

**KNOWLEDGE, ATTITUDES, AND BEHAVIOURS OF HIGH SCHOOL STUDENTS
AND THEIR PARENTS/GUARDIANS AND ATTITUDES AND PERCEPTIONS OF
TEACHERS TOWARDS FINANCIAL WELL-BEING AND FINANCIAL LITERACY**

Lisa Taylor

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

NIPISSING UNIVERSITY
SCHOOL OF GRADUATE STUDIES
NORTH BAY, ONTARIO

© April 2019

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO



SCHOOL OF GRADUATE STUDIES
CERTIFICATE OF EXAMINATION

Certificate of Examination

Supervisor(s):

Dr. Lorraine Frost

Examiner(s)

Dr. Steven Cobb (External)

Dr. Glenda Black (Internal)

Supervisory Committee:

Dr. Dan Jarvis

Dr. Kristen Ferguson

Dr. Natalya Brown

The _____ dissertation _____ by

Lisa Taylor

entitled

Knowledge, Attitudes, and Behaviours of High School Students and Their Parents/Guardians and Attitudes and Perceptions of Teachers Towards Financial Well-Being and Financial Literacy

is accepted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

April 10, 2019

Date

Dr. Kurt Clausen

Chair of the Examination Committee



(original signatures on file)

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Abstract

High school students from two northern Ontario school boards were surveyed with respect to their knowledge, skills, attitudes, and behaviours regarding financial literacy. Of the 3717 students eligible to participate, 535 returned usable surveys. Thirty-eight parents/guardians and 61 teachers also participated in a survey about financial literacy. All three online surveys were available in English and French, were written at a Grade 5/6 reading level and were accessible using speech-to-text technology. This research determined that students and parents/guardians in northern Ontario lack essential financial knowledge, with no gender differences found among high school students; however, in adulthood, men outperformed women. High school students knew more about topics relevant to their lives, such as insurance and less about future topics such as retirement and debt. The data suggested males were more likely to take on debt to fund luxuries. Learning pathway significantly impacted financial knowledge and behaviours, where academic pathway students outperformed the applied pathway. A negative attitude affected financial knowledge and parents/guardians were the most used source of financial information for students. There was strong support for a financial literacy education program to be integrated into classrooms and teachers indicated they would need course materials to effectively integrate financial education.

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION TO THE PROBLEM.....	1
Statement of the Problem	3
Purpose Statement	7
Research Questions	7
Hypotheses	8
Definition of Terms	9
Summary of Chapter One.....	9
CHAPTER TWO: REVIEW OF RELEVANT LITERATURE.....	11
Why Focus on Financial Literacy?.....	13
Financial Well-Being.....	15
Programme for International Student Assessment (PISA).....	17
Socio-demographic Factors and Financial Literacy	19
Gender and Financial Literacy.....	19
Socio-Economic Status and Financial Literacy	22
Education Level and Financial Literacy	24
Sources of Income for Teens.....	25
Consequences of Financial Illiteracy.....	26
Lack of Retirement Savings.....	27
Higher Debt Load.....	29
Financial Stress and Well-Being.....	30
What Influences our Financial Decisions?	31
Cultural Factors.....	32

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Influence of Primary Caregivers	33
Cultural Trends.....	34
Impact of Social Class.....	35
Social Factors	35
Personal Factors	36
Psychological Factors	37
Motivation.....	37
Nudging.....	38
Perception.....	44
Learning	44
Beliefs/Attitudes.....	45
Self-Regulation.....	47
Criticisms of Financial Education	49
Teacher Attitudes and Beliefs Towards Financial Education	51
Behavioural Economics.....	52
History of Behavioural Economics	52
Prospect Theory	54
Simon-March Approach.....	57
Mental Accounting.....	57
Cognitive Development.....	60
Piaget.....	60
Vygotsky	63
Bruner	66

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Summary of Literature Review	69
CHAPTER THREE: METHODOLOGY	72
Rationale for Descriptive/Survey Research.....	73
Validity	74
Research and Data Gathering Procedures	77
Study Sample	77
Procedures.....	78
Obtaining Permission from School Boards.....	78
Instrument Development.....	83
Potential Benefits and Risks to Participants.....	84
Data Analysis	86
Summary of Chapter Three	86
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS	87
Data Sample – Student	88
Data Analysis – Gender Not Specified (GNS) and Other Learning Pathway (OLP)...	89
.....	89
Background of GNS Students.....	89
Financial Literacy Knowledge of GNS Students.....	90
Behaviour and Attitudes of GNS Students Towards the Four Elements of Financial Well-Being.....	90
Control Over Day-to-Day Finances	90
Financial Goals	90
Financial Freedom.....	91
Financial Shock.....	91
Factors/Influences that Motivate GNS Student’s Financial Decisions	92

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Background of OLP Students	92
Financial Literacy Knowledge of OLP Students	93
Behaviour and Attitudes of OLP Students Towards the Four Elements of Financial Well-Being.....	93
Control Over Day-to-Day Finances	93
Financial Goals	93
Financial Freedom.....	94
Financial Shock.....	94
Factors/Influences that Motivate GNS Student’s Financial Decisions	95
Background of Students	95
Self-Reported Knowledge of Overall Financial Literacy and Specific Financial Topics	95
Sources of Money	98
Exposure to Money Management Course	100
Financial Literacy Knowledge - Student.....	102
Control Over Day-to-Day Finances	102
Financial Goals	103
Financial Freedom.....	104
Financial Shock.....	105
Correct Responses – by Element of Financial Well-Being.....	106
Overall Achievement Levels.....	107
Student Behaviour and Attitudes Towards the Elements of Financial Well-Being	109
Control Over Day-to-Day Finances	109
Having a Bank Account	112

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Accessing Cash	113
Hypothetical Spending Behaviour	114
Paying for Day-to-Day Purchases	115
Hypothetical Saving Behaviour	117
Behaviour and Attitudes - Financial Goals	118
Researching Financial Decisions	118
Spending Time Thinking and Planning Personal Finances.....	119
Setting Financial Goals	120
Saving for Post-Secondary Education.....	121
How Students Save Money	122
Why do Students Save?.....	124
Capable of Achieving Financial Goals.....	126
Behaviour and Attitudes - Financial Freedom	127
Impact of Money on Future.....	127
Debt	128
Paying for Retirement Expenses	133
Financial Security During Retirement.....	134
Behaviour and Attitudes - Financial Shock	136
Experience with Financial Shock.....	136
Insurance Coverage	136
Emergency Fund	137
Factors and Influences that Motivate Students' Financial Decisions.....	138
Data Sample – Parents/Guardians	145

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Background of Parents/Guardians	146
Exposure to Money Management Course	146
Data Analysis – Parents/Guardians	146
Financial Literacy Knowledge of Parents/Guardian	146
Financial Behaviour of Parents/Guardians	148
Data Sample – Teachers	154
Data Analysis – Teachers	154
Summary of Data Analysis and Findings	158
CHAPTER FIVE: DISCUSSION	159
Financial Well-Being	160
Interpretation of Findings - Student/Parent/Guardian	162
Background of Northern Ontario Sample	162
Knowledge of the Elements of Financial Well-Being of High School Students and Parents/Guardians	164
Self-Reported Financial Knowledge	168
Behaviours and Attitudes Towards the Elements of Financial Well-Being	172
Control Over Day-to-Day Finances	172
Financial Goals	176
Financial Freedom	181
Financial Shock	187
Impact of a Negative Attitude	188
Factors and Influences that Motivate the Financial Decisions of High School Students	190
Interpretation of Findings - Teacher	195

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN ONTARIO

Implications for Practice.....	197
A General Lack of Financial Literacy Among Students and Parents/Guardians	197
Women and Financial Illiteracy	198
The Need for Financial Education and Conversation	200
Use the Nudging theory to Bring About Awareness and Motivate	204
Make Financial Education a Priority in Schools.....	205
Recommendations and Future Research.....	206
Policy Makers	206
Students/Parents/Guardians.....	207
Teachers	207
Future Research.....	207
Limitations	209
Conclusion	211
References	214
APPENDICES	252
Appendix A -Request to Participate – School Board	252
Appendix B – Participant Information Letters	254
B1 – Student.....	254
B2 - Parent/Guardian	256
B3 - Teacher.....	258
Appendix C - Surveys	260
C1 – Student.....	260
C2 – Parent/Guardian.....	277

FINANCIAL KNOWLEDGE, ATTITUDES, AND BEHAVIOURS IN NORTHERN
ONTARIO

C3 – Teacher	286
Appendix D – Categorization and Reference List for Survey Questions.....	291
D1 – Student.....	291
D2 – Parent/Guardian.....	295
D3 – Teacher	297
Appendix E - Tables to Accompany Chapter Four – Data Analysis and Findings	298

CHAPTER ONE: INTRODUCTION TO THE PROBLEM

Introduction

Many citizens across the globe lack the financial knowledge and skills needed to make the numerous financial decisions they are required to make at various stages of their lives (Grifoni & Messy, 2012; Lusardi & Mitchell, 2014; Organization for Economic Cooperation and Development (OECD), 2012; Task Force on Financial Literacy, 2010). Over time, financial literacy has been defined in several different ways. One common definition of financial literacy is having the knowledge and skills necessary to make successful financial decisions (Garman & Fogue, 2000; Pillai, Carlo, & D'souza, 2012; Task Force on Financial Literacy, 2010). The Ontario Ministry of Education (OME) amended the common definition with the addition of making those decisions with “competence and confidence” (OME, 2010, p. 7). For this dissertation, an expanded definition was used to highlight the idea that although knowledge and skills are necessary components of financial literacy, an individual's attitude and behaviour also impacts their financial literacy as they move towards achieving a personally defined state of financial well-being. Thus, financial literacy will be defined as “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being” (OECD, 2011, p. 3).

It is increasingly important that individuals possess financial literacy because of changes on the financial landscape, economic instability, complex decisions being made at a younger age (Batty, Collins, & Odders-White, 2015; Task Force on Financial Literacy, 2010), and the shift to consumer financial planning, such as post-secondary planning, retirement planning, and health care costs (Zucchi, 2015). As individuals enter the market to seek out advice, assistance, and products, such as retirement planning options, loans, and mortgages, they require an adequate

level of knowledge and skills to understand the complex and ever-growing number of financial products offered, and to be able to apply their knowledge in specific financial situations.

Since every individual participates in the economy, everyone needs financial skills that allow them to navigate the financial marketplace with confidence to make the decisions that best meet their financial goals and ultimately steer them towards financial well-being (Consumer Financial Protection Bureau [CFPB], 2015). Researchers agree that people who know how to effectively manage their finances are more likely to experience financial well-being (Chan, Chau, & Chan, 2012; Joo & Grable, 2004; Totenhagen, Casper, Faber, Bosch, Bracamonte-Wiggs, & Borden, 2015). There is, however, no single definition of financial well-being accepted as a universal definition. Some definitions of financial well-being focus on an individual's feelings about their finances and if they are satisfied that their financial situation meets the current and future standards, they set for themselves (Chan, Chau, & Chan, 2012; Norvilitis, Szablicki, & Wilson, 2003). For the purpose of this research, the definition used takes into account personal goals and lifestyle preferences. Since everyone has differing views of an "ideal lifestyle", similar financial situations can be met with differing views depending on the individual and their personal goals (Rutherford & Fox, 2010). The CFPB (2015) defines financial well-being as "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and are able to make choices that allow enjoyment of life" (p. 18). After consulting with various stakeholders, the CFPB (2015) recognized that savings and income were considered important aspects of financial well-being; however, they were not the only factors to consider. In light of this finding, the CFPB identified four elements considered to be significant in attaining a sense of financial well-being: "having control over day-to-day, month-to-month finances; having the capacity to absorb a financial

shock; being on track to meet your financial goals; and, having the financial freedom to make the choices that allow you to enjoy life” (2015, p. 19).

Statement of the Problem

As students leave high school they are faced with an increasing number of financial decisions (OME, 2010; OECD, 2014); they are not equipped with the knowledge and skills to navigate the financial marketplace, and they lack the financial behaviours that contribute to financial well-being (British Columbia Securities Commission [BCSC], 2011; Investor Education Fund [IEF], 2009; Lusardi & Mitchell, 2014; Varcoe et al., 2005). After reviewing the current state of research in financial literacy, it is evident there is a lack of information relating to the financial knowledge, attitudes, and behaviours of Ontario high school students and their parents/guardians and teachers. Further investigation reveals more research is required to gain a better understanding of financial decisions and behaviours of youth (J. Ryan, personal communication, September 15, 2014; Schuchardt et al., 2009). Finally, the OME developed documents related to the implementation of financial education in Ontario classrooms in 2010; however, there has been no evidence collected on how these documents are being integrated into classrooms, and what teachers need for full implementation.

The Investor Education Fund (IEF) conducted a youth study in 2012 focused on the behaviours, attitudes, and knowledge of Ontario high school students in Grades 9-12. This study included 400 English-speaking secondary school students. The students were evenly spread across Grades 9-12 and there was also an even split in regard to gender (IEF, 2012). It discovered students received financial education from their parents and from real-life experiences through working and interacting with financial products (e.g., bank accounts, debit cards), but most high school students felt it was important the education system provide them

with financial literacy skills (IEF, 2012). The research revealed students are more likely to be engaged in learning financial material if it is focused on real-life experiences and will be needed in the near future (IEF, 2012). The IEF thus recommended schools provide a formal education program, beginning at a young age (no specific age identified), for students to gain the knowledge and skills needed to be effective, efficient money managers (IEF, 2012). Australia's National Consumer and Financial Literacy Framework (NCFLF) stated, "consumer and financial literacy is important for all young people to empower them to make informed consumer decisions and to effectively manage their personal financial resources" (Consumer and Financial Literacy Working Party, 2005, p. 2). Several studies have determined that students, who have not had financial concepts taught to them starting at a young age, and repeated over the course of their schooling, may be prone to irresponsible financial behaviour once they reach college or take on part-time employment (Bachman, 1983; Kasser & Ahuvia, 2002; Roberts & Jones, 2001). The National Association of State Boards of Education Commission (NASBE) stated "the earlier a student begins learning these concepts, the more opportunities schools will have to impact behavior. Therefore, states should consider infusing financial and investor education throughout the K-12 curriculum" (2006, p. 20).

Individuals with high levels of financial literacy demonstrate more positive financial behaviour (Mandell & Klein, 2009; Van Rooij, Lusardi, & Alessie, 2011); however, some research has found that simply providing students with financial education courses is not an effective way to increase financial literacy levels (CFPB, 2015; Danes, 2004). Mandell and Klein (2009) suggest financial education may be more effective if courses are targeted at a specific population, making it more relevant to their stage of life, and if they are motivated by an understanding of the importance of financial management on their futures. A research study

conducted by Batty, Collins, and Odders-White (2015) of approximately 2200 4th and 5th graders discovered specific, targeted lessons taught to elementary school children, resulted in an increase in financial knowledge that was sustained up to a year later. Further research has indicated that when individuals are exposed to specific, targeted financial instruction (e.g., retirement planning, budget workshops) there is an increase in knowledge immediately following the session (Bernheim, Garrett, & Maki, 2001; Brown Ivkovic, Smith, & Weisbenner, 2008; Varcoe et al., 2005; Walstad, Rebeck, & MacDonald, 2010). Hathway and Khatiwada (2008) analysed several research studies and concluded that highly targeted programs (e.g., mortgages, credit cards, loans) were more successful than general knowledge programs at “changing people’s behaviors, both in the short run and the long run” (p. 2). Further, it was suggested these targeted programs happen in close proximity to the actual financial experience (Hathway & Khatiwada, 2008). For example, individuals applying for their first mortgage should engage in a program focused specifically on home-ownership.

In 2010, the OME released a report outlining recommendations on how to “embed financial literacy education into the Ontario curriculum” (p.4). This report was developed by a group of individuals (Working Group) who were given the task of defining financial literacy, of exploring the necessary financial knowledge and skills that Ontario students need to develop essential financial literacy skills (OME, 2010). The report, *A Sound Investment: Financial Literacy Education in Ontario Schools*, outlined key findings based on consultations with various financial stakeholders, and the authors provided recommendations on how to best integrate financial literacy into Grades 4-12. Given the complexities of navigating the financial market there was a shared belief among stakeholders that being financially literate is “an essential lifelong skill” (OME, 2010, p. 11). It was the belief of the Working Group that by

integrating financial education into curriculum documents would “provide access for *all* students” to core financial knowledge and skills, and by providing these skills through the curriculum, the potential of reducing social inequities is maximized (OME, 2010, p. 12). By integrating financial concepts into the curriculum, teachers can address the various needs of the students in their classrooms, including learning needs and socio-economic and cultural diversity among students (OME, 2010). In focus groups held by the Working Group, teachers indicated that to successfully integrate financial education into the curriculum they would require professional development opportunities, resources, and support in the area of financial literacy. In addition to professional development, teachers welcomed the use of external financial stakeholders, such as banking representatives and financial advisors, to bring real-life, authentic learning experiences to the students (OME, 2010).

The goal of financial education in Ontario is “to help students acquire the knowledge and skills that will enable them to understand and respond to complex issues regarding their own personal finances and the finances of their families, as well as to develop an understanding of local and global effects of world economic forces and the social, environmental, and ethical implications of their own choices as consumers” (OME, 2016, p. 2). In response to the global need for financial literacy and to support teachers in integrating financial education into Ontario classrooms, the OME (2016) released a document entitled *Financial Literacy: Scope and Sequence of Expectations*, which was “designed to assist teachers in achieving this goal by highlighting opportunities that already exist to help students acquire skills and knowledge related to financial literacy in each subject area” in Grades 4 to 12” (p. 3).

Purpose Statement

The primary purpose of this research was to examine data from northern Ontario high school students and their parents/guardians about their knowledge, attitudes, and behaviours related to financial literacy and the four elements of financial well-being: control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015). In addition, data was collected and analysed to identify the factors that motivated and influenced the financial decisions of youth in northern Ontario. The online survey was developed to explore the perspectives of high school teachers to gain a better understanding of their attitudes and perceptions towards financial education and what supports would be needed to enhance financial literacy opportunities, so students are better equipped to make informed financial decisions throughout their lives. This research also gathered data to track how financial literacy curriculum documents, developed by the OME, were being integrated into Ontario classrooms and what support teachers would require for full implementation of these resources. Based on the research findings, recommendations have been made regarding how to modify curriculum to meet the needs of students and to develop educational resources and training programs to support the needs of students, teachers, and parents/guardians in the area of financial literacy.

Research Questions

1. What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, which include control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?
2. What factors and influences motivate the financial decisions of high school students?

3. What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?
4. What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: *A Sound Investment*: *Financial Literacy Education in Ontario Schools* (2010) and *Financial Literacy: Scope and Sequence of Expectations* (2016)?
 - a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?
 - b) According to teachers, what resources (e.g. professional development) are needed?

Hypotheses

1. It is predicted that northern Ontario high school students will be most knowledgeable on the control over day-to-day finances element of financial well-being because they likely have had some exposure to the handling of money and making some simple financial decisions.
2. Knowledge, behaviour, and attitudes with regards to setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life, will indicate a lower level of understanding, compared to their understanding of control over day-to-day finances, because they relate to experiences and opportunities which high school students have not yet encountered at this point in their lives.
3. It is hypothesized that high school students will be highly influenced by their parents/guardians when making financial decisions because they are their primary caregivers and the students have grown up in a culture that has shaped their financial behaviours.
4. It is predicted that most parents/guardians and students will demonstrate low levels of financial literacy.

5. It is hypothesized that teachers will indicate that financial literacy skills should be taught as a standalone course versus integrating financial concepts into existing curriculum because there are already too many curriculum expectations stipulated for courses which would make it difficult to integrate another set of expectations into their course outlines.
6. It is also predicted that teachers will indicate limited experience with the financial literacy curriculum documents developed by the OME.

Definition of Terms

Financial literacy: Combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being (OECD, 2011, p. 3).

Financial well-being: A state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow enjoyment of life (p. 18).

Elements of financial well-being:

- Having control over day-to-day, month-to-month finances;
 - Having the capacity to absorb a financial shock;
 - Being on track to meet your financial goals; and
 - Having the financial freedom to make the choices that allow you to enjoy life
- (CFPB, 2015, p. 19).

Summary of Chapter One

Many citizens lack the financial knowledge to effectively navigate the financial world (Lusardi & Mitchell, 2014). As students leave high school they will need financial skills necessary to achieve financial well-being (BCSC, 2011). Through this research the strengths and

needs of students, parents/guardians, and teachers were identified. Chapter Two reviewed the literature relevant to financial literacy.

CHAPTER TWO: REVIEW OF THE RELEVANT LITERATURE

Everyday Canadians, including youth, make financial decisions that impact their financial well-being, from buying homes and vehicles, to managing their day-to-day finances. By the time students are in high school, they are already consumers of various financial products and services, including bank accounts, online banking services, online shopping, and cell phone service plans (Page, 2014; Pillai, Carlo, & D'souza, 2012). Many citizens across the globe lack the financial knowledge and skills needed to make the numerous financial decisions they are required to make at various stages of their lives (Grifoni & Messy, 2012; Lusardi & Mitchell, 2014; OECD, 2012; Task Force on Financial Literacy, 2010). As the financial markets continue to grow in their offerings of complex products and services, it is more important than ever for citizens to possess an in-depth understanding of their personal finances. Arrowsmith and Pignal (2010) state “we are living in what is indisputably the most materialistic and consumption-driven culture in the history of mankind. And right in the middle of that, there is a lack of confidence about how money works” (p. 9). Many countries are beginning to acknowledge a gap exists between the required financial knowledge and skills and the actual capabilities of their citizens (Atkinson & Messy, 2011). This gap has become more concerning for several reasons, including an aging population; increased life expectancy; the shift in responsibility for financial planning; the reality that full-time; long-term employment is not always available; high consumer debt levels; and the introduction of numerous, complex financial products being offered (OECD, 2006). The potential magnitude of the consequences of a lack of financial literacy has been further demonstrated by the financial crisis of 2008. A cause of the financial crisis 2008, banks were open to lending people more than the value of their homes and as home values dropped (Amadeo, 2018a) and interest rates rose (Amadeo, 2018), more and more people were unable to

service their debt (Amadeo, 2018a). According to Hurd and Rohwedder (2010) close to 40 percent of American families were impacted in some way by the financial crisis and many lost it all, including their homes and retirement savings. Such a lack of financial literacy has been widely acknowledged as an “aggravating factor of the crisis” (OECD, 2012, p. 2). In response to this growing concern, Canada launched its first Task Force on Financial Literacy in 2009. The goal of the task force was to develop a plan to improve the financial literacy levels of its citizens by introducing programs and resources for youth, adults, and senior citizens (Government of Canada, 2009). The late Minister of Finance, Jim Flaherty, stated:

recent events have shown us that there are major risks and that financial literacy is an important life skill. Whether it is a question of saving for retirement, financing a new home or balancing the family chequebook, improving the financial literacy of Canadians will add to the stability of our financial system and make our economy stronger.

(Government of Canada, 2009, para. 2)

With the goal of enhancing financial knowledge and skills, and increasing the abilities of Canadian citizens, The Task Force made 30 recommendations related to financial literacy focused on shared responsibility, leadership and collaboration, lifelong learning, delivery and promotion, and accountability (Task Force on Financial Literacy, 2010). This research project will collect and analyse data to address two specific recommendations: - the integration of financial literacy into all levels of education and the recommendation that provincial governments “provide professional learning opportunities and resources” for teachers” (Task Force on Financial Literacy, 2010, p. 19).

Why Focus on Financial Literacy?

Over the past decade, the lack of financial knowledge across the globe has come to the forefront for many countries (OECD, 2013). Most adults and students do not do well on financial literacy tests (FCAC, 2015; OECD, 2012; Totenhagen et al., 2015).

Concerns related to the lack of financial knowledge and skills surfaced for several reasons:

- An increasing number of workers will rely on defined contribution pensions and their personal savings to finance their retirement as governments begin scaling back the benefits of state-supported social security programmes and as the number of employers offering defined benefits plans decreases;
- Consumer debt...increasing to all-time high levels and the deregulation of financial markets [leading] to increased competition for new credit card holders. As a result, many young people have been burdened with high debts at a time when they are trying to start a family and buy a home; and
- With the growth in the number of financial transactions taking place electronically, it is increasingly important that individuals have at least a bank account. Yet in a number of countries, a significant percentage of consumers do not participate in the financial system. (OECD, 2005, p. 11)

At one-time, employers and government played a significant role in retirement planning and managed our health care benefits; however, responsibility is slowly becoming the responsibility of individuals who do not have the knowledge and skills to manage such important risks (OECD, 2013).

A lack of financial knowledge and people beginning their careers with high debt loads makes it difficult for people to get started in the financial world. According to Statistics Canada “more students are relying on student loans to help finance their postsecondary education” (for example, 49% in 1995 and 57% in 2005), which makes it difficult for young adults to participate in the global economy (Burley & Awad, 2015; Luong, 2010, p. 6). Students who accumulated post-secondary debt own fewer assets, are less likely to own their homes, and ultimately have a “lower net worth” than those individuals who did not borrow for their education (Luong, 2010, p. 9). With the economy being unstable and long-term employment not being guaranteed, lacking the necessary financial skills can have a negative, long-lasting effect on a person’s financial well-being. Financial planning has become more complex since now it includes planning for retirement with increased life expectancy, the potential of funding not only post-secondary education for one’s children, but potentially for oneself as well. There are so many products and services being offered in today’s market, it is important individuals acquire an adequate knowledge base to make the best choices, with the fewest long-term consequences (OECD, 2013). Atkinson and Messy (2012) conducted a financial literacy assessment across 14 countries, with approximately 14 000 individuals aged 18 and older, and from diverse backgrounds. After conducting the research, the authors stated their findings highlighted reasons for concern, noting: “It appears that most people have some very basic financial knowledge, but understanding of other, everyday financial concepts such as compound interest and diversification is lacking amongst sizeable proportions of the population in every country” (p. 56). Many countries have developed policies and national strategies to enhance the financial skills of their citizens. Many of these policies and strategies are focusing on youth, in an effort to provide them with the essential skills necessary to enhance their well-being (Grifoni & Messy,

2012; Task Force on Financial Literacy, 2010). Youth need adequate financial literacy for a variety of reasons. First, financial products and services are becoming more and more complex and young adults will be faced with more difficult, often confusing, choices as they enter adulthood (OECD, 2014). Second, youth are faced with an increasingly unstable economy and limited career opportunities making it more difficult to manage their financial resources (OECD, 2014). High school students are already avid financial consumers who own debit cards, manage cell phone plans, and use online financial services, and thus require skills to manage their own decisions (OECD, 2014).

Financial Well-Being

Joo and Grable (2004) acknowledge if people know how to effectively manage their finances, they are more likely to experience financial well-being. Over the years, various definitions of financial well-being have emerged. Some definitions focus more on the materialist aspects of one's financial status by defining financial well-being simply by the amount of income and the number of assets (Ferguson, Horwood, & Beautrais, 1981). Sabri (2011) states financial well-being is a subjective state because two people facing the same financial situation may experience very different levels of satisfaction. Other definitions recognize, however, that individuals view their financial well-being through different lenses, and included individual happiness as a component of the definition. Hayhoe et al., (2000) define financial well-being as the feelings a person has towards their financial status, compared to Joo and Grable (2004) who focused their definition on individual financial strength, based on low levels of debts, adequate savings, and an efficient budget. Joo (2008) defines financial well-being as being subjective - "a state of being financially healthy, happy, and free from worry" (p. 22). Definitions now include ones' ability to meet the needs of one's lifestyle, including "feeling safe, feeling comfortable and

satisfied with their income” (Taft, Hosein, Mehrizi, & Roshan, 2013, p. 65), with other definitions focused on an individual’s ability to protect themselves and their family against “unemployment, illness, bankruptcy, poverty and destitution in retirement” (Ihuoma & Terrumun, 2015, p. 74).

More recently, the CFPB has developed a definition of financial well-being, which encompasses many aspects of a person’s financial life. In a research study, the CFPB (2015) found financial well-being can range from “severe financial stress to being highly satisfied with one’s financial situation” and revealed financial well-being is not solely based on an individual’s income level (p. 18). Since everyone’s view of financial well-being varies, the level of satisfaction one may feel towards similar financial situations differs depending on the individual (Rutherford & Fox, 2010). After conducting a qualitative research study using 59 working age and older consumers and 30 financial practitioners, the CFPB (2015) defined financial well-being as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and is able to make choices that allow enjoyment of life” (p. 18). Along with a definition of well-being they identified four elements of financial well-being:

- Having control over day-to-day, month-to-month finances;
- Having the capacity to absorb a financial shock;
- Being on track to meet your financial goals; and
- Having the financial freedom to make the choices that allow you to enjoy life.

