high multicollinearity, it means that there is a correlation, or the independent variables are having a close relationship with each other. To check whether multicollinearity problem exists or not, both method of tolerance value and variance inflation factor (VIF) have been used.

Table 4.16: *Tolerance Value and Variance Inflation Factor*

Model	Collinearity Statistics	
	Tolerance Value	Variance Inflation Factor (VIF)
(constant)		
SI	0.669	1.495
FK	0.708	1.412
SC	0.931	1.074

Dependent variable : SB (Saving Behaviours)

According to the tolerance value and variance inflation factor above, all the VIF values for the explanatory variables (SI – Social Influence, FK – Financial Knowledge, SC – Self-Control) are between 1 to 10. Thus, the model does not consist of multicollinearity problem. While for the tolerance value, all the value of independent variables are higher than 0.5, therefore, multicollinearity problem does not happen between the model.

4.3.2 Normality Test

Besides, normality test also considering in this research to enhance the reliability of the study. The core intention of normality test is to review whether the raw data collected under this research are normal distribution or not. To test for the normality, there are three tools have been used which are skewness value, kurtosis value and the histogram of the variables in the model.

Table 4.17: *Normality Test Result*

Variables	Skewness	Kurtosis
SI	-1.309	4.969
FK	-1.213	4.697
SC	-2.020	4.816
SB	-1.757	4.904

Table 4.17 above shown the value of skewness and kurtosis for all the variables of the study. According to the previous research from Hair et al. (2010), the result is considered as normal when the value of skewness and kurtosis for the data obtained are in between -2 to +2 and -7 to +7 respectively. According to the value gained from the table 4.17, the value of skewness is in between -2 to +2 for all the variables except self-control (SC). The highest value of skewness belongs to the financial knowledge (FK) which is -1.213 while the lowest skewness value is -2.020 for self-control (SC). Moreover, all the values for kurtosis are in between -7 to +7 which the highest value comes from social

influence (SI) with the value of 4.969 and the lowest value comes from financial knowledge (FK) with value of 4.697. Thus, based on the value of skewness and kurtosis, the data collected are considered normal.

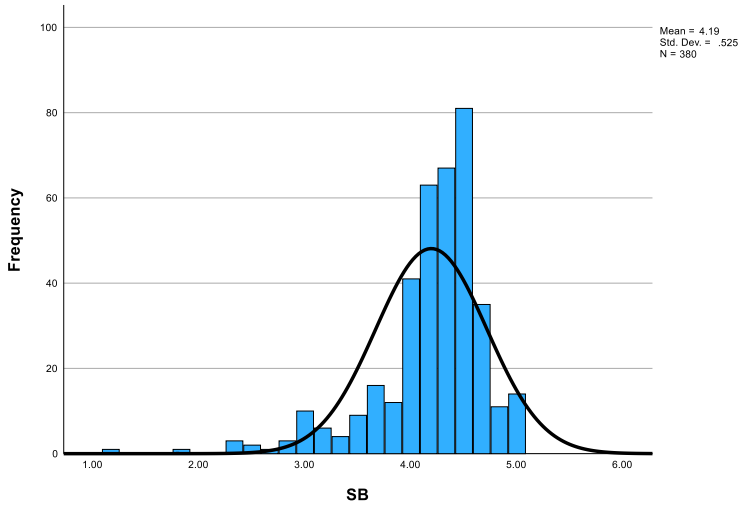


Figure 4.7: *Histogram for Saving Behaviour*

Moreover, to check the normality of the study, histogram showed above has been used. The histogram showed the dependent variable of the research which is saving behaviours. Based on the histogram above, it is realized that the shape or pattern of the distribution plot is quite similar to the normal distribution curve which showed the mode for the data in the middle part of the histogram and moves to both left-hand side and right-hand side. As the data collected are generally balanced, thus, the data of this research is studied to be normally distributed. In overall, according to the Central Limit Theorem (CLT), the distribution of sample close to a normal distribution (bell curve) when the sample size becomes bigger (Ganti, 2024). Thus, the normality for this study is considering as normal distribution.

4.4 Inferential Analysis

4.4.1 Multiple Regression Analysis

Table 4.18: *Multiple Regression Analysis*

Model	**Unstandardized coefficients**		**Standardized coefficients Beta**	**t-statistics**	**Sig (p-value)**
	Beta	**Standard Error**			
(constant)	1.145	0.210		5.448	< 0.001
SI	0.103	0.053	0.097	1.964	0.050*
FK	0.326	0.049	0.317	6.608	< 0.001**
SC	0.338	0.033	0.435	10.383	< 0.001**
R square					0.386
Adjusted R square					0.382
F-test					78.943
p-value of F-test					< 0.001

*: variables are significant at alpha = 0.1 **: variables are significant at alpha = 0.05

Dependent variable: SB (saving behaviours)

SB = 1.145 + 0.103SI + 0.326FK + 0.338SC

Where:

SB : Saving Behaviours

SI : Social Influence

FK : Financial Knowledge

SC : Self-Control

The multiple regression analysis table above shown the objective of the research which measure the relationship between all explanatory variables (social influence, financial knowledge, and self-control) and explained variable which is saving behaviours. To compute whether the explanatory variable is

respectively significance to influence the saving behaviours among undergraduates in UTAR, Kampar, p-value approach (alpha, $\alpha = 0.10$ @ 90% confidence interval) has been used. As a summary, the result above shown that all the predictor variables are significantly to influence the saving behaviours among the target respondents.

By using the p-value approach, all independent variables are tested at 90% confidence level or $\alpha = 0.10$. When the p-value of the variables are lesser than $\alpha = 0.10$, the variables are considered significant to influence the predicted variable, saving behaviours. Thus, the p-value for the first independent variable, SI (Social Influence) is 0.050. As the result for p-value is lesser to $\alpha = 0.10$, it showed that social influence is significantly to influence the saving behaviours among the participants. The result is in line with the hypothesis development that has been stated in Chapter 2 and in line with the research that stated that social influence is significantly to explain saving behaviours from various research (Bona, 2018; Juliana et al., 2021; Looi et al., 2022). Thus, the result gained from this study agree with the statement that social influence is significantly to dominate the saving behaviours among the undergraduate students in UTAR, Kampar. In addition, the coefficient for social influence, 0.103 means that the level of saving behaviours among undergraduate students in UTAR, Kampar tend to increase by 0.103 for each additional one level increase in social influence, ceteris paribus.

Next, the p-value for the second independent variable, FK (Financial Knowledge) is less than 0.001. As the result for p-value is lesser than $\alpha = 0.10$, it showed that financial knowledge is significantly to influence the saving behaviours among the respondents. This result is matched with the research from Nababan et al. (2022) which indicates that financial knowledge is one of the factors that impact the saving behaviours among people. Thus, the result gained from this research agreed with the statement that financial knowledge is significantly to influence the saving behaviours among the undergraduate

students in UTAR, Kampar. In addition, the coefficient for financial knowledge, 0.326 means that the level of saving behaviours among undergraduate students in UTAR, Kampar tend to increase by 0.326 for each additional one level increase in financial knowledge, ceteris paribus.

Moreover, the p-value for the third independent variable, SC (Self-Control) is also less than 0.001. As the result from the table above shown that p-value of self-control is lesser than $\alpha = 0.10$, it means that self-control is significantly to influence the saving behaviours among the respondents. This result is in sequence with the previous research from Mpaata (2021) and Petpairote (2022) which point out that self-control has a significant relationship to influence saving behaviours. Therefore, the result gained from this research agreed with the statement that self-control is significantly to influence the saving behaviours among the undergraduate students in UTAR, Kampar. In addition, the coefficient for self-control, 0.338 means that the level of saving behaviours among undergraduate students in UTAR, Kampar tend to increase by 0.338 for each additional one level increase in self-control, while holding other variables are constant.

Besides, based on the result that shown in the multiple regression analysis above, the R-square value for the whole model is 0.386 or 38.6% which indicates that 38.6% of the total variation in predicting saving behaviours among the undergraduate students in UTAR, Kampar is explained by the variation in social influence, financial knowledge, and self-control. To be more accurate, the adjusted R-square value explained that total 38.2% of the variation in forecasting saving behaviours among undergraduate students in UTAR Kampar is interpreted by the variation in social influence, financial knowledge, and self-control, after taking into account the degree of freedom.

In summary, as all the independent variables (social influence, financial knowledge, and self-control) are significant to influence the saving behaviours

among undergraduate students in UTAR, Kampar, the whole model is significant at α = 0.05 or 95% confidence level. This can be explained by the p-value for the whole model which is less than 0.001 and the value is lower than α = 0.05. Hence, this model significantly clarifies and explains that the relationships between social influence, financial knowledge, and self-control with the dependent variable, saving behaviours among the undergraduate students in UTAR, Kampar.

4.4.2 Heteroscedasticity

Table 4.19: *Summary of Breusch-Pagon-Gadfrey Test*

Heteroscedasticity Test: Breusch-Pagon-Godfrey Test H0: There is homoscedasticity. H1: There is heteroscedasticity.		
F-statistic	**Prob. F (3, 376)**	**Prob. Chi-Square (3)**
24.66254	0.0000	0.0000

To test whether the heteroscedasticity problem exits in the model or not, Breusch-Pagon-Godfrey Test has been conducted by using E-View. Based on the summary table 4.19 above, the p-value of the test is 0.0000 which is less than α = 0.05. Thus, null hypothesis is rejected and conclude that the model consists of heteroscedasticity problem.

To solve the heteroscedasticity problem, Weighted Least Square has been used. However, regardless of whether social influence, financial knowledge, or self-control are used as weights in the model, the results shown by the weighted least squares method still suffer from heteroscedasticity problems (Appendix 4.35 – Appendix 4.37).

Table 4.20: *Summary of Breusch-Pagon-Gadfrey Test (Drop self-control)*

Heteroscedasticity Test: Breusch-Pagon-Godfrey Test H0: There is homoscedasticity. H1: There is heteroscedasticity.		
F-statistic	**Prob. F (3, 376)**	**Prob. Chi-Square (3)**
0.576069	0.5626	0.5605

Thus, to solve the heteroscedasticity problem, each of the independent variables is being dropped from the model to test for the heteroscedasticity test. According to the test, when dropped either social influence or financial knowledge from the model, the model still consists of heteroscedasticity problem. However, when the independent variable, self-control is dropped from the model, the model become homoscedasticity. Table 4.20 shown the summary for the heteroscedasticity test when self-control has been dropped from the model. Thus, heteroscedasticity has been solved by dropping the self-control variable (Appendix 4.38 – Appendix 4.40).

4.4.3 Multiple Regression Analysis (New Model)

Hence, the new model for the research is stated as below:

SB = 2.0640 + 0.2326SI + 0.3110FK

Where:

SB: Saving Behaviours

SI: Social Influence

FK: Financial Knowledge

Table 4.21: *New Multiple Regression Analysis (After drop Self-Control)*

Model	**Unstandardized coefficients**	**t-statistics**	**Sig (p-value)**

	Beta	**Standard Error**		
(constant)	2.0640	0.2161	9.5511	0.0000
SI	0.2326	0.0579	4.0160	0.0001*
FK	0.3110	0.0559	5.5671	0.0000*
R square				0.2105
Adjusted R square				0.2064
F-test				50.2728
p-value of F-test				0.0000

Dependent variable: SB (Saving Behaviours)

*: variables are significant at alpha = 0.01

The new multiple regression analysis table above measure the relationship between independent variables (social influence and financial knowledge) and dependent variable (saving behaviours). To measure whether each of the independent variable are significance to influence the saving behaviours among undergraduate students in UTAR, Kampar, p-value approach (alpha = 0.01 @ 99% confidence interval) has been used. As a summary, the result above shown that all the independent variables are significantly to influence the saving behaviours among the target respondents.

By using the p-value approach, all independent variables are tested at 99% confidence level or alpha = 0.01. When the p-value of the variables are lesser than alpha = 0.01, the variables are considered significant to influence the dependent variable. Thus, the p-value for the independent variable, SI (Social Influence) is 0.0001. As the result for p-value is lesser to alpha = 0.01, it showed that social influence is significantly to influence the saving behaviours among the respondents. The result is in line with the hypothesis development that has been stated in Chapter 2 and in line with the research that stated that social influence is significantly to explain saving behaviours from various research

(Bona, 2018; Looi et al., 2022). Thus, the result gained from this research support the statement that social influence is significantly to dominate the saving behaviours among the undergraduate students in UTAR, Kampar. In addition, the coefficient for social influence, 0.2326 means that the level of saving behaviours among undergraduate students in UTAR, Kampar tend to increase by 0.2326 for each additional one level increase in social influence, while holding other variables are constant.

Next, the p-value for the second independent variable, FK (Financial Knowledge) is 0.0000. As the result for p-value is lesser than alpha = 0.01, it showed that financial knowledge is significantly to influence the saving behaviours among the respondents. This result is in line with the research from Nababan et al. (2022) which indicates that financial knowledge is one of the factors that impact the saving behaviours among people. Thus, the result gained from this research agreed with the statement that financial knowledge is significantly to influence the saving behaviours among the undergraduate students in UTAR, Kampar. In addition, the coefficient for financial knowledge, 0.0559 means that the level of saving behaviours among undergraduate students in UTAR, Kampar tend to increase by 0.0559 for each additional one level increase in financial knowledge, while holding other variables are constant.

Besides, based on the result that shown in the multiple regression analysis above, the R-square value for the whole model is 0.2105 which indicates that 21.05% of the total variation in predicting saving behaviours among the undergraduate students in UTAR, Kampar is explained by the variation in social influence and financial knowledge. To be more accurate, the adjusted R-square value explained that total 20.64% of the variation in forecasting saving behaviours among undergraduate students in UTAR Kampar is interpreted by the variation in social influence and financial knowledge, after taking into account the degree of freedom.

In summary, after drop self-control from the model, the independent variables (social influence and financial knowledge) are significant to influence the saving behaviours among undergraduate students in UTAR, Kampar, the whole model is significant at alpha = 0.01 or 99% confidence level. This can be explained by the p-value for the whole model which is 0.0000 and the value is lower than alpha =0.01. Hence, this model significantly clarifies and explains that the relationships between social influence and financial knowledge with the dependent variable, saving behaviours among the undergraduate students in UTAR, Kampar.

4.5 Conclusion

All data analysis in this chapter is performed utilizing SPSS 29.0, EViews 12 SV, and Excel to ascertain and present the information collected from 380 participants. The analysis of the data suggests that no concerns regarding multicollinearity or normality are present. In the findings of the multiple regression analysis for the independent variables, social influence, financial knowledge, and self-control are also found to be highly correlated with saving behaviours.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 Introduction

The fifth chapter begins with a section dedicated to examining the link between independent factors and saving behaviours. This section focuses on determining whether the association is substantial or inconsequential. Moreover, the subsequent analysis of the study's implications is used to examine the problems at hand and provide recommendations for enhancing the degree of relevance. Subsequently, the study's constraints and suggestions for further research are presented.

5.1 Summary of Statistic Analysis

Table 5.1: *Statistical Findings*

Model	Coefficient	Std. Error	t-Statistic	Prob.
(Constant)	2.063952	0.216095	9.551138	0.0000
SI	0.232624	0.057924	4.015993	0.0001
FK	0.310969	0.055859	5.567062	0.0000

p-value: 0.01

The profiles of 380 students were examined in total, with six demographic inquiries incorporated. 25.26 per cent of the respondents, or 96 students, are under the age of 21. Following this, the descriptive analysis produced a total of 195 male participants, constituting 51.3% of the overall sample. Out of the total 380 participants, 276 individuals self-identified as Chinese, constituting 72.6% of the sample. A majority of the respondents, comprising 206 people (54.2%) of the total, are presently enrolled in Degree Year 3. FBF comprises the most substantial percentage of participants, comprising 160 individuals or 42.1% of the overall sample. Furthermore, among the

380 respondents, 246 individuals (64.7%) stated that their parents provide them with the majority of their income. PTPTN serves as the primary source of income for 126 respondents, or 33.2% of the total, who are other students. The remaining six respondents derive their primary income from scholarships, savings, and stock and savings.

The Cronbach Alpha reliability test reveals that the variables comprising self-control, social influence, financial knowledge, and saving practices exhibit satisfactory reliability. The coefficients fall within the acceptable range of 0.6 to 0.8, signifying a positive outcome. Additionally, upon conducting a Pearson's correlation analysis, it was determined that no statistically significant association exists between financial knowledge and social influence on saving behaviour. The aforementioned conclusion is substantiated by the variance inflation factors (VIF) falling within the range of 1 to 10 and the tolerance values exceeding 0.5. Overall, this model does not exhibit any multicollinearity issues. Furthermore, the results obtained from the Multiple Linear Regression analysis demonstrate a similar pattern to those obtained from Pearson's correlation study.

5.2 Discussion on Major Findings

5.2.1 Social Influence and Saving Behaviours

The study's findings demonstrated a significant relationship between undergraduate students at UTAR Kampar's saving behaviour and social influence. According to the outcomes of Looi et al.'s (2022) research, social influence has a small but considerable impact on Malaysian university students' saving habit. It was described that way because, when it comes to financial concerns, the considerable effect of their environment surpasses that of society.

5.2.2 Financial Knowledge and Saving Behaviours

The results of this study indicate that among undergraduate students at UTAR Kampar, there is a highly significant correlation between financial knowledge and saving behaviours. The findings of this research align with the summary drawn by Chia et al. (2011), which posits a positive correlation between financial literacy and saving habits. Consequently, students attaining a greater degree of financial knowledge are more inclined to engage in saving activities, given that they possess the understanding and capacity to recognize the significance of savings.

5.3 Implications of the Study

This section presents practical implications. Based on the findings of the study, the focus is on the steps that institutions such as universities, policy makers, parents, and peers, may to do to encourage saving behaviours among the undergraduate students in UTAR, Kampar.

5.3.1 Social Influence and Saving Behaviours

The outcome of the study showed there is a significant relationship between social influence and saving behaviours among undergraduate students. Hence, it is crucial for parents to teach and encourage their children to have a good saving habit, which echoes a saying that good habits always start from home. Parents need to become the role model of their children by demonstrating good saving behaviours in front of their children. This is because children often learn by observing people around them.

The universities or education institutions can develop peer influence program. It acts as a platform for students to share their experiences, saving tips, using experience of saving plans and motivate each other to have a positive saving behaviour. This platform can connect students that have similar financial goal or financial challenge. The universities can also organize group saving challenges and competitions to motivate them to save money. They can discuss strategies to save the most money and compete with others and win the prizes.

Policy makers can design free or subsidized financial education programs for parents. This program gives parents opportunity to access materials and equipment that help them to manage their personal finance. For example, budgeting template, cash flow management, inventory tracking, retire planning and tax preparation. By utilizing these materials and equipment, parents can better manage their finance and it will directly influence their children. The children will feel motivated when they saw their parents keep learning and improving. This situation will directly positively influence children's saving behaviours. Policy makers can also offer tax incentives to the parents that participated in the financial education programs. These incentives can motivate parents to engage in the program and promote saving behaviours to their children.

5.3.2 Financial Knowledge and Saving Behaviours

The result of this study shows that financial knowledge brings positive influence on saving behaviours among undergraduate students. Parents need to build a shared knowledge and attitude to money management. Parents can have financial talk with their children. When every member of the family participates in financial discussions, it becomes more transparent and inclusive, which promotes cooperation and trust. Parents can share their personal experiences on their finance related matters such as saving decisions, investment strategies, and budgeting way.

The universities and education institutions can collaborate with financial institutions to arrange seminar and workshops. The universities can invite the representatives of the financial institution to have a sharing on financial services and support that available in the market. The representatives can have a interactive session such as Question and Answer (Q&A session), discussion of real-life financial scenario and cash flow game. In result, the students engaged in the activities and better understand how it works and why it is so important in life. By collaborating with financial institutions, it will create internship and job opportunities for students. The students may have a chance to gain hand-on experience in finance industry and apply the knowledge they learned into workplace.

The policy maker should promote financial knowledge by implementing effective personal finance course in all states in Malaysia. Boosting financial awareness through personal finance classes is critical for preparing people to handle the intricacies of current financial institutions. Policymakers may educate individuals with important skills such as budgeting, saving, investing, and debt management by incorporating personal finance education into the school curriculum. For example, Financial Education Network. The Financial Education Network (FEN) is an inter-agency network that aims to increase financial literacy among Malaysians. FEN members include the Ministry of Education, Bank Negara Malaysia, Securities Commission Malaysia, Employees Provident Fund, AKPK, Perbadanan Insurans Deposit Malaysia, and Permodalan Nasional Berhad. All members have long-term financial education programmes and activities to promote Malaysians' financial well-being.

5.4 Limitation of Study

There are some weaknesses were identified while this research was being conducted. As these drawbacks can affect the final result of the study, thus, the limitations are pointed out to assist any future research that related to the saving behaviours of undergraduate students to obtain a more accurate and solid outcome.

First, the aim of the study is to determine the correlation between three explanatory variables which include social influence, financial knowledge, and self-control with the explained variable, saving behaviours. However, there are some causes that may indirectly affect the association between predictor variables with the predicted variable. For instance, the relationship between social influence and saving behaviours may be affected by the different level of social status or social activities. A person that active in social activities may have a more significant relationship to explain the relation between social influence and saving behaviours. Thus, this research has omitted some factors that may be indirectly influence the relationship between independent variables and saving behaviours among undergraduate students in UTAR, Kampar.

Moreover, the limitation of the research includes that the study is performed by using survey questionnaires only when distributed respondents as it is easy to use for gathering the data and statistics from respondents. Besides, survey questionnaire is used as it can reach great volume of data and information in a inexpensive and efficient way. However, the used of survey questionnaire may lead to misunderstanding as it is impossible to clarify the enquiries of the respondents instantly when they filled up the google form.

Furthermore, the sample data collected from the whole population of undergraduate students in UTAR, Kampar is small. In this research, a total of 380 responses has been collected and the size of the sample is treated as small as the total population of undergraduate students in UTAR is around 17,000 until year 2022. Thus, the 380

respondents might not be able to explain for the whole population of undergraduate students as it only picturing a portion number of students in UTAR. In addition, the result from this study also cannot be applied in other universities condition. This is because different universities may have different saving behaviours for their undergraduate students as the environment are different.

5.5 Recommendations for Future Research

Suggestions are important for this study as it can improve the future research about the saving behaviours so that the factors that influence saving behaviours can be understood more deeply and clearly by the government, public, or any relevant industry to make decisions.

First, the future research may include more related and important variables that may influence the saving behaviours in their study. In this study, there are only three explanatory variables that included which are social influence, financial knowledge, and self-control. Therefore, other variables that related to the saving behaviours can be included in the future research to obtain more accurate result such as interest rate, inflation, and family income.

Moreover, the solution for future research to work out the limitation above is to include both quantitative and qualitative research method in their study. For instance, one of the qualitative methods is conducting face-to-face interview with the respondents. By using face-t-face interviews, researchers can directly answer to the questions of respondents which can increase respondents' understanding level towards the survey questionnaires distributed. By combining both quantitative and qualitative methods, researchers can have a deep understanding of respondents' thoughts and opinions.

Furthermore, future research may include more respondents from numerous universities in Malaysia rather than just focusing on one university only which can help to improve the sample proportions of the research. When the respondents are from different universities, the research can be used for more decision or policy making purpose as the research consists of large sample from different background. When the respondents increase, the credibility and accuracy of the research also increase as it can reach large sample from the whole population.

5.6 Conclusion

The aim of this research is to investigate the determinants of saving behaviours among undergraduate students in Universiti Tunku Abdul Rahman (UTAR), Kampar, Perak. The results of the research show all the three factors contributed to savings behaviours of the undergraduate students. Financial knowledge and social influence have an important and meaningful relationship with the saving behaviours. These outcomes are thoroughly reviewed, and several consequences are supported. The study's shortcomings also be addressed, and some recommendations are provided for enhancing the study. Therefore, this study could provide some valuable insights for researchers that interested on same topic regarding the variable selection, research methodology, and data collection.