(CFPB, 2015, p. 19)

As shown in the chart below (Figure 1), these four pillars refer to both a person’s current circumstance and to their future planning (CFPB, 2015, p. 19).

	Present	Future
Security	Control over your day-to-day finances, month to month finances	Capacity to absorb a financial shock
Freedom of Choice	Financial freedom to make choices to enjoy life	On track to meet your financial goals

Figure 1. Four Elements of Financial Well-Being (CFPB, 2015, p. 19)

This definition of financial well-being focuses on an individual's personal values with regards to how they choose to live and spend their money. These values differ from person to person, as does one's overall view of their financial well-being. Some individuals may be very content to live a non-materialistic life while others value the accumulation of assets and view these as important to their financial well-being. Simply assessing a person's financial well-being based on their level of income or overall worth does not allow for the variety of lifestyles individuals choose (CFPB, 2015). Financial well-being is dependent on a person's starting point. For example, for some, financial well-being may be about saving for travel or other luxuries, whereas for others, financial well-being could be more about earning the necessary funds to survive.

Programme for International Student Assessment (PISA)

PISA assesses student achievement in mathematics, science, reading and problem-solving (OECD, 2014). The assessment, which measures the performance of 15-year old's knowledge and skills learned not only through school curriculum, in addition to skills that are necessary as students approach adulthood (Australian Council for Educational Research, 2015). The goal of the assessment is to answer the following research questions "How well-prepared are 15-year-old students to participate in the new financial systems that are becoming more global and complex?" and "Which countries are the leaders in terms of financial literacy among 15-year-old

students and what factors correlate with their leadership?” (OECD, 2014, p. 31). The results of the PISA assessment “provides a rich set of cross-country comparative data that policy makers and other stakeholders can use to make evidence-based decisions” (OECD, 2014, p. 31). The assessment targets the areas of math, reading, science, and, most recently, financial literacy. Students who participate in the PISA assessment range in age from 15-years 3-months to 16 years 2 months and must have participated in some form of formal schooling for at least six years (OECD, 2014).

Recognizing financial literacy as a global concern, PISA added a financial literacy component to its assessment in 2012. Participating countries felt it was important to gather data related to the financial literacy level of students to track change over time, enhance program development and policies, and to identify the needs of specific groups (OECD, 2014). The OECD (2014) defines financial literacy for 15-year-olds as

knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life. (p. 33)

The assessment tool evaluates financial literacy from three different lenses: content, processes, and context (OECD 2014, p. 34). The content portion focuses on the knowledge and skills necessary to perform specific financial tasks, while the processes section looks at the cognitive processes needed to work through a financial situation. The last area, – context, focuses on real-life situations that students may experience at different points in their lives (OECD, 2014). There are five levels of achievement on the PISA assessment: 1 being the lowest level, 2 being the baseline, and 5 being the highest achievable level. The results indicate that

15% of students who participated in the assessment fall below the baseline of Level 2 (OECD, 2014, p. 13). Students who fall below the baseline are able “at best to recognize the difference between needs and wants, make simple decisions about everyday spending, recognize everyday financial documents . . . and apply single and basic numerical operations in contexts that they are likely to have experienced personally” (OECD, 2014, p. 54). One in ten students were able to tackle the most difficult questions, where students needed to use higher-level thinking skills to be able to solve the problems given their complexity (OECD, 2014, p. 54).

According to OECD (2014), the financial literacy portion of the assessment allows researchers to identify students’ knowledge and skills and identifies the relationship between specific demographic variables and financial skills. Fifteen countries and 48 000 students participated in the 2015 PISA assessment of financial literacy. Overall, Canada scored above average of the participating countries in the 2015 assessment and was ranked third overall (OECD, 2017). Twenty-two percent of students in Canada achieved a Level 5 score, which is the highest category possible (OECD, 2017, p. 2), compared to an average of 12% from other participating countries (OECD, 2017). In contrast, 13% of students in Canada were unable to achieve even a baseline or Level 2 score (OECD, 2017, p. 1). Boys and girls performed at the same level, with slightly more boys than girls achieving at the lowest level (OECD, 2017).

Socio-Demographic Factors and Financial Literacy

Gender and Financial Literacy

Youth population. Research into the impact of gender on financial literacy appears to vary depending on the stage of development of participants. As individuals enter adulthood, a gender gap appears to exist in some areas of financial literacy; however, no gap exists among high school students. According to Bucher-Koenen et al., (2014), a lack of financial literacy is a

global issue and is “particularly severe among women” (p. 3). This finding has been supported by other research studies which discovered a gap between the financial knowledge levels of adult-aged men and women (Butters, Asarta, & McCoy, 2012; Goldsmith & Goldsmith, 1997; OECD, 2016; Volpe et al., 1996). Several other studies, where general financial knowledge has been studied, found men outscore women in all areas (Atkinson & Messy, 2011; Chen & Volpe, 1998; Harrison & Chudry, 2011). For example, in Canada, researchers conducting the 2014 Canadian Financial Capability Survey (CFCS), which includes data from 12 620 Canadians over the age of 18, determined men consistently scored higher on the questionnaire than women (FCAC, 2015). According to the OECD (2014), the gender gap discovered among adults could be largely based on the opportunities, experiences, and demographics (labour market) individuals experience after they leave high school. Bucher-Koenan et al., (2014), stated women may be less financially literate due “traditional societal roles” (p. 10). In the past it was common for women to remain at home, which may have limited their ability to participate in financial literacy decision-making and restricted their opportunities to engage in financial conversations with others (Bucher-Koenan et al., 2014).

Chen and Volpe (2002) surveyed 924 United States college business majors (44% male, 56% female) between the ages of 18-29 and found overall, women tended to demonstrate a lower level of financial knowledge than their male counterparts. Even though women are found to carry less financial literacy than their male counterparts, some studies revealed they demonstrate better financial behaviours. For example, more Canadian women (49%) than men (42%) make a budget (FCAC, 2015, p. 8). Lalonde and Schmidt (2011) conducted a study to measure the financial literacy level of 278 college students on one college campus in the United States and

determined women outperformed men in financial literacy, which is contrast to many other college level studies.

Mandell (2008) administered the Jump\$start Financial Survey to 6856 Grade 12 students and 1030 American college students and determined no significant difference between males and females in Grade 12 which differs from a study conducted with 1540 Grade 10 students in a mid-size city in Germany where boys outperformed girls by seven percentage points (Erner, Goedde-Menke, & Oberste, 2016). PISA recently released the results from the 2015 financial literacy assessment of 15-year-olds and determined there was no gender gap existing between boys and girls across most countries, except for Italy where boys outperformed girls and five other countries where girls outperformed boys (OECD, 2017, p. 94), which is consistent with the assessment administered in 2012. Across Canadian provinces, no gender gap was discovered among students (OECD, 2017). When comparing students who were the top achieving students and the students who were the low performing students, boys had a slight edge within both groups (OECD, 2017). Twenty-four percent of boys and 21% of girls were amongst the lowest achievers and 12% of boys and 11% of girls made up the top performers (OCED, 2017, p. 95). Specifically, in Canada, there were no significant differences between male and female students (OECD, 2017a); however, there were slightly more boys than girls among the low performers (p. 3).

Adult population. Although no gender gap has been found among high school students, the adult population is different (FCAC, 2015; Hasler & Lusardi, 2017). Hung, Yoong, and Brown (2012), suggested several reasons why a gender gap in some areas may exist, including:

- lack of skill and confidence with basic numeration skills (even though several studies have shown that there is no significant difference between males and females in mathematics);
- men typically have the financial decision-making responsibility in the home;
- more women than men are stay-at-home parents; and
- in some cultures, women have less access to formalized education

Bottazi and Lusardi (2016) also suggest family influence, especially for the female in the house, different opportunities to learn about money, and the cultural environment in which they were raised as explanations for the gender gap. Although research shows both men and women lack many of the skills necessary to navigate the financial marketplace, women lacking necessary financial skills can have particularly detrimental effects. Their lack of skill can deter them from being an active participant in the economy, from having power when dealing with household finances, and being able to teach their children the financial skills they need to be successful (Hung, Yoong, & Brown, 2012, p. 5).

Socio-Economic Status and Financial Literacy

Research conducted across various countries revealed a relationship between level of income and financial literacy. In a study of 5000 adults in the United Kingdom, participants who were low income earners, demonstrated lower financial literacy than those in high income brackets (Atkinson, McKay, Collard, & Kempson, 2010). Similar results were found in the international pilot study on financial education, conducted by the OECD - higher income respondents are more likely to gain high scores than their lower income peers (Atkinson & Messy, 2012, p. 48). A survey conducted by Worthington (2006) of Australian adults, determined respondents who indicated they had low socio-economic status, were outperformed

by their higher socio-economic counterparts. In Canada, households earned less than \$67 000 scored an average of 62% on the financial knowledge questionnaire versus households with an income of over \$95 000, which scored 71% (Arrowsmith & Pignal, 2010).

According to Mandell (2008), high school senior and college “students whose parents’ income totaled less than \$20,000 per year...scored 43.4%, in contrast to an average of 52.3% for students whose parents’ income was more than \$80,000” (p. 12). In international studies, Mandell (2008) and Atkinson and Messy (2012), both discovered that high school students who achieved high scores on financial literacy assessments came from high income, well-educated homes. Individuals who earn a low income typically use their low earnings to justify “certain behaviours such as borrowing to make ends meet and is used as a reason not to undertake actions such as saving or making long term plans” (Atkinson & Messy, 2012, p. 48). Buckland (2010), argues that members of different socio-economic status groups carry different financial needs, and is one way to explain the gap between the different groups. For example, low-income earners, may not hold pension-planning knowledge because they do not need that piece of knowledge, given they do not have the money to save for retirement; however, their knowledge about budgeting and living within their means may be higher because they use those skills daily (Buckland, 2010).

Through the administration of the PISA assessment on financial literacy, a 7% variation in student achievement could be attributed to socio-economic status for Canadian students (OECD, 2017a), compared to 14% across all OECD countries (OECD, 2017, p. 82). Canadian high school students who are considered to hold a socio-economic advantage (top 25% of socio-economic status) outscore students in the lowest 25% of socio-economic status by 77 points (OECD, 2017a, p. 3) and “disadvantaged students are 86% more likely than advantaged students

to perform below Level 2 [in] financial literacy” (p. 3). In Canada, 78% of participants (for whom there was no difference between socio-economically advantaged vs disadvantaged) had a bank account and those students who had a bank account consistently scored higher on the financial literacy component (OECD, 2017a, p. 4). Although a relationship has been identified between financial literacy and socio-economic status, some students from low socio-economic homes did achieve higher scores on the PISA assessment, so socio-economic status alone cannot predict achievement levels (OECD, 2014). Atkinson and Messy (2012) note that although there is a relationship between level of financial literacy and income, being financially literate is not dependent on income and any individual, regardless of income, can become knowledgeable about finance and develop positive attitudes and behaviours.

Education Level and Financial Literacy

There is a positive relationship between an individual’s level of education and their knowledge and understanding of financial concepts. Individuals who attained post-secondary education are more likely to successfully manage their finances and achieve financial well-being (FCAC, 2015). According to the CFCS, individuals whose highest educational level was high school or less scored an average of 60% on a capability quiz versus their university-educated counterparts who scored an average of 73% (Keown, 2011, p. 31). This finding was consistent across every country that participated in the international pilot study (Atkinson & Messy, 2012). In the 2014 CFCS, it was determined that those with lower levels of education reported they had difficulty staying on top of bills and payments (FCAC, 2015). It was noted by the OECD, however, that some high scores achieved by participants with low levels of education demonstrate it is possible for individuals with no formal education to be financially literate (Atkinson & Messy, 2012). Data collected on the financial well-being of women in Canada from

every province shows a relationship with education: the higher the education level, the higher the income and individuals who earn more money enjoy more savings and assets and more income through retirement (Williams, 2010). In Canada and other industrialized countries, individuals are more likely to depend on government funded benefits during retirement years if they did not earn a high school diploma (Cole & Shastry, 2009; Williams, 2010). Students who had at least one parent with post-secondary education, performed better on the financial literacy assessment compared to students who came from households with no post-secondary education by an average of 40 points (OECD, 2017).

Sources of Income for Teens

One important aspect of researching high school students is where they get their money to participate in the consumer market. Teens contributed an estimated \$75 billion annually to the US global economy in 2015 (Piper Jaffray, 2015) and research done by Teen Research Unlimited states the “purchasing power of teens (12 to 19) has reached \$819 billion” (Sommer, 2012). When 15-year-olds were asked to identify their sources of income, it was revealed for both boys and girls that the most popular source of income was gifts from friends and relatives (OECD, 2017) and allowances (IEF, 2012). As students progressed through their high school years, part-time jobs became more profitable (IEF, 2012). Although there were large variations across countries, the research found more boys receive money for work they perform inside (i.e., chores) and outside the home than girls; however, more 15-year-old girls receive money without having to work (Meeks, 1998; OECD, 2014). PISA and IEF both discovered that more boys than girls work at part-time jobs during the teenage years, which may suggest boys try to become financially independent sooner than girls (IEF, 2012; OECD, 2014). The research also revealed that fewer than 30% of students sell items (e.g., Kijiji, eBay, fairs) to secure funds, and selling

items through online stores or fairs/markets was done by more boys than girls, which contrasts with Meeks' (1998) findings where girls were more likely to secure their income from the marketplace (OECD, 2017, p. 106). Specifically, in Canada, 90% of participants indicated they received money as a gift from family or friends; 55% reported they receive money from doing occasional jobs, like babysitting or gardening and 47% of students reported they get their money from working at a part time job after school (OECD, 2017a, p.4).

According to the PISA assessment, how students get their money appears to impact a student's financial literacy achievement. Students who are given money as gifts "score higher in financial literacy than similar students who do not" (OECD, 2017, p. 117). Students who work for their money, either from doing chores, working part-time, or selling things, "score lower in financial literacy than students with similar characteristics who do not receive money from these sources" (OECD, 2017, p. 117).

Consequences of Financial Illiteracy

Lacking the financial knowledge and skills required to manage day-to-day and long-term spending and saving, can lead to potential long-term, perhaps even lifelong, consequences for well-being and, by extension, for the overall global economy.

Lusardi & Mitchell (2014) determined that a lack of financial literacy impacts the economic behaviour of individuals. People who lack financial literacy:

- are more likely to make financial errors
- become more susceptible to scams
- have weak day-to-day financial management skills
- make bad investments;
- are less likely to participate in the financial markets and invest in stocks

- fail to plan for retirement;
- have more costly mortgages (fail to take advantage of low interest rates);
- tend to borrow more and accumulate less wealth;
- pay more for fees related to financial products;
- use high-cost borrowing (payday loans, pawn shops, rent-to-own shops);
- have excessive debt loads, and
- engage in costly credit card behaviour such as incurring avoidable charges and fees from making late credit card payments or only making the minimum payment, making cash advances and spending over their credit limit. (Lusardi & Mitchell, 2014, p. 15-16)

“Financially illiterate households make poor choices that affect not only the decision-makers themselves, but also their families and the public at large” (Gale & Levine, 2010, p. 2).

Individuals who lack financial literacy skills can potentially make decisions that can seriously impact their financial well-being. In addition to the day-to-day mistakes that are made due to a lack of financial knowledge and skills, there are also several long-term consequences if citizens continue to be financially illiterate, including lack of retirement savings, higher debt load, and financial stress (Lusardi & Mitchell, 2014)

Lack of Retirement Savings

A lack of planning early on in life can lead to insufficient funds to allow a person the ability to be financially stable through the retirement years, if they are able to retire at all. In 1982, Canadians, on average, saved 19.9% of their earnings: now it has fallen to 3.9% (Grant & McMahon, 2015, para. 10). This trend may leave many people unable to retire or to carry forward the necessary funds for their retirement years. A study conducted by the TIAA-CREF Institute of men and women between the ages of 24 and 60, discovered that individuals who “are

more financially literate are also more likely to have accumulated greater wealth, contribute more frequently to their pension fund, and calculate the money needed for retirement” (Behrman, Mitchell, Soo, & Bravo, 2011, p. 6).

Senior citizens have been identified as a vulnerable sector when it comes to financial literacy. In 2014, the Financial Consumer Agency of Canada (FCAC) stated that “gaps in financial literacy skills have made some older Canadians vulnerable to problems, from having difficulty managing their finances or outliving their retirement savings, to falling victim to fraud or other types of financial abuse” (p. 1). The Ontario Association of Food Banks (2015) released their annual report and it describes an alarming reality facing senior citizens: food bank use has increased by 35% for seniors (p. 5). These are serious issues facing senior citizens today. In the past, it was considered important for retirees to enter retirement with little to no debt. Recently, Statistics Canada reported 33% of individuals who are currently retired are carrying debt (Marshall, 2011, p. 3). The Office of the Superintendent of Bankruptcy states “10% of those who declared bankruptcy in 2014 were aged 65 and older” – an increase of 20.5% from 2010 (Harris, 2015, para. 4). The amount of debt a person carries into retirement can impact their well-being. When retirees continue to pay down debt into retirement, they miss out on the full retirement lifestyle and in some cases, may not be blessed with the luxury of retiring at all (Naidu-Ghelani, 2018).

Former Minister of Finance Kevin Sorenson concluded it is essential that senior citizens learn the skills necessary to navigate the financial marketplace so they can make decisions to enhance their well-being through their retirement years (FCAC, 2014). “When seniors have access to the tools, they need to make those decisions, not only do they improve their own personal finances; the economy as a whole benefits as well” (FCAC, 2014, p. 1). It is important

we prepare our youth of today for the realities of tomorrow, so they progress through adulthood, and their lack of financial knowledge and skills does not hinder their well-being.

Higher Debt Load

A lack of financial knowledge and skills can lead to high consumer debt load, which many individuals have now accumulated. According to the OECD (2005), consumer debt has been increasing to all-time high levels and the deregulation of financial markets has led to increased competition for new credit card holders. As a result, many young people have been burdened with high debts at a time when they are trying to start a family and buy a home. (p. 11)

Due to historically low interest rates (Bank of Canada, 2016), the amount of debt individuals accumulate has been steadily increasing (Masson, 2013). The real estate market, the cost of education, and the cost of owning a vehicle are all rising faster than the income needed to pay for these items (Grant & McMahon, 2015).

The Bank of Canada (2018) recently published that on average individuals owe \$1.70 for every \$1 they earn in disposable income. For comparison, that amount was \$0.66 in 1980 (Chawla & Uppal, 2012). Since consumer debt has been steadily increasing, so have the number of bankruptcies. Individuals who file for bankruptcy are not able to meet their financial demands. According to the Office of the Superintendent of Bankruptcy Canada (2018), in 1987 the number of people who applied for a debt repayment proposal or declared bankruptcy in Canada was 1.2 people per 1000 aged 18 and older, that number has risen 4.2 people per 1000 aged 18 and older in 2017 (sheet 1). It is evident that a lack of financial skills is affecting several stages of life. The increase in bankruptcies and the growing debt levels indicate the need for the

development of financial knowledge and skills to adequately prepare youth for their futures and to educate individuals about future financial decisions.

Financial Stress and Well-Being

The effects of being financially illiterate are costly for both the global economy and for individual health. Marcolin and Abraham (2006) suggest financial knowledge and skills help a person avoid financial problems, which in turn allows people to lead a “prosperous, healthy and happy life” (p. 3). Financial difficulties are often an underlying cause of “divorce, mental health illness and a variety of other unhappy experiences” (Marcolin & Abraham, 2006, p. 3). Research has revealed financial hardship can limit academic success amongst college students, increase a feeling of loneliness and stress, reduce self-confidence, and impact healthy relationships (Lyons, 2004; Wolcott & Hughes, 1999). As students leave high school and enter post-secondary education, they are faced with a variety of stressors including transitioning to a new environment, building new relationships and financial management (McCleese, Daniel, & Baranik, 2012). These stressors can lead to students withdrawing from college and never completing post-secondary education (Crossley, 2019). A negative relationship was identified between the amount of debt a college student carries and academic success and overall health (Lyons, 2004). After collecting data from 227 college students from diverse racial backgrounds, Norvilitis, Szablicki and Wilson (2003) found students in the United States, who had high levels of debt had reduced feelings of financial well-being and had increased stress levels. Lange and Byrd (1998) conducted a study with New Zealand students to see if there was a relationship between first year university students’ debt levels and their psychological well-being. They discovered that as debt levels increased, feelings of being able to successfully manage their money and self-esteem decreased (Lange & Byrd, 1998).

The Australian Psychological Society developed a survey to create a picture of the overall well-being of Australian citizens. An online survey completed by 1548 people aged 18 years of age and older revealed financial issues topped the list as the number one source of stress, for both men and women (Casey, 2013). Moreover, Davis and Mantler (2004) state:

financial stress is associated with lowered self-esteem, an increasingly pessimistic outlook on life, and reduced mental health, particularly an increase in depression and hostility. There is also a link between financial stress and suicide and alcohol consumption, likely as a result of the increased level of depression. Financial stress is also associated with declining physical health such as an increase in headaches, stomach aches, and insomnia. Again, it is likely that people with a great deal of financial stress experience high levels of depression and it is depression that is most directly associated with worsening physical health. (pp. v-vi)

A lack of financial knowledge and skills can negatively impact aspects of a person's life from their day-to-day management of personal finances to retirement and to their overall well-being. It is essential individuals acquire an in-depth understanding of finances to avoid the negative aspects of being financially illiterate and adding undue stress to their lives. These results should not be confused with the reality that financial illiteracy is not the only contributor to financial stress. Throughout an individual's lifetime they may face unavoidable financial decisions (e.g., health care expenses) which will leave them in a financially devastating position, regardless of their financial management (Jacoby, Sullivan, & Warren, 2001).

What Influences Our Financial Decisions?

Money plays an important role in our daily lives exerting "more power over human lives than any other single commodity," and it is a significant factor in the decision-making process

(Oleson, 2004, p. 83). Financial decisions are individually motivated by many factors and are influenced by our “needs, wants and shoulds” (Vitt, 2009, p. 13). Understanding consumer behaviour can be done effectively if “consideration is given to the effects of interpersonal influence on development of attitudes, norms, values, aspirations, and purchase behaviours” (Bearden, Netemeyer, & Teel, 1989, p. 473). Our financial decisions are all influenced by our inner “decision drivers” that, over time, become part of us, based on the teachings of our social environment, our relationships, and our experiences (Vitt, 2009, p. 10). In an ideal world, people would make their financial decisions using a process powered by logic. In actuality, individuals bring a variety of personal knowledge, experiences, and misunderstandings to the table when faced with any decision (Holden, 2010; Rani, 2014). For example, many people know and understand the consequences of smoking; however, many still choose to light up. Tintin (2013) identified four factors that influence the decision-making process of consumers: cultural, social, personal, and psychological.

Cultural Factors

According to Tanner and Raymond (2012), cultural factors “refer to shared beliefs, customs, behaviours, and attitudes that characterize” a specific community or group of individuals (p. 95). Culture is a term encompassing the wide-ranging characteristics of an individual. These characteristics include “ethnic backgrounds, religious affiliations, childhood neighbourhoods, caregiver relationships, educational opportunities, family traditions, myths, and legends and so much more” (Vitt, 2009, p. 14). Children are influenced by the practices within the world around them, including those of their family, relatives, and community. Over time, these practices, experiences, and teachings form an individual’s culture. An individual’s culture has been shown to impact financial decisions (Rani, 2014). According to Roach (2016), “all of

our consumer decisions are impacted to some degree by what is around us: our culture, values and social class, along with the people we associate with and those we admire” (para. 3). For example, in countries such as Vietnam, India, and China, it is a cultural norm to save money for a variety of reasons. It is accepted as a logical decision. In contrast, this belief has not been adopted in places like the UK, United States, or Greece where the importance is placed more on “immediate consumption and living on credit” (Collett, 2013, para. 5). In addition to an individual’s culture, they are then further influenced by their subcultures, which can include religion, social status, and gender (Rani, 2014).

Influence of primary caregivers. The power of primary caregiver influence on future spending habits cannot be taken lightly. They are the first to demonstrate financial skills and management strategies to their children (Vitt, 2009). Parents or guardians influence how children will view debt and use credit in their later years, and a correlation was identified between parental thinking surrounding the use of credit and students’ own thinking about debt and credit (Tokunaga, 1993). It is widely accepted that family is identified as the main socialization agent for children to learn about financial behaviour and children and youth are highly influenced by the knowledge and skills learned in the home (CentiQ, 2008; Kerranne & Hogg, 2010; Shim et al., 2010). In a study conducted by IEF (2012), researchers found students who were seeking financial advice most often sought the information from their parents, and they trusted their parents the most with sharing their financial thinking, with peers and banks being the next most popular sources of information.

As parents/guardians move through life, their children watch and listen. OECD (2017), states that parents/guardians have a significant impact on their children’s knowledge and skills related to financial management because the work they do, and their education level influences

their cultural environment. Webley and Nyhus (2006), identified a relationship between parent/guardian economic behaviour and that of their children, which indicates that the financial topics that parents/guardians discuss and the behaviours they model influence the financial behaviours of their children. According to Grinstein-Weiss et al., (2012), “parents are critical in the intergenerational transfer of financial skills, and the extent of that transfer appears to have significant social and economic implications” (p. 259). Further research indicates that parents/guardians coming from low to moderate income households have an increased chance of passing on negative financial knowledge and skills (Grinstein-Weiss et al., 2012). This would be an important consideration when planning financial education programs, to be sure both students and their parents/guardians are receiving the knowledge and skills necessary to achieve financial well-being.

Cultural trends. One other cultural factor that influences the behaviours of consumers is the concept of cultural trends. Cultural trends, also known as the “Bandwagon effect are . . . trends widely followed by people and which are amplified by their mere popularity and by conformity or compliance with social pressure” (Rani, 2014, p. 55). When a particular product is trending, it can influence individuals to have a feeling of need for the product, even though there had never been the desire for the product in the past (Rani, 2014). For example, the current surge in the use of fitness trackers could be seen as a cultural trend. Many people may be influenced to buy one since their friends, family and colleagues may have purchased one, even if they have never considered buying one in the past, do not really have a need for one, or cannot necessarily afford the cost. Following cultural trends can lead to decisions being made that are not based on logic and need, but instead on emotion.

Impact of Social Class

Roach (2016) states that social class “is where you stand in society compared to others based on education, income and occupation” (p. 4). The amount of money individuals have at their disposal has an impact on how they choose to spend their money. Members of different social classes often tend to have different needs and purchasing patterns (Rani, 2014).

Individuals who are at the higher end of the social class more often have the option of spending money on expensive items versus those who are part of the lower class who are forced to buy items considered for survival versus the luxurious items of the upper class (Rani, 2014).

Social factors. Social factors “explain the outside influences of others on our purchase decisions either directly or indirectly” (Rani, 2014, p. 55). Rani (2014), states social factors that may impact consumer behaviour range from family influences to the influence of being a member of a specific group or wanting to be a member of a certain group (e.g., a hockey team or motorcycle club). The factors can influence how individuals choose to spend their money. For example, if an individual is playing hockey, there may be pressure within that group to have a certain brand of stick or skates. Individuals may feel the need to purchase those specific brands, even if there is a cheaper option. Burnkrant and Cousineau (1975) coined the term “normative influence” to explain the inclination of individuals to conform to the standards and expectations of other people. This definition was further refined to include “value expressiveness” which describes a person’s need to enrich their self-image by being part of specific social groups (Kelman, 1961). As individuals, we are influenced every day by social factors around us. In this day and age, individuals have a continually growing list of needs and wants because materialistic items have become a way for individuals to define themselves as different, or as a way to belong

(Vitt, 2009). Such growing lists of materialistic items are influenced by our surroundings (including influences from television and advertisements) and social interactions (Vitt, 2009).

As a society, we have become more tolerant of using credit and accumulating debt, and there is widespread acceptance of carrying debt. Indeed, there is a “growing culture of indebtedness” (Lea, Webley, & Walker, 1995). People are more comfortable getting themselves into debt if they think those around them would accept their levels of debt (Lea et al., 1995). One way this acceptance has been cultivated is by consumers trying to maintain a lifestyle they cannot afford (Newcomb, 1943). Many people try to match their social counterparts’ spending even if they do not have matching financial resources (Lea, Webley, & Walker, 1995). Lea, Webley, & Walker (1995) state that people who carry high levels of debt describe their purchases as needs when in fact the items were for status within their social group and not necessity. Duesenberry (1967) called this the *demonstration effect*. The demonstration effect occurs when individuals purchase items for the purpose of maintaining a lifestyle which is a perceived equivalent to that of the people around them (McCormick, 1983). As Duesenberry (1967) stated:

in view of our social goals, every individual makes comparisons between his own living standard and those of his associates in higher or lower positions. Every unfavourable comparison of this sort leads to an impulse to buy goods which will raise the quality of the living standard and eliminate the unfavourable comparison. (pp. 30-31)

Personal factors. According to Schofield (2015) “personal factors are characteristics that are specific to a person and may not relate to other people within the same group” (para. 6). Habit and hobbies, age, lifecycle stage, and demographics (gender, city/town, suburban/urban) are personal factors (Rani, 2014).