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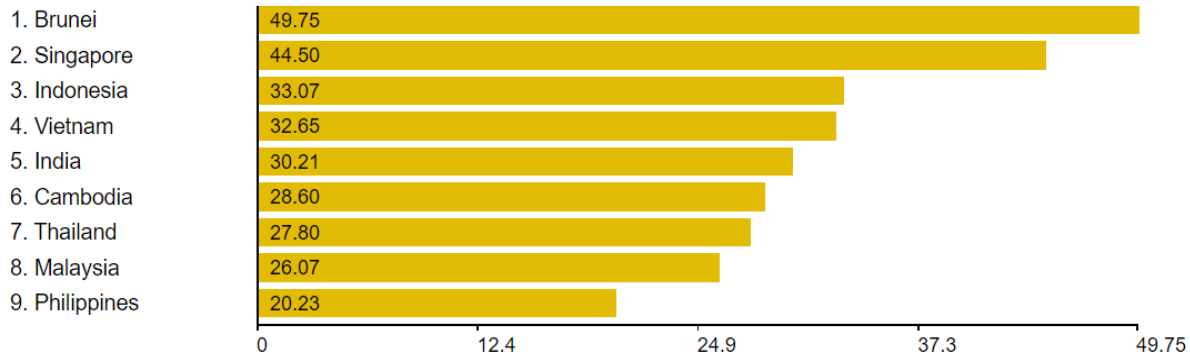
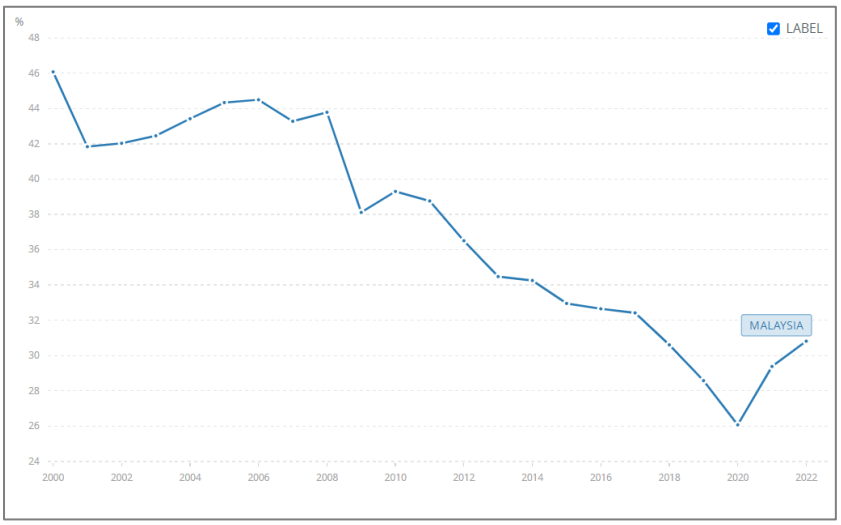
Appendix

Appendix 1.1: Percentage of gross saving rate in Southeast Asia, 2021



Source: The World Bank

Appendix 1.2: Gross Domestic Saving (% of GDP) from 2000 to 2022 in Malaysia



Source: World Bank Open Data, 2023

Appendix 3.1: Table for Determining Sample Size from a Given Population

TABLE 1
Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

Appendix 3.2: Questionnaire items

Section A: Demographic Information

1. What is your gender?

() Male

() Female

2. What is your age?

   _____

3. What is your ethnicity?

   () Malay

   () Chinese

   () India

   () Other

4. Current year of study

   _____

5. Faculty

   () Faculty of Science

   () Faculty of Engineering and Green Technology

   () Faculty of Business and Finance

   () Faculty of Information & Communication technology

   () Faculty of Art & Social Science

   () Institute of Chinese Studies

6. Main source of income

   () Parents

   () PTPTN

   () Part time job

   () Other

Section B: Social Influence

This section is seeking your opinion about social influence. Please indicate the extent to which you agree or disagree with each of the following statements. Please select the most appropriate option for each statement.

1 – Strongly Disagree (SD) 2 – Disagree (D) 3 – Neutral (N)

4 – Agree (A) 5 – Strongly Agree (SA)

	SD	D	N	A	SA
1. My parents are a good example for me when it comes to saving.	1	2	3	4	5
2. I appreciate it when my parents give me advice about what to save my money.	1	2	3	4	5
3. Saving is something I do regularly because my parents wanted me to save when I was young.	1	2	3	4	5
4. Sometimes it is good to let my parents take care of my money to help me save.	1	2	3	4	5
5. I save because my friends also save.	1	2	3	4	5
6. I always discuss about saving with my friends.	1	2	3	4	5

Section C: Financial Knowledge

This section is seeking your opinion about financial knowledge. Please indicate the extent to which you agree or disagree with each of the following statements. Please select the most appropriate option for each statement.

1 – Strongly Disagree (SD) 2 – Disagree (D) 3 – Neutral (N)

4 – Agree (A) 5 – Strongly Agree (SA)

	SD	D	N	A	SA
1. Given the amount borrowed and the interest rate, I can calculate the interest paid over a year.	1	2	3	4	5
2. I can give examples of the causes of inflation.	1	2	3	4	5
3. I have a good understanding of financial instrument such as stock.	1	2	3	4	5
4. I could provide an informed commentary on current issues in the financial industry.	1	2	3	4	5
5. I could recognise a financial scam when I see or read about one.	1	2	3	4	5
6. I could determine the intended audience for an advertisement from a financial service producer.	1	2	3	4	5

Section D: Self-Control

This section is seeking your opinion about self-control. Please indicate the extent to which you agree or disagree with each of the following statements. Please select the most appropriate option for each statement.

5 – Strongly Disagree (SD) 4 – Disagree (D) 3 – Neutral (N)

2 – Agree (A) 1 – Strongly Agree (SA)

	SD	D	N	A	SA
1. I always failed to control myself from saving money.	5	4	3	2	1
2. 'I see it, I like it, I buy it' describes me.	5	4	3	2	1
3. I don't save because it is too hard to me.	5	4	3	2	1
4. When I set saving goals for myself, I rarely achieve them.	5	4	3	2	1
5. When I received pocket money, I rapidly spend it within 2 days.	5	4	3	2	1
6. I enjoy spending money on things that are unnecessary.	5	4	3	2	1

Section E: Saving Behaviours

This section is seeking your opinion about saving behaviours. Please indicate the extent to which you agree or disagree with each of the following statements. Please select the most appropriate option for each statement.

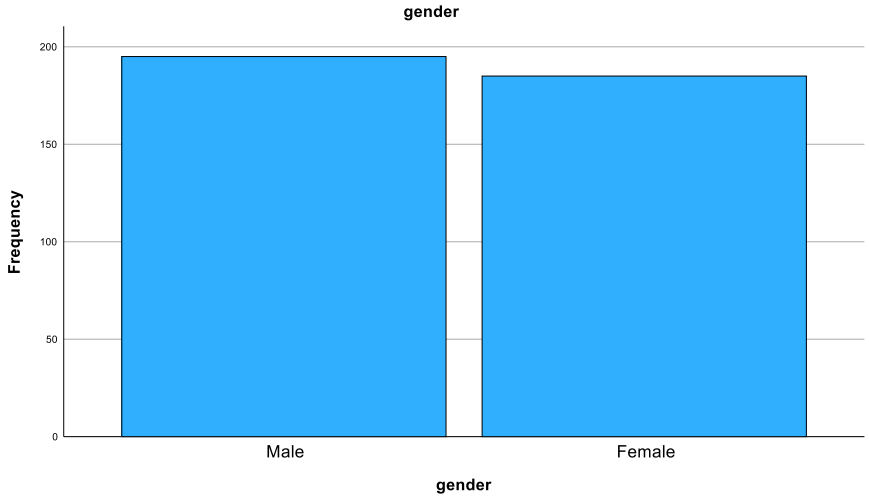
1 – Strongly Disagree (SD) 2 – Disagree (D) 3 – Neutral (N)

4 – Agree (A) 5 – Strongly Agree (SA)

	SD	D	N	A	SA
1. I always follow a careful monthly budget so I can save money.	1	2	3	4	5
2. I always save money for the emergency event.	1	2	3	4	5
3. I save to achieve certain goal.	1	2	3	4	5
4. I receive money at the beginning of month, and still have monthly left as saving.	1	2	3	4	5
5. I save money regularly against future needs.	1	2	3	4	5
6. I save money just because I want to buy something special.	1	2	3	4	5

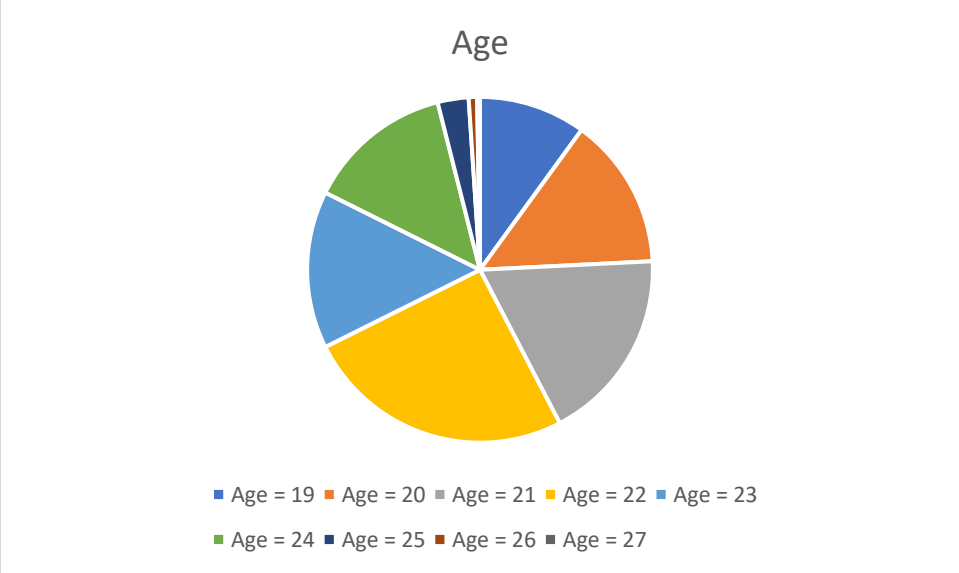
Appendix 4.1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	195	51.3	51.3	51.3
	Female	185	48.7	48.7	100.0
	Total	380	100.0	100.0	



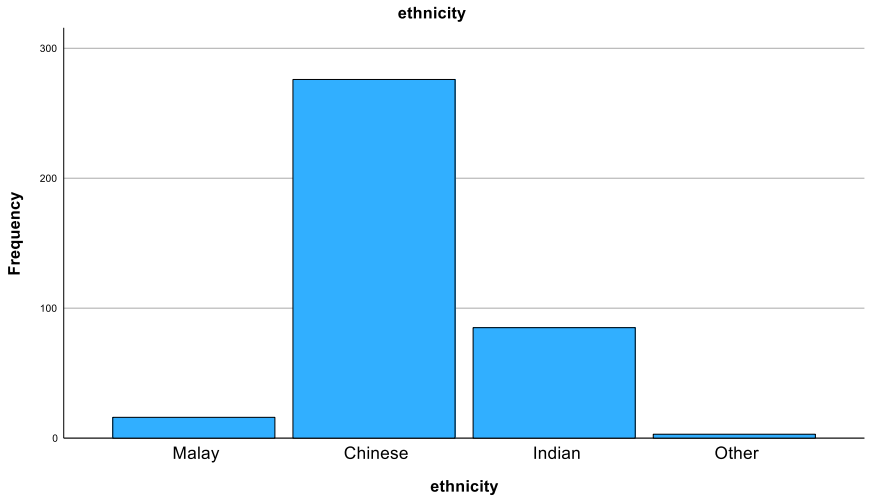
Appendix 4.2: Age

Age	Frequency	Percentage (%)
19	38	10.00
20	54	14.21
21	69	18.16
22	96	25.26
23	56	14.74
24	52	13.68
25	11	2.89
26	3	0.79
27	1	0.26
Total	380	100.00



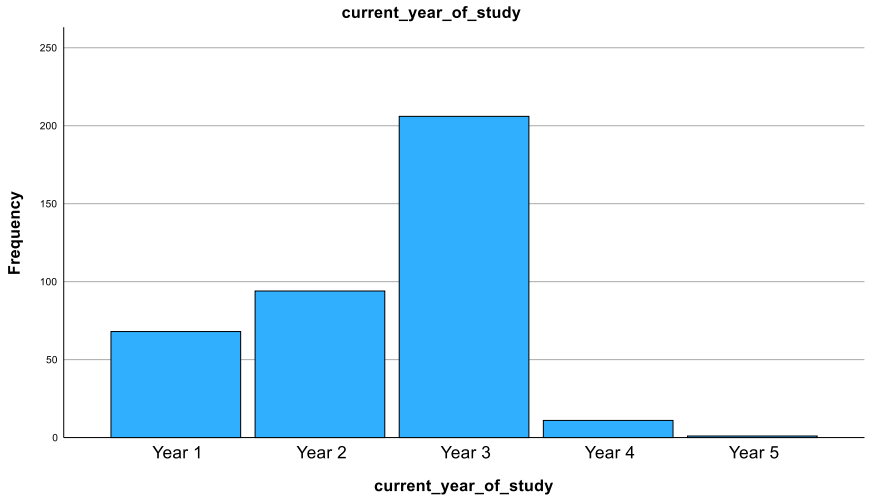
Appendix 4.3: Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	16	4.2	4.2	4.2
	Chinese	276	72.6	72.6	76.8
	Indian	85	22.4	22.4	99.2
	Other	3	.8	.8	100.0
	Total	380	100.0	100.0	



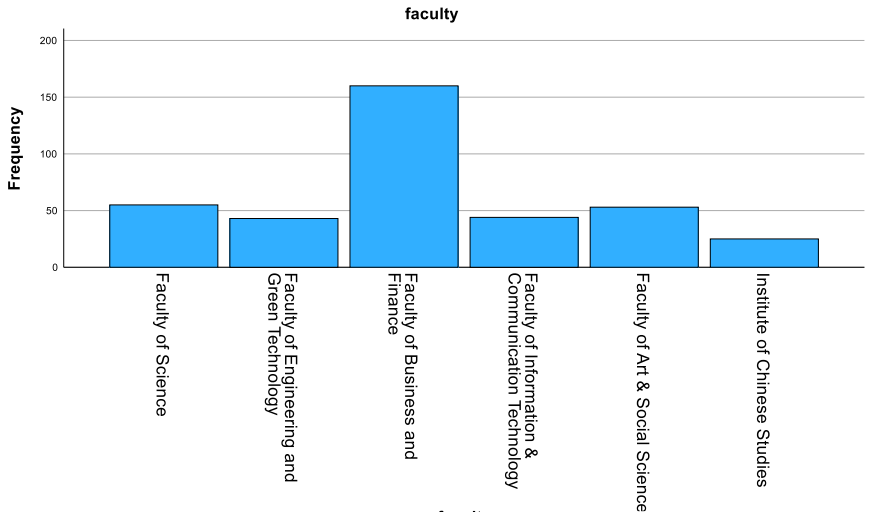
Appendix 4.4: Current year of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Year 1	68	17.9	17.9	17.9
	Year 2	94	24.7	24.7	42.6
	Year 3	206	54.2	54.2	96.8
	Year 4	11	2.9	2.9	99.7
	Year 5	1	.3	.3	100.0
	Total	380	100.0	100.0	



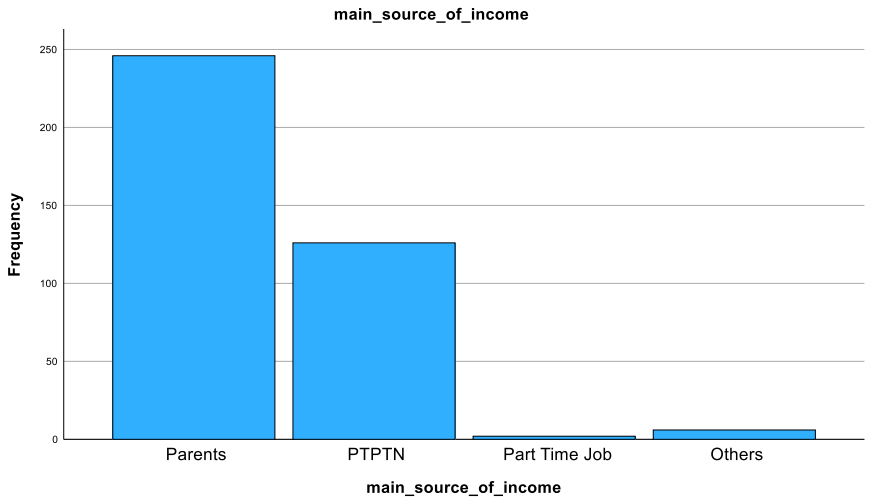
Appendix 4.5: Faculty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Faculty of Science	55	14.5	14.5	14.5
	Faculty of Engineering and Green Technology	43	11.3	11.3	25.8
	Faculty of Business and Finance	160	42.1	42.1	67.9
	Faculty of Information & Communication Technology	44	11.6	11.6	79.5
	Faculty of Art & Social Science	53	13.9	13.9	93.4
	Institute of Chinese Studies	25	6.6	6.6	100.0
	Total	380	100.0	100.0	



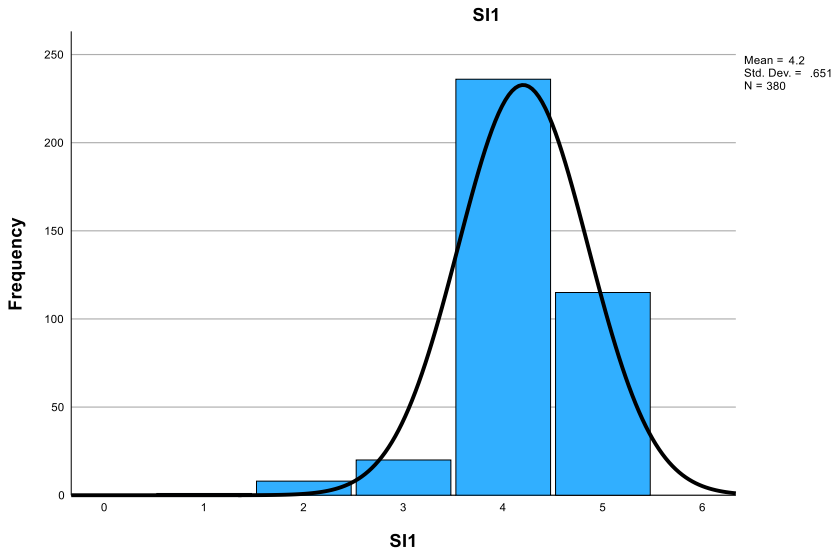
Appendix 4.6: Main source of income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Parents	246	64.7	64.7	64.7
	PTPTN	126	33.2	33.2	97.9
	Part Time Job	2	.5	.5	98.4
	Others	6	1.6	1.6	100.0
	Total	380	100.0	100.0	



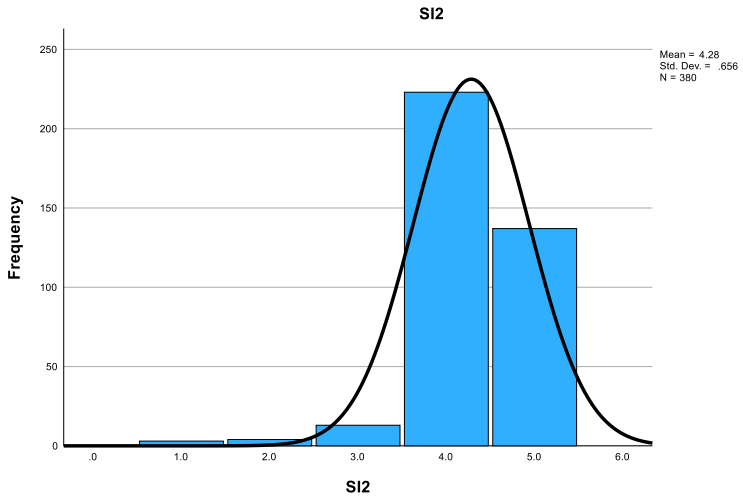
Appendix 4.7: My parents are a good example for me when it comes to saving.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.3	.3	.3
	Disagree	8	2.1	2.1	2.4
	Neutral	20	5.3	5.3	7.6
	Agree	236	62.1	62.1	69.7
	Strongly Agree	115	30.3	30.3	100.0
	Total	380	100.0	100.0	



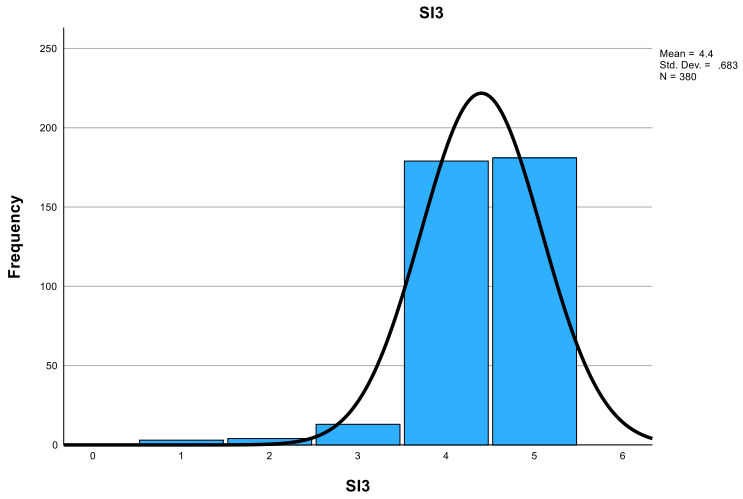
Appendix 4.8: I appreciate it when my parents give me advice about what to save my money.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	4	1.1	1.1	1.8
	Neutral	13	3.4	3.4	5.3
	Agree	223	58.7	58.7	63.9
	Strongly Agree	137	36.1	36.1	100.0
	Total	380	100.0	100.0	



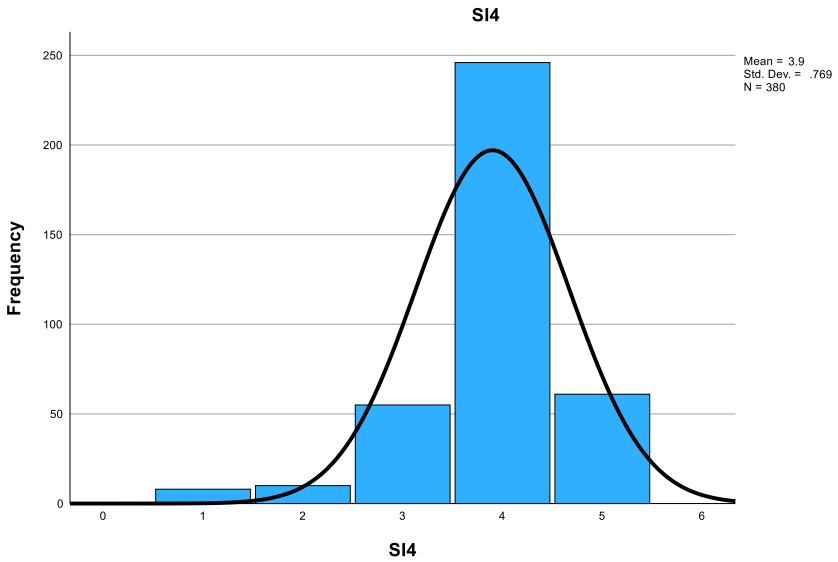
Appendix 4.9: Saving is something I do regularly because my parents wanted me to save when I was young.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	4	1.1	1.1	1.8
	Neutral	13	3.4	3.4	5.3
	Agree	179	47.1	47.1	52.4
	Strongly Agree	181	47.6	47.6	100.0
	Total	380	100.0	100.0	



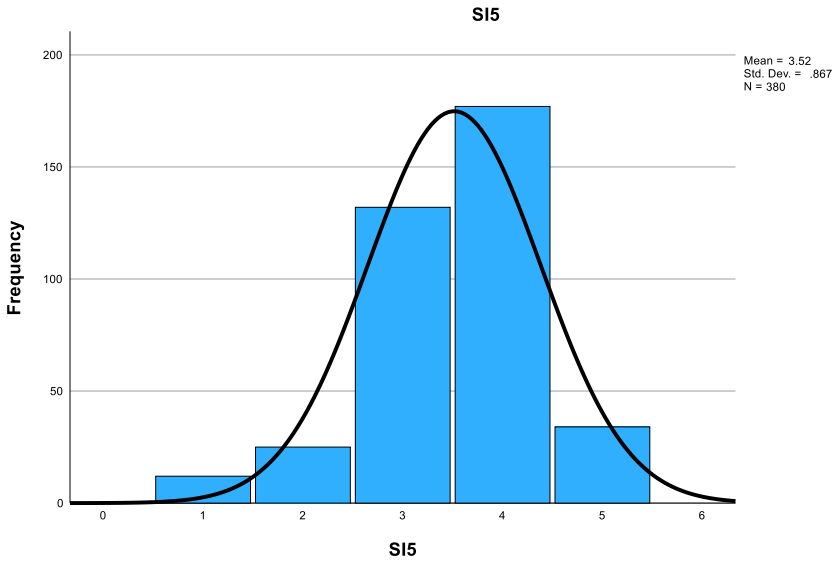
Appendix 4.10: Sometimes it is good to let my parents take care of my money to help me save.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.1	2.1	2.1
	Disagree	10	2.6	2.6	4.7
	Neutral	55	14.5	14.5	19.2
	Agree	246	64.7	64.7	83.9
	Strongly Agree	61	16.1	16.1	100.0
	Total	380	100.0	100.0	



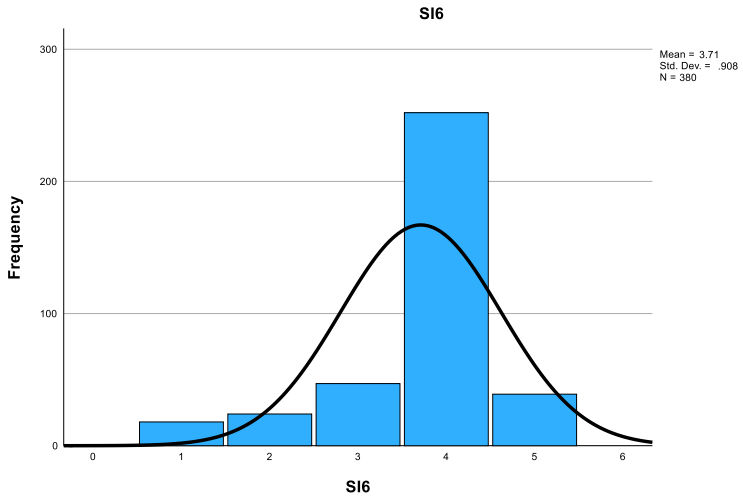
Appendix 4.11: I save because my friends also save.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	3.2	3.2	3.2
	Disagree	25	6.6	6.6	9.7
	Neutral	132	34.7	34.7	44.5
	Agree	177	46.6	46.6	91.1
	Strongly Agree	34	8.9	8.9	100.0
	Total	380	100.0	100.0	