Where family units are situated in the family life-cycle is accepted as a key factor in what motivates decisions and behaviours surrounding spending and saving (Lee, Park, & Montalto, 2000). The life-cycle of consumption theory developed by Franco Modigliani and his student Richard Brumberg brought awareness to the financial changes individuals experience over the course of their lives. The theory “focuses on the systematic variations in income and in “needs” which occur over the life-cycle, as a result of maturing and retiring, and of changes in family size” (Modigliani, 1985, p. 154). Modigliani and Brumberg (1985) suggest people borrow when they are young, save when their financial resources are high (middle-aged) and begin dis-saving when their resources are low, like during retirement (Dornbusch & Fisher, 1994). As people enter their retirement years, they tend to sell off accumulated assets to pay for wants and needs, and the assets they let go are accumulated by younger people who are still in the process of accumulation (Deaton, 2005). This theory cannot be unilaterally applied to all households since, based on family characteristics and demographics (large family versus small family, dependent children, etc.), the need to save or when to begin dis-saving may be different based on the availability of financial resources, financial planning goals, and need (Deaton, 2005).

Psychological factors. Psychological factors include the conscious or unconscious thinking and emotions that can have an impact on the decisions, attitudes, and behaviours of individuals (Durmaz, 2014). According to Shefrin (2002), psychological factors are always at work when it comes to making financial decisions (p. xix).

Motivation. According to Durmaz (2014), “motivation is an activated internal need state leading to goal-directed behaviour to satisfy that need” (p. 195). There are many reasons why an individual may purchase goods, including “convenience, for style, for prestige, for self-pride or being at par with others” (Durmaz, 2014). Even though most people are aware that saving

contributes to overall financial well-being, it becomes an internal struggle with the desire to make purchases and the attraction of instant gratification (Mishra, Mishra, Rixom, & Chatterjee, 2013). When it comes to savings, there are a variety of motives as to why a family chooses to save their money. These can include, but are not limited to, ensuring they can cover unforeseen emergencies, enhancing their lifestyle, or meeting a long-term financial goal. Research has discovered that different families have different needs, set different financial goals, and save for different reasons (Xiao & Noring, 1994). Some theories suggest people are motivated to spend and save money based on Maslow's hierarchy of needs. These theories suggest individuals are motivated to spend money to satisfy lower level needs such as food, water, and shelter and are then motivated to move on to satisfying higher level needs (Durmaz, 2014).

Nudging. One strategy used to increase the motivation of individuals to behave in more positive ways is the use of nudging. With a behavioural economics lens (i.e., a method of using psychological insights to analyze how human beings make decisions related to their financial decisions (Jabbar, 2011), the concept of nudging has been explored as a way to guide individuals to make better choices in areas of their lives such as avoiding obesity, reducing litter, and making sound financial decisions. According to Thaler and Sunstein (2009),

a nudge is any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any option or significantly changing their economic consequences. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level [to attract attention and hence increase likelihood of getting chosen] counts as a nudge. Banning junk food does not. (p.

6)

Nudges can be applied to any areas of life that need tweaking, for behaviours that need modification, or bringing awareness to desired behaviours. When developing a nudge, the nudger needs to consider the intention of the nudge and to be sure it is being used for the good. There are twelve different kinds of nudges spanning four different dimensions (see Figure 2), with more complex nudges involving more than one dimension (Ly, Mazar, Zhao, & Soman, 2013). In some situations (first dimension), nudges are designed to push people to “follow through with a decision” and encourage self-control” (Ly et al., 2013, p. 7). Many people purchase items on their credit card to earn extra points with the full intention of paying off their credit cards at the end of the month; however, the end of the month comes, and the full payment never gets made. These charges eventually add up, as does the interest. Thaler and Sunstein (2009) suggest several nudges could be used to encourage users to limit their credit card use or to pay it off in full each month. For example, listing the total fees/interest paid throughout a year right on the credit card statement, or including how long it would take to pay off the full amount if only the minimum payment was made each month are examples of nudges (Thaler & Sunstein, 2009). These small changes could potentially bring awareness to the consumer about how much they are spending by using a credit card. Within this same dimension, nudges can be designed to encourage people to change behaviours to which they do not typically spend much time thinking (Ly et al., 2013). For example, a desired behaviour such as saving for retirement might be achieved by encouraging people to sign up for a retirement plan using an automatic payroll deduction system. Especially as young adults enter the work force, retirement may not be a priority.

The second dimension is whether the nudge is voluntary or externally imposed. A self-imposed nudge is a nudge that individuals choose to enact on their own. These nudges are

“voluntarily adopted by people who wish to enact a behavioural standard that they feel is important” (Ly et al., 2013, p.7). These are behaviours individuals have adopted because they meet their personal expectations. For example, some people may only purchase items that are environmentally friendly because they feel it is an important cause in their lives. This type of nudge is in contrast to externally imposed nudges, where the behaviours are not sought out by individuals themselves, but rather are situations where an external nudger subtly works at changing/invoking a specific behaviour. In Ontario, the provincial government tried to enact legislation that forced people to save for retirement by creating a mandatory retirement plan that would automatically be deducted from payrolls across the province (Government of Ontario, 2016). This legislation was never brought to fruition.

The third dimension covers mindful or mindless nudges. Mindful nudges are designed to bring about cognitive awareness to the decision-making process and to limit the subtle influences that may be present when making a decision so the decision made in the moment is in line with the desires an individual may have for the future (Ly et al., 2013). An example of a mindful nudge would be an individual who devises a payment plan to pay off a credit card in a specific amount of time and has the payment automatically withdrawn from their bank account each month. Mindful nudges are in contrast to mindless nudges designed “to use emotion, framing and anchoring” to influence the decision-making process (Ly et al., 2013). An example of a mindless nudge would be an employer offering an automatic payroll deduction plan to buy government bonds. The money is taken off a pay cheque before the employee sees the money, making it easier to save money by not having the employee make the payment on their own. The last dimension is whether the nudge is designed to encourage a desired behaviour (encouraging nudge), compared to a discouraging nudge intended to discourage a behaviour (Lyons & House,

2013). An encouraging nudge would be making it easier for students to set up a bank account by making it an online process. A discouraging nudge would be the government making a firm rule that credit card companies cannot increase a person’s credit limit automatically, to limit the amount of debt a person carries.

		MINDFUL		MINDLESS	
		ENCOURAGE	DISCOURAGE	ENCOURAGE	DISCOURAGE
ACTIVATING A DESIRED BEHAVIOUR	EXTERNALLY IMPOSED	Simplifying tax rules to make tax filing easier.	Placing signs to remind people not to litter.	Advertising that most people are recycling to increase recycling efforts.	Using fake speed bumps to discourage speeding.
	EXTERNALLY IMPOSED	Simplifying applications processes for college grants to encourage higher-level education.	Installing car dashboards that track mileage to reduce gas usage.	Automatically enrolling for prescription refills to encourage taking medication	Placing unhealthy food in harder to reach places.
BOOSTING SELF-CONTROL	SELF-IMPOSED	Maintaining an exercise routine by agreeing to pay a small penalty if a gym session is missed.	Avoiding drunk driving by hiring a limo service beforehand.	Joining a peer savings group to encourage saving money.	Channelling money into a separate account to reduce the likelihood of it being spent.

Figure 2. Different forms of financial “nudges” (Ly, Mazar, Zhao, & Soman, 2013, p. 8).

Use of the nudge theory has already been explored in several areas. In Copenhagen, research was done to try and curb the practice of littering with a controlled experiment. Green footprints were placed on the floor leading to the garbage cans which reduced the littering in the area by 46% (The Economist, 2012, para. 6). In another example, Amsterdam airport put a fake

fly in each of its urinals. The addition of the fly reduced spillage by 80%, thus reducing the need for expensive cleaning products and washrooms were kept cleaner (Thaler & Sunstein, 2009, p. 268). In terms of financial literacy, some argue Canada could use the nudge theory to encourage people to become more financially aware and to save more. According to Soman (2013), it isn't enough to simply just talk about how much debt Canadians have to get them to change financial behaviour. To get people to engage in saving money, the process needs to be easy. People become disinterested when the products are complex (Soman, 2013). In Canada, the government offers a \$500 Canada Learning Bond for low-income families and parents can earn an additional \$1500 by the time their child is 15 years old. Although the process to obtain the money isn't difficult, it can be time-consuming, and people just never get around to it, since only 16% of eligible families have taken up the government's offer (Soman, 2013, para. 13). The Government of Canada could analyse this process and develop a nudge to encourage people to access the program by making it less time-consuming and more accessible.

Nudges have been successfully used in educational settings. Hanks, Just, Smith and Wansink (2012) found sales of healthy food increased by 18% when high school lunch lines were structured so that healthier foods were placed more conveniently relative to the less healthy foods. Castleman and Page (2013) conducted a study in three different cities in the United States to see if providing nudges through the use of text messaging and peer-mentoring programs would increase the number of low-income high school graduates to follow through and attend college immediately after graduating from high school. One thousand five hundred and eighty-two students were identified as meeting the sample criteria. The personalized text messages reminded students of what pre-entry tasks needed to be done prior to being enrolled in the college and to connect them to counselor support if needed (Castleman & Page, 2013). This

inexpensive intervention increased the enrollment of low-income students enrolling in college by up to 7% (Castleman & Page, 2013, p. 2). Lastly, Long and Bettinger (2017) conducted a study to see if they could increase the number of families who contribute to a savings plan for post-secondary education. Parents of children from Grades 7-10 were invited to attend an information session on how to prepare academically and financially for post-secondary education. Each of the 1000 participants was provided a program that offered three different types of support to enrol in a savings plan. After an initial screening, the participants were randomly assigned to one of the three groups. One group (the control group) received an information workshop on the importance of going to college and were provided with information on how to save for post-secondary education. After the research was concluded, it was discovered that nearly no one from this group opened a post-secondary savings account (Long, 2013). The first treatment group received the same informational workshop and were offered assistance in filling out simplified forms to enrol in a savings plan. Even assistance in filling out the forms was not enough to nudge people towards signing up (Long, 2013). The second treatment group was provided the same informational workshop, assistance in filling out the forms and a \$50 contribution towards the account. The vast majority of individuals who opened an account were from the second treatment group. Of the families who participated in the second treatment group, 36% opened a savings account and 33% of them did so through automatic monthly contributions (Long, 2013).

The nudge theory has also faced criticism, most notably the questioning of its appropriateness because the use of a nudge is, in effect, manipulating an individual's choice (Hansen & Jespersen, 2013). Although Thaler and Sunstein (2009) agree nudges can be viewed as influencing choices, they argue that individuals are always exposed to influential factors in

any given situation, so a nudge is no different than what people already experience via various forms of media (Hansen & Jepsen, 2013). Thaler and Sunstein (2009) state “it is not possible to avoid choice architecture, and in that sense, it is not possible to avoid influencing people” (p. 250). However, Thaler and Sunstein (2009) caution the use of nudges in situations where the nudger is not competent and can put the nudgee in a potentially negative situation.

Perception. According to Durmaz (2014), perception is “how consumers understand the world around them, based on information received through their senses” (p. 196). It is because of our perceptions that we buy specific products. When it comes to purchasing products and services, some individuals will buy a specific product based on the recommendation of others (i.e., informational influence), which has had an effect on their perceptions (Bearden, Netemeyer, & Teel, 1989). Corporations often use this technique to sell their products. For example, Steve Stamkos is the spokesperson for Powerade. In this example, marketing specialists match an individual’s perception with how people feel about a famous person and use those feelings to appeal to consumers to sell their product (Durmaz, 2014). These marketing techniques can affect our social influences as well. If everyone in a social group with which you are affiliated has a specific product, your perceptions tell you that you should have the product as well. For example, if you are part of a yoga class and everyone is wearing Lululemon pants, then it would be natural for you to want those pants as well (normative influences). Unfortunately for some, these perceptions can get them into trouble if they cannot actually afford the desired products.

Learning. An individual who alters their behaviour based on a new experience is said to have “learned” (Durmaz, 2014). An individual’s “attitudes, values, tastes, behaviors, preferences, symbolic meanings and feelings are acquired through learning” (Novak, n.d.). According to Batkoska and Koseska (2012) “the impact of cognitive learning is directly

connected with decision making” (p. 71). Negative and positive learning experiences have an effect on our perceptions and influence the financial decisions we make (Durmaz, 2014; Rani, 2014). According to Hogarth and Hilgert (2002), individuals who have learned about financial concepts and are said to be financially literate, “should make better decisions for their families, increasing their economic security and well being” (p. 1). When families are experiencing financial security, they are able to contribute to the economy, which allows communities to be in a better economic position (Hogarth & Hilgert, 2002). Becoming financially literate is not only essential for a family’s well-being, it is best for the economy as a whole (Hogarth & Hilgert, 2002). For our communities and the global economy to thrive, individuals need to learn the appropriate knowledge and skills (which may include technology and an online presence) necessary to make well-informed financial decisions (Greenspan, 2001). Learning financial knowledge and skills may be the key to increasing the financial well-being of all individuals.

Beliefs/attitudes. Another psychological factor which can impact an individual’s decision-making process is their beliefs and attitudes. Individuals have beliefs and attitudes about everything, including money. These beliefs and attitudes are formed through social interactions and current and past experiences, and can be either negative or positive (Pryor, 2004). As stated earlier, several influences are at work as financial decisions are made. In some cases, individuals make decisions on financial beliefs based on information that is not true, which makes navigating the financial market even more difficult (Emmons, 2004). Although economists assume the financial decision-making process is done in a logical, and rational way, research has shown this is not always the case (Oleson, 2004). If this were the case, all individuals would exhibit similar behaviour; however, because individuals do not have the same attitudes and beliefs towards money their decisions are ultimately different (Oleson, 2004). Just

as individuals have differing beliefs and attitudes about the meaning of financial well-being (CFPB, 2015), they also have differing beliefs and attitudes about money (Oleson, 2004), and this personal attitude can impact how they conduct their behaviour on the journey towards financial well-being. Furnham (1984) found that as people progress through the life-cycle and become older adults, their needs change as do their attitudes towards money. Goldberg and Lewis (1978) state attitudes towards money vary widely:

To some, money is the root of all evil. To others, the lack of money is perceived to be the basis of all their troubles. Any attempt to make sense of the confusing and paradoxical attitudes that people have toward money is a monumental undertaking. It seems that for some people money is the most important thing in the world. Yet they pretend it is the least important. The worship of money and the condemnation of money exist side by side, sometimes even in the same individual. When people are bombarded with two opposing philosophies or ideologies, it might seem logical that they would accept one and reject the other. But the human mind is extremely flexible. At different times it can accept completely opposing points of view and somehow juggle them so that the contradictions are not readily apparent. (p. 42)

Festinger (1957) coined this ability to juggle two opposing views cognitive dissonance. As humans, our attitudes towards money can influence how we view the role of money in our lives and how decisions are made. These attitudes can have negative or positive impact on our financial well-being.

Attitude plays an important role in the area of financial literacy (OECD, 2014). An individual's attitude does have an impact on financial behaviours (Borghans, Duckworth, Heckman, & Weel, 2008). The PISA assessment asked students questions which targeted how

they viewed themselves when faced with specific situations (e.g., their ability to persevere, problem solve). Students who responded that they gave up easily when faced with a problem were outperformed on the financial literacy assessment by their peers who said they would persevere in solving problems (OECD, 2014). This finding was consistent when students were asked if they liked to solve complex problems. Students who indicated they liked to solve complex problems scored higher on the financial literacy component (OECD, 2014).

Self-Regulation

Individuals can engage in decision making behaviours that lead to negative long-term consequences. These situations could be avoided if every decision made was done in a pragmatic way that considered the future consequences of their decisions, which is difficult (Howlett, Kees, & Kemp, 2008). According to Baumeister, Gailliot, Dewall and Oaten (2006) “self-regulation is an important personality process by which people seek to exert control over their thoughts, their feelings, their impulses and appetites, and their task performance” (p. 1773). A lack of self-regulation has resulted in “the majority of personal and social problems” that face humans (Baumeister et al., 2006, p. 1774). According to Mischel (2014), self-regulation is a skill measurable at an early age and can impact “people’s welfare and mental and physical health over the life span” (Introduction). Research indicates self regulation works whereby an inner resource has limited amounts, becomes depleted and it “interrupt[s] the stream of behavior and alter[s] it” (Baumeister et al., 2006, p. 1774). As humans use up this inner resource, they enter a state of ego depletion, and once in this state, individuals have less ability to self regulate their behaviour, which leads to less desirable decisions, including spending money spontaneously (Vohs & Faber, 2007). Ego depletion “describes the condition whereby the self’s resources are expended and thus temporarily operate at less than full capacity” (Howlett, Kees, & Kemp, 2008,

p. 228). The depletion of inner resources (putting a person into ego depletion) can be depleted in a variety of ways, including “resisting temptation, engaging in mental and attentional control, and regulating emotions” (Howlett et al., 2008, p. 228). Ego depletion can also occur when individuals are in situations where they need to make numerous choices and decisions (Vohs & Faber, 2007), are networking with individuals whom they may have racial bias (Richeson & Shelton, 2003), and when in new situations (Vohs, Baumeister, & Ciarocco, 2005). The ability to self-regulate is only diminished if the above situations require the individuals to specifically use their self-regulatory skills to complete tasks (Baumeister et al., 2006).

Howlett, Kees and Kemp (2008) discovered that once an individual entered into the state of ego depletion, their ability to self-regulate their behaviour diminished and they “felt stronger urges to buy, were willing to spend more, and actually did spend more money in unanticipated buying situations” (p. 228) and were willing to take more risks (p. 229). The result of a lack of self-regulation can lead to disastrous long-term consequences for an individual’s well-being, including preparedness for retirement. Thus, it is essential adults just entering the work force, consider the impact of their spending and savings behaviour on their future well-being (Howlett, Kees, & Kemp, 2008). It is important to consider the role of self-regulation when discussing financial literacy. From an educational perspective, it would be necessary to ensure that when financial education is provided to students or adults that participants are not in a state of ego depletion (Howlett, Kees, & Kemp, 2008). For example, offering employees a financial workshop after a full work day, may not be an ideal time, since they be in a state of ego depletion and will not get the value of the presentation.

During the 1960’s, Mischel (2014), conducted research with a group of pre-school children where they were given one marshmallow and told if they could wait to eat the

marshmallow, they would be given a reward of their choice (e.g., cookies, marshmallows, candy) if they were able to wait 20 minutes without eating the first marshmallow. If they could not wait to eat the marshmallow, they were to ring a bell and the researcher would return to the room.

The data gathered from observing the children waiting to be rewarded, proved to be very interesting and has allowed researchers to be able to predict the future of individuals.

Researchers observed what children did while they waited and if they were able to delay the gratification and discovered that those observations could be used to make predictions about their future lives (Mischel, 2014). For example, the longer the preschoolers waited to eat their treats, the higher their SAT scores and as they progressed into adulthood, they were able to maintain a healthier body mass index, had more self-worth, were more successful at achieving their goals and managed stress better than those who had immediately eaten the marshmallow (Mischel, 2014).

Research has shown individuals who participate in self-regulation exercises can increase their ability to enhance their self regulation skills (Baumeister et al., 2006, Mischel, 2014). According to Mischel (2014), it has been thought that the ability to exert self-control is an inborn trait, but this has been proven false (p. 230). Mischel (2014) states “self-control skills, both cognitive and emotional, can be learned, enhanced and harnessed so they become automatically activated when you need them” (p. 230). According to Baumeister et al., (2006) if individuals use self-regulation exercises to improve one area (e.g., spending habits), they improve their self-regulation in many areas (e.g., healthy eating).

Criticisms of Financial Education Programs

The purpose of any financial education program is to give individuals the financial information they require and then the individual will take the information and “apply this

knowledge in everyday life in the form of decisions and transactions” (Pinto, 2017, p. 1). Pinto (2017) supports the need for financial knowledge; however, she cautions the use of financial knowledge being the answer to the global financial literacy crisis. Studies have determined that exposing high school students to personal finance courses showed no increase in students knowing or applying the information in their daily lives (Cole & Shastry, 2009; Mandell & Hanson, 2009; Mandell & Klein, 2009; Mandell, 2008; McCormick, 2009; Peng, Bartholomae, Fox, & Cravener, 2007). Willis (2008) also believes the amount of time and money being spent to enhance financial literacy is not giving a good return and may not be worth the investment. Pinto (2017) states that simply teaching financial concepts does not necessarily mean individuals will be able to apply the concepts when necessary (e.g., people know the health risks of smoking, but many people still do it).

According to Pinto (2017) part of the problem with financial education programs is many students are not developmentally ready for the level of financial concepts being taught. Individuals learn financial concepts best, when the information is relevant (Drever, et. al., 2015), and they are in need of the information. When individuals are in position to need a mortgage, they are more apt to learn and apply the information necessary to make a financial decision (Pinto, 2017).

Financial consumers bring with them aspects of their lives that classroom teachers are not able to change, including “gender, culture, social position, and socio-economic status” (Pinto, 2017, p. 3). These aspects can contribute to the effectiveness of financial education programs. When educational programming does not speak to the participants or match how they see themselves, students will be disengaged with the subject content (Pinto, 2013). According to

Pinto (2017), for financial education programs to be effective the program needs to be “age appropriate, inclusive, and immediately relevant to students’ lives” (Pinto, 2017, p. 2).

Teacher Attitudes and Beliefs Towards Financial Education

Success of any new curriculum is dependent on the classroom teachers (Darling-Hammond & Bransford, 2005; Thornton, 2005). There is a positive relationship between the effectiveness of the classroom teacher and student learning (Brophy & Good, 1986; Thornton, 2005). Otter (2010), in a survey of California teachers, found teachers:

- support efforts to include personal finance in the K–12 curriculum;
- believe instruction should begin in elementary school and that the best way to deliver personal finance instruction is through both a stand-alone course and embedding concepts in other courses;
- see time constraint as the biggest barrier to personal finance instruction; and
- possess a basic level of financial literacy. (p. 8)

Forty two percent of teachers did not feel overly confident in their knowledge and skills about personal finance, compared to 47% that said they were confident or very confident in the understanding of personal financial concepts (Otter, 2010, p. 9).

In a research study of American teachers, 31% of teachers said they were comfortable teaching financial education, 51% of educators were moderately comfortable and 18% said there were not comfortable at all (Schuyler & Buckley, 2016, p. 5). As teachers are asked to integrate financial education into their courses, it is important to consider the reality that some teachers do not have the financial knowledge and skills necessary to effectively teach financial literacy.

According to research of Taiwan teachers, by Deng, Chi, Teng, Tang, and Chen (2013) there was a positive relationship between a teachers’ personal financial literacy and their effectiveness at

teaching financial concepts in the classroom. When teachers were asked if there were any major barriers to teaching financial education, only 9% said there would be no barriers (Otter, 2010, p. 10). Seventy percent of the teachers agreed to take the financial knowledge component of the survey, which included one question each on compound interest, inflation, risk diversification, and asset pricing, and only 42% of the teachers were able to answer all four questions correctly (Otter, 2010, p. 10). Time and a lack of an appropriate curriculum were the top-ranking challenges indicated to successfully teach the curriculum (Otter, 2010).

Behavioural Economics

Behavioural economics “incorporates psychological knowledge about human behaviour to enhance and extend economic models of decision making” (Jabbar, 2011, p. 446). Early economic theory was based on the idea that individuals were rational and patient and made decisions that enhanced their well-being and happiness (Becker, 1962). With an increased number of citizens experiencing difficulties in managing money, it is acknowledged that not all financial decisions are thus made in a rational and patient manner. As Salmons (2015) stated, “unfortunately in our day of instant gratification there is little appreciation for persistence and patience with money” (para. 4). Behavioural economists attempt to explain the variety of factors that impact how individuals make decisions and attempt to demonstrate that their thinking is not always rational, which varies from traditional economic theory (Becker, 1962).

History of Behavioural Economics

Adam Smith is considered one of the founders of modern economics (Sandmo, 2014). In 1776 he developed a concept claiming that “economic behaviour was motivated by self-interest” (Ashraf, Camerer, & Lowenstein, 2005, p. 131). This notion of motivation by self-interest was of similar thinking to the work of John Stuart Mills who in 1874 said

[Political economy] does not treat of the whole of man's nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desires to possess wealth, and who is capable of judging of the comparative efficacy of means for obtaining that end. (Mills, 1874)

Thus, individuals make financial decisions based on their own needs and including the perceived need to accumulate wealth. Earlier in Smith's career he had authored the book *The Theory of Moral Sentiments* that attempted to explain individual behaviour and appears to be in contrast to his thinking surrounding economic behaviour in his later writings. Smith's theory explained that, as individuals, behaviour is motivated by the conflict between our passions and the impartial spectator (Smith, 1790). These passions included "hunger and sex, emotions such as fear and anger, and motivational feelings states such as pain" (Ashraf et al., 2005, p. 131). Smith thought it was possible for an individual to diminish the strength of the passion or desire by thinking like an objective third party, which he referred to as the impartial spectator (Smith, 1790). Smith recognized, however, that in certain situations the internal objective third party (impartial spectator) could be askew and the passion could ultimately override the power of the third-party thoughts (Ashraf et al., 2005). According to Smith (1790):

there are some situations which bear so hard upon human nature, that the greatest degree of self-government, which can belong to so imperfect a creature as man, is not able to stifle, altogether, the voice of human weakness, or reduce the violence of the passions to that pitch of moderation. (p. 12)

In 1944, Neumann and Morgenstern devised the utility theory which proposed individuals make decisions based on the probable results of the decisions and humans are rational and focused on their own self-interest (Thaler, 1980). These historical theories are the

basis for current thinking surrounding behavioural economics. Behavioural economics is being used to explain behaviour as it relates to financial decision-making and related behaviours. Two prominent behavioural economics theories are Kahneman and Tversky's Prospect Theory and Thaler's Mental Accounting Theory.

Prospect Theory

Kahneman and Tversky (1979) challenged this self-interest, rational decision-making theories by developing the Prospect Theory. Kahneman and Tversky suggest the decisions individuals make are based on irrationality and humans are predisposed to making errors because of pre-wired concepts in the brain (Altman, 2012). Kahneman and Tversky (1979) suggested consumers make decisions based on the perceived value of the losses and gains from the decision and not on the expected outcome as proposed in the utility theory. Prospect Theory emerged after designing a survey intended to measure the difference between what people should do when faced with decisions involving financial risk and what individuals actually do (Thaler, 1980). From this experimental research, four important observations were made: consumers view financial gains and losses differently, people avoid risky situations, individuals desire situations that offer certainty, and how the situation is worded may influence the final decision. The first significant observation was that people view financial gains and losses differently, commonly known as loss aversion (Kahneman & Tversky, 1979). Loss aversion is a popular construct used to describe human behaviour where "losses loom larger than gains" (Tversky & Kahneman, 1991, p. 1039). When individuals are "asked to rate the (un) pleasantness of losing or finding \$100," the majority of people indicate that losing \$100 is more unpleasant compared to the pleasantness of finding \$100 (Thaler, 1999). Kahneman and Tversky (1979) state "our perceptual apparatus is attuned to the evaluation of changes or differences rather than to the

evaluation of absolute magnitudes” (p. 277). For example, if an individual is given \$40, this is viewed as a gain of \$40; however, if an individual is given \$200, but loses \$160, they still gained \$40 but psychologically will see the loss of \$160 as more significant even though both situations yielded the same net result. The frustration an individual feels when losing money is far greater than the satisfaction of making an equal amount (Kahneman & Tversky, 1979, p. 279).

The second significant observation was that individuals prefer situations presented with certainty. Kahneman and Tversky (1979) state “outcomes received with certainty are over weighted relative to uncertain outcomes” (p. 263). This finding is commonly called risk aversion. For example, if individuals are offered \$500, are given the choice to double their money if a coin reveals a head, but if a tail is revealed they get \$0, more individuals will avoid the risk and take the \$500. Tversky and Kahneman (1981) state “a riskless prospect is preferred to a risky prospect of equal or greater expected value” (p. 454). The survey asked participants:

- Which of the following options do you prefer?
- A. a sure win of \$30
 - B. 80% chance to win \$45

Seventy-eight percent of participants chose option A (Tversky & Kahneman, 1981, p. 455), which supports the idea that individuals prefer situations involving certainty even if a riskier prospect may yield higher gains.