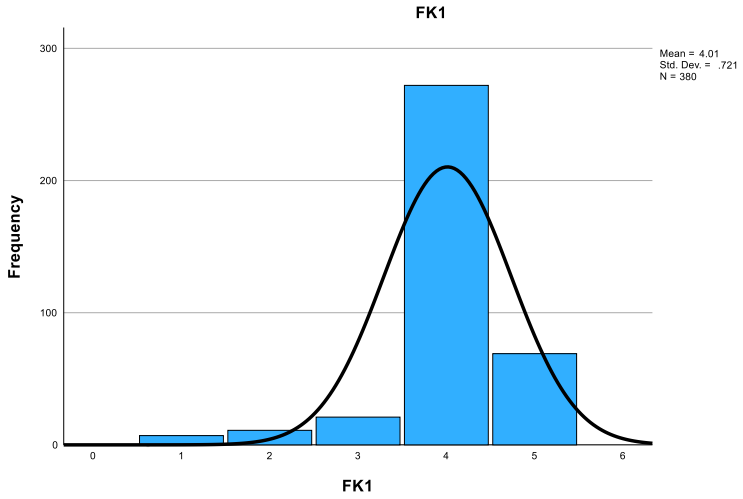
Appendix 4.12: I always discuss about saving with my friends.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	4.7	4.7	4.7
	Disagree	24	6.3	6.3	11.1
	Neutral	47	12.4	12.4	23.4
	Agree	252	66.3	66.3	89.7
	Strongly Agree	39	10.3	10.3	100.0
	Total	380	100.0	100.0	



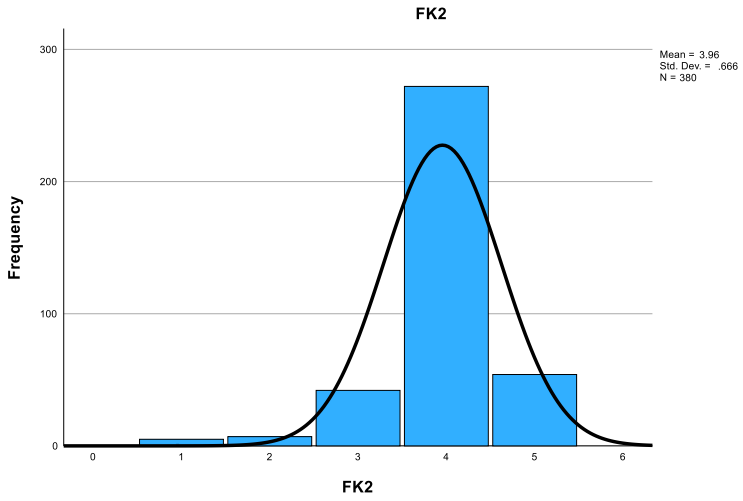
Appendix 4.13: Given the amount borrowed and the interest rate, I can calculate the interest paid over a year.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.8	1.8	1.8
	Disagree	11	2.9	2.9	4.7
	Neutral	21	5.5	5.5	10.3
	Agree	272	71.6	71.6	81.8
	Strongly Agree	69	18.2	18.2	100.0
	Total	380	100.0	100.0	



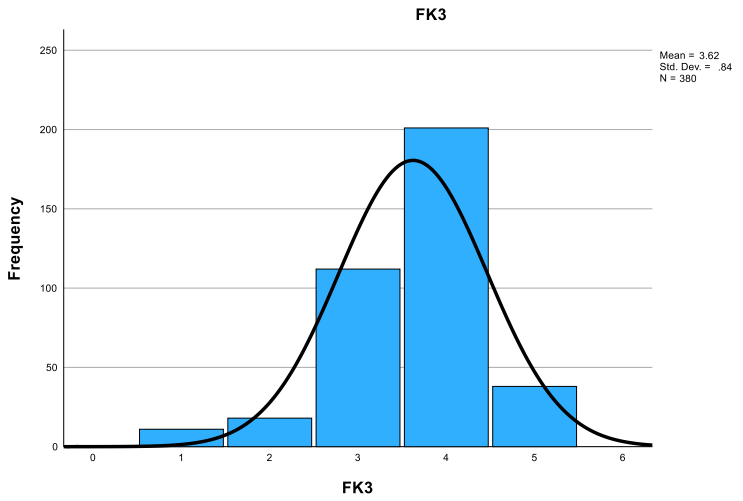
Appendix 4.14: I can give examples of the causes of inflation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.3	1.3	1.3
	Disagree	7	1.8	1.8	3.2
	Neutral	42	11.1	11.1	14.2
	Agree	272	71.6	71.6	85.8
	Strongly Agree	54	14.2	14.2	100.0
	Total	380	100.0	100.0	



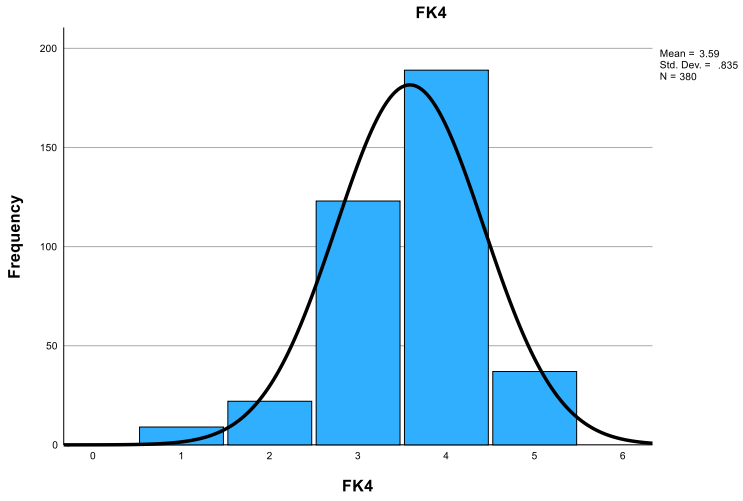
Appendix 4.15: I have a good understanding of financial instrument such as stock.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	2.9	2.9	2.9
	Disagree	18	4.7	4.7	7.6
	Neutral	112	29.5	29.5	37.1
	Agree	201	52.9	52.9	90.0
	Strongly Agree	38	10.0	10.0	100.0
	Total	380	100.0	100.0	



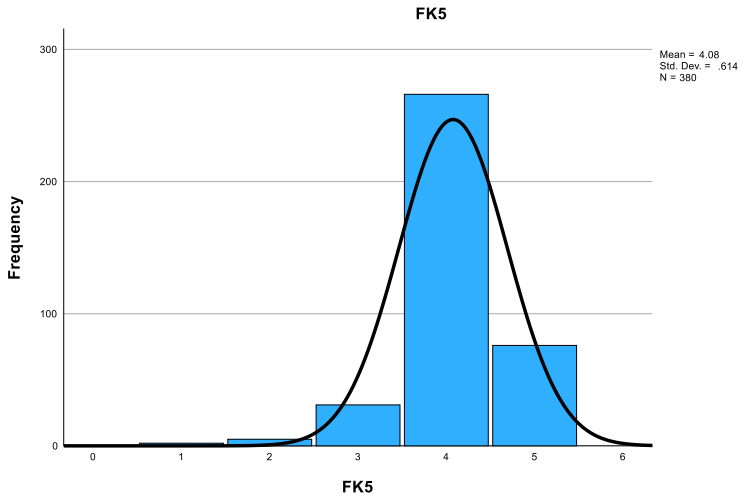
Appendix 4.16: I could provide an informed commentary on current issues in the financial industry.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.4	2.4	2.4
	Disagree	22	5.8	5.8	8.2
	Neutral	123	32.4	32.4	40.5
	Agree	189	49.7	49.7	90.3
	Strongly Agree	37	9.7	9.7	100.0
	Total	380	100.0	100.0	



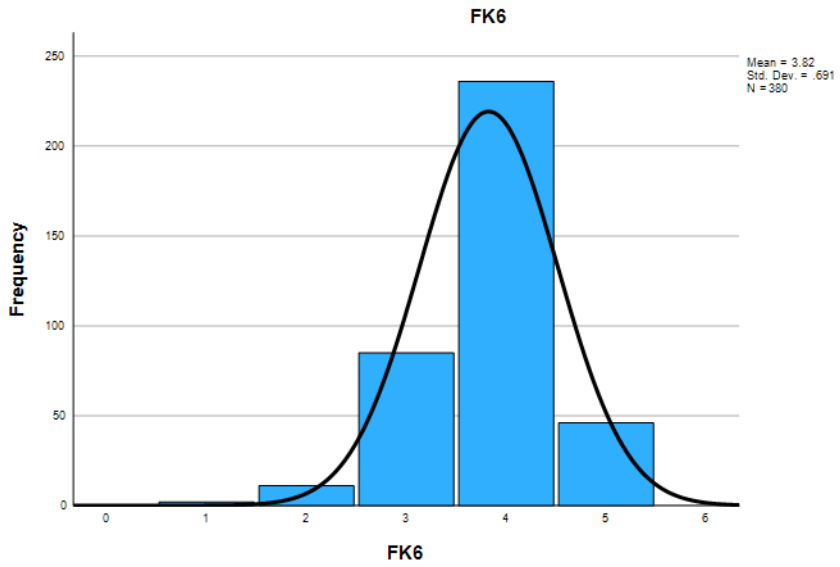
Appendix 4.17: I could recognise a financial scam when I see or read about one.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	5	1.3	1.3	1.8
	Neutral	31	8.2	8.2	10.0
	Agree	266	70.0	70.0	80.0
	Strongly Agree	76	20.0	20.0	100.0
	Total	380	100.0	100.0	



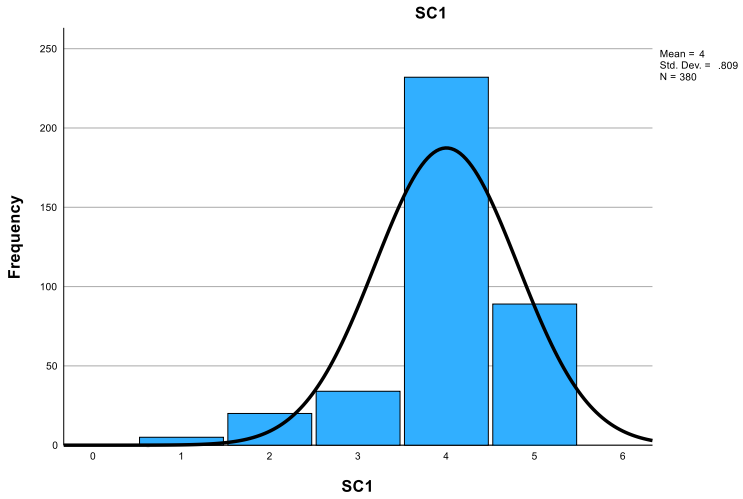
Appendix 4.18: I could determine the intended audience for an advertisement from a financial service producer.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	11	2.9	2.9	3.4
	Neutral	85	22.4	22.4	25.8
	Agree	236	62.1	62.1	87.9
	Strongly Agree	46	12.1	12.1	100.0
	Total	380	100.0	100.0	



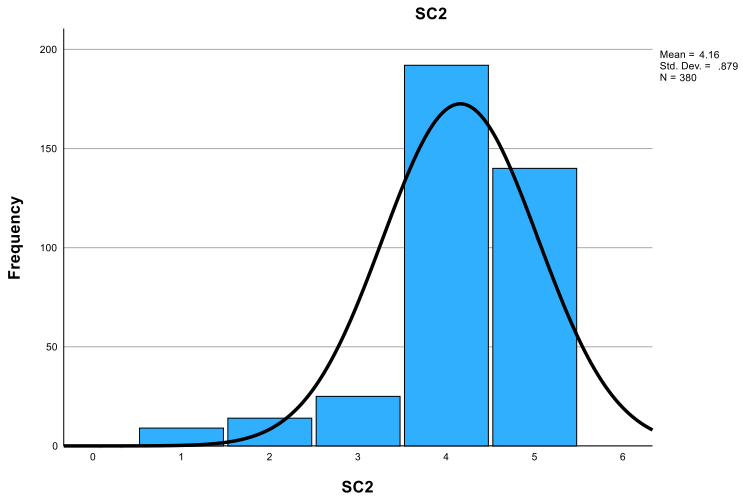
Appendix 4.19: I always failed to control myself from saving money.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	5	1.3	1.3	1.3
	Agree	20	5.3	5.3	6.6
	Neutral	34	8.9	8.9	15.5
	Disagree	232	61.1	61.1	76.6
	Strongly Disagree	89	23.4	23.4	100.0
	Total	380	100.0	100.0	



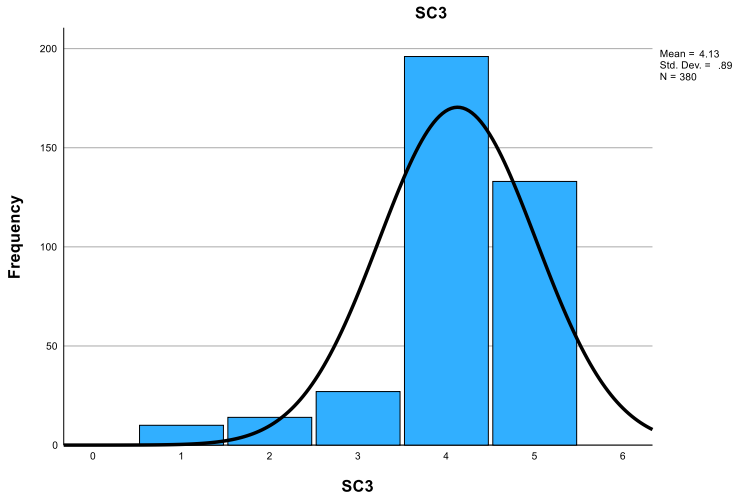
Appendix 4.20: 'I see it, I like it, I buy it' describes me.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	9	2.4	2.4	2.4
	Agree	14	3.7	3.7	6.1
	Neutral	25	6.6	6.6	12.6
	Disagree	192	50.5	50.5	63.2
	Strongly Disagree	140	36.8	36.8	100.0
	Total	380	100.0	100.0	



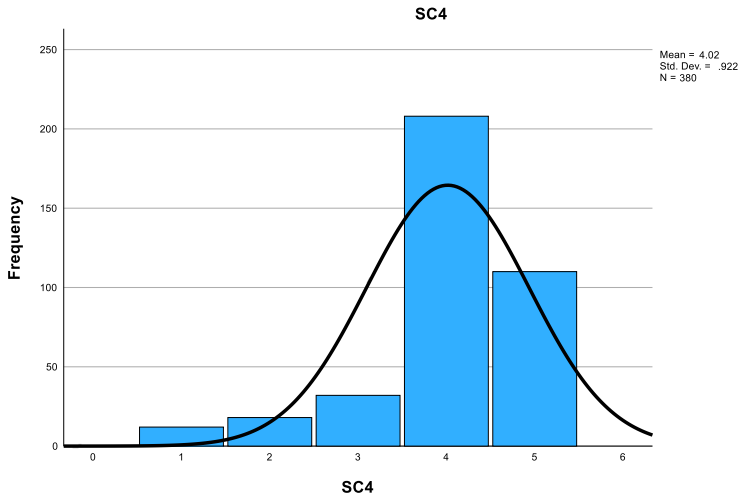
Appendix 4.21: I don't save because it is too hard to me.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	10	2.6	2.6	2.6
	Agree	14	3.7	3.7	6.3
	Neutral	27	7.1	7.1	13.4
	Disagree	196	51.6	51.6	65.0
	Strongly Disagree	133	35.0	35.0	100.0
	Total	380	100.0	100.0	



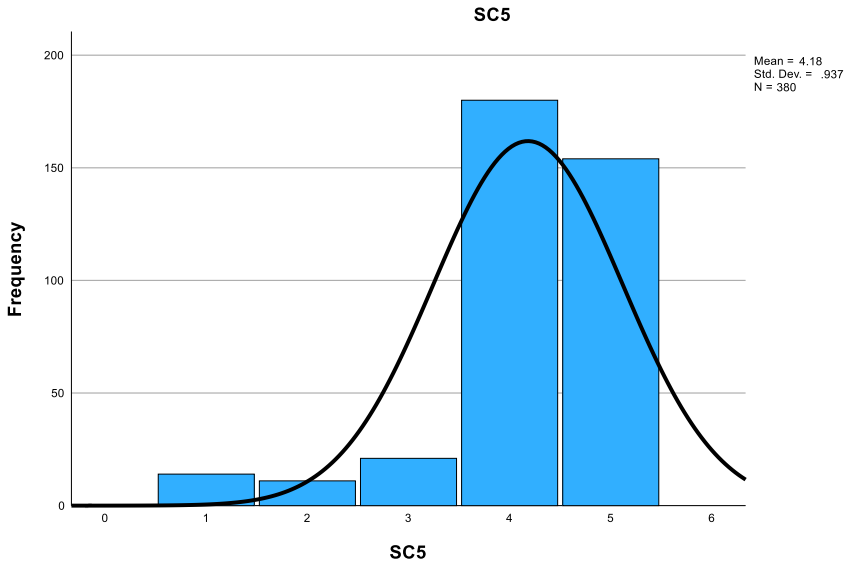
Appendix 4.22: When I set saving goals for myself, I rarely achieve them.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	12	3.2	3.2	3.2
	Agree	18	4.7	4.7	7.9
	Neutral	32	8.4	8.4	16.3
	Disagree	208	54.7	54.7	71.1
	Strongly Disagree	110	28.9	28.9	100.0
	Total	380	100.0	100.0	



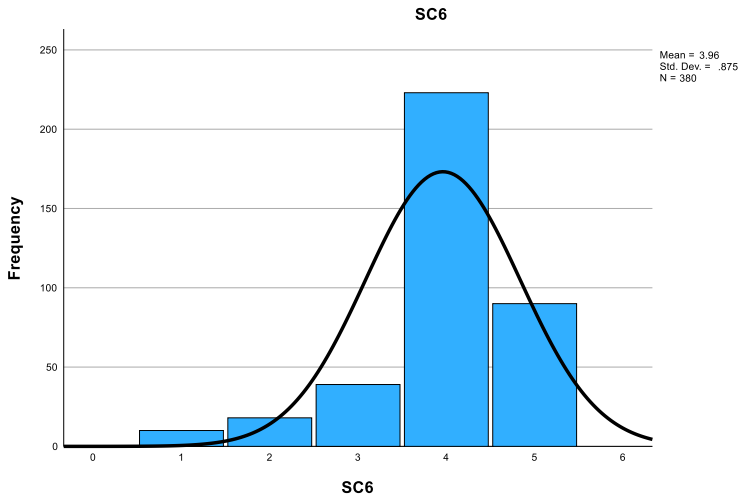
Appendix 4.23: When I received pocket money, I rapidly spend it within 2 days.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	14	3.7	3.7	3.7
	Agree	11	2.9	2.9	6.6
	Neutral	21	5.5	5.5	12.1
	Disagree	180	47.4	47.4	59.5
	Strongly Disagree	154	40.5	40.5	100.0
	Total	380	100.0	100.0	



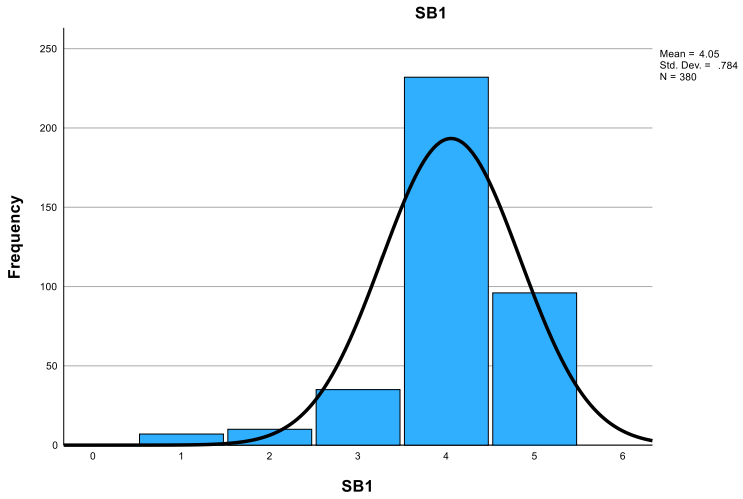
Appendix 4.24: I enjoy spending money on things that are unnecessary.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	10	2.6	2.6	2.6
	Agree	18	4.7	4.7	7.4
	Neutral	39	10.3	10.3	17.6
	Disagree	223	58.7	58.7	76.3
	Strongly Disagree	90	23.7	23.7	100.0
	Total	380	100.0	100.0	



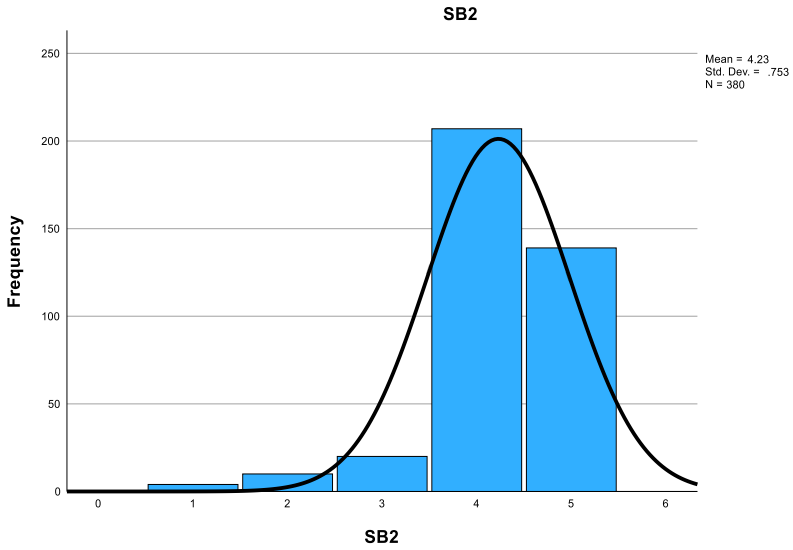
Appendix 4.25: I always follow a careful monthly budget so I can save money.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.8	1.8	1.8
	Disagree	10	2.6	2.6	4.5
	Neutral	35	9.2	9.2	13.7
	Agree	232	61.1	61.1	74.7
	Strongly Agree	96	25.3	25.3	100.0
	Total	380	100.0	100.0	



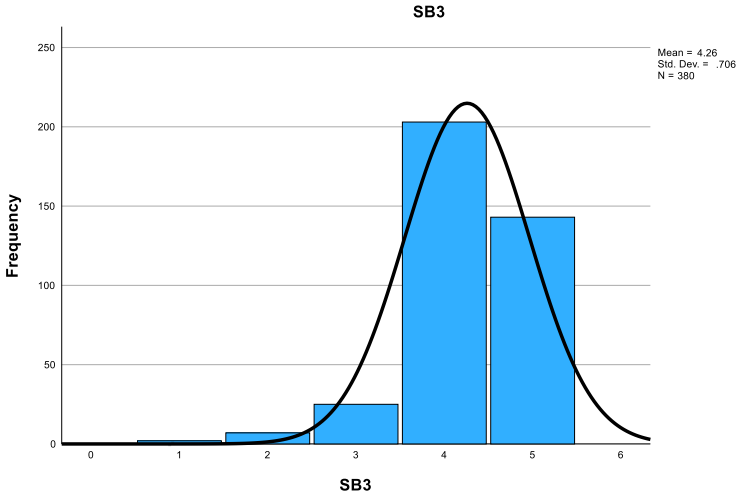
Appendix 4.26: I always save money for the emergency event.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.1	1.1	1.1
	Disagree	10	2.6	2.6	3.7
	Neutral	20	5.3	5.3	8.9
	Agree	207	54.5	54.5	63.4
	Strongly Agree	139	36.6	36.6	100.0
	Total	380	100.0	100.0	



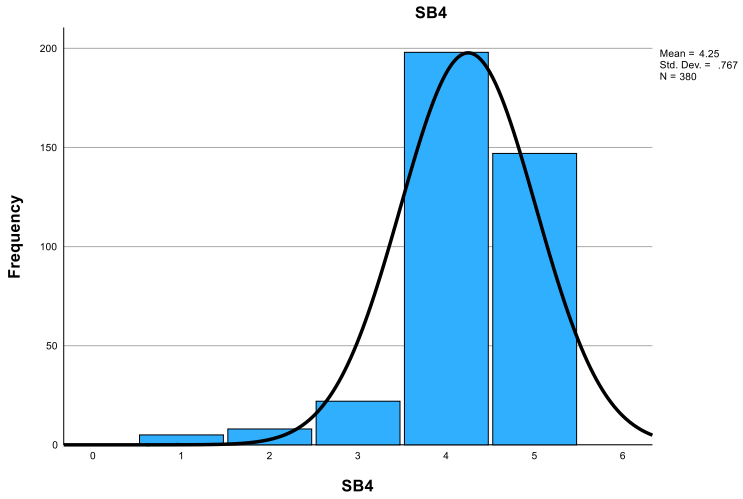
Appendix 4.27: I save to achieve certain goal.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	7	1.8	1.8	2.4
	Neutral	25	6.6	6.6	8.9
	Agree	203	53.4	53.4	62.4
	Strongly Agree	143	37.6	37.6	100.0
	Total	380	100.0	100.0	