The third observation was that when individuals are faced with decisions involving low probability, they often completely discount the small probability (Kahneman & Tversky, 1979, p. 286). This phenomenon is referred to as pseudocertainty which is defined as “an event that is actually uncertain [and] is weighted as if it were certain” (McDermott, 2001, p. 33). An example of pseudocertainty is presented by Tversky and Kahneman (1981):

Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows: If Program A is adopted, 200 people will be saved. If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved. Which of the two programs would you favor? (p. 453)

In this scenario, the majority of respondents indicate they would choose the less risky choice and choose Program A (Tversky & Kahneman, 1981). The thought of definitely saving 200 lives is more desirable than the riskier choice, even though the expected outcome would be the same. When this is looked at from a financial stand point, the pseudocertainty effect can create situations where individuals are not making the best financial decisions.

The fourth significant observation made was that the way decisions are presented might have an effect on the decision maker referred to as the framing effect (Kahneman & Tversky, 1979). The framing effect occurs when comparable situations are presented, and the decision-maker makes completely different choices based on the way the situation is framed (Sher & McKenzie, 2006). Based on framing effects, people respond differently to situations depending on whether they are presented as a loss or a gain (Tversky & Kahneman, 1981). When consumers are faced with advertising, it is merely an attempt to construct a presentation to sway the decision-making of an individual (McDermott, 2001).

Altman (2012) suggests Kahneman and Tversky's prospect theory would have little, if any effect on increasing the financial literacy of individuals and techniques such as Thaler and Sunstein's nudging strategy (see page 47) would be more effective at getting individuals to make

better financial decisions. Using the nudging technique “experts” would nudge or the government would “force” individuals towards financial decisions (Altman, 2012).

Simon-March Approach

A second approach to behavioural economics is what Altman (2012) refers to as the Simon-March approach and is rooted in bounded rationality. With this approach it is thought individuals are rational and capable of making the right financial decisions because of the way their brains are wired and the decision-making environment (Altman, 2012), which contrasts Kahneman and Tversky’s Prospect Theory which suggests human financial behaviour is physiologically hard-wired. Altman (2012), states that based on the Simon-March approach the decision-making process is influenced by real-life experiences and the financial mistakes people make are because of a lack of accurate information, and education, which is why financial education can increase financial literacy and enhance financial decision-making. Using this approach, financial education would have a significant impact on the financial behaviour of humans because individuals would be provided with accurate information and strategies to enhance financial decision-making (Altman, 2012). Based on the Simon-March approach, Shiller (2009) states the government should facilitate the distribution of up-to-date, accurate information by helping support the process because it would enhance citizen’s decision-making capabilities and have beneficial social effects.

Mental Accounting

Mental accounting “is the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities” (Thaler, 1999, p. 183). Thaler’s theory attempts to explain why people behave the way they do when making financial decisions. Mental accounting focuses on three main components: “how decisions are made and evaluated,”

“the assignment of activities to specific accounts,” and the “frequency with which accounts are evaluated” (Thaler, 1999, p. 184).

An individual’s financial decision can be evaluated best by looking at how the individual perceived the deal they were getting; Thaler (1999) refers to this perception as “transaction utility” (p. 184). According to the mental accounting theory, individuals make financial decisions based on the perceived deal, and not based on their actual need for the specific product or service (Thaler, 1999). The second component of mental accounting is the process of how we budget our financial resources, or what Thaler refers to as “categorization or labeling” (p. 193). Typically, when individuals create budgets, they categorize their financial resources into three categories: expenses, wealth and income (Thaler, 1999). Budgeting behaviour of some kind has been occurring for decades with researchers having discovered budgeting systems ranging from money being divided into envelopes, china cups, and tin cans (Heath & Soll, 1996). According to Arrowsmith and Pignal (2010), 51% of Canadians have a budget (p. 5). The underlying premise of this component of the theory is that once the financial resources are allocated to their respective categories, individuals tend to not want to substitute the resources in one category to another (Thaler, 1999). The process of creating and using a budget varies depending on the financial resources available to an individual. For individuals who have accumulated wealth, their budgets tend to be less restrictive versus those that have limited resources and are forced to have budgets which are more detailed and firm (Thaler, 1999). Once individuals have a mental account of the amount in each category, their spending is often constrained because they are not willing to share resources among the categories they have established (Thaler, 1999). Research done by Heath and Soll (1996) determined that “people use [financial] resources differently depending on how they are labeled” (p. 40). For example:

Mr. P went shopping for a pair of slacks. When he could not find any slacks he liked, he spent a similar amount of money on a sweater that he normally would not have purchased. Mr. P had allocated money to his clothing budget to purchase slacks. After finding no acceptable slacks, he could have reallocated that money elsewhere; instead he took home a sweater he ordinarily would not have purchased. (p. 40)

Shefrin and Thaler (1988) believe individuals not only label their expenses, they label their wealth, income, and assets as well. People “are more willing to consume an increase in current income (a raise) than an increase in current assets (home equity)” (Heath & Soll, 1996, p. 41). When it comes to spending income, individuals distinguish the way they spend their money based on where the money came from, even if the amount is the exact same (Thaler, 1988; Heath & Soll, 1996). For example, O’Curry (1996) found individuals are more likely to spend income mentally labeled as a prize or windfall - free money on pleasurable items or activities versus the same amount earned on a pay cheque.

The third component of the mental accounting theory focuses on “sunk costs” and how individuals evaluate the decisions and purchases they make. According to Thaler (1999), evaluations do not occur for everyday spending but appear to happen more frequently if it is a sizeable or unusual purchase. Even when evaluations do occur, an individual does not always factor in the total cost. For example, the cost of gas used to get to a concert may not be incorporated into the cost of the concert because gas is budgeted on a different mental accounting line (Heath, 1995). Sunk costs are defined as “the greater tendency to continue an endeavour once an investment of money, time or effort has been made” (Arkes & Blumer, 1985, p. 124). For example, if someone spends \$100 on tickets to a sporting event and on the night of the event there is a snowstorm, they may feel obligated to drive through the storm in an effort to

attend the event because they have spent the \$100 (Thaler, 1999). Regardless if they attend the event they have already spent the \$100; however, they try to avoid the feeling of having incurred a loss. Arkes and Blumer (1985) concluded that although sunk costs impact an individual's decision, the feelings of loss do not remain for long. It was revealed over time that, there was little difference in the attendance rates of people who had purchased season theatre tickets at full price, a slight discount or substantial discount. Those who had purchased the tickets at full price initially attended more frequently than those who had purchased the tickets at a discount, but as the season progressed there was little difference among the attendance rates of the three groups (Arkes & Blumer, 1985).

Cognitive Development

Herbert Simon (1957) stated that as human beings we are limited by the notion of “bounded rationality” which is defined as:

the capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behaviour in the real world- or even for a reasonable approximation to such objective rationality. (p. 198)

This statement leads into the theoretical tradition of cognitive development and whether humans have the necessary cognitive skills to plan accordingly for their financial well-being.

Piaget

In 1973, Jean Piaget developed a theory of cognitive development where he identified four stages of development through which all individuals proceed as they approach adulthood. According to Piaget (1973), individuals proceed through each of the four stages at their own rate and those stages maintain a “constant order of succession” (Piaget, 1983, p. 109).

During the first stage of development, sensory motor, which is usually between the ages of birth to two years of age, children are developing their senses, reflexes, and motor abilities (Piaget, 1973). According to Piaget (1973), between the ages of two and seven they enter the pre-operational stage which is when they begin to develop their language skills, are not yet able to think logically, are curious and represent the world through mental images. Their world is very self-centred, and they see the world from their own point of view (Piaget, 1973). During the third stage (concrete operational), children begin to do mathematical operations (adding and subtracting) and gain the skills of reversibility where they can reverse the direction of their thinking (Piaget, 1973). It is during this third stage of development (ages 7-11), the stage of concrete operations, children begin to develop the skills necessary for “making sound financial decisions” (Holden, 2010, p. 2). By the fourth stage, formal operations (ages 11-16), children begin to develop the skills to make complex financial decisions. According to Piaget (1950), it is in this stage children develop the ability to think “beyond the present,” (p. 163) form hypothetical thoughts (abstract thoughts) and theories and apply “operations to operations” (Piaget, 1983, p. 111). Morgan and Huebner (2009) define abstract thinking as “thinking about things that cannot be seen, heard or touched” (p. 3), including planning for future events or saving for retirement. However, according to Piaget (1973), some individuals fail to reach this stage and thus Holden (2010) states they are at a disadvantage when it comes to planning their future and making financial decisions. According to Howlett, Kees and Kemp (2008), “some people have a lower propensity for considering the future outcomes of their current behaviours than others” (p. 228).

Since the order of the stages stays constant in all environments (Piaget, 1983), Piaget has indicated that the rate of an individual’s development is impacted by their “cultural and

educational environment” (p. 119) and any delays “may be brought about by the unforeseen experiences encountered by the activity of the child himself as well as by the adult pedagogical interventions” (p. 111). The varying speeds of development can in part be impacted by

the quality and frequency of intellectual stimulation received from adults or obtained through the possibilities available to their children for spontaneous activity, which of course, would be proper to the environment considered. In the case of poor stimulation and activity, it goes without saying that the development of the first three of the four periods mentioned above will be slowed down. When it comes to formal thought, we could ascertain that it will probably be extremely slow in constituting itself; or that, perhaps in extremely disadvantageous conditions, such a type of thought will never really take shape or will only develop in those individuals who change their environment while development is still possible. (p. 161)

Piaget (1972) has indicated that the cognitive structures necessary for this stage of development may be hindered by a lack of experiences and intellectual stimulation provided by their social environment. According to Piaget (1972), most people reach the formal operations stage; however, they may only reach that stage in areas of their life where they have had a lot of experiences.

Fisher developed the *Theory of Interest* in 1930, wherein he identified five human characteristics that play a role in an individual’s ability to save (Shefrin & Thaler, 1988). These five characteristics were identified as: “foresight, self-control, habits, expectation of life, and love for prosperity” (Shefrin & Thaler, 1988, p. 92). Foresight is an important skill for financial well-being since being able to plan for the future is an abstract thought that, according to Piaget (1983), requires a specific stage of cognitive development, a stage some individuals never reach.

In a day and age where instant gratification is a prevalent state of mind, self-control is a much-needed skill to avoid the pull of immediacy, and to be able to plan for the future.

Cognitive development theories assume a specific level of intellectual development precedes learning and have come under heavy criticism for being too rigid (Byrnes, 2008). Byrnes (2008) was highly critical of Piaget's lack of consideration to the role emotions and social factors played in cognitive development. According to Vygotsky (1978), Piaget's clinical conversations where a child was asked questions outside the child's level of intellectual development removed the "influence of previous experience and knowledge" from their ability to successfully answer the question (p. 30).

Piaget's cognitive development theory needs to be considered when developing financial education programs. As Pinto (2017) states part of the problem with financial education programs is they introduce developmentally inappropriate financial concepts for the cognitive level of the students. Piaget's theory provides a general road map of the cognitive level of students and their ability to engage with the knowledge and skills being discussed.

Vygotsky

In contrast to Piaget's theory of cognitive development of developmental stages, Lev Vygotsky developed a theory which focused on the importance of a child's social environment in influencing the development of their cognition (Vygotsky, 1978). Although Piaget acknowledged the role of social interaction on an individual's development (Piaget, 1983) he did not emphasize social interaction as having a significant impact on learning. Vygotsky (1978) believed all learning happened by being immersed, interacting in a culture and modeling behaviours of adults or "more capable peers" within their environment (p. 86). The learning happens when children engage with other individuals in "interesting, culturally meaningful

collaborative problem-solving activities” (Bigge & Shermis, 2004, p. 130). It is through these interactions and social experiences with teachers, caregivers, and peers that learning develops (Vygotsky, 1978). Vygotsky (1978) states that by allowing children to interact with a more capable peer in the zone of proximal development (ZPD) will allow the children to develop skills that will become their actual development level. The quality of an individual’s intelligence is influenced by the quality of the social experiences they have had with their caregivers and with other adults (Camperell, 1982). As Vygotsky (1978) states, “human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them” (p. 88).

According to Sonuga-Barke and Webley (1993), development of financial skills is established by social interactions. Given that financial conversation is often a taboo subject in many cultures, the limited social interaction individuals receive may contribute to their lack of financial understanding. As Shane (2009) states:

Speaking honestly about money is among the last remaining taboos in contemporary American discourse. Politics, religion, assaultive crimes, sexual proclivities, family secrets, and even health problems (including those involving bowel movements) will all be more warmly received into a conversation than the topic of what everyone in the conversation earns. It’s shockingly bad manners to bring it up. (para. 6)

If discussing finances is considered an embarrassing topic to discuss socially, then many individuals will not develop the necessary financial intelligence to make financial decisions, or to repair their financial situation, especially if they get into trouble (Holden, 2010).

To effectively facilitate the learning of new material for children, it is important to identify two developmental levels. The first level, the actual developmental level, “is the level of

development of a child's mental functions that has been established because of certain already *completed* developmental cycles" (Vygotsky, 1978, p. 85). This level focuses on what a child can do independently, with no guidance from adults or peers. The second level is referred to as zone of proximal development (ZPD), which identifies what a child can learn with assistance from an adult or more capable peer (Vygotsky, 1978). As educators, the focus should be on "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problems solving under adult guidance or in collaboration with more capable peers (Vygotsky, 1978, p. 86). Providing children with the proper guidance within their ZPD allows children to learn complex, higher level skills and concepts (Vygotsky, 1978). When parents and teachers focus the learning experiences to a child's ZPD they can "rouse to life the cognitive processes that are just emerging in rudimentary form" (Bigge & Shermis, 2004, p. 129).

Like Adams' impartial spectator, Vygotsky described the importance of a child's inner speech. Vygotsky (1978) stated that "the most significant moment in the course of intellectual development, which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity, two previously completely independent lines of development, converge (p. 24). Vygotsky (1978) believed inner speech was a language skill that allowed individuals to be able to self-regulate their thinking and was developed by interacting with others within their social, cultural, and academic circles. As children are faced with solving a problem, they will often think out loud and as the problem becomes more complex, the amount of talking increases (Vygotsky, 1978). This inner speech skill is developed by being engaged with activities that are social and abstract in nature, like those taught in schools and then students take those abstract concepts and apply them to the social world around them (Camperell, 1982).

As educators, it is important to develop imaginary situations, so students can develop abstract thinking skills and use them to decipher the world around them (Vygotsky, 1978).

From a financial literacy point of view, it is important for students to develop abstract thinking skills so students can use them to create future, imaginary situations and use those thoughts to plan for their future and planning of their current financial resources.

Bruner

Bruner (1961) believes that the purpose of education is not simply to transmit knowledge to people but to guide their critical thinking and problem-solving abilities which they can use in numerous experiences they will encounter throughout their lives. Although influenced by Piaget, Bruner did not believe a child's cognitive skills developed in sequential stages, but was more of a continuous, active process developed through a "sharing of the culture" (Bigge & Shermis, 2004, p. 134). Bruner (1966) states that this continuous, active process develops in steps and "these steps or spurts or whatever you may choose to call them are *not* very clearly linked to age: some environments can slow the sequence down or bring it to a halt, others move it along faster" (p. 27). A firm believer in the influence of the environment on thinking, Bruner believes the school environment can enhance the intellectual development of students by providing them rich, thought-provoking opportunities (Bruner, 1960). Like Vygotsky, Bruner emphasizes the need for children to be immersed in a social environment which includes adults, "who are more skilful than he is" (Wood, Bruner, & Ross, 1976, p. 89) and who play an active role in developing the child's learning. This belief led Bruner to develop the scaffolding theory. Bruner (1978) defines scaffolding as "the steps taken to reduce the degrees of freedom in carrying out some task so that the child can concentrate on the difficult skills she is in the process of acquiring" (p. 19). Wood et al., (1976) state children are capable of learning higher-level

concepts, with the assistance of educators and other adults. This process of scaffolding involves an adult and child interacting in a structured way with an end goal of facilitating the child learning a new skill or concept (Wood et al., 1976). Using a scaffolding process, children “are [able] to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts” (Wood et al., 1976, p. 90). Through scaffolding, an adult controls what a child is not yet capable of doing, which allows the child to focus on the parts of the task they are capable of doing (Wood et al., 1976). As the child works towards independence with the new skills and knowledge, the assistance slowly diminishes until the child is able to perform the task on their own (Wood et al., 1976).

When individuals are learning new information, facilitators should consider the modes of representation of their learners and use a spiral curriculum, so the material is structured in such a way that learners move through the process of doing, seeing and making symbolic representations of the information (Bigge & Shermis, 2004). Bruner identified three “parallel systems of processing information”: enactive (actions), ikonic (images) and symbolic (code or symbol, namely language), and every individual progresses through these three systems (modes of representation) as they learn new material (Bruner, 1966, p. 28). This process “consists of systems or rules or generalizations by means of which an individual, in a manageable way conserves the recurrent features of the environment” (Bigge & Shermis, 2004, p. 139). These three parallel systems “do not disappear as we grow older; quite to the contrary, they remain with us forever” (Bruner, 1963, p. 530).

The first stage is the enactive stage and is focused on “learning by doing” (Bruner, 1963, p. 529). When students are involved in a shopping math centre, the use of tangible coins, the cash register, and the purchasing of tangible objects would be a strategy that could be used to

engage the enactive mode of learning. During the next stage, the ikonic stage, individuals represent their environment through “internal imagery” (Bigge & Shermis, 2004, p. 140) or pictures (Bruner, 1963). For example, if someone was asked to describe the growth in their life savings, it may be difficult to use language to describe the growth; however, a bar graph depicting an individual’s savings over a period of time would make it easier for people to understand. The last stage, the symbolic, is “based upon an abstract, arbitrary, and more flexible system of thought” (Bigge & Shermis, 2004, p. 140) and usually develops after the age of seven. According to Bruner (1963), it is our “capacity to put things into a symbol system with rules for manipulating, decomposing and recomposing and transforming and turning symbols on their heads that makes it possible to explore things that are not present, not picturable, and indeed not in existence” (p. 530). This stage, often referred to as the abstract stage “allows a student to organize information in the mind by relating concepts together” (Brahier, 2009, p. 53). For example, a \$5 bill is a symbol used to represent a specific value of money, but the \$5 bill itself has little meaning without understanding the value it represents.

Bruner (1960) is a firm believer that children of any age are clever enough to understand complex information. He stated, “we begin with the hypothesis that any subject can be taught effectively in some intellectually honest form to any child at any stage of development” (Bruner, 1960, p. 33). The idea of the spiral curriculum was born out of this hypothesis. A spiral curriculum begins with a complex idea and the concepts are broken down into simpler levels and then the material gradually increases in complexity (Johnston, 2012). As Bruner states (1963) “the way to get ahead with learning is to translate an idea into those non-rigorous forms that can be understood. Then one can, with their [teacher/cultural experience] aid, become more precise and powerful” (Bruner, 1963, p. 530). The spiral curriculum is the process of “lead[ing] the

child from doing, to imaging what he has done, and finally to symbolization” (Bruner, 1963, p. 530).

By using a spiral curriculum, individuals begin by learning information at a level they are capable of understanding and through the process of “revisiting” allows the individual to engage with the concepts and material in a more complex way (Bruner, 1963). Bruner (1963) states “rarely is everything learned about anything in one encounter. Yet we seem to be so compelled to cover, to get through the Elizabethan Period, and on through such-and-such period that we forget the obvious point – that the pot is rarely licked clean at one swipe” (p. 531).

The teaching of financial literacy can be well supported by Bruner’s cognitive-interactionist theory. His thinking that all students are capable of learning information as long as it is structured towards their level of learning supports the idea that financial literacy skills can begin being taught early on in one’s schooling and be “revisited” throughout their elementary, secondary and post-secondary education (Bruner, 1963, p. 531). His spiral curriculum and parallel system for processing new information provides educators with a process of how to structure lessons and curriculum to engage students with new material and how to guide the student, over time, towards gaining an in depth understanding of complex concepts and how to solve problems they may encounter throughout their lives.

Summary of Literature Review

Increasing the financial skills of citizens across the globe is becoming an important goal for many countries (Atkinson & Messy, 2011). Although financial well-being can be defined in a variety of ways and differs for each individual, it affects everyone in some way. The four pillars of financial well-being outlined by the CFPB (2015) provide some direction as to the knowledge and skills necessary to move towards a positive feeling of financial well-being.

Being able to provide individuals with the knowledge and skills necessary to navigate the financial marketplace may help individuals be better planned for retirement, reduce financial stress and help reduce the ever-growing personal debt levels.

According to Willis (2008), financial education is a difficult concept to add to curriculum since, to be effective, educators need not only teach solid financial concepts to students, but they also must consider “heuristics, biases, and emotional coping mechanisms that interfere” with the decision-making process and ultimately sound financial behaviours” (p. 4). Both the mental accounting and prospect theory offer possible explanations as to the factors that may play a role in the decision-making process of individuals. As educators, if we consider these two theories when constructing financial education curriculum, we may be more effective at providing students with a thorough understanding of the knowledge and skills needed to make decisions that lead them towards financial well-being.

Piaget (1973), Vygotsky (1978), and Bruner (1961) all recognize the importance of abstract thinking and the role it plays in an individual’s life. If Piaget is correct and some individuals do not develop abstract thinking skills, then planning ahead financially may be difficult for some people (Holden, 2010). Vygotsky (1978) and Bruner (1961) both believed learning was transmitted through our culture, which may be a factor in our low financial literacy skills given that some caregivers are reluctant to talk about financial topics with their children or do not have the adequate skills to transmit to younger generations. Based on Vygotsky’s and Bruner’s theories about the importance of the social environment in a child’s learning it would be difficult for individuals to learn sound financial skills because it is still socially inappropriate to discuss money matters, both in and outside the home.

The lack of financial knowledge and skills amongst citizens across the globe is alarming, and this deficiency can potentially have harsh consequences for individuals and for the economy (OECD, 2017). Research demonstrates that a caregiver's knowledge, skills, and behaviours are highly influential on future generations, and, for many individuals, is the first place one turns to look for assistance in making financial decisions (OECD, 2017). Many socio-demographic factors (e.g., gender, education level, socioeconomic status) have been identified as having an impact on financial literacy levels, which are many of the same factors that influence our knowledge, skills, and behaviours when faced with financial situations throughout adulthood.

CHAPTER THREE: METHODOLOGY

As students leave high school they are faced with an increasing number of financial decisions (OME, 2010; OECD, 2014); they are not equipped with the knowledge and skills to navigate the financial marketplace, and they lack the financial behaviours that will contribute to financial well-being (BCSC, 2011; IEF, 2009, Lusardi & Mitchell, 2014, Varcoe et al., 2005). Further investigation revealed more research was required to gain a better understanding of financial decisions and behaviours of youth (J. Ryan, personal communication, September 15, 2014; Schuchardt et al., 2009). Finally, the OME developed documents related to the implementation of financial education in Ontario classrooms in 2010; however, there has been no evidence collected on how these documents are being integrated into classrooms, and what teachers need for full implementation.

The goal of this research was to answer the following research questions:

1. What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, including control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?
2. What factors and influences motivate the financial decisions of high school students?
3. What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?
4. What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: *A Sound Investment: Financial Literacy Education in Ontario Schools* (2010) and *Financial Literacy: Scope and Sequence of Expectations* (2016)?

- a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?
- b) According to teachers, what resources (e.g., professional development) are needed?

Rationale for Descriptive/Survey Research

According to Visser, Krosnick, and Lavrakas (2000), descriptive research is a “specific type of field study that involves the collection of data from a sample of elements, drawn from a well-defined population through the use of a questionnaire” (p. 223). Social researchers use descriptive research when they are concerned with the influences of social culture on human decisions and behaviours (Visser, Krosnick, & Lavrakas, 2000). Data are collected from an identified group of participants and then inferences are made about the general population, based on the results (Kelley, Clark, Brown, & Sitzia, 2003).

There are several reasons why descriptive research was used for this dissertation. First, the data collected using descriptive research methods are “real-world observations” (Kelley, Clark, Brown, & Sitzia, 2003, p. 262). Real-world research “endeavours to understand the lived-in reality of people in society and its consequences” (Robson & McMarten, 2016, p. 3). The real-world observations collected through the survey used in this research project provided information to deepen the understanding surrounding financial literacy among youth, parents/guardians and teachers in northern Ontario, at one moment in time. Second, because data was collected from a large number of individuals using the survey method, there is a greater chance the findings can be applied to the general population (Kelley, Clark, Brown, & Sitzia, 2003). In this research project, the survey instruments were administered to a sample of individuals from publicly funded school boards in northern Ontario. The findings of this research can be generalizable to youth from areas that display similar demographic

characteristics. Third, survey research can be reliable. Reliability is “the extent to which results are consistent over time and an accurate representation of the total population under study . . .and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered reliable” (Joppe, 2000, p. 1). Reliability can be measured using different methods depending on the method used to collect the data – test-retest reliability, alternate form reliability (parallel forms reliability), internal consistency and inter-rater reliability. This research used the internal consistency method to measure reliability of the instrument. Internal consistency is a measure of reliability “used to evaluate the degree to which different test items probing the same construct produce similar results” (Phelan & Wren, 2006, para. 4). The most popular measure of internal consistency is Cronbach’s Alpha. For example, researchers may ask two differently worded questions related to an individual’s spending habits at different points throughout the survey. The pairs or responses are then compared for consistency and a correlation coefficient is calculated (Phelan & Wren, 2006) and the higher the correlation coefficient, the higher the reliability of the instrument (Litwin, 2015).

Validity

Content and criterion-related validity are two measures of validity. Criterion-related validity provides evidence of how well a newly developed measurement instrument correlates with other assessment instruments developed to measure the same or similar constructs (Kimberlin & Winterstein, 2008). This research instrument was compared with the results from The Financial Capability Study (FCAC, 2015), PISA Results (OECD, 2017) and, the IEF Youth Study (IEF, 2012). Content validity, the most imperative measure of validity (Kritikos, 2010), is defined as “the degree to which elements of an assessment instrument are relevant and representative of the targeted construct for a particular assessment purpose” (Haynes, Richard, &

Kubany, 1995, p. 238). To measure content validity, researchers develop a test and then experts in the field being studied evaluate the test items (Kritikos, 2010, p. 28).

Threats to validity can be one disadvantage to using the descriptive research method. Due to the reality that human beings live complex lives, researchers who study human behaviour need to be aware of the influences that can lower the validity of their research by developing research studies and instruments that reduce the threats to validity as much as they can. According to Kritikos (2010), there are several influences that can impact validity including life experiences (grief, hunger) and a participant's physical well-being (e.g., alcohol/drug consumption, hard of hearing). Brener, Billy, and Grady (2003) discovered that in self-reported assessments, validity was threatened when participants were sensitive towards the material and did not want to report. This could be a factor in this research study since discussing finances is still often seen as a taboo subject (Atwood, 2012; Shane, 2009; Volger, 1998). Other factors which can affect validity include test factors such as: "unclear test instructions, unfamiliarity with test items, inappropriate test pictures, unfair test items, and language fluency [and] examiner factors [such as]: scoring errors, biased testing" (Kritikos, 2010, p. 30). A second disadvantage of using descriptive research is that researchers may "draw causal inferences when none are possible" (Grimes & Schulz, 2002, p. 147). Descriptive research studies are not meant to draw causation; they are meant to make generalizations about a population (Bhat, 2013). A third disadvantage of survey research is the inability of the researcher to tell if the participant is being truthful or if they are simply answering the way they feel the researcher wants them to answer (Sapsford, 2007). This issue with truthfulness is especially prevalent during face-to-face or telephone surveys. Grimm (2010) refers to this behaviour as social desirability bias which is "the tendency of research subjects to give socially desirable responses instead of choosing

responses that are reflective of their true feelings” (abstract). The data for this research project, was collected online, to reduce the impact of the researcher on the participant; however, there is always the possibility participants may not have answered truthfully. This possibility is especially concerning with a topic such as finances, since it is a topic many people are uncomfortable discussing.