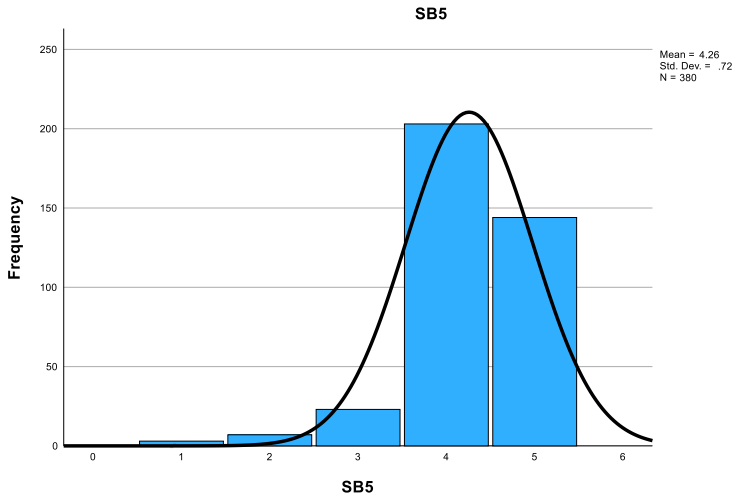
Appendix 4.28: I receive money at the beginning of month, and still have monthly left as saving.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.3	1.3	1.3
	Disagree	8	2.1	2.1	3.4
	Neutral	22	5.8	5.8	9.2
	Agree	198	52.1	52.1	61.3
	Strongly Agree	147	38.7	38.7	100.0
	Total	380	100.0	100.0	



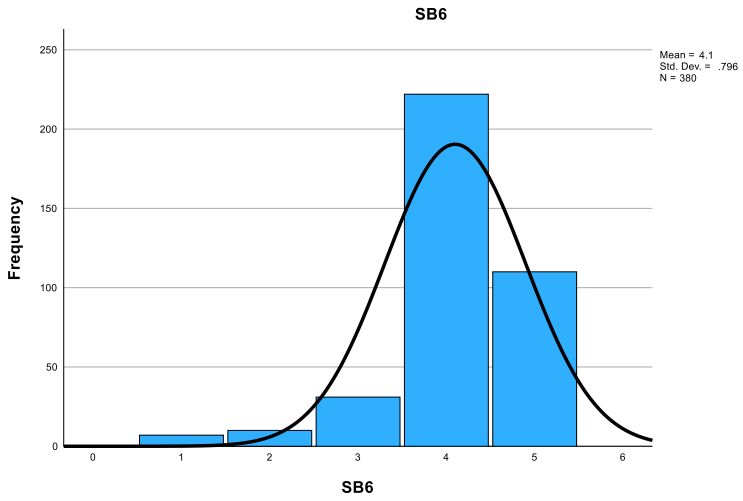
Appendix 4.29: I save money regularly against future needs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	7	1.8	1.8	2.6
	Neutral	23	6.1	6.1	8.7
	Agree	203	53.4	53.4	62.1
	Strongly Agree	144	37.9	37.9	100.0
	Total	380	100.0	100.0	



Appendix 4.30: I save money just because I want to buy something special.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.8	1.8	1.8
	Disagree	10	2.6	2.6	4.5
	Neutral	31	8.2	8.2	12.6
	Agree	222	58.4	58.4	71.1
	Strongly Agree	110	28.9	28.9	100.0
	Total	380	100.0	100.0	



Appendix 4.31: Reliability test

Social Influence

Case Processing Summary

		N	%
Cases	Valid	380	100.0
	Excluded[a]	0	.0
	Total	380	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.721	.724	6

Item Statistics

	Mean	Std. Deviation	N
SI1	4.200	.6514	380
SI2	4.282	.6555	380
SI3	4.397	.6834	380
SI4	3.900	.7691	380
SI5	3.516	.8670	380
SI6	3.711	.9075	380

Inter-Item Correlation Matrix

	SI1	SI2	SI3	SI4	SI5	SI6
SI1	1.000	.455	.366	.361	.158	.281
SI2	.455	1.000	.315	.323	.180	.279
SI3	.366	.315	1.000	.211	.130	.199
SI4	.361	.323	.211	1.000	.327	.386
SI5	.158	.180	.130	.327	1.000	.589
SI6	.281	.279	.199	.386	.589	1.000

Inter-Item Covariance Matrix

	SI1	SI2	SI3	SI4	SI5	SI6

SI1	.424	.194	.163	.181	.089	.166
SI2	.194	.430	.141	.163	.102	.166
SI3	.163	.141	.467	.111	.077	.123
SI4	.181	.163	.111	.592	.218	.269
SI5	.089	.102	.077	.218	.752	.464
SI6	.166	.166	.123	.269	.464	.824

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	4.001	3.516	4.397	.882	1.251	.121
Item Variances	.581	.424	.824	.399	1.941	.030
Inter-Item Covariances	.175	.077	.464	.387	6.036	.009
Inter-Item Correlations	.304	.130	.589	.460	4.545	.014

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SI1	19.805	6.732	.470	.309	.681
SI2	19.724	6.781	.449	.266	.686
SI3	19.608	7.046	.339	.168	.714
SI4	20.105	6.269	.489	.250	.672
SI5	20.489	6.092	.444	.361	.689
SI6	20.295	5.544	.556	.414	.649

Financial Knowledge

Case Processing Summary

		N	%
Cases	Valid	380	100.0
	Excluded[a]	0	.0
	Total	380	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.790	6

Item Statistics

	Mean	Std. Deviation	N
FK1	4.01	.721	380
FK2	3.96	.666	380
FK3	3.62	.840	380
FK4	3.59	.835	380
FK5	4.08	.614	380
FK6	3.82	.691	380

Inter-Item Correlation Matrix

	FK1	FK2	FK3	FK4	FK5	FK6
FK1	1.000	.507	.387	.417	.320	.359
FK2	.507	1.000	.465	.441	.286	.407
FK3	.387	.465	1.000	.557	.250	.317
FK4	.417	.441	.557	1.000	.324	.321
FK5	.320	.286	.250	.324	1.000	.417
FK6	.359	.407	.317	.321	.417	1.000

Inter-Item Covariance Matrix

	FK1	FK2	FK3	FK4	FK5	FK6
FK1	.520	.243	.235	.251	.141	.179
FK2	.243	.444	.260	.245	.117	.187
FK3	.235	.260	.705	.390	.129	.184
FK4	.251	.245	.390	.697	.166	.186
FK5	.141	.117	.129	.166	.377	.177
FK6	.179	.187	.184	.186	.177	.478

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	3.846	3.587	4.076	.489	1.136	.042
Item Variances	.537	.377	.705	.328	1.871	.018
Inter-Item Covariances	.206	.117	.390	.273	3.339	.004
Inter-Item Correlations	.385	.250	.557	.306	2.223	.007

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
FK1	19.07	6.785	.559	.336	.752
FK2	19.12	6.853	.604	.388	.744
FK3	19.46	6.301	.568	.380	.751
FK4	19.49	6.229	.594	.392	.744
FK5	19.00	7.565	.433	.229	.780
FK6	19.26	7.098	.496	.285	.767

Self-control

Case Processing Summary

		N	%
Cases	Valid	380	100.0
	Excluded[a]	0	.0
	Total	380	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.855	.855	6

Item Statistics

	Mean	Std. Deviation	N
SC1	4.00	.809	380
SC2	4.16	.879	380
SC3	4.13	.890	380
SC4	4.02	.922	380
SC5	4.18	.937	380
SC6	3.96	.875	380

Inter-Item Correlation Matrix

	SC1	SC2	SC3	SC4	SC5	SC6
SC1	1.000	.535	.469	.481	.362	.447
SC2	.535	1.000	.609	.502	.420	.516
SC3	.469	.609	1.000	.548	.549	.444
SC4	.481	.502	.548	1.000	.577	.504
SC5	.362	.420	.549	.577	1.000	.479
SC6	.447	.516	.444	.504	.479	1.000

Inter-Item Covariance Matrix

	SC1	SC2	SC3	SC4	SC5	SC6
SC1	.654	.380	.338	.359	.274	.317
SC2	.380	.772	.476	.406	.346	.397
SC3	.338	.476	.791	.449	.457	.345
SC4	.359	.406	.449	.849	.498	.407
SC5	.274	.346	.457	.498	.877	.392
SC6	.317	.397	.345	.407	.392	.766

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	4.074	3.961	4.182	.221	1.056	.009
Item Variances	.785	.654	.877	.223	1.341	.006
Inter-Item Covariances	.389	.274	.498	.224	1.816	.004
Inter-Item Correlations	.496	.362	.609	.247	1.682	.004

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SC1	20.44	12.406	.585	.371	.841
SC2	20.28	11.613	.670	.495	.826
SC3	20.32	11.473	.686	.503	.823
SC4	20.43	11.306	.684	.480	.823
SC5	20.26	11.581	.618	.436	.836
SC6	20.48	11.913	.615	.391	.836

Saving Behaviours

Case Processing Summary

		N	%
Cases	Valid	380	100.0
	Excluded[a]	0	.0
	Total	380	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.787	.789	6

Item Statistics

	Mean	Std. Deviation	N
SB1	4.05	.784	380
SB2	4.23	.753	380
SB3	4.26	.706	380
SB4	4.25	.767	380
SB5	4.26	.720	380
SB6	4.10	.796	380

Inter-Item Correlation Matrix

	SB1	SB2	SB3	SB4	SB5	SB6

SB1	1.000	.560	.343	.387	.494	.275
SB2	.560	1.000	.410	.404	.474	.292
SB3	.343	.410	1.000	.409	.372	.339
SB4	.387	.404	.409	1.000	.548	.236
SB5	.494	.474	.372	.548	1.000	.208
SB6	.275	.292	.339	.236	.208	1.000

Inter-Item Covariance Matrix

	SB1	SB2	SB3	SB4	SB5	SB6
SB1	.615	.331	.190	.232	.279	.172
SB2	.331	.567	.218	.233	.257	.175
SB3	.190	.218	.498	.221	.189	.191
SB4	.232	.233	.221	.588	.303	.144
SB5	.279	.257	.189	.303	.519	.119
SB6	.172	.175	.191	.144	.119	.634

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	4.191	4.053	4.258	.205	1.051	.008
Item Variances	.570	.498	.634	.136	1.273	.003
Inter-Item Covariances	.217	.119	.331	.212	2.775	.003
Inter-Item Correlations	.383	.208	.560	.352	2.695	.011

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SB1	21.09	6.907	.584	.395	.742
SB2	20.92	6.932	.612	.409	.736
SB3	20.89	7.415	.525	.286	.757
SB4	20.90	7.074	.556	.365	.749
SB5	20.89	7.114	.597	.421	.740
SB6	21.04	7.695	.362	.155	.797

Appendix 4.32: Multicollinearity test

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SC, FK, SI[b]	.	Enter

a. Dependent Variable: SB

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.622[a]	.386	.382	.41300	1.953

a. Predictors: (Constant), SC, FK, SI
b. Dependent Variable: SB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.395	3	13.465	78.943	<.001[b]
	Residual	64.134	376	.171		
	Total	104.529	379			

a. Dependent Variable: SB
b. Predictors: (Constant), SC, FK, SI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B
		B	Std. Error	Beta			Lower Bound
1	(Constant)	1.145	.210		5.448	<.001	.732
	SI	.103	.053	.097	1.964	.050	.000
	FK	.326	.049	.317	6.608	<.001	.229
	SC	.338	.033	.435	10.383	<.001	.274

Coefficients[a]

Model		95.0% Confidence Interval for B Upper Bound	Collinearity Statistics Tolerance	VIF
1	(Constant)	1.559		
	SI	.207	.669	1.495
	FK	.423	.708	1.412
	SC	.402	.931	1.074

Appendix 4.33: Normality Test

Descriptive Statistics

	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Sum Statistic	Mean Statistic	Mean Std. Error
gender	380	1	1	2	565	1.49	.026
SI	380	4.00	1.00	5.00	1520.33	4.0009	.02528
FK	380	3.83	1.17	5.00	1461.67	3.8465	.02622
SC	380	4.00	1.00	5.00	1548.00	4.0737	.03462
SB	380	3.83	1.17	5.00	1592.50	4.1908	.02694
Valid N (listwise)	380						

Descriptive Statistics

	Std. Deviation Statistic	Variance Statistic	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
gender	.500	.250	.053	.125	-2.008	.250
SI	.49284	.243	-1.309	.125	4.969	.250
FK	.51106	.261	-1.213	.125	4.697	.250
SC	.67485	.455	-2.020	.125	4.816	.250
SB	.52517	.276	-1.757	.125	4.904	.250
Valid N (listwise)						

Appendix 4.34: Heteroscedasticity test (Original Model)

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	24.66254	Prob. F(3,376)	0.0000
Obs*R-squared	62.48015	Prob. Chi-Square(3)	0.0000
Scaled explained SS	248.6694	Prob. Chi-Square(3)	0.0000

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 03/19/24 Time: 20:23
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.051421	0.225153	4.669816	0.0000
SC	-0.299660	0.034883	-8.590330	0.0000
SI	0.117404	0.056351	2.083448	0.0379
FK	-0.034225	0.052822	-0.647934	0.5174

R-squared	0.164421	Mean dependent var	0.168773
Adjusted R-squared	0.157755	S.D. dependent var	0.481865
S.E. of regression	0.442226	Akaike info criterion	1.216481
Sum squared resid	73.53213	Schwarz criterion	1.257956
Log likelihood	-227.1314	Hannan-Quinn criter.	1.232939
F-statistic	24.66254	Durbin-Watson stat	1.983794
Prob(F-statistic)	0.000000		

Appendix 4.35 Heteroscedasticity test (WLS – Social Influence)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:13
Sample: 1 380
Included observations: 380
Weighting series: SI^(-.5)
Weight type: Inverse standard deviation (EViews default scaling)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.074926	0.186048	5.777674	0.0000
SI	0.120408	0.047563	2.531561	0.0118
FK	0.345967	0.048013	7.205676	0.0000
SC	0.319949	0.033244	9.624170	0.0000

Weighted Statistics

R-squared	0.428212	Mean dependent var	4.174183
Adjusted R-squared	0.423650	S.D. dependent var	0.499410
S.E. of regression	0.420245	Akaike info criterion	1.114515
Sum squared resid	66.40396	Schwarz criterion	1.155991
Log likelihood	-207.7579	Hannan-Quinn criter.	1.130973
F-statistic	93.86223	Durbin-Watson stat	1.954016
Prob(F-statistic)	0.000000	Weighted mean dep.	4.152557

Unweighted Statistics

R-squared	0.385231	Mean dependent var	4.190789
Adjusted R-squared	0.380326	S.D. dependent var	0.525168
S.E. of regression	0.413409	Sum squared resid	64.26112
Durbin-Watson stat	1.954309		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	16.28248	Prob. F(3,376)	0.0000
Obs*R-squared	43.69104	Prob. Chi-Square(3)	0.0000
Scaled explained SS	163.2031	Prob. Chi-Square(3)	0.0000

Test Equation:
Dependent Variable: WGT_RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:13
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.668135	0.454533	5.870062	0.0000
SI*WGT	-0.383022	0.091007	-4.208693	0.0000
FK*WGT	-0.018285	0.052240	-0.350020	0.7265
SC*WGT	-0.223138	0.035995	-6.199110	0.0000

R-squared	0.114976	Mean dependent var	0.174747
Adjusted R-squared	0.107915	S.D. dependent var	0.483350
S.E. of regression	0.456525	Akaike info criterion	1.280124
Sum squared resid	78.36403	Schwarz criterion	1.321599
Log likelihood	-239.2235	Hannan-Quinn criter.	1.296581
F-statistic	16.28248	Durbin-Watson stat	1.961782
Prob(F-statistic)	0.000000		

Appendix 4.36 Heteroscedasticity test (WLS –Financial Knowledge)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:14
Sample: 1 380
Included observations: 380
Weighting series: FK*(-.5)
Weight type: Inverse standard deviation (EViews default scaling)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.512270	0.241673	6.257518	0.0000
SI	0.043654	0.054487	0.801178	0.4235
FK	0.295114	0.056369	5.235354	0.0000
SC	0.337528	0.031491	10.71811	0.0000

Weighted Statistics

R-squared	0.311367	Mean dependent var	4.220049
Adjusted R-squared	0.305872	S.D. dependent var	0.863909
S.E. of regression	0.416922	Akaike info criterion	1.098637
Sum squared resid	65.35791	Schwarz criterion	1.140112
Log likelihood	-204.7410	Hannan-Quinn criter.	1.115095
F-statistic	56.66966	Durbin-Watson stat	1.985886
Prob(F-statistic)	0.000000	Weighted mean dep.	4.239752

Unweighted Statistics

R-squared	0.380415	Mean dependent var	4.190789
Adjusted R-squared	0.375471	S.D. dependent var	0.525168
S.E. of regression	0.415025	Sum squared resid	64.76456
Durbin-Watson stat	1.958480		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	42.83787	Prob. F(3,376)	0.0000
Obs*R-squared	96.79653	Prob. Chi-Square(3)	0.0000
Scaled explained SS	454.3761	Prob. Chi-Square(3)	0.0000

Test Equation:
Dependent Variable: WGT_RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:15
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.302442	0.122972	2.459434	0.0144
SI*WGT	0.143506	0.060479	2.372831	0.0182
FK*WGT	0.196402	0.053516	3.669983	0.0003
SC*WGT	-0.361988	0.034210	-10.58122	0.0000

R-squared	0.254728	Mean dependent var	0.171995
Adjusted R-squared	0.248781	S.D. dependent var	0.533305
S.E. of regression	0.462230	Akaike info criterion	1.304964
Sum squared resid	80.33502	Schwarz criterion	1.346440
Log likelihood	-243.9432	Hannan-Quinn criter.	1.321422
F-statistic	42.83787	Durbin-Watson stat	1.969028
Prob(F-statistic)	0.000000		

Appendix 4.37 Heteroscedasticity test (WLS – Self-control)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:15
Sample: 1 380
Included observations: 380
Weighting series: SC^(-.5)
Weight type: Inverse standard deviation (EViews default scaling)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.438931	0.218684	6.579965	0.0000
SI	0.107740	0.055927	1.926445	0.0548
FK	0.342816	0.052652	6.510912	0.0000
SC	0.246010	0.027599	8.913617	0.0000

Weighted Statistics

R-squared	0.325794	Mean dependent var	4.164843
Adjusted R-squared	0.320415	S.D. dependent var	0.630833
S.E. of regression	0.473330	Akaike info criterion	1.352423
Sum squared resid	84.23952	Schwarz criterion	1.393898
Log likelihood	-252.9603	Hannan-Quinn criter.	1.368880
F-statistic	60.56448	Durbin-Watson stat	1.934522
Prob(F-statistic)	0.000000	Weighted mean dep.	4.134363

Unweighted Statistics

R-squared	0.372753	Mean dependent var	4.190789
Adjusted R-squared	0.367749	S.D. dependent var	0.525168
S.E. of regression	0.417584	Sum squared resid	65.56538
Durbin-Watson stat	1.842199		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	30.56007	Prob. F(3,376)	0.0000
Obs*R-squared	74.49209	Prob. Chi-Square(3)	0.0000
Scaled explained SS	489.7501	Prob. Chi-Square(3)	0.0000

Test Equation:
Dependent Variable: WGT_RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:16
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.176810	0.752090	2.894348	0.0040
SI*WGT	0.286306	0.084078	3.405252	0.0007
FK*WGT	-0.089207	0.080902	-1.102659	0.2709
SC*WGT	-0.690703	0.132178	-5.225541	0.0000

R-squared	0.196032	Mean dependent var	0.221683
Adjusted R-squared	0.189617	S.D. dependent var	0.813481
S.E. of regression	0.732306	Akaike info criterion	2.225234
Sum squared resid	201.6382	Schwarz criterion	2.266709
Log likelihood	-418.7944	Hannan-Quinn criter.	2.241691
F-statistic	30.56007	Durbin-Watson stat	2.021239
Prob(F-statistic)	0.000000		

Appendix 4.38 Heteroscedasticity test (OLS – drop social influence)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:17
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SC	0.353382	0.031773	11.12205	0.0000
FK	0.377435	0.041955	8.996069	0.0000
C	1.299425	0.195857	6.634568	0.0000

R-squared	0.380155	Mean dependent var	4.190789
Adjusted R-squared	0.376867	S.D. dependent var	0.525168
S.E. of regression	0.414562	Akaike info criterion	1.084673
Sum squared resid	64.79171	Schwarz criterion	1.115780
Log likelihood	-203.0879	Hannan-Quinn criter.	1.097016
F-statistic	115.6083	Durbin-Watson stat	1.985727
Prob(F-statistic)	0.000000		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	35.51751	Prob. F(2,377)	0.0000
Obs*R-squared	60.24821	Prob. Chi-Square(2)	0.0000
Scaled explained SS	226.3161	Prob. Chi-Square(2)	0.0000

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:17
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.282064	0.204958	6.255262	0.0000
SC	-0.278827	0.033249	-8.385923	0.0000
FK	0.006316	0.043905	0.143862	0.8857

R-squared	0.158548	Mean dependent var	0.170504
Adjusted R-squared	0.154084	S.D. dependent var	0.471684
S.E. of regression	0.433825	Akaike info criterion	1.175512
Sum squared resid	70.95295	Schwarz criterion	1.206619
Log likelihood	-220.3473	Hannan-Quinn criter.	1.187856
F-statistic	35.51751	Durbin-Watson stat	1.929061
Prob(F-statistic)	0.000000		

Appendix 4.38 Heteroscedasticity test (OLS – drop financial knowledge)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:18
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SC	0.331939	0.034357	9.661410	0.0000
SI	0.288069	0.047046	6.123191	0.0000
C	1.686048	0.204373	8.249868	0.0000

R-squared	0.315200	Mean dependent var	4.190789
Adjusted R-squared	0.311567	S.D. dependent var	0.525168
S.E. of regression	0.435742	Akaike info criterion	1.184330
Sum squared resid	71.58139	Schwarz criterion	1.215437
Log likelihood	-222.0228	Hannan-Quinn criter.	1.196674
F-statistic	86.76279	Durbin-Watson stat	1.913632
Prob(F-statistic)	0.000000		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	35.15278	Prob. F(2,377)	0.0000
Obs*R-squared	59.72676	Prob. Chi-Square(2)	0.0000
Scaled explained SS	242.9901	Prob. Chi-Square(2)	0.0000

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:20
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.322812	0.234135	5.649777	0.0000
SC	-0.325986	0.039361	-8.282031	0.0000
SI	0.048370	0.053897	0.897459	0.3700

R-squared	0.157176	Mean dependent var	0.188372
Adjusted R-squared	0.152704	S.D. dependent var	0.542320
S.E. of regression	0.499198	Akaike info criterion	1.456237
Sum squared resid	93.94805	Schwarz criterion	1.487344
Log likelihood	-273.6851	Hannan-Quinn criter.	1.468580
F-statistic	35.15278	Durbin-Watson stat	1.969382
Prob(F-statistic)	0.000000		

Appendix 4.38 Heteroscedasticity test (OLS – drop self-control)

Dependent Variable: SB
Method: Least Squares
Date: 04/12/24 Time: 18:16
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SI	0.232624	0.057924	4.015993	0.0001
FK	0.310969	0.055859	5.567062	0.0000
C	2.063952	0.216095	9.551138	0.0000

R-squared	0.210547	Mean dependent var	4.190789
Adjusted R-squared	0.206358	S.D. dependent var	0.525168
S.E. of regression	0.467854	Akaike info criterion	1.326544
Sum squared resid	82.52069	Schwarz criterion	1.357651
Log likelihood	-249.0434	Hannan-Quinn criter.	1.338888
F-statistic	50.27277	Durbin-Watson stat	1.503194
Prob(F-statistic)	0.000000		

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.576069	Prob. F(2,377)	0.5626
Obs*R-squared	1.157767	Prob. Chi-Square(2)	0.5605
Scaled explained SS	6.103272	Prob. Chi-Square(2)	0.0473

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 04/12/24 Time: 18:17
Sample: 1 380
Included observations: 380

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.018406	0.329078	-0.055933	0.9554
SI	0.093377	0.088210	1.058579	0.2905
FK	-0.035883	0.085064	-0.421835	0.6734

R-squared	0.003047	Mean dependent var	0.217160
Adjusted R-squared	-0.002242	S.D. dependent var	0.711671
S.E. of regression	0.712469	Akaike info criterion	2.167702
Sum squared resid	191.3695	Schwarz criterion	2.198808
Log likelihood	-408.8633	Hannan-Quinn criter.	2.180045
F-statistic	0.576069	Durbin-Watson stat	1.884708
Prob(F-statistic)	0.562598		