An online survey instrument (available in French and English) was used to collect the data for this research, versus a paper and pencil test, for a variety of reasons. First, an online survey allowed the data to be collected anonymously since the data was submitted online and was not handled by anyone but the researcher. Students, parents/guardians and teachers were provided with a link to the survey to complete on their own time and the website was programmed to not collect IP addresses, so it was not possible to track which individuals completed the survey. Second, using technology allowed all students and parents to participate since they had access to online tools if they required assistance, including the use of Siri, spell-check, Kurzweil. Lastly, online surveys have proved to be useful in collecting data from individuals who commonly use the internet (Couper, Traugott, & Lamias, 2001; Sills & Song, 2002). Some research studies have determined that paper-based and web-based completion rates are similar (Dommeyer et al., 2004; Hohwu, Lyshol, Gissler et. al., 2013; Kaplowtiz, Hadlock, & Levine, 2004). Wyrick and Bond (2011) state there was no significant difference between the amount of sensitive information shared between web-based surveys and paper-and-pencil versions and Menachemi (2011) discovered there was no significant response bias in a web-based survey. Given that all students within one of the school boards in this study are part of a 1:1 iPad program, where students have been given iPads to be used both at school (with free wifi) and at home, this allowed students and parents/guardians good access to the survey. In

addition, one of the school boards in this study is working towards a paperless environment and the online survey falls within the parameters of that mandate.

There were several other research methods that could have been used to collect data from individuals. One such method would be conducting interviews. Although this method would have allowed the researcher to ask further probing questions related to financial behaviours and attitudes, there was the issue that financial conversations are still considered a taboo subject. In many families, money is not discussed (Atwood, 2012) until there is a financial crisis (Goetting & Schmall, 2003). Given that money continues to be a taboo subject (Volger, 1998), conducting face-to-face or telephone interviews to discuss personal financial behaviours and attitudes may have limited the data collected because interviewees may not have felt comfortable discussing their personal finances. This may have caused them to provide answers that did not reflect their actual behaviour and attitudes but provided answers that reflect more socially acceptable responses (social desirability). Grimm (2010), states social desirability bias becomes a concern when the topic of the research study is seeking to discuss issues which are socially sensitive. According to Nederhof (1985), surveys where interviewers are not present, and participants are confident the results are anonymous “are generally found to be less influenced by social desirability than are results of telephone or face-to-face interviews” (p. 272). This research project gathered data using an anonymous survey, where there was no risk of participants being identified. This method helped reduce the uncomfortable feelings associated with discussing financial topics and lessened the impact of social desirability bias.

Research and Data Gathering Procedures

Study sample. This research project used a non-probability, purposive sampling method. A non-probability sample does not select participants using a random selection process- not all

individuals in a population have a chance of being selected to participate (Battaglia, 2008). The purposive sampling technique is when a researcher selects “a specific population ... and only its members are included in the survey” (Kelley, Clark et al., 2003, p. 264). For example, not all high school students in Ontario had a chance to participate in this research project; but rather only high school students who attended a school within one of the two publicly funded northern Ontario school boards chosen for the project had the opportunity to participate. These two school boards were chosen for this project because of their proximity to the researcher. Only students who were enrolled in Grades 9-12 at the selected high schools were included in the study. A disadvantage of the non-probability sampling method is that since participants have not been randomly selected, the results of the research cannot be used to make generalizations that are applicable to the entire population (i.e., all high school students in Ontario), the results pertain only to the group that participated in the survey, in this case northern Ontario high school students (Battaglia, 2008).

Procedures

Obtaining permission from school boards to participate in research project. Two school boards from northern Ontario were contacted (one French and one English language school board) through an email to the Director of Education to seek permission for their family of schools to participate in this research project (Appendix A). A request was made to the Director of Education to provide permission for all high schools within their board to participate in the research. Permission was granted by the Director of Education via email. The Director of Education then provided a list of email addresses for their respective principals. The email addresses were used to communicate with the principals of each high school to inform them that the board had given permission for their schools to participate and ask them to distribute the

research packages once they arrived at the schools and to send reminders to staff to encourage participation.

Informing schools of research project. Principals were asked to forward an email from the researcher to each teacher in their school, letting them know the research had been approved by the school board and a hard copy package with further information was forthcoming, so they were aware of the research when the package arrived.

The school boards both advised the researcher to obtain the number of Participant Information Letters (PIL) needed at each school from the data collection person at each board. Both boards were able to send a complete list of numbers for each homeroom class at each school. Once the researcher had gathered the information on how many PILs were required at each school, the researcher mailed a package containing enough PILs for each parent/guardian, student and teacher within the school to the attention of the principal. An individual information package for each homeroom teacher with the information necessary for participation in the project was mailed to each school. The information package included class sets of the PIL for students (Appendix B1), parents/guardians (Appendix B2) and teachers (Appendix B3).

When the packages arrived, the principals were asked to distribute the packages to each homeroom teacher. Several copies of the teacher PIL were included in the package to the school so teachers who did not have a homeroom class received a letter to participate in the research. The student and parent/guardian PILs were stapled together and each PIL included an identical code which was unique to each student and parent/guardian. The students were asked for the code at the start of the survey so the results from the students and the parents/guardians could be linked by matching the two codes after the surveys had been submitted. Homeroom teachers

distributed one letter containing the student PIL and the parent/guardian PIL to each student in their homeroom class.

Inviting students to participate. Students were each given a letter by their homeroom teacher which contained a parent/guardian PIL and a student PIL. Students were instructed to take the letter home to their parents. The PIL for students contained the survey link/QR code for the student survey and a unique six-digit code, the start and end date of the data collection period, the purpose for gathering the data and an outline of the risks and benefits of the research project.

All students, who after consultation with their parents, chose to participate completed the online survey instrument accessed via the survey link/QR code listed in the PIL. Participation in the student survey was voluntary. At the start of the survey students were asked to input their unique six-digit code from the PIL. The student survey (Appendix C1) gathered information related to a student's background, socio-demographics and knowledge, behaviours and attitudes of the four elements of financial well-being and factors and influences on their financial decision making. Questions for the four elements of financial well-being included questions such as identifying the delivery charge on an invoice (control over day-to-day finances), when to start saving for retirement (financial goals), calculating compound interest (financial freedom) and purpose of insurance (financial shock; See Appendix C1, D1). Students participated in the survey voluntarily on their own time and all data collected was anonymous and held in strict confidence by the researcher. Prior to the start of the survey, students were asked for their consent to participate and were informed of the goals of the research and the potential risks and benefits. Students could skip questions if they felt uncomfortable with providing the answer. No personal, identifying information was collected (no names, addresses, etc.). By providing the

survey link/QR code through the PIL and by inviting the students to complete the survey on their own time, any undue influence or manipulation by the teacher, researcher or principal was avoided.

Inviting parents/guardians to participate in the research project: This research project was seeking data from parents/guardians about their knowledge, behaviours and, attitudes related to financial literacy. The survey included questions on inflation (knowledge), financial topics discussed with their child/ren (behaviour), and confidence in retirement security (attitude). Prior to the start of the parent/guardian survey (See Appendix C2, D2), parents/guardians were asked for their consent to participate and were provided with the goals of the research and the potential risks and benefits. Any parent/guardian who had a child attending a high school (Grades 9-12) was eligible to participate in the research project. One or both parents could have completed the survey. All parents/guardians completed the online survey using the survey link/QR code. Parents/guardians received the survey link and their six-digit code (which will be identical to their child's code) via a parent PIL which was given to students by their homeroom teacher to take home. If a parent/guardian had more than one child in the school, they were asked to input all of the access codes assigned to their children at the start of the survey. For example, if a parent/guardian had three children, they input three codes at the start of the survey, so their responses could be matched with each of their three children, after the completion of one survey. Participation in the parent survey was voluntary and all data was collected anonymously and was held in strict confidence by the researcher.

Inviting teachers to participate in the research project. This research project was seeking data from teachers about their attitudes and perceptions about financial literacy and their experiences with the financial literacy documents developed by the Ontario Ministry of

Education in 2010. The teacher survey gathered data related to the implementation of the Ontario Ministry of Education's financial education documents and their attitudes and perceptions towards financial literacy (See Appendix C3, D3). Prior to the start of the survey teachers were asked for their consent to participate. A goal of the OME (2016) is to "embed financial literacy expectations and opportunities in all disciplines in Grades 9-12" (p. 3), so each teacher had valuable information to contribute to this research, regardless of teaching discipline. All teachers in all disciplines within each school were eligible to participate. Teachers received the PIL and the survey link/QR code in the package they received from their principal. Participation in the teacher survey was voluntary and all data was collected anonymously and was held in strict confidence by the researcher.

Survey completion. There was a one-month window for completion of the survey. After two weeks, an email reminder was sent to each principal, to be forwarded to each homeroom teacher. This email served as a reminder to remind teachers to complete the survey and to remind teachers to encourage participation among the students. As an incentive to participate in the research project, students, parents/guardians, and teachers were given the opportunity to enter a draw for three \$100 VISA gift cards, once they had completed the survey. The participants were provided with a link on the last page of the survey which took them to an additional survey which asked for their email address. Once they had entered their email address, they were entered into the draw for the gift cards. All email addresses were deleted once the draw had been completed. The winner was contacted via email and asked for a mailing address. The gift cards were then mailed to the winners.

Instrument Development

The instruments used to collect the data for this research project were developed using questions from a variety of sources and the student and parent/guardian survey was written at a Grade 6/7 level to allow access to all students and parents/guardians regardless of learning pathway. The survey was also accessible by assistive technology, such as Kurzweil and Siri for students and parents/guardians who have reading difficulties. Questions for the surveys include questions from the PISA financial literacy assessment, OECD Toolkit for Measuring Financial Literacy, CFCS, and IEF Youth Financial Literacy Survey. Some questions were researcher created to collect data that accurately addressed the four elements of financial well-being and student and parent/guardian financial knowledge (See Appendix D1, D2, and D3). The student survey was broken into five sections; socio-demographic, knowledge, behaviours, and attitudes towards financial literacy and factors/influences. The questions were used to measure their knowledge, behaviours, and attitudes related to the four elements of financial well-being (control over day-to-day finances, financial goals, financial freedom, and financial shock). For example, knowledge was measured using questions such as the purpose of an invoice and calculating interest, behaviour was measured with questions related to their current saving and spending behaviour, and attitudes were measured using questions linked to their attitude about debts and retirement (See Appendix C1 for full student survey). The parent/guardian survey had four sections; socio-demographic, knowledge, behaviour, and attitudes towards financial literacy (See Appendix C2 for full parent/guardian survey) and the teacher survey consisted of 14 questions related to their behaviour and attitudes towards financial education (See Appendix C3 for full teacher survey).

The Cronbach alpha value for the 15 knowledge questions used to measure financial knowledge in the student survey was .867. When the data collected from the parent/guardian survey was analysed, the Cronbach alpha value for the nine knowledge questions used to measure the financial literacy knowledge was .769. The results indicate a satisfactory level of internal consistency for both the students and parent/guardian survey.

All three surveys (students, parent/guardian, teacher) used *Hosted in Canada Surveys* to administer the online survey (available in French and English). The French survey was translated by an external person who is bilingual and where French is their first language to ensure the survey was an identical translation to the English version.

The data collected will only be stored in Canada (i.e., not subject to the US Patriot Act) and any data used for analysis has been kept in strict confidence by the researcher. The collected data was analysed and the data will be stored for five years after the dissertation has been defended and will then be securely deleted by the researcher.

Potential Benefits and Risks to Participants

The data collected for this research put participants at minimal risk. The data was collected in a manner that made it highly unlikely to link the participant to the information gathered since the survey was anonymous, and no identifying information was collected. No personal information (name, address, etc.) was collected. At any time if participants felt a question was intrusive or they did not feel comfortable answering a question, they had the option of skipping over the question and moving on to the next question. Participants were able to withdraw altogether from the study at any time up until the survey was submitted, without consequence. Since the topic of financial literacy can cause anxiety or stress, depending on the situation the participant faces, resources related to financial literacy topics and how to access

debt counseling services were provided as part of the PIL and again at the conclusion of the survey.

Research allows educators to increase their knowledge about what works in classrooms, schools and school systems, which will benefit the well-being of students and their financial literacy education. Educational research can have a positive and lasting impact on student learning when it gives educators the knowledge, opportunities and motivation to adapt and refine strategies and approaches based on accurate and reliable data. The data students, parents/guardians and teachers provided in this research was used to provide suggestions for continuous improvement to students, parents/guardians, educators and curriculum, which will potentially enhance the knowledge, skills, behaviours and attitudes of students in the area of financial literacy.

The results of this research are beneficial to the development of knowledge in financial literacy for educators and parents/guardians and has the potential to bring financial literacy to the forefront of home and school learning opportunities. The survey possibly brought about a personal awareness to participants on the need for financial literacy and provided them with resources if they needed assistance in managing their finances. The research could provide a better understanding of the financial attitudes, knowledge and behaviours of high school students, parents/guardians and teachers and will allow educators to target specific behaviours and attitudes in relation to financial literacy. The data collected may be used to enhance financial education curriculum and may inform stakeholders on how best to reach the financial literacy needs of youth. The data may have provided an understanding of the attitudes and perceptions of parents/guardians and teachers and what is needed to support financial education, both in the home and at school. The data gathered from this research could be used to develop

educational resources and training programs that may support the needs of students, teachers and parents/guardians in financial literacy.

Data Analysis

SPSS 24.0 for Windows (Student Version) was used to create a database of all of the data collected and to prepare frequency tables and charts. The analysis included descriptive and inferential statistics, including correlations, independent t tests, and analysis of variance (ANOVA). The survey data was analysed to see if there were any significant differences between groups (gender, academic stream, teacher experience, students versus parent/guardians, etc.). The data was used to identify relationships between variables (part-time job and financial knowledge) and if any generalities could be made about this specific sample of students, teachers and parents/guardians towards financial literacy (regression analysis). Data collected from students was also compared against other financial literacy assessments such as PISA.

Summary of Chapter Three

Through the use of an online survey the strengths and needs of students, parents/guardians, and teachers in terms of financial literacy were investigated. Descriptive and inferential statistics were used to analyse the data and recommendations were made to address the financial needs of high school students, their parents/guardians and teachers in northern Ontario. What follows is the data analysis and findings from the northern Ontario sample.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

The implementation of the study methodology described in the previous chapter provided a basis for meeting the following goals:

- Develop knowledge in the area of financial literacy of educators;
- Provide a better understanding of the financial attitudes, knowledge and behaviours of high school students;
- Enhance financial curriculum and to inform stakeholders on how best to reach financial literacy needs of youth; and
- Provide an understanding of the attitudes and perceptions of parents/guardians and teachers and what is needed to support financial education, both in the home and at school.

This chapter begins by describing the demographic data and an analysis of the data as it relates to the research questions associated to students, followed by the parents/guardians and teachers.

The chapter outlines the overall results of the analysis of the data collected for addressing the problem outlined in Chapter 1 and provides supporting details to answer the research questions.

1. What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, including control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?
2. What factors and influences motivate the financial decisions of high school students?
3. What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?

4. What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: *A Sound Investment* | *Financial Literacy Education in Ontario Schools* (2010) and *Financial Literacy: Scope and Sequence of Expectations* (2016)?
- a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?
 - b) According to teachers, what resources (e.g., professional development) are needed?

Data Sample - Student

A total of 3717 students were invited to complete the online financial literacy survey. There were 535 usable student surveys – a 14% response rate. Of the 535 students who responded 230 indicated they were male (43%), 280 were female (52%), and 25 were gender not specified (GNS) (5%) (See Appendix E1). The students attended 1 of the 17 high schools within two school districts in northern Ontario. Of the 535 respondents, 8% (43 students) self-identified as being First Nations, 2% (13 students) self-identified as being a racial minority, 87% (467 students) identified themselves as white, and 2% (12 students) did not respond to the question (See Appendix E2). The majority of students who participated in the survey were taking all of their classes in the Academic pathway (54%) followed by students who were taking all of their courses in the Applied pathway (30%). The next largest group were students who are enrolled in a mix of Academic and Applied courses (11%), 2% of the students were from the Locally Developed pathway (herein called the Essential pathway), 1% took a combination of Essential/Applied classes and the final 3% did not know what pathway they were taking (1%) or indicated other (2%; See Appendix E3).

Of the 3717 students who were invited to participate in the survey across the research area, 27% of the target population were in Grade 9, 27% were in Grade 10. Of the target population, 27% of the students were in Grade 11 and 33% of the students were in Grade 12. The distribution of students across grades who completed the survey was a fair representation of the target population for Grades 9-11 with 27% of students being from Grade 9, 25% from Grade 10 and 23% from Grade 11; however, only 21% of students were from Grade 12, compared to 33% of the target population (See Appendix E4). Four percent of students did not indicate a grade.

Data and Analysis – Gender Not Specified and Other Learning Pathway

***Due to the low numbers of participants in some of the categories, when analysis was done using gender or learning pathway, only differences between male/female respondents were analyzed and only differences between the Academic, Applied and mixed Applied/Academic pathways were analyzed.*

Background of Gender Not Specified (GNS) Students

The gender not specified (GNS) group had 25 participants and were not included when analysing the data. The following is a summary of the GNS knowledge, attitudes, and behaviours. GNS students receive all/most of their money from a part-time job (60%), followed by getting an allowance for no chores (36%). Most of the GNS group indicated they were extremely/moderately knowledgeable (56%) when asked to self-report their overall money knowledge and skills, compared to 12% that indicated they were not at all knowledgeable. When students in the GNS groups were asked to self-report their knowledge on various financial topics, they were most confident in the difference between wants and needs (76%), followed by fraud and its consequences, buying a car and cost of post-secondary education (44%). They

were least confident in compound interest and pensions (72%), followed by managing debt and saving (56%).

Financial Literacy Knowledge of GNS Students

GNS students were most knowledgeable in financial goals. Twenty-four percent of students were able to answer all three of the financial goals knowledge questions correctly. GNS students were least knowledgeable in financial freedom, where only 8% of students were able to answer the three questions correctly. Twenty percent of GNS students were able to achieve a Level 4 on the knowledge portion of the survey, with most the students achieving an R (64%).

Behaviour and Attitudes of GNS Students Towards the Four Elements of Financial Well-Being

Control over day-to-day finances. When it comes to budgeting, 24% of GNS students always budget their money, compared to 20% of students who do not budget their money. Most students (48%) only budget for bigger ticket items, with 44% of GNS students always/often stay within their budget. Most GNS students have a bank account (68%) that their parents opened for them when they were young (24%). Twenty percent of GNS students did not know if they had a bank account. When asked what they did when they did not have enough money to buy something they really wanted, 16% indicated they would save up to buy it, or not buy it (16%).

Financial goals. Thirty-two percent of GNS students are saving for post-secondary education, compared to 24% of students who are not saving and 24% of students who did not know. For the students who indicated they were saving for post-secondary education, most students did not know how they were saving for post-secondary education (38%), followed by saving through a dedicated savings account (25%). Of the students who indicated they were not

saving for post-secondary education are counting on government grants/loans to fund their education.

Twenty-eight percent of GNS students save their cash at home, followed by in a bank account (24%). Sixteen percent of students do not save their money. GNS students save most for technology (64%) followed by clothing and gifts for others (40%).

Financial freedom. GNS students had some form of debt, either from borrowing money for a big-ticket item such as a Ski-Doo or dirt bike (24%), paying for an online purchase by using a credit card (12%) or they borrowed money to pay off a bill (12%). Thirty-two percent of GNS students indicated they did not have any debt. Of the students who have borrowed money, they mostly borrow from their parents/guardians (28%). Most GNS students disagree/strongly disagree that being in financial debt is okay (48%), compared to 16% of students who strongly agree/agree that being in debt is okay. Twelve percent of GNS students believe they will always carry debt during their lifetime, compared to 40% that disagree/strongly disagree that they will carry debt during their lifetime.

Most GNS students do not know how they are going to pay for the expenses during retirement (44%), with 36% of students indicating they are concerned about having financial security during retirement.

Financial shock. Thirty-two percent of GNS students have already experienced some form of a financial shock. Most students know they should have an emergency fund to pay for emergencies (36%) and that insurance coverage is related to their financial security (28%).

Factors/Influences that Motivate GNS Student's Financial Decisions

Thirty-two percent of students always/often talk to their parent/guardians about financial matters, compared to 24% of students who rarely/never talk to their parents about financial matters and most GNS students turn to their parents/guardians if they have financial questions.

When students were asked what influenced them to buy their last purchase, 24% of GNS students did not know what influenced the purchase, followed by sales (16%) and family members (12%). Thirty-two percent of GNS students buy things to make themselves feel good and 48% of GNS students strongly agree/agree the way they spend their money reflects their values.

Background of Other Learning Pathways

There were 22 students who indicated they were in other OLPs - mixed Applied/Locally Developed pathway (herein called Essential Pathway; 27%), Essential pathway (41%) or they did not know their learning pathway (32%). These 22 students were not used as part of the analyses due to low participants in each learning pathway. The following is a summary of their knowledge, behaviours and attitudes on the elements of financial well-being.

Forty-one percent of students in the OLP received all/most of their money from gifts, followed by a part-time job (23%) and a family business (23%). Students were asked to self-report their money knowledge and skills. The majority of students in OLP rated themselves as being extremely/moderately knowledgeable in money knowledge and skills, compared to the 23% who rated themselves as slightly/not at all knowledgeable. Students were then asked to rate their knowledge on various financial topics. Students in OLP mostly indicated they were extremely/moderately knowledgeable about the difference between needs and wants (68%), followed by buying a car (45%), saving (41%), and investments (41%). OLP students were least

confident in their knowledge about pensions (73%), followed by the cost of post-secondary education (68%), and dealing with unexpected shocks/emergencies (68%).

Financial Literacy Knowledge of OLP Students

OLP students were most knowledgeable in the control over day-to-day finances elements of financial well-being, as 18% of students were able to answer all five questions correctly. OLP students were least knowledgeable in the financial freedom element of financial well-being where no students (0%) were able to answer all three questions correctly. Fourteen percent of OLP students achieved a Level 4 (highest achievement level) on the financial literacy knowledge questions, compared to 77% of students who got an R, which is the lowest level of achievement.

Behaviour and Attitudes of OLP Students Towards the Four Elements of Financial Well-Being

Control over day-to-day finances. Students were asked to indicate their budgeting behaviour. An equal number of students in OLP say they always budget their money (27%), only budget for big ticket items (27%) and don't budget (27%). Of the students who said they budget their money, 36% of students indicated they always/often stay within in their budget, compared to 5% who say they never stay within their budget. Fifty-five percent of students in OLP, have a bank account and 14% of students did not know if they had a bank account. An equal number of students had the account opened by parents or opened a bank account to have a place to deposit their pay cheque (14%). When students were asked what they did when they did not have enough money to buy something they really wanted, 18% indicated they would save up to buy it and 18% said they would borrow the money from a family member.

Financial goals. Twenty-three percent of OLP students are saving for post-secondary education and 23% of students did not know if they were saving for post-secondary education.

Of the students who were saving for post-secondary education, 5% were saving through mutual funds, 5% were using another method (not specified), and 14% did not know how they were saving.

Financial freedom. The majority of OLP students do not have any debt (50%). Of the students who indicated they have some form of debt, 14% had debt from borrowing money for lunch, borrowing for a big-ticket item (9%) and for entertainment (5%), paying off a bill (5%) or using a credit card for an online purchase (5%). OLP are most likely to borrow money from their parents/guardians. Nine percent of OLP students strongly agree/agree that being in debt is acceptable, compared to 36% of students who disagree/strongly disagree that being in debt is okay. Forty-one percent of OLP students disagree/strongly disagree that they will always carry debt through their lifetime, compared to 14% of students who strongly agree/agree. Thirty-six percent of OLP students are concerned about their financial security during retirement. Thirty-six percent of OLP students do not know how they will pay for expenses during retirement (36%). Fourteen percent of students plan to pay for their retirement expenses using a work pension and savings (14%). The least popular method of paying for expenses during retirement was using an RRSP (0%).

Financial shock. Sixty-four percent of OLP students have experienced some form of financial shock and most students had the shock covered by their parents/guardians (9%), followed by using a credit card/line of credit (5%) or savings to cover the cost (5%). Fourteen percent of OLP students do not think insurance coverage is related to their financial security, compared to 9% that believe it is related to their financial security. Most students strongly agree/agree they should have an emergency fund for unexpected emergencies, compared to 27% of students who do not think they should have an emergency fund.

Factors/Influences that Motivate the Financial Decisions of OLP Students

Eighteen percent of OLP students always/often talk to their parents about money matters, compared to 41% who rarely/never discuss financial matters with their parents. If OLP students have questions, they most often turn to their parents/guardians, followed by teachers (9%), brothers/sisters (9%) and the internet (9%). Nine percent of students don't talk to anybody about money. When students were asked what influenced them buy their last major purchase, students indicated they did not know what influenced their purchase (27%), followed by emotions (9%) and sales (9%). Twenty-three percent of OLP students make purchases to make themselves feel good and 27% of OLP say the way they spend their money reflects their values.

What follows is the data analysis of the students who were not part of the GNS or OLP sample.

Students were asked 15 knowledge questions related to the four elements of financial well-being (control over day-to-day finances, financial goals, financial freedom and financial shock).

Student's correct responses were then used to develop a composite knowledge score (CKS). The CKS was derived by counting the number of correct responses for each knowledge question which resulted in a score out of 15.

Background of Students**Self-Reported Knowledge of Overall Financial Literacy and Specific Financial Topics.**

Students were asked to rate their general money knowledge and skills. Fifty-five percent of students reported they were extremely/moderately knowledgeable when asked to self-report their money knowledge and skills. Thirteen percent reported they were slightly knowledgeable

or not at all knowledgeable (18%) in money knowledge and skills. Fifty-six percent of students rated themselves as extremely/moderately knowledgeable about money knowledge and skills and 17% of students rated themselves with slight/not at all knowledgeable. An independent t-test was conducted to compare the effect of gender on self-reported level of money knowledge and skills and a statistically significant difference was revealed, $t(504) = -4.634, p = .001$. Males ($M = 3.67, SD = .96$) were more confident than females ($M = 3.26, SD = .99$) in their self-reported money knowledge and skills (See Appendix E5).

Eleven percent of Academic and Applied pathway students rated themselves as extremely knowledgeable in money knowledge and skills, compared to 7% of mixed Applied/Academic. Three percent of Academic, 4% of Applied and 7% of mixed Applied/Academic pathway students rated themselves as not at all knowledgeable. A one-way analysis of variance determined there was no statistically significant difference between self-reported financial knowledge and the three learning pathways, $F(2, 498) = .005, p = .995$ (See Appendix E6).

A Pearson's product moment-correlation coefficient was computed to assess the relationship between composite knowledge score (CKS) and self-reported money knowledge and skills. There was a positive correlation between the two variables ($r = .120, p = .006$). A simple linear regression was calculated to investigate the relationship between self-reported money knowledge and skills and CKS. Simple linear regression indicated a statistically significant relationship between self-reported money knowledge and skills and CKS, $F(1, 528) = 7.692, p = .006$. The slope coefficient for self-reported money knowledge and skills was .450, which indicates that as self-reported knowledge level increases, the CKS increases by .450. The R^2 value was .014 so 1.4% of the variation in CKS can be explained by self-reported money knowledge and skills.

Students were then asked to rate their knowledge on a variety of specific financial topics. High school students felt most confident (indicated “Extremely Knowledgeable or Moderately Knowledgeable”) with knowing the Difference Between Needs and Wants (80%), next to Saving (55%) and Cost of Post Secondary Education (53%) and Buying a Car (51%). Overall, students were the least confident (indicated Slightly Knowledgeable or Not at All) in Compound Interest (54%), next to Pensions (49%) and Dealing with Unexpected Shocks/Emergencies (49%). Males were more confident than females on every topic, except seven topics (savings, budgeting, difference between wants/needs, buying a home, financial planning for life after high school, charity/giving and cost of post-secondary education). An independent t-test determined females and males differed significantly on various financial topics (See Appendix E7a).

Academic pathway students in the NOS reported they were most knowledgeable about the difference between wants and needs (88%), followed by cost of post-secondary education (60%) and saving (60%). Applied pathway students self-reported they were most knowledgeable about the difference between needs and wants (67%), followed by buying a car (52%) and saving (47%). The mixed Applied/Academic pathway indicated they were most knowledgeable about the difference between needs and wants (86%), followed by buying a car (58%) and cost of post-secondary education (58%). A one-way analysis of variance determined there was a statistically significant statistical difference between self-reported knowledge on various financial topics by learning pathway (See Appendix E8). There was a statistically significant difference between learning pathway and self-reported knowledge of compound interest, $F(2, 490) = 3.654, p = .027$. A Tukey post-hoc test was used to compare the differences between knowledge of compound interest by learning pathway. No statistically significant difference between the Academic ($M = 2.24, SD = 1.19$), Applied ($M = 2.52, SD = 1.28$) or mixed Applied/Academic

($M = 2.61$, $SD = 1.38$) pathways was determined. A Tukey post-hoc test determined Academic pathway students ($M = 4.34$, $SD = .93$) and mixed Applied/Academic pathway students ($M = 4.32$, $SD = .90$; $p = .007$) are more likely to say they are knowledgeable about the difference between wants and needs ($p = .001$) than Applied pathway students ($M = 3.84$, $SD = 1.20$). Academic pathway students ($M = 3.18$, $SD = 1.28$) are more confident in their knowledge of influences on consumers ($p = .012$) than Applied pathway students ($M = 2.83$, $SD = 1.15$). Academic pathway students ($M = 3.41$, $SD = 1.18$) indicated more confidence on the topic of fraud and its consequences ($p = .021$) than Applied pathway students ($M = 3.07$, $SD = 1.36$). Academic pathway students ($M = 3.30$, $SD = 1.20$) self-report more knowledge on the topic of charity/giving to others ($p = .025$) than their Applied pathway counterparts ($M = 2.99$, $SD = 1.22$). Academic pathway students ($M = 3.56$, $SD = 1.15$) indicated they were more knowledgeable about the cost of post-secondary education ($p = .019$) than their Applied pathway peers ($M = 3.52$, $SD = 1.16$).

Sources of money. Students were asked to identify their sources of their money. Fifty-six percent of students get all/most of their money from working at a part-time job, followed by 23% of students receiving all/most of their money from gifts and 21% of students receiving all/most of their money from their parents. An independent t-test was conducted to compare the effect of gender on sources of money for high school students (See Appendix E9). More males ($M = 2.08$, $SD = 1.31$) than females ($M = 1.86$, $SD = 1.07$) receive an allowance for doing chores, $t(437.43) = -2.00$, $p = .046$. Males ($M = 2.06$, $SD = 1.492$) are more likely to get their money from working in a family business than females ($M = 1.60$, $SD = 1.05$), $t(390.62) = -3.94$, $p = .001$. Females ($M = 2.26$, $SD = 1.18$) are more likely to get their money from working at informal jobs than males ($M = 2.04$, $SD = 1.23$), $t(469.45) = 2.03$, $p = .043$. More females ($M = 2.75$, $SD =$

1.03) get money from gifts ($M = 2.55$, $SD = 1.12$), $t(499) = 2.06$, $p = .040$. More females ($M = 2.64$, $SD = 1.17$) than males ($M = 2.31$, $SD = 1.17$) get their money from their parents/guardians, $t(501) = 3.24$, $p = .001$. There were no statistically significant differences identified between sources of money for males and females on an allowance for doing no chores, $t(502) = -.216$, $p = .829$, part-time job, $t(501) = -1.838$, $p = .067$ and selling things, $t(498) = -1.287$, $p = .199$.

All three learning pathways receive all/most of their money from holding a part-time job (26%), followed by working in a family business (7%). A one-way analysis of variance was used to determine statistically significant differences between source of money by learning pathway (See Appendix E10). There was a statistically significant difference between an allowance for doing chores, $F(2, 499) = 8.741$, $p = .001$; allowance for doing no chores, $F(2, 496) = 4.607$, $p = .010$; working in a family business, $F(2, 495) = 3.257$, $p = .039$ and selling things, $F(2, 492) = 11.531$, $p = .001$. The other sources of money were not statistically significant – part-time job, $F(2, 495) = .196$, $p = .822$; informal jobs, $F(2, 492) = 1.018$, $p = .362$; gifts, $F(2, 493) = 2.229$, $p = .109$ and parents/guardians, $F(2, 495) = .353$, $p = .703$. Applied pathway students ($M = 2.28$, $SD = 1.32$) were more likely than Academic pathway students ($M = 1.81$, $SD = 1.07$) to receive an allowance for chores ($p = .001$). Applied pathway students ($M = 2.08$, $SD = 1.33$) were also more likely to sell things to get money ($p = .001$) than their Academic pathway peers ($M = 1.56$, $SD = .934$). More Applied pathway students ($M = 1.99$, $SD = 1.42$) receive their money from working in a family business ($p = .030$) than Academic pathway students ($M = 1.67$, $SD = 1.16$). More Applied pathway students than mixed Applied/Academic pathway students receive an allowance for doing no chores ($p = .018$).

A Pearson product-moment correlation was calculated to assess the relationship between CKS and sources of money. A positive correlation was found for a part-time job ($r = .139$, $n =$

528, $p = .001$). Negative correlations were identified for receiving an allowance for chores ($r = -.325, p = .001$), receiving an allowance for no chores ($r = -.319, p = .001$), working in a family business ($r = -.218, p = .001$), working at informal jobs ($r = -.182, p = .001$), receiving money as gifts ($r = -.131, p = .03$), selling things for money ($r = -.259, p = .001$) and receiving money from parents ($r = -.242, p = .001$).

Positive or negative correlations were discovered for each source of money. A simple linear regression was carried out to investigate the relationship between CKS and each source of money. Simple linear regression showed a statistically significant relationship between receiving an allowance for doing chores, an allowance for doing no chores, having a part-time job and working in family business, $F(8,503) = 14.524, p < .001$, parents, $F(8,503) = 14.524, p = .047$ and CKS. The R^2 value was .188 so 19% of the variation in CKS can be explained by source of income. The slope coefficients for each source of money, except for working at a part-time job showed that the more money they received from each source of income decreased their CKS (receiving an allowance for doing chores was -.431, an allowance for doing no chores -.494, working in a family business -.382, receiving money from parents -.311). Working at a part-time job had a positive effect on the CKS (.339). There was no statistically significant regression found for working at informal jobs, $F(8, 503) = 14.524, p = .305$, receiving money as gifts, $F(8, 503) = 14.524, p = .109$ or selling things for money, $F(8,503) = 14.524, .095$).

Exposure to money management course. Fifteen percent of students have taken an entire course in personal finance compared to 16% of students who have taken a course where at least a week was focused on money management or personal finance. Few students (5%) indicated they had taken an entire course in economics compared to 12%, who had taken a course where at least a week focused on economics. Fifteen percent indicated they had taken a

course where they had played a stock market game. Forty-eight percent have never been exposed to financial topics at this point in their high school journey. An independent t-test was calculated to determine if there was no statistically significant difference between exposure to financial topics in high school by gender (See Appendix E11).

Forty-eight percent of students in the Academic pathway, 55% of Applied and 63% of mixed Applied/Academic pathway students have been exposed to financial topics in high school, either an entire course or a course where at least a week focused on the topic of finance. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and taking an entire course in money management or personal finance, $F(2, 501) = 1.827, p = .162$, a course where at least a week focused on money management or personal finance, $F(2, 501) = 1.082, p = .340$, an entire course in economics, $F(2, 501) = .507, p = .603$, a course where at least a week focused on economics, $F(2, 501) = 1.095, p = .553$, having played a stock market game, $F(2, 501) = 1.095, p = .335$ or having no exposure to financial topics in high school, $F(2, 501) = 2.324, p = .099$ (See Appendix E12).

A Pearson's product moment-correlation coefficient was computed to assess the relationship between the CKS and having taken any financial classes in high school. There was a positive correlation between CKS and having taken a course where at least a week was about money management or personal finance [$r = .149, p = .001$].

A simple linear regression was calculated to investigate the relationship between having taken a course where at least a week was about money management and CKS. Simple linear regression showed a statistically significant negative relationship between taking a course where at least a week was about money management and CKS $F(1, 532) = 12.016, p = .001$). The slope coefficient for taking a course where at least a week was about money management was -

1.540 so the CKS decreases if students have taken a course where at least a week was on personal money management. The R^2 value was .022 so 2% of the variation in CKS can be explained by having taken a course where at least a week was on personal money management.

Research Question #1: What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, including control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?

Financial Literacy Knowledge - Student

Control over day-to-day finances. Twenty-two percent of all students were able to answer all five questions used to measure a student's knowledge of the control over day-to-day finances element of financial well-being, 28% of the students were able to answer 4 of the 5 questions. Six percent of students were not able to answer any of the questions correctly (See Appendix E21). Females and males both performed the best on the Purpose of an Invoice question and were the least successful on the Delivery Charge question. An independent t-test was used to determine statistically significant differences between knowledge questions related to the control over day-to-day finances by gender (See Appendix E13). More females ($M = 1.85$, $SD = .36$) than males ($M = 1.74$, $SD = .44$), $t(379.86) = 3.017$, $p = .003$ were able to answer the Buying Bulk – Not Always a Good Decision. No statistically significant differences were identified by gender on the remaining knowledge questions related to control over day-to-day finances; Purpose of an Invoice, $t(455.22) = 1.619$, $p = .106$; Delivery Charge, $t(420.40) = 1.746$, $p = .082$; Buying Bulk vs Buying Single, $t(431) = .240$, $p = .811$; Paystub, $t(482) = .842$, $p = .400$.

A one-way analysis of variance determined there was a statistically significant difference between Purpose of an Invoice, $F(2, 501) = 1.827, p = .162$; Delivery Charge, $F(2, 437) = 8.261, p = .001$; Buying Bulk vs Buying Single, $F(2, 426) = 3.431, p = .033$ and Paystub $F(2, 477) = 6.799, p = .001$ by learning pathway (See Appendix E14). There was no statistically significant difference discovered on the Buying Bulk – Not Always a Good Decision question by learning pathway, $F(2, 427) = 2.780, p = .063$. A Tukey post-hoc test determined Academic pathway ($M = 1.85, SD = .36$) students were more successful at answering the Purpose of an Invoice question ($p = .004$) than Applied pathway students ($M = 1.72, SD = .45$). Academic pathway students ($M = 1.66, SD = .48$) were more successful at answering the Delivery Charge question ($p = .001$) than Applied pathway students ($M = 1.45, SD = .50$). Academic pathway students ($M = 1.77, SD = .42$) outscored their Applied pathway counterparts ($M = 1.65, SD = .48$) on Buying Bulk vs Buying Single ($p = .025$). Academic pathway students ($M = 1.65, SD = .48$) did significantly better on the Paystub question ($p = .001$) than their Applied peers ($M = 1.47, SD = .501$).

Financial goals. Overall, 29% of students were able to answer all three knowledge of financial goals questions correctly, compared to 23% that were not able to answer any of the questions correctly (See Appendix E21). Thirty-eight percent of all students were able to correctly answer the Saving for Vacation question. Overall, 67% of students were able to identify the Best Time to Buy Shares and 66% of students were able to decide if share prices had increased by 50% over the course of one year. An independent t-test determined there was a statistically significant difference between gender on the Share Price Increase question. Males ($M = 1.84, SD = .37$) outperformed their female ($M = 1.75, SD = .44$) counterparts, $t(421.50) = -2.42, p = .016$ on the Share Price Increase questions (See Appendix E15). There was no

statistically significant difference on the other two financial goal questions; Saving for Vacation, $t(447) = -.855, p = .39$ and Best Time to Buy Shares, $t(421.50) = -1.899, p = .06$ by gender.

Academic students outperformed their Applied and mixed Applied/Academic counterparts on each of the three financial goals questions. A one-way analysis of variance was used to determine statistically significant differences in knowledge of financial goals by learning pathway (See Appendix E16). A statistically significant difference was revealed for Saving for Vacation, $F(2, 442) = 4.910, p = .008$. There was no statistically significant difference between Share Price Increase, $F(2, 458) = 2.882, p = .057$ or Best Time to Buy Shares, $F(2, 418) = 1.806, p = .166$. A Tukey post-hoc test determined Academic pathway students ($M = .151, SD = .50$) were more successful at answering the Saving for Vacation ($p = .006$) than Applied pathway students ($M = 1.34, SD = .48$).

Financial freedom. Overall, 10% of all students were able to answer all three financial freedom questions correctly, compared to 23% that were not able to answer any of the questions correctly (See Appendix E15). Fifty-four percent of students correctly identified when to start saving for retirement, 43% of students were able to calculate the interest on \$100 after 1 year and 31% were able to accurately calculate the interest on \$100 after 5 years. An independent t-test determined there was a statistically significant difference on Calculating Interest on \$100 After One Year where males ($M = 1.67, SD = .50$) were more successful than females ($M = 1.55, SD = .50$), $t(360.92) = -2.390, p = .017$ (See Appendix E17). There was no statistically significant gender difference for when to Start Saving for Retirement, $t(404) = .947, p = .344$ and Calculating Interest on \$100 After 5 Years, $t(367.29) = -1.13, p = .259$.

Academic students outscored their Applied and mixed Applied/Academic pathway peers on each of the three financial freedom knowledge questions. A one-way analysis of variance

was used to analyze differences in performance on financial freedom questions by learning pathway (See Appendix E18). There was a statistically significant difference between responses for Interest After 1 Year, $F(2, 360) = 6.065, p = .003$, by learning pathway. There was no statistically significant difference between When to Start Saving for Retirement, $F(2, 399) = 1.312, p = .270$ or Interest After 5 Years, $F(2, 367) = 1.204, p = .301$, by learning pathway. A Tukey post-hoc test determined Academic pathway students ($M = 1.68, SD = .47$) were more successful at answering Interest After 1 Year ($p = .002$) than their Applied pathway peers ($M = 1.49, SD = .50$).

Financial shock. Overall, 33% of students were able to answer all four questions related to financial shock, compared to 16% who could not answer any of the questions correctly (See Appendix E19). Sixty-three percent of students were able to identify the Purpose of Insurance. An independent t-test revealed there was a statistically significant difference between knowing the Purpose of Insurance where females ($M = 1.81, SD = .39$) slightly outperformed males ($M = 1.72, SD = .45$) on knowing the purpose of insurance, $t(403.19) = 2.16, p = .031$. Sixty-two percent of students knew a more powerful vehicle increases the cost of insurance, 57% of students knew the colour of vehicle had no impact on the cost of insurance and 61% of students knew accidents would increase the cost of insurance. An independent t-test determined there was no statistically significant difference between knowing the effects on insurance; Power of Vehicle, $t(428.46) = -1.576, p = .12$; Colour of Vehicle, $t(414.42) = -1.402, p = .162$ or Accidents, $t(419.95) = -1.281, p = .201$ by gender (See Appendix E19).

A one-way analysis of variance determined there was a statistically significant difference between Purpose of Insurance, $F(2, 418) = 6.909, p = .001$, Effect of Power on Insurance, $F(2, 427) = 10.267, p = .001$, Effect of Paint Colour on Insurance, $F(2, 420) = 4.736, p = .009$ and

Effect of Accidents on Insurance, $F(2, 421) = 6.084, p = .002$ (See Appendix E20). A Tukey post-hoc test revealed Academic pathway students ($M = 1.81, SD = .39$) ($p = .002$) and mixed Applied/Academic pathway students ($M = 1.85, SD = .36$) ($p = .016$) were more successful at answering the Purpose of Insurance question than their Applied pathway students ($M = 1.66, SD = .48$). Academic pathway students ($M = 1.81, SD = .39$) were more likely to correctly answer the Effect of Power on Insurance ($p = .001$) than Applied pathway students ($M = 1.60, SD = .49$). Academic pathway students ($M = 1.75, SD = .44$) were more successful than Applied pathway students ($M = 1.60, SD = .49$) on the Effect of Paint Colour on Insurance ($p = .006$). Academic pathway students ($M = 1.79, SD = .41$) outscored their Applied pathway peers ($M = 1.63, SD = .49$) on the Effect of Accidents on Insurance ($p = .006$).

Correct Responses - by Element of Financial Well-Being

Students were most successful at answering knowledge questions related to financial shock. Thirty-three percent of students were able to answer all 4 financial shock questions correctly. The next most successful element of financial well-being was the financial goals element, where 29% of students were able to answer all three questions correctly. Twenty-two percent of students were able to answer all five questions about control over day-to-day finances correctly. The least successful element of financial well-being was financial freedom, where only 10% of students were able to answer all three questions correctly. An independent t-test was used to determine statistical differences between correct responses for each element of financial well-being by gender (See Appendix E21). A statistically significant difference was identified between total number of correct responses for financial freedom by gender, $t(435.68) = -2.49, p = .013$. More males ($M = 1.47, SD = .98$) than females ($M = 1.26, SD = .83$) were able to answer questions related to financial freedom correctly (See Appendix E22). There was no

statistically significant difference found for Control Over Day-to-Day Finances, $t(468.72) = 1.89$, $p = .060$, Financial Goals, $t(461.79) = -1.934$, $p = .054$ or Financial Shock, $t(448.43) = -.918$, $p = .359$.

A one-way analysis of variance determined there was a statistically significant difference between knowledge of each element of financial well-being and the three learning pathways – Control Over Day-to Day Finances, $F(2, 497) = 26.608$, $p = .001$, Financial Goals, $F(2, 472) = 6.172$, $p = .002$, Financial Freedom, $F(2, 478) = 3.965$, $p = .020$ and Financial Shock, $F(2, 464) = 14.943$, $p = .001$ (See Appendix E23). A Tukey post-hoc test determined Academic ($M = 3.55$, $SD = 1.36$) and mixed Applied/Academic pathway students ($M = 3.37$, $SD = 1.48$) outscored their Applied pathway peers ($M = 2.54$, $SD = 1.47$) on the element of Control Over Day-to-Day Finances ($p = .001$). Academic ($M = 2.92$, $SD = 1.24$) ($p = .001$) and mixed Applied/Academic pathway students ($M = 2.75$, $SD = 1.40$) ($p = .021$) outscored their Applied counterparts ($M = 2.20$, $SD = 1.32$) on the element of Financial Shock. Academic pathway students ($M = 1.99$, $SD = 1.02$) were more likely to correctly answer the questions related to the element of Financial Goals ($p = .002$) than their Applied pathway students ($M = 1.63$, $SD = 1.06$). Academic pathway students ($M = 1.46$, $SD = .891$) were more successful than Applied pathway students ($M = 1.21$, $SD = .93$) on questions related to Financial Freedom ($p = .014$; See Appendix E23).

Overall Achievement Levels

In Ontario, students are assessed using an achievement scale ranging from Levels 1 to 4. A Level 3 “represent[s] the “provincial standard” for achievement of the expectations” (OME, 2006, p. 16). “Parents of students achieving at level 3 can be confident that their children will be prepared for work in the next grade.” (OME, 2006, p. 16). According to the OME (2006), “Level 1 identifies achievement that falls much below the provincial standard, while still

reflecting a passing grade. Level 2 identifies achievement that approaches the standard. Level 4 identifies achievement that surpasses the standard. When an “R” is assessed it means “extensive remediation is needed since the required skills and knowledge of the subject have not been met” (OME, 2006, p. 16). The same achievement levels used in Ontario, are the same achievement levels used in this research to identify the achievement of students in financial literacy. Twenty-six percent of all students were able to demonstrate the highest level of achievement and were able to achieve a Level 4 by answering 12-15 questions correctly across the four elements of financial well-being, followed by nine percent of students who achieved a Level 3, by answering 11 questions correctly. Eighteen percent of students in the NOS achieved a Level 2 on the knowledge section of the survey, nine percent of students in the NOS achieved a Level 1, and 38% of the NOS students were given an R (lowest level of achievement) because they were unable to answer at least 7 questions correctly. Thirty-seven percent of females and 37% of males achieved an R, which is the lowest level of achievement (See Appendix E24). An independent t-test was used to test for statistical differences between student achievement levels by gender. There was no statistically significant difference between achievement levels by gender, $t(508) = -1.08, p = .282$ (See Appendix E25, E25a).

Thirty-four percent of students who study at the Academic pathway level were able to achieve a Level 4, compared to 10% in the Applied pathway and 33% in the mixed Applied/Academic pathway. Fifty-two percent of Applied pathway students achieved an R compared to 27% of Academic pathway students and 39% of mixed Applied/Academic pathway students. A one-way analysis of variance determined there was a statistically significant difference between achievement levels and learning pathways, $F(2, 502) = 20.098, p = .001$ (See Appendix E26, E26a). A Tukey post-hoc test determined Academic pathway students ($M =$

2.15, $SD = 1.62$) ($p = .001$) and mixed/Applied pathway students ($M = 1.84$, $SD = 1.75$) ($p = .016$) outperformed their Applied pathway ($M = 1.17$, $SD = 1.41$) peers in financial literacy achievement.

Student Behaviour and Attitudes Towards the Elements of Financial Well-Being

Control over day-to-day finances. Students were asked if they believed having a budget was an important financial strategy. Fifty-nine percent of students believe having a budget is an important financial strategy; however, many do not practice the strategy (See Appendix E27). Thirty-five percent of students say they always budget their money compared to 38% of students who say they only budget for bigger ticket items. Seventeen percent of students do not budget their money (See Appendix E28). An independent t-test determined there was no statistically significant difference between having a budget by gender, $t(414) = -.412$, $p = .674$.

Thirty-five percent of Academic pathway students (35%), compared to 36% of Applied pathway students and 32% of mixed Applied/Academic pathway students always budget their money. Fourteen percent of Academic pathway students, 21% of Applied pathway students and 16% of mixed Applied/Academic pathway students say they never budget their money. A one-way analysis of variance determined there was no statistically significant difference between having a budget by learning pathway, $F(2, 452) = .460$, $p = .631$ (See Appendix E28).

Forty-six percent of students indicated they always/often stay within their personal budget, compared to 10% who say they rarely/never stay within their personal budget. An independent t-test determined there was no statistically significant difference between staying within budget by gender, $t(366) = -.278$, $p = .781$ (See Appendix E29). Forty-nine percent of students in the Academic pathway, 42% of students in the Applied pathway and 51% of students in the mixed Applied/Academic pathway say they stay within their personal budget. A one-way

analysis of variance determined there was no statistically significant differences between staying within budget by learning pathway, $F(2, 367) = .428, p = .652$ (See Appendix E29).

A Pearson product-moment correlation was calculated to determine the relationship between staying with budget CKS. A positive correlation was revealed ($r = .128, p = .012$). A simple linear regression was calculated to investigate the relationship between staying within in budget and CKS. Simple linear regression showed a statistically significant relationship between staying within budget and CKS, $F(1,384) = 7.643, p = .012$. The slope coefficient for staying within budget was .459 so the CKS increases .449 the more an individual stay within their budget. The R^2 value was .018 so 1.8% of the variation in CKS can be explained by staying within budget.

Later in the survey, students were again asked about their budgeting behaviour. Forty-nine percent of students say they always/often spend according to their established budget, compared to 13% of students say they rarely/never spend according to their budget. An independent t-test determined there was no statistically significant difference between spending according to their established budget by gender, $t(392) = -1.588, p = .113$ (Appendix E30). Fifty-two percent of Academic pathway students, 44% of Applied pathway students and 53% of students in the mixed Applied/Academic pathway say they always/often spend according to their established budget. Twelve percent of Academic students rarely/never spend according to their established budget, compared to 16% of Applied pathway students and 7% of mixed Applied/Academic pathway students. A one-way analysis of variance determined there to be no statistically significant differences between spending according to an established budget by learning pathway, $F(2, 392) = .902, p = .407$ (See Appendix E31).

An independent t-test determined there was a statistically significant difference between students who keep a close watch on their financial affairs by gender (See Appendix E30). More males ($M = 3.67, SD = 1.20$) than females ($M = 3.39, SD = 1.28$) keep a close watch on their financial affairs, $t(389) = -2.21, p = .027$. Forty-four percent of students in the Academic pathway, 41% of students in the Applied pathway and 46% of students in the mixed Applied/Academic pathway self-report they keep a close watch on their financial affairs. A one-way analysis determined there was no statistically significant difference between students who keep a close watch on their financial affairs by learning pathway, $F(1, 391) = .203, p = .653$ (See Appendix E31).

When students were asked if before they bought something they considered whether they could afford it, 61% of students say they always/often think about whether they can afford the purchase, compared to the nine percent who say they rarely/never think about their money before making a purchase. An independent t-test determined there was no statistically significant difference between thinking about affordability before making a purchase by gender, $t(417) = .101, p = .920$ (See Appendix E30). Sixty-four percent of Academic students, 52% of Applied pathway students and 64% of mixed Applied/Academic pathway students carefully consider whether they can afford a purchase compared to Applied pathway. A one-way analysis of variance determined there was no statistically significant difference between students considering whether they can afford a purchase before making the purchase by learning pathway, $F(2, 412) = 2.10, p = .124$ (Appendix E31).

A Pearson product-moment correlation was calculated to determine the relationship between students who carefully consider whether they can afford a purchase before making the purchase and CKS. A positive correlation was found ($r = .215, p = .001$).

A simple linear regression was calculated to investigate the relationship between students who carefully consider whether they can afford a purchase before making the purchase and CKS. Simple linear regression showed a statistically significant relationship between students carefully considering whether they can afford a purchase before making the purchase and CKS, $F(1,435) = 21.13, p = .001$). The slope coefficient for carefully considering whether they can afford a purchase before making the purchase was .662 so CKS increases by .662 points if students carefully consider whether they can afford a purchase before making the purchase. The R^2 value was .046 so 4.6% of the variation in CKS can be explained by carefully considering whether they can afford a purchase before making the purchase.

Having a bank account. Students were asked if they had a bank account and why they had opened the account. If they did not have a bank account, they were asked why not. Overall, 78% of students had a bank account. Ten percent of students did not have a bank account and 4% did not know if they had a bank account. An independent t-test determined there was no statistically significant difference between having a bank account by gender $t(452) = -.723, p = .474$ (See Appendix E32). A one-way analysis of variance showed that the effect of learning pathways on having a bank account was statistically significant, $F(2, 460) = 7.513, p = .001$ (See Appendix E32). A Tukey post-hoc test revealed Academic pathway students ($M = 2.89, SD = .38$) reported statistically significant more bank accounts ($p = .001$) than Applied pathway students ($M = 2.71, SD = .60$). Of the 10% of students in the northern Ontario sample (NOS) that did not have a bank account, 36% indicated they do not need a bank account because they save their money at home, 34% do not have money, so do not need a bank account and 8% do not know how to get a bank account (See Appendix E32).

Overall, most students had a bank account opened by their parents when they were young (25%). Eighteen percent of students opened their bank account to have a place to deposit their pay cheques and 17% of students opened the account to save for a specific purchase. An independent t-test determined there was no statistically significant difference between why students opened their account by gender, $t(386) = .722, p = .471$ (See Appendix E33). A one-way analysis of variance determined there was a statistically significant difference between purpose of opening an account by learning pathway, $F(2,385) = 5.336, p = .005$ (See Appendix E33). A Tukey post hoc test revealed Academic pathway students ($M = 2.89, SD = .38$) ($p = .012$) and mixed Applied/Academic pathway students ($M = 2.72, SD = .57$) ($p = .025$) are more likely to have an account opened by their parents when they are young than Applied pathway students ($M = 2.71, SD = .60$).

A Pearson product-moment correlation was used to determine if there was a relationship between having a bank account and CKS. A positive correlation was identified ($r = .269, p = .001$). Simple linear regression was calculated to investigate the relationship between having a bank account and CKS. The regression was statistically significant, $F(1, 489) = 38.242, p = .001$. The slope coefficient for having a bank account was 1.925 so the CKS increases if the student has a bank account. The R^2 value was .073 so 7.3% of the variation in CKS can be explained by having a bank account.

Accessing cash. Students were asked how they access cash when they need cash. Most students get cash by accessing their own financial institution's bank machine (27%) compared to 8% of students who withdraw cash by using the most convenient bank machine. The next most common way for students to access cash is by asking their parents/guardians for cash (19%) compared to 18% of students who access cash by making a cash withdrawal at the bank. The

least popular way to access cash was by asking for cashback at a store (3%) and using a credit card to make a cash. An independent t-test determined there was no statistical difference between how students access cash by gender, $t(421) = .003, p = .997$ (See Appendix E34). All three Academic pathways were most likely to use a cash machine at their own financial institution to access cash with the next two popular methods being making a cash withdrawal at the bank and to ask parents/guardians for cash (See Appendix E40). A one-way analysis of variance determined there was no statistical difference between how students get cash by learning pathway, $F(2, 438) = .493, p = .611$ (See Appendix E34).

Hypothetical spending behaviour. Students were asked what they did when they run out of money. Fifty-three percent of students cut back on spending if they run out of money, compared to 20% of students who borrow money from family and friends when they run out of money. Six percent of students sell something of value, if they run out of money. An independent t-test determined there was a statistically significant difference between behaviour when students run out of money by gender, $t(408.86) = -2.88, p = .004$. Females ($M = 1.96, SD = .81$) are more likely to borrow money from family and friends than males ($M = 2.20, SD = .90$). The remaining behaviours were not statistically significant (See Appendix E35).

Students in all three learning pathways say they cut back on spending if they run out of money. The next most common behaviour, in all three learning pathways, was to borrow money from family or friends if they run out money. A one-way analysis of variance was conducted to compare the effect of learning pathway on the behaviour of students when they run out of money. The ANOVA determined there was no statistically significant difference between how student behave when they run out of money by learning pathway, $F(2,445) = 2.206, p = .111$ (See Appendix E35).

Paying for day-to-day purchases. Forty-two percent of students recognized using cash, cheque or a debit card was always/often better than using a credit card, compared to the 10% of students who thought using a credit card was the better option. An independent t-test determined there was no statistically significant statistical difference by gender $t(357) = -1.046$, $p = .296$ (See Appendix E36). Forty-four percent of Academic pathway students, 38% of Applied pathway students and 39% of mixed Applied/Academic pathway students indicated using cash, cheque or debit is better than using a credit card. A one-way analysis of variance indicated no statistically significant difference by learning pathway, $F(2, 352) = .528$, $p = .590$ (See Appendix E36).

Students were asked what method they use most often for day-to-day purchases. The most popular way to pay for day-to-day purchases among participants was cash (55%). The next most popular method to pay for purchases was the use of a debit card (46%). The least popular method was the use of a credit card where only 12% of students said they use a credit card always or often to pay for their purchases. Seven percent of students indicated they used “other” to pay for day-to-day purchases. An independent t-test determined there was a statistically significant difference between students who use “other” when they run out of money, $t(284.54) = -3.150$, $p = .002$. More males ($M = 1.92$, $SD = 1.31$) than females ($M = 1.52$, $SD = 1.01$) chose “other” as their method for paying for day-to-day purchases. The other payment methods were not statistically significant; cash, $t(435) = .885$, $p = .376$; debit card $t(428) = .248$, $p = .804$; credit card, $t(422) = -1.466$, $p = .143$ (See Appendix E37).

A one-way analysis of variance determined there was a statistically significant difference between students who pay for their day-to-day purchases using a debit card, $F(2, 424) = 3.879$, $p = .021$, paying by credit card, $F(2, 349) = 5.561$, $p = .004$ and paying using “other,” $F(2,349) =$

5.561, $p = .004$, by learning pathway. There was no statistically significant difference between students who pay for their day-to-day purchases with cash, $F(2,430) = .166, p = .847$ (See Appendix E37). A Tukey post-hoc test was used to determine the statistically significant difference between learning pathways. More Applied pathway students ($M = 3.54, SD = .14$) use a debit card ($p = .020$) than mixed Applied/Academic pathway students ($M = 2.92, SD = 1.53$). More Applied pathway students ($M = 2.16, SD = 1.55$) than Academic pathway students ($M = 1.65, SD = 1.17$) ($p = .001$) and mixed Applied/Academic pathway students ($M = 1.61, SD = 1.19$) ($p = .034$) use a credit card to pay for day-to-day purchases. Applied pathway students ($M = 2.01, SD = 1.36$) are more likely to use “other” ($p = .005$) as their payment method for day-to-day purchases than Academic pathway students ($M = 1.58, SD = 1.07$). There were no “other” methods listed for those students who chose “other” as their day-to-day payment method (See Appendix E37).

A Pearson product-moment correlation was calculated to measure the relationship between how students pay for day-to-day purchases and CKS. A negative correlation was found between students who pay for their day-to-day purchases with a credit card ($r = -.241, p = .001$).

A simple linear regression was calculated to investigate the relationship between CKS and paying for day-to-day purchases with a credit card. Simple linear regression showed a statistically significant relationship between paying for day-to-day purchases with a credit card and CKS, $F(1, 441) = 27.237, p = .001$. The slope coefficient for using a credit card was $-.655$ so CKS decreases if students indicate they always/often use a credit card to pay for day-to-day purchases. The R^2 value was $.058$ so 5.8% of the variation in CKS can be explained by using a credit card to pay for day-to-day purchases.

Hypothetical saving behaviour. Students were asked how they behave when they do not have enough money to buy something they really want. When students do not have enough money to buy something they really want, 34% of students indicated they would save up to buy it. The next most common behaviour for students in the NOS was simply not to buy the item (23%). Eleven percent of the NOS would borrow money from a family member if they did not have money to buy something they wanted and, the least popular behaviour was to buy the item using money borrowed from a friend (2%). An independent t-test determined females ($M = 4.46, SD = 1.70$) and males ($M = 4.10, SD = 1.55$) differed significantly on how they hypothetically behave when they do not have enough money to buy an item they really want by gender, $t(436.58) = 2.365, p = .018$ (See Appendix E38). More males than females (28%) indicated they would save up to buy the item. More females (26%) than males (21%) would not buy the item if they did not have enough money. Females (11%) are more likely than males (6%) to borrow the money from a family member if they do not have enough money and females (12%) are more likely than males (4%) to ask their parents to buy the item for them.

Most students in all three learning pathways indicated they would save up to buy an item if they did not have enough money to buy it. Thirty-five percent of Academic pathway students, 31% of Applied pathway students and 37% of mixed Applied/Academic pathway students indicated they would save up to buy the item if they did not have enough money. The least popular choice for all three learning pathways was borrowing the money from a friend. A one-way analysis indicated no statistically significant difference in what students hypothetically do when they do not have money to buy an item they really want by learning pathway, $F(2, 439) = .268, p = .765$ (See Appendix E38).

A Pearson product-moment correlation was calculated to determine if there was a relationship between how students behave when they do not have enough money to buy an item they really want and CKS. No statistically significant correlation was revealed ($r = .050, p = .284$).

Behaviour and Attitudes – Financial Goals

Researching financial decisions. Sixty percent of students indicated they research their choices thoroughly before making any financial decisions (strongly agree/agree). An independent t-test revealed there was a statistically significant difference between researching financial choices by gender, $t(432) = -3.752, p = .001$; See Appendix E39). More males ($M = 4.14, SD = .97$) than females ($M = 3.78, SD = 1.02$) research their choices before making a financial decision (See Appendix E47). Academic pathway students (62%), Applied pathway students (57%) and mixed Applied/Academic pathway students (65%) say they research their financial decisions before making a decision (See Appendix E47a). A one-way analysis of variance indicated there was no statistically significant difference between researching financial decisions by learning pathway, $F(2, 426) = .356, p = .701$ (See Appendix E39).

A Pearson product-moment correlation was calculated to investigate the relationship between spending time researching before making a financial decision and CKS. A positive correlation was found ($r = .200, p = .001$) between spending time researching before making a financial decision.

A simple linear regression was calculated to further investigate the relationship between researching before making a financial decision and CKS. Simple linear regression showed a statistically significant relationship between researching before making a financial decision and CKS, $F(1, 452) = 18.811, p = .001$). The slope coefficient for researching before making a

financial decision was .692 so the CKS increases by .692 points the more you agree with researching before making a financial decision. The R^2 value was .040 so 4% of the variation in CKS can be explained by researching before making a financial decision.

Spending time thinking and planning personal finances. Forty-seven percent of students believe it is important to spend time thinking and planning their personal finances, compared to the 14% of students who do not believe they should spend time thinking and planning. An independent t-test indicated no statistically significant difference between believing it is important to spend time thinking and planning about personal finances by gender, $t(508) = .126, p = .900$ (See Appendix E40). Academic pathway students (46%), Applied pathway students (42%) and mixed Applied/Academic pathway (54%) believe it is important to spend time thinking and planning for personal finances. A one-way analysis of variance determined there was no statistically significant difference between thinking they should spend time thinking and planning personal finances by learning pathway, $F(2, 502) = .877, p = .417$ (See Appendix E40).

A Pearson product-moment correlation was calculated to determine the relationship between students who spend time thinking and planning for their personal finances and CKS. A positive correlation was revealed ($r = .181, p = .001$).

A simple linear regression was calculated to investigate the relationship between spending time thinking and planning about personal finances and CKS. Simple linear regression showed a statistically significant relationship between spending time thinking and planning about personal finances and CKS, $F(1, 533) = 69.38, p = .001$. The slope coefficient for thinking and planning about personal finances was -0.502 so the CKS decreased 0.502 points as the strength of the behaviour of thinking and planning about personal finances increased. The R^2 value was

.115 so 11.5% of the variation in CKS can be explained by the behaviour of thinking and planning about personal finances.

Setting financial goals. Fifty percent of students strongly agree/agree they set long-term financial goals and strive to achieve them compared to nine percent of students who say they disagree/strongly agree they set financial goals and strive to achieve them. An independent t-test determined there was no statistically significant difference between setting financial goals and striving to achieve them by gender, $t(425.24) = -1.157, p = .080$; See Appendix E41). Academic pathway students (53%), Applied pathway students (44%) and mixed Applied/Academic pathway students (51%) strongly agree/agree they set long term goals and strive to achieve them. Eighteen percent of Academic pathway students, 21% of Applied pathway students and 19% of mixed Applied/Academic pathway students disagree/strongly disagreed they set long term goals and strive to achieve them. A one-way analysis of variance determined there was no statistically significant difference between setting financial goals and striving to achieve them by learning pathway, $F(2, 423) = 2.55, p = .079$ (See Appendix E41).

A Pearson product-moment correlation was used to determine if there was a relationship between setting financial goals and striving to achieve them and CKS. A positive correlation was identified ($r = .307, p = .001$). A simple linear regression was calculated to investigate the relationship between researching financial goals and striving to achieve them and a student's CKS. Simple linear regression indicated a statistically significant relationship between setting financial goals and striving to achieve them and CKS, $F(1, 449, 46.662, p = .001)$. The slope coefficient for setting financial goals and striving to achieve them was .990 points so a student's CKS increases by .990 the more they set financial goals and strive to meet them. The R^2 was

value .094 so 9.4% of the variation in CKS can be explained by setting financial goals and striving to achieve them.

Saving for post-secondary education. Students were asked if they were saving for post-secondary education. Overall, 59% of students are saving for post-secondary school in some capacity. An independent t-test determined there was no statistically significant difference between saving for post-secondary education by gender, $t(446) = 1.458, p = .146$ (See Appendix E42). A one-way analysis of variance determined there was a statistically significant difference in saving for post-secondary education by learning pathway, $F(2,441) = 9.350, p = .001$ (See Appendix E42). A Tukey post-hoc test revealed more Academic pathway students ($M = 2.67, SD = .63$) ($p = .001$) and mixed Applied/Academic pathway students ($M = 2.66, SD = .63$) ($p = .024$) save for post-secondary education than Applied pathway students ($M = 2.37, SD = .78$).

The most popular method of saving for post-secondary education was a dedicated savings account (28%). The next most popular savings method was RESP (14%). Twenty-nine percent of students knew they were saving but did not know what method they were using to save. An independent t-test determined there was no statistically significant difference between how money is being saved for post-secondary education by gender, $t(293) = 1.391, p = .165$ (See Appendix E43). A dedicated savings account was the most popular way to save for all three learning pathways and a one-way analysis revealed no statistically significant difference between how students save for post-secondary education by learning pathway, $F(2, 294) = .839, p = .433$ (See Appendix E43).

Of the 18% of students who said they were not saving for post-secondary education, 28% of students did not know how they were going fund their post-secondary education. Overall, 20% of students indicated someone else (e.g., grandparents) was saving the money they would

need to further their education. Fourteen percent of students indicated they were not planning to attend post-secondary education. Fifteen percent of students plan to use government loans/grants and 6% plan to access a student line of credit to pay for their post-secondary expenses. An independent t-test determined there was no statistically significant difference between how students who were not saving, were planning to pay for post-secondary education by gender, $t(86) = 1.773, p = .080$ (See Appendix E44).

All three learning pathways indicated someone else (e.g., grandparents) was saving or has already saved for them to attend post-secondary education (24%). The next most popular method to pay for post-secondary education was using government grants/loans (21%). A one-way analysis of variance determined there was no statistically significant statistical difference between how people who are not saving plan to pay for post-secondary education by learning pathway, $F(2, 79) = .483, p = .618$ (See Appendix E44).

A Pearson product-moment correlation was calculated to determine if there was a relationship between saving for post-secondary education and CKS. A positive correlation was discovered, ($r = .241, p = .001$). A simple linear regression was calculated to investigate the relationship between saving for post-secondary education and CKS. Simple linear regression showed a statistically significant relationship between saving for post-secondary education and CKS, $F(1,466) = 28.80, p = .001$). The slope coefficient was 1.24 so CKS increases by 1.24 points if students are saving for post-secondary education. The R^2 value was .058 so 5.8% of the variation in CKS can be explained by saving for post-secondary education.

How students save money. Students were asked how they save their money. Forty-eight percent of students save their money in a bank account. The second most common response was to save cash at home (36%), followed by giving money to a family member to save

(13%). Seven percent of students are already saving using investments. Ten percent of students admit they do not save. An independent t-test determined there was no statistically significant difference in how students save money, at home, $t(508) = .793, p = .428$, bank account, $t(508) = -.611, p = .542$, give to family member to hold, $t(508) = -.595, p = .552$, investments, $t(508) = -.39, p = .712$, do not save, $t(508) = -.996, p = .320$ (See Appendix E45).

Fifty-four percent of Academic pathway students, 38% of Applied pathway students and 49% of mixed Applied/Academic pathway students save their money in a bank account. The second most common place to save money for all three learning pathways was cash at home or in a wallet/purse. A one-way analysis of variance determined there was a statistically significant difference between students who do not save by learning pathway, $F(2, 502) = 4.682, p = .010$. There was no statistically significant difference between saving at home, $F(2,502) = 1.350, p = .260$, in a bank account $F(2,502) = 1.819, p = .163$, with a family member, $F(2,502) = 1.146, p = .319$ or using investments, $F(2, 502) = 1.556, p = .212$ by learning pathway. A Tukey's post-hoc test revealed more Academic pathway students ($M = 2.02, SD = .40$) do not save compared to Applied pathway students ($M = 1.89, .430$) ($p = .007$; See Appendix E45).

A Pearson product-moment correlation was calculated to determine the relationship between method of saving money and CKS. A positive correlation was discovered between saving money with a family member ($r = -.093, p = .031$) and using investments to save money ($r = .085, p = .05$). A positive relationship was identified for saving at home in a purse/wallet ($r = .266, n=535, p = .001$) and a moderate, negative relationship was found for saving in a bank account ($r = .418, n=535, p = .001$) and CKS. There was no statistically significant relationship between students who do not save and CKS ($r = .004, .927$).

A simple linear regression was calculated to investigate the relationship between method of saving and CKS. Simple linear regression revealed a statistically significant relationship between saving at home in a wallet/purse, $F(1,533) = 40.72, p = .001$). The slope coefficient was 1.723 so the CKS increased 1.723 points if a student saves at home in a purse/wallet. The R^2 value was .071 so 7.1% of the variation in CKS can be explained by a student saving at home in a purse/wallet. A second regression was calculated to investigate the relationship between saving in a bank account and CKS. Simple linear regression determined a statistically significant relationship between saving in a bank account, $F(1,533) = 113.10, p = .001$). The slope coefficient was 2.58 so CKS increases by 2.58 points if students save their money in a bank account. The R^2 value was .175 so 17.5% of the variation in CKS can be explained by students saving their money in a bank account. Simple linear regression was calculated to investigate the relationship between saving with a family member and through investments. A statistically significant regression was found for saving with a family member, $F(1,533) = 4.66, p = .031$). The slope coefficient was .80 so saving with family increases the CKS by .80 points. The R^2 value was .009 so only .9% of the variation in CKS can be explained by saving money with family. A statistically significant regression was also discovered with saving through investments, $F(1,533) = 3.85, p = .05$). The slope coefficient was .855 so CKS increases by .855 points if a student saves using investments. The R^2 value was .007 so only .7% of the variation in CKS can be explained by saving through investments.

Why do students save? Students were asked what they save for. An independent t-test determined there were statistically significant differences on several different items that students save for by gender (See Appendix E46). More females ($M = 2.58, SD = .50$) save for clothes than males ($M = 2.36, SD = .48$), $t(454.52) = 4.91, p = .001$). Males ($M = 2.50, SD = .50$) are

more likely to save for technology than females ($M=2.36$, $SD = .48$), $t(441.02) = -3.07$, $p = .002$. More females ($M= 2.48$, $SD = .50$) than males ($M= 2.33$, $SD = .47$) save for gifts for others, $t(459.07) = 3.43$, $p = .001$. Females ($M= 2.48$, $SD = .50$) are more likely to save for post-secondary education than males ($M= 2.30$, $SD = .46$), $t(461.62) = 4.08$, $p = .001$. More females ($M= 2.27$, $SD = .44$) than males ($M= 2.14$, $SD = .35$) save for vacation, $t(468.30) = 3.53$, $p = .001$. Males ($M= 2.36$, $SD = .48$) are more likely to save up to buy vehicles than females ($M= 2.22$, $SD = .41$), $t(417.32) = -3.264$, $p = .001$. Males ($M= 2.13$, $SD = .34$) are more likely to save for investments than females ($M= 2.07$, $SD = .25$), $t(384.37) = -2.10$, $p = .036$. More males ($M= 2.10$, $SD = .31$) than females ($M= 2.03$, $SD = .18$) save for retirement, $t(327.19) = -2.91$, $p = .004$ (See Appendix E58). There was no statistically significant difference between saving for entertainment, $t(435.91) = -1.53$, $p = .126$, to take a trip, $t(468.08) = 1.91$, $p = .056$, debt, $t(402.31) = -1.49$, $p = .137$, charity/giving to others, $t(468.14) = 1.43$, $p = .155$, an emergency fund, $t(469) = -.773$, $p = .440$, sports, $t(441) = -1.73$, $p = .084$ and not saving, $t(469) = -.265$, $p = .791$.

A one-way analysis of variance determined there was a statistically significant difference between why students save, education, $F(2, 462) = 11.034$, $p = .001$ and debt, $F(2, 262) = 4.049$, $p = .018$. A Tukey post-hoc test determined more Academic pathway students ($M= 2.50$, $SD = .50$) ($p = .001$) and mixed Applied/Academic pathway students ($M= 2.50$, $SD = .51$) ($p = .010$) save for education than Applied pathway students ($M= 2.27$, $SD = .446$). More Applied pathway students ($M= 2.14$, $SD = .35$) than Academic pathway students ($M= 2.06$, $SD = .24$) save money to pay off debts ($p = .018$). There was no statistically significant difference between saving for clothes, $F(2, 462) = .273$, $p = .76$, entertainment, $F(2, 462) = .923$, $p = .40$, technology, $F(2, 462) = 1.552$, $p = .21$, gifts for others, $F(2, 462) = 1.58$, $p = .21$, vacation $F(2,$

462) = .394, $p = .674$), buy a vehicle, $F(2, 462) = 2.602$, $p = .075$), investments, $F(2, 462) = .267$, $p = .766$, take a trip $F(2, 462) = .080$, $p = .923$, retirement, $F(2, 462) = 2.00$, $p = .136$), charity, $F(2, 462) = .934$, $p = .394$), emergency fund $F(2, 462) = .445$, $p = .641$, sports $F(2, 462) = 1.41$, $p = .244$ and not saving $F(2, 462) = .379$, $p = .685$ (See Appendix E46a).

Capable of achieving financial goals. Forty-eight percent of students strongly agree/agree they can achieve their financial goals, compared to 9% of students who disagree/strongly disagree they can achieve their financial goals. An independent t-test determined there was no statistically significant difference between students believing they can achieve their financial goals by gender, $t(396) = -1.807$, $p = .071$ (See Appendix E47).

Thirty-nine percent of Academic pathway students, 43% of Applied pathway students and 54% of mixed Applied/Academic pathway students strongly agree/agree they can achieve their financial goals. Nine percent of Academic pathway students, 9% of Applied pathway students and 7% of mixed Applied/Academic pathway students disagree/strongly disagree they can achieve their financial goals. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and students believing they can achieve their financial goals, $F(2, 390) = 1.235$, $p = .292$ (See Appendix E47).

A Pearson product-moment correlation was calculated to determine if there was a relationship between a student's attitude they can achieve their financial goals and CKS. A positive correlation was identified ($r = .250$, $p = .001$).

A simple linear regression was calculated to investigate the relationship between a student's attitude they can achieve their financial goals and CKS. A statistically significant regression was discovered between the attitude they can achieve their financial goals and CKS, ($F = (1,415) = 27.63$, $p = .001$). The slope coefficient for the attitude they can achieve their

financial goals was .835 so CKS increases by .835 points as the strength of the attitude that they can achieve their financial goals increases. The R^2 value was .062 so 6.2% of the variation in CKS can be explained by the attitude students can achieve their financial goals.

Behaviour and Attitudes – Financial Freedom

Impact of money on the future. Most students are optimistic about their financial future, with only 15% of students strongly agreeing/agreeing that because of their money situation they will never have the things they want in life, compared to 38% who disagreed/strongly disagreed that because of their money situation they will never have the things they want. An independent t-test determined there was no statistically significant difference between feeling that because of their money situation they will never have the things they want in life by gender $t(508) = -.695, p = .487$ (See Appendix E47). Forty-one percent of Academic pathway students, 28% of Applied pathway students and 46% of mixed Applied/Academic pathway students, disagree/strongly disagree with the statement that because of their money situation they will not let them have what they want in life. Thirteen percent of Academic pathway students, 18% of Applied pathway students and 16% of mixed Applied/Academic pathway students strongly agree/agree that because of their money situation they will not have what they want in life. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and the feeling their money situation would not allow them to have things they want in life $F(2, 502) = .506, p = .603$ (See Appendix E47).

A Pearson product-moment correlation was calculated to determine the relationship between the attitude that because of their money situation they will never have the things they want in life. A negative correlation was identified ($r = -.409, p = .001$). A simple linear

regression was calculated to investigate the relationship between the attitude that because of their money situation they will never have the things they want in life and CKS. Simple linear regression revealed a statistically significant relationship, $F(1,533) = 107.28, p = .001$. The slope coefficient was -0.533 so CKS decreases by 0.533 points as the strength of the attitude that because of their money situation they will never have the things they want in life increases. The R^2 value was .168 so 16.8% of the CKS can be explained by the attitude that because of their money situation they will never have the things they want in life.

Debt. Students were asked about their debt levels. Forty percent of students indicated they had some form of debt. An independent t-test determined there was a statistically significant difference between having debt from borrowing for a big-ticket item such as a ski-doo or dirt bike, $t(338.71) = -3.32, p = .001$ (See Appendix E48). More males ($M = 2.15, SD = .356$) than females ($M = 2.05, SD = .226$) have debt from borrowing for a big -ticket item. There was also a statistically significant difference between students who have no debt, by gender, $t(436.93) = 2.5, p = .013$. More females ($M = 2.67, SD = .226$) than males ($SD = 2.55, SD = .498$) have no debt. There was no statistically significant difference found between using a credit card to make an online purchase, $t(467.89) = 1.64, p = .101$, borrowing money for lunch $t(459.22) = .706, p = .481$, borrowing money to pay a bill, $t(468) = .025, p = .980$ or entertainment, $t(467.86) = .99, p = .319$.

Thirty-eight percent of Academic pathway students, 46% of Applied pathway students and 32% of mixed Applied/Academic pathway students have some form of debt. A one-way analysis of variance determined there was a statistically significant difference between students having debt for big-ticket items, $F(2, 461) = 10.522, p = .001$ and having no debt, $F(2, 461) = 7.167, p = .001$ (See Appendix E48). A Tukey post-hoc test determined Applied pathway

students ($M = 2.19$, $SD = .395$) are more likely to have debt from borrowing for big-ticket items than Academic pathway students ($M = 2.06$, $SD = .233$) ($p = .001$) and mixed Applied/Academic pathway students ($M = 2.06$, $SD = .235$) ($p = .014$) (See Appendix E48). More Academic pathway students ($M = 2.66$, $SD = .48$) ($p = .003$) and mixed Applied/pathway students ($M = 2.73$, $SD = .45$) ($p = .007$) than Applied pathway students ($M = 2.50$, $SD = .50$) have no debt.

A Pearson product-moment correlation was calculated to investigate the relationship between why students have debt and CKS. A negative relationship was discovered for having debt for big-ticket items (e.g., ski-doo/dirt bike) ($r = -1.09$, $p = .015$) and CKS. A positive relationship was identified for having no debt ($r = .330$, $p = .001$). No statistically significant relationship was determined for using a credit card for an online purchase ($r = .015$, $p = .748$), borrowing money for lunch ($r = -.064$, $p = .154$), borrowed money to pay off a bill ($r = -.047$, $n = 493$, $p = .301$) or borrowing money for entertainment ($r = -.014$, $n = 493$, $p = .763$).

A simple linear regression was calculated to investigate the relationship between having debt for big-ticket items (e.g., Ski-doo, dirt bike). Simple linear regression found a statistically significant relationship, $F(1,491) = 5.93$, $p = .015$. The slope coefficient was -1.359 so the CKS decreases by 1.36 points if students have borrowed money for big-ticket items. The R^2 value was $.012$ so only 1.2% of the variation in CKS can be explained by having borrowed for a big-ticket item. A simple linear regression was also calculated to investigate the relationship between having no debt and CKS. Simple linear regression discovered a statistically significant relationship, $F(1,491) = 60.07$, $p = .001$. The slope coefficient was 2.56 so the CKS increases by 2.56 points if the students have no debt. The R^2 value was $.109$ so 10.9% of variation in the CKS can be explained by students not having any debt.

Overall, students borrowed money most from their parents (53%) in the past 12 months. The next most common person to borrow from was friends (18%). Twenty-three percent of students had not borrowed any money in the past 12 months. An independent t-test indicated there was a statistically significant difference between borrowing from parents/guardians, $t(438.64) = 3.28, p = .001$ (See Appendix E49). More females ($M = 2.64, SD = .480$) than males ($M = 2.50, SD = .501$) borrowed money from their parents/guardians. All other borrowing sources were not statistically significant, friends, $t(467) = .382, p = .703$, line of credit/loan, $t(437.72) = 1.67, p = .095$, siblings, $t(467) = .530, p = .597$, other relatives $t(467) = -.388, p = .699$ and have not borrowed, $t(431.67) = -1.39, p = .164$.

A one-way analysis of variance determined there was a statistically significant difference between borrowing money from parents/guardians by learning pathway, $F(2, 460) = 5.069, p = .007$. Academic pathway students are more likely to borrow money from their parents/guardians than Applied pathway students ($p = .007$; See Appendix E49). There was no statistically significant difference between the three learning pathways and borrowing sources (friends, $F(2, 460) = .069, p = .933$), line of credit, $F(2, 460) = 2.572, p = .077$), siblings, $F(2, 460) = .179, p = .836$, other relatives $F(2,460) = .172, p = .842$, have not borrowed $F(2, 460) = .237, p = .789$.

In an open response question, students were asked why they borrow money. Thirty-three percent of females and 22% of males, borrow money most for food. Females (13%) borrow money for clothing and 11% of males borrow money for vehicles (See Appendix E50). All three pathways borrow most of their money for food. Academic pathway students borrow next for clothing (12%), Applied pathway students (10%) and mixed Applied/Academic pathway students (16%) for vehicles (See Appendix E50).

Students were asked a variety of questions about their thoughts and beliefs about debt. Nineteen percent of students strongly agree/agree that being in debt is okay compared to 35% of students who indicated they disagreed/strongly disagreed that being in debt is okay. An independent t-test determined there was no statistically significant difference between the attitude that being in debt is okay by gender, $t(308) = .382, p = .703$ (See Appendix E51). A one-way analysis of variance determined there was a statistically significant difference between the attitude that being in financial debt is okay by learning pathway, $F(2,390) = 3.766, p = .024$ (See Appendix E51a). A Tukey post-hoc test revealed that more Applied pathway students ($M = 2.86, SD = 1.21$) have the attitude that being in financial debt is okay than mixed Applied/Academic pathway students ($M = 2.33, SD = 1.15$) ($p = .029$).

A Pearson product-moment correlation was calculated to determine if there was a relationship between the attitude that being in debt is okay and CKS. A negative correlation was identified ($r = -.124, p = .011$).

Simple linear regression was calculated to investigate the relationship between the attitude that being in debt is acceptable and CKS. Simple linear regression indicated there was a statistically significant relationship, $F(1, 415) = 6.523, p = .011$. The slope coefficient was -0.371 so the CKS decreases by $.371$ the stronger the attitude that being in debt is acceptable. The R^2 value was of $.015$ so 1.5% of the variation in CKS can be explained by the attitude that being in debt is acceptable.

Fourteen percent of students believe they will always carry some level of debt through their lives, compared to 41% of students to do not believe they will always carry debt. An independent t-test found no statistically significant difference between students believing they will always carry debt throughout their life by gender, $t(395) = .372, p = .710$ (See Appendix

E51). A one-way analysis of variance determined there was a statistically significant difference between students believing they will always carry debt through their lifetime by learning pathway, $F(2, 390) = 5.984, p = .003$ (See Appendix E51a). A Tukey post-hoc test determined Applied pathway students ($M = 2.76, SD = 1.11$) are more likely to believe they will always carry debt through their life than Academic pathway students ($M = 2.37, SD = .1.10$) ($p = .004$) and mixed Applied/Academic pathway students ($M = 2.27, SD = 1.09$) ($p = .030$).

A Pearson product-moment correlation was calculated to determine if there was relationship between the student attitude that they will always carry debt through their lifetime and CKS. A negative correlation was discovered ($r = -.219, p = .001$).

A simple linear regression was calculated to investigate the relationship between the student attitude that they will always carry debt through their lifetime and CKS. Simple linear regression showed a statistically significant relationship between the attitude that they will always carry debt through their lifetime and CKS, $F(1,415) = 20.988, p = .001$. The slope coefficient for the attitude they will always carry debt through their lifetime was -0.691 so the CKS decreases by $.691$ points as the strength of the attitude that they will always carry debt through their lifetime. The R^2 value was $.048$ so 4.8% of the variation in CKS can be explained by the student attitude that they will always carry debt through their lifetime.

Fifteen percent of students indicated strongly agreed/agreed that the only way to buy an automobile is to take out a loan, compared to 36% of students who disagreed/strongly disagreed that taking out a loan is the only way to buy an automobile. An independent t-test determined there was no statistically significant difference revealed between believing the only way to purchase a car is by taking out a loan by gender, $t(505) = -.503, p = .615$ (Appendix E51).

Thirty-seven percent of Academic pathway students, 33% of Applied pathway students and 35%

of mixed Applied/Academic pathway students strongly agreed/agreed taking out a loan is the only way to buy a vehicle. Twelve percent of Academic pathway students, 10% of Applied pathway students and nine percent of strongly agreed/agreed taking out a loan is the only way to purchase a car. A one-way analysis of variance determined there was no statistically significant difference found between the three learning pathways and believing a loan is the only way to buy a vehicle, $F(2, 500) = .092, p = .912$ (See Appendix E51a).

A Pearson product-moment correlation was calculated to determine if there was a relationship between the attitude that taking out a loan is the only way to buy an automobile and CKS. A negative relationship was identified ($r = -.387, p = .001$).

Paying for retirement expenses. Students were asked a variety of questions to determine their attitudes towards certain financial topics. Thirty-eight percent of students plan to pay for their expenses in retirement by having a work pension, 29% of students plan to pay for their retirement using a savings account, followed by a government pension (19%). Four percent of students indicated they were not planning to retire and 30% of students did not know how they were going to pay for their retirement. An independent t-test determined there was a statistically significant difference between students who plan to use investments to fund their retirement, $t(389.22) = -3.06, p = .002$ and those who do not know how they will pay for retirement, $t(463.23) = -3.50, p = .001$ by gender (See Appendix E52). More males ($M = 1.60, SD = .491$) than females ($M = 1.58, SD = .495$) plan to use investments to pay for expenses during retirement. More females ($M = 1.61, SD = .489$) than males ($M = 1.76, SD = .430$) do not know how they going to pay for expenses during retirement.

All three learning pathways indicated they plan to pay for their retirement expenses through a work pension, with the next most popular way for all three learning pathways being a

savings account. A one-way analysis of variance determined there was a statistically significant difference by learning pathway on using a work pension, $F(2, 459) = 4.345, p = .014$, using RRSPs, $F(2,459) = 4.401, p = .103$ and government pension $F(2, 459) = 6.853, p = .001$ to pay for retirement (See Appendix E52). A Tukey post-hoc revealed more Applied pathway students plan to use a work pension to pay for expenses during retirement than Academic pathway students ($p = .010$). Academic pathway students ($p = .015$) and Applied pathway students ($p = .014$) are more likely to say they will use RRSPs than mixed Applied pathway students. More Applied pathway students than Academic pathway students ($p = .006$) and mixed Applied/Academic pathway students ($p = .006$) plan to use a government pension to pay for expenses during retirement. The one-way analysis determined there was no statistically significant difference between savings account, $F(2,459) = 2.693, p = .069$, investments, $F(2,459) = 1.544, p = .215$, inheritance, $F(2,459) = .782, p = .458$, I don't plan to retire, $F(2, 459) = .830, p = .437$ and I don't know $F(2,459) = .252, p = .778$ as a method for paying for expenses during retirement.

Financial security during retirement. Students were asked to indicate their attitudes towards topics related to financial freedom (retirement). Thirty-four percent of students strongly agree/agree that they are concerned about having financial security during retirement, compared to 13% who disagree/strongly disagree that they have concerns about their financial security during retirement. An independent t-test determined there was no statistically significant difference between gender and being concerned about being financially secure during retirement, $t(411) = -1.656, p = .098$ (See Appendix E53). Thirty-three percent of Academic pathway students, 27% of Applied pathway students and 11% of mixed Applied/Academic pathway students strongly agree/agree they are concerned about their financial security during retirement.

Thirteen percent of Academic pathway students, 12% of Applied pathway students and 7% of mixed Applied/Academic pathway students disagree/strongly disagree they are concerned about their financial security during retirement. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and being concerned about financial security during retirement, $F(2, 406) = .427, p = .653$ (See Appendix E53a).

A Pearson product-moment correlation was calculated to determine the relationship between feeling concerned about financial security during retirement and CKS. No statistically significant relationship was identified ($r = .063, p = .189$).

Sixteen percent of students do not believe they will be financially secure in their retirement, compared to 35% of students who believe they will be financially secure in retirement. An independent t-test revealed there was no statistically significant difference between students feeling they would not be financially secure during retirement by gender $t(355.79) = -.294, p = .769$ (See Appendix E53). A one-way analysis of variance determined there was a statistically significant difference between students feeling they would be financially secure during retirement by learning pathway, $F(2, 398) = 3.963, p = .020$ (See Appendix E53a). A Tukey post-hoc test determined more Applied pathway students than their Academic pathway counterparts feel they will not be financially secure during retirement ($p = .017$).

A Pearson product-moment correlation was calculated to determine the relationship between the attitude they will not be financially secure during retirement and CKS. A positive relationship was discovered between the attitude they will not be financially secure during retirement and CKS ($r = -.201, p = .001$).

Behaviour and Attitudes – Financial Shock

Experience with financial shock. Twenty-six percent of students had experienced some form of a financial shock. Males (33%) are more likely to have experienced a financial shock than females (20%). An independent t-test determined there was a statistically significant difference between having experienced a financial shock by gender, $t(367.02) = -3.76, p = .001$. More males ($M = 2.41, SD = .493$) than females ($M = 2.24, SD = .426$) have experienced some form of a financial shock (See Appendix E54). A one-way analysis of variance determined there was a statistically significant difference between the three learning pathways and having experienced a financial shock, $F(2, 415) = 3.173, p = .043$ (See Appendix E54). A Tukey post-hoc test revealed more Applied pathway students ($M = 2.40, SD = .492$) than Academic pathway students ($M = 2.28, SD = .451$) have experienced some form of financial shock ($p = .048$). Of the students who had experienced a financial shock, most students indicated they managed the shock by using savings to cover the cost (9%) and 7% of students had a parent/guardian cover the cost (7%). Four percent of students borrowed the money from a family member, three percent used a line of credit or a credit card to cover the cost and two percent had insurance, so their insurance covered the cost.

A Pearson product-moment correlation was calculated to determine the relationship between those who had experienced a financial shock and CKS. No statistically significant relationship was identified ($r = -.036, p = .450$).

Insurance coverage. When students were asked if insurance coverage was related to financial security, 32% of students strongly agreed/or agreed insurance was related to financial security, compared to 9% of students who disagreed/strongly disagreed. An independent t-test indicated no statistically significant differences between the attitude insurance coverage is

related to financial security by gender, $t(391) = -.809, p = .419$ (See Appendix E55). Thirty two percent of Academic pathway students, 31% of Applied pathway students and 37% of mixed Applied/Academic pathway students strongly agreed/agreed insurance coverage was related to financial security. Eight percent of Academic pathway students, nine percent of Applied pathway students and four percent of mixed Applied/Academic pathway students disagree/disagreed insurance coverage is related to financial security. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and the belief that insurance coverage is related to financial security, $F(2, 385) = .624, p = .536$ (See Appendix E55).

A Pearson product-moment correlation was calculated to determine the relationship between the attitude that insurance coverage is related to their financial security and CKS. A positive relationship was discovered ($r = .101, p = .041$).

Emergency fund. When students were asked about having an emergency fund in case of an emergency, 47% strongly agreed/agreed they should have one, compared to 8% of students who did not believe they needed such a fund. An independent t-test indicated no significant statistical differences by gender, $t(396) = .670, p = .503$ (See Appendix E55). Forty-nine percent of Academic pathway students, 41% of Applied pathway students and 56% of mixed Applied/Academic pathway students strongly agreed/agreed they should have an emergency fund for unexpected emergencies. Eight percent of Academic pathway students, eight percent of Applied pathway students and four percent of mixed Applied/Academic pathway students disagree/strongly disagreed they need an emergency fund. A one-way analysis of variance determined there was no significant statistical differences between the student attitude they should have an emergency fund and the three learning pathways, $F(2, 390) = 2.563, p = .078$

(See Appendix E55). A Pearson product-moment correlation was calculated to determine the relationship between the attitude they should have an emergency fund to pay for unexpected emergencies. A negative relationship was discovered ($r = -.312, p = .001$).

Research Question #2: What factors and influences motivate the financial decisions of high school students?

Factors and Influences that Motivate Students' Financial Decisions

Students were asked how often they discuss money matters with their parents/guardians. Overall, 34% of students indicate they always/often speak to their parents/guardians about money and financial matters compared to 23% of students who say they rarely/never discuss money and financial matters with their parents/guardians. An independent t-test revealed no statistically significant difference between the frequency of discussing money by gender, $t(425) = -.714, p = .459$ (See Appendix E56). Thirty-six percent of Academic pathway students, 39% of Applied pathway students and 33% of mixed Applied/Academic pathway say they always/often discuss financial matters with their parents/guardians. Seventeen percent of Academic pathway students, 27% of Applied pathway students and 30% of mixed Applied/Academic pathway students rarely/never discuss money matter with their parents/guardians. A one-way analysis of variance indicated no statistically significant differences between the frequency of discussing money by learning pathway, $F(2, 419) = 1.869, p = .156$ (See Appendix E56).

A Pearson Product-moment correlation was calculated to determine the relationship between the frequency of discussing financial matters with parents/guardians and CKS. A

positive correlation was found ($r=.103$, $n=447$, $p = .030$). A simple linear regression was calculated to investigate the relationship between the frequency of discussing financial matters with parents/guardians and CKS. Simple linear regression found a statistically significant relationship, $F(1,445) = 4.75$, $p = .030$). The slope coefficient was $.324$ so as the frequency of discussing financial matters increases, the CKS increases by $.324$ points. The R^2 value was $.011$, so 1% of the variation in CKS can be explained by the frequency of discussing financial matters with parents/guardians.

Fifty-eight percent of students turn to their parents/guardians if they have a question about money management or financial planning. All other sources of information (internet, bank, etc.) were minimally accessed. An independent t-test determined no statistically significant differences between who students turn to for financial answers by gender, $t(416) = .594$, $p = .553$ (See Appendix E57).

Sixty-three percent of Academic pathway students, 55% of Applied pathway students and 56% of the mixed Applied/Academic pathway students turn to their parents/guardians if they have financial questions. The other sources of information were minimally accessed (Appendix E57). A one-way analysis of variance determined no statistically significant difference between the three learning pathways and where students turn to get financial questioned answered, $t(2, 408) = 1.436$, $p = .239$ (See Appendix E57).

Students were asked about the frequency they discuss money matters with other people in their lives. Forty-one percent of students indicated they always/often discuss money matters with relatives, which includes parents/guardians. Fifteen percent of students always/often discuss money matters with friends and seven percent of students discuss money matters with teachers. Eleven percent of students discuss money matters with other adults (See Appendix

E82). An independent t-test indicated there was no statistically significant difference between who students access to discuss financial matters - other relatives, including parents/guardians, $t(415) = .701, p = .484$; friends, $t(414) = -1.199, p = .231$; teachers, $t(410) = -.826, p = .409$ or other adults, $t(411) = -1.176, p = .240$ (See Appendix E58).

Forty-two percent of Academic pathway students, 39% of Applied pathway students and 46% of mixed Applied/Academic pathway students discuss money matters most with relatives, which includes parent/guardians. A one-way analysis of variance determined there was a statistically significant difference within the three learning pathways and accessing teachers to discuss money matters, $F(2, 404) = 6.852, p = .001$ and accessing other adults, $F(2, 405) = 4.946, p = .008$ (See Appendix E58). More Applied pathway students ($M = 2.57, SD = 1.34$) discuss financial matters with their teachers than Academic pathway students ($M = 2.28, SD = 1.01$) ($p = .001$) and more Applied pathway students ($M = 2.23, SD = 1.34$) than Academic pathway students ($M = 1.84, SD = 1.09$) talk to other adults in their life ($p = .008$). There was no statistically significant difference between relatives (including parents/guardians), $F(2, 409) = 1.082, p = .340$ and friends, $F(2, 409) = 2.756, p = .340$ by learning pathway.

Students were asked to think about their last big purchase and to indicate which factors had the most influence on their purchase. Eighteen percent of females and 11% of males did not know what influenced them to make the purchase. The second ranked influence for females (14%) and males (11%) was the item being on sale. The third ranked influence for females (8%) and males (7%) was friends/peers. Males also ranked sales (7%) and family members (7%) as a third influence. An independent t-test determined there was no statistically significant difference between the first ranked influence, $t(363) = .257, p = .797$, second ranked influence, $t(274) = .242, p = .809$ or third ranked influence, $t(199) = -.806, p = .421$ by gender (See Appendix E59).

Academic pathway students indicated that emotion (17%) was the top ranked influence on purchases, followed by sales (15%) and friends/peers (8%). Applied students indicated they did not know what influenced them to purchase the item (17%), followed by sales (13%) and family members (8%). The mixed Applied/Academic pathway students indicated that their top ranked influence was emotions (11%), friends/peers (11%) and advertising (11%), followed by emotions (16%) and friends/peers (11%). A one-way analysis of variance determined there was no statistically significant difference between the first ranked, $F(2, 361) = 1.678, p = .188$; second ranked, $F(2, 271) = 1.205, p = .301$ or third ranked, $F(2, 201) = 1.551, p = .215$ influences on purchases among the three learning pathways (See Appendix 59a).

When students were asked if they timed their purchases based on when items were on sale, 39% of students strongly agreed/agreed they base their purchases on sales, compared to 10% that disagree/strongly disagreed. An independent t-test determined there was no statistically significant difference between buying an item when it coincides with a sale, $t(405) = .252, p = .801$ (See Appendix E60). Forty-five percent of Academic pathway students, 34% of Applied pathway students and 35% of mixed Applied/Academic pathway students strongly agreed/agreed they time their purchases when items are on sale. Nine percent of Academic pathway students and mixed Applied/Academic pathway students and 11% of Applied pathway students say they do not time their purchases to coincide with sales. There was no statistically significant difference between the three learning pathways and buying items to coincide with sales, $F(2, 400) = 1.811, p = .165$ (See Appendix E60a). A Pearson product-moment correlation was calculated to determine the relationship between buying items to coincide with sales and CKS. A negative correlation was discovered ($r = -.142, p = .003$).

Students were asked about their attitudes about factors and influences in their financial life. Forty-five percent of students strongly agree/agree they buy things to make them feel good. An independent t-test determined a statistically significant difference between the attitude that you buy things to make you feel good by gender, $t(412) = 2.781, p = .006$. More females ($M = 3.61, SD = 1.117$) than males ($M = 3.29, SD = 1.224$) buy things to make themselves feel good (See Appendix 60).

Forty-six percent of Academic students strongly agree/agree they buy things to make them feel good, followed by mixed Applied/Academic pathway students (40%) and Applied pathway students (31%). Sixteen percent of Academic pathway students, 14% of Applied and 19% of mixed Applied/Academic indicated they disagree/strongly disagree they buy things to make them feel good. A one-way analysis of variance determined there was no significant statistical difference between buying things to make themselves feel good by learning pathway, $F(2, 407) = .494, p = .611$ (See Appendix 60a).

A Pearson product-moment correlation was calculated to determine if there was a relationship between buying things to make you feel good and CKS. A negative relationship was found ($r = -.106, p = .028$). A simple linear regression was calculated to investigate the relationship between buying things to make you feel good and CKS. Simple linear regression revealed a statistically significant relationship, $F(1,408) = 7.48, p = .028$). The slope coefficient was $-.384$ so as the strength of the behaviour of buying things to make them self feel better increases; the CKS decreases by $.384$ points. The R^2 value was $.018$ so 1.8% of the variation in CKS can be explained by students buying things to make themselves feel better.

Thirty-six percent of students say how they spend their money reflect their values. An independent t-test determined there was no statistically significant difference between students

who say how they spend their money reflects their values by gender, $t(405) = -1.287, p = .199$ (See Appendix 60).

Thirty-nine percent of Academic pathway students, 31% of Applied pathway students and 42% of mixed Applied/Academic pathway students say the way they spend their money is reflective of their values. Nineteen percent of Academic pathway students, 18% of Applied pathway students and 18% of mixed Applied/Academic pathway students disagree/strongly disagree that the way they spend their money reflects their values. A one-way analysis of variance determined there was no statistically significant difference between the three learning pathways and whether how they spend their money reflects their values by learning pathway, $F(2, 399) = .642, p = .527$ (See Appendix 60a). A Pearson product-moment correlation was calculated to determine the relationship between students believing that the way they spend their money reflect their values. No statistically significant relationship was identified ($r = .039, p = .420$).

Thirty-seven percent of students strongly agree/agree that personal finances do not affect relationships, compared to 16% who disagree/strongly disagree with the statement. An independent t-test determined there was no statistically significant difference between males and females and their belief that personal finances do not affect relationships, $t(407) = -.704, p = .482$ (See Appendix E60). Thirty-nine percent of Academic pathway students, 36% of Applied pathway students and 35% of mixed Applied/Academic pathway students strongly agree/agree that relationships are not affected by personal finances. Nine percent of Academic pathway students and mixed Applied/Academic pathway students and 11% of Applied pathway students disagree/strongly disagree that personal finances do not affect relationships with others. A one-way analysis of variance found no statistically significant difference between the attitude that

personal finances do not affect relationships and the three learning pathways, $F(2, 402) = .488, p = .614$ (See Appendix 60a). A Pearson product-moment correlation was calculated to determine the relationship between the attitude that personal finances do not affect relationships and CKS. No statistically significant relationship was identified ($r=.079, p = .101$).

Twenty-seven percent of students say the things they own say a lot about how well they are doing in life. An independent t-test determined there was a statistically significant difference between the student attitude that the things they own say a lot about how well they are doing in life by gender, $t(405) = -2.354, p = .019$ (See Appendix E60). More males ($M = 3.14, SD = 1.158$) than females ($M = 2.87, SD = 1.151$) indicate the things they own reflect how well they are doing in life. A one-way analysis of variance discovered no statistically significant difference between the attitude that what they own reflects how well they are doing in life and the three learning pathways, $F(2, 399) = .642, p = .527$ (See Appendix 60a). A Pearson product-moment correlation was calculated to determine the relationship between the attitude that what they own reflects how well they are doing in life. No statistically significant relationship was discovered ($r = -.092, p = .057$).

Thirty-two percent of students strongly agree/agree they admire people who own expensive homes, cars and clothes, compared to 23% of students who disagree/strongly disagree they hold this attitude. An independent t-test determined there was no statistically significant difference between the attitude they admire people who own expensive homes, cars and clothes, $t(365.39) = -1.561, p = .119$ by gender (See Appendix 60). Thirty-two percent of Academic pathway students (32%), 31% of Applied pathway students and 33% of mixed Applied/Academic pathway strongly agree/agree they admire people who have expensive homes, cars and clothes. Twenty-five percent of Academic pathway students, 20% of Applied pathway

students and 23% of mixed Applied/Academic pathway students disagree/strongly disagree they admire people who have expensive homes, cars and clothes. A one-way analysis of variance determined there was no statistically significant difference between the attitude that students admire people who own expensive homes, cars and clothes by gender or by the three learning pathways, $F(2, 401) = .243, p = .785$ (See Appendix E60a). A Pearson product-moment correlation was calculated to determine the relationship between admiring people who own expensive homes, cars and clothes and CKS. No statistically significant difference was identified ($r = -.75, p = .123$)

Twenty-seven percent of students say they like to own things that impress people. An independent t-test determined there was a statistically significant difference between students who hold the attitude they own things that impress people by gender, $t(407) = -2.20, p = .028$. More males ($M = 3.06, SD = 1.207$) than females ($M = 2.80, SD = 1.135$) say they like to own things to impress people (See Appendix E60). Thirty percent of Academic pathway students, 29% of Applied pathway students and 21% of mixed Applied/Academic pathway students strongly agree/agree they like to own things that impress people. A one-way analysis of variance determined there was no statistically significant difference between the attitude that students like to own things to impress people and the three learning pathways, $F(2, 402) = .894, p = .410$ (See Appendix 60a). A Pearson product-moment correlation was calculated to determine the relationship between the attitude that students like to own things to impress people and CKS. No statistically significant difference was found ($r = -.020, p = .682$).

Data Sample – Parents/Guardians

A total of 38 parents completed the survey. Of the 38 respondents 76% were female and 24% were male (See Appendix E61), with 32% of respondents being between the age of 35-44

and 68% being between the ages of 45-54 (See Appendix E61). Forty percent of the participants had a college diploma, followed by 34% with a Bachelor's degree and 21% had a high school diploma (See Appendix E62). Fourteen percent of respondents earned less than \$75 000 a year. Most respondents (32%) earned a yearly income of between \$ 75 000 and \$99 000. Twenty-nine percent of respondents earned between \$100 000 and \$149 000 yearly and 11% earn between \$149 000 - \$199 999. Sixteen percent earned over \$200 000 (See Appendix E63).

Background of Parents/Guardians

Exposure to money management course. Sixteen percent of parents/guardians took a course in high school focused on money and 8% took a course during post-secondary. Thirteen percent had taken a course through work and 8% had taken a privately sponsored seminar related to managing money (See Appendix E64).

Research Question #3: What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?

Data Analysis – Parents/Guardians

Each high school student was given an invitation for parents/guardians to participate in the financial literacy survey. There were 38 usable surveys. Of the 38 parents/guardians who responded 9 indicated they were males (24%), 29 were females (76%; See Appendix E61).

Financial Literacy Knowledge of Parent/Guardians

Parents/guardians were asked a series of knowledge questions related to financial matters. Parents/guardians were most successful at identifying that no interest was paid on the \$25 loan (100%). Although, 92% of parents were able to accurately identify the interest on \$100 after 1

year, only 58% were able to calculate the interest after 5 years. An independent t-test determined there was no statistically significant difference between calculating the interest after 1 year, $t(28) = 1.80, p = .083$ or after 5 years by gender, $t(19.2) = 1.75, p = .096$ between males and females parent/guardians (See Appendix E65).

When asked how much money a group of people would have after inflation, only 58% of participants were correct. There was no statistically significant difference between female and male parent/guardians and understanding inflation on purchasing power, $t(20.99) = 1.88, p = .075$ (See Appendix E65).

In a series of true/false questions, 87% of parents/guardians indicated there is less of a chance of losing all their money if they have it saved in more than one place. An independent t-test determined there was no statistically significant difference between knowing about diversification by gender, $t(36) = -.926, p = .054$

When parents/guardians were asked whether a high return is likely to be high risk, 84% of parent/guardians knew a high return investment also means high risk. An independent t-test determined there was no significant difference between knowing that a high return investment is also high risk by gender, $t(36) = -.727, p = .472$ (Appendix E65).

When parents/guardians were asked if someone offered them a chance to make a lot of money, there was also a chance they could lose a lot of money, 87% of parents/guardians indicated it was true that you could lose a lot of money with a high return investment. An independent t-test determined no statistically significant difference between females and males, $t(28) = -1.72, p = .096$ (Appendix E65).

Sixty-eight percent of parents/guardians in the NOS knew buying a wide range of stocks and shares is a way to reduce your risk in the stock market. An independent t-test determined no

significant difference between females and males on understanding diversification, $t(36) = .105$, $p = .917$ (Appendix E65).

Seventy-four percent of parents/guardians knew high inflation meant that the cost of living is increasing rapidly. An independent t-test revealed a significant difference between females and males understanding the meaning of high inflation, $t(28) = -2.29$, $p = .030$ (Appendix E65). More males ($M = 3.00$, $SD = .000$) than females ($M = 2.72$, $SD = .649$) understood the meaning of high inflation.

A CKS was derived from counting the number of correct responses from each participant. The CKS was out of 9. Three percent of females and 0% of males were able to achieve Level 4 by answering 8-9 questions correctly. Seventeen percent of females and 33% of males achieved a Level 3. Most females and males were not able to achieve a target score of 7 out of 9. Thirty-one percent of females and 0% of males achieved an R, the lowest level of achievement, which means they were unable to answer at least 5 of the questions correctly. An independent t-test was used to determine if there was a statistically significant difference between CKS and gender (See Appendix E66, E66a). There was a statistically significant difference between CKS and gender, $t(30.37) = -2.119$, $p = .042$. More males ($M = 6.00$, $SD = .866$) were able to answer the knowledge questions correctly than females ($M = 5.03$, $SD = 1.899$).

Financial Behaviour of Parents/Guardians

When parents/guardians were asked about the frequency of discussing financial topics with children, 50% said they always/often discussed financial topics with their children. Thirteen percent of parents/guardians rarely/never discuss financial matters with their children. An independent t-test determined there was no significant difference between the frequency of discussing financial topics with their children by gender, $t(36) = -.259$, $p = .797$ (See Appendix

E67). Eighty-two percent of parents/guardians most often talk to their children about the cost of post-secondary education, followed by discussing the difference between needs and wants (79%) and saving (76%). The least talked about topics include buying a home (11%), retirement planning (8%) and compound interest (0%; See Appendix E93). An independent t-test determined there was a significant difference between discussing influences on consumers by gender, $t(28) = 2.70$, $p = .012$. More females ($M = 2.21$, $SD = .412$) than males ($M = 2.00$, $SD = .000$) talk to their children about influences on consumers. All other financial topics were not significant (Appendix E68).

Forty-seven percent of parents/guardians indicated they had a personal budget. An independent t-test determined there was no significant difference between having a budget by gender, $t(36) = -.550$, $p = .585$ (See Appendix E69). Of the respondents that said they had a budget, 61% say they always/often stay within in their budget. An independent t-test revealed there was no statistically significant difference between staying within budget by gender, $t(16) = -.812$, $p = .429$ (See Appendix E70).

Seventy-four percent of parents/guardians are saving for their children to attend post-secondary education. An independent t-test determined there was no statistically significant difference between saving for children to attend post-secondary education by gender, $t(36) = -.311$, $p = .757$ (See Appendix E71). The most popular method of saving was using a RESP (47%), followed by a dedicated savings account (29%). The least popular way to pay for post-secondary education was being given money by a family member or friend (5%). An independent t-test determined no statistically significant difference between method of saving for post-secondary education by gender, $t(26) = -.393$, $p = .697$ (See Appendix E72).

Parents/guardians indicated that only 13% of their children were extremely/moderately prepared to manage their money after high school, compared to 53% of children who are slightly/not at all prepared. An independent t-test revealed no statistically significant difference in indicating how prepared their children are to manage money after high school by gender, $t(36) = -.776, p = .443$ (See Appendix E73).

One hundred percent of parents/guardians think it is extremely/moderately important for schools to formally provide a program that helps children become more knowledgeable about their personal finances (See Appendix E74).

Females are most comfortable talking about the difference between wants and needs with their children, followed by saving (93%) and managing debt and charity/giving to others (90%). Males are most comfortable talking about difference between wants and needs (100%), buying a car (100%), setting financial goals (100%), retirement planning (100%) and cost of post-secondary education (100%). Females are least comfortable talking about buying a home (67%), followed by the stock market (62%) and compound interest (52%). Males indicated they were comfortable talking about most financial topics, except for investments, pensions, insurance, influences on consumers, fraud and its consequences, buying a home, dealing with financial emergencies, where 11% (1 participant) said they were slightly/not at all comfortable addressing those topics. An independent t-test determined there was a statistically significant difference between comfortableness of discussing stock market by gender, $t(36) = -2.088, p = .044$, where more males ($M = 3.89, SD = 1.864$) than females ($M = 3.89, SD = 1.364$) are comfortable discussing the stock market with their children (See Appendix E75). There was also a statistically significant difference between comfortableness of discussing the consequences of financial decisions by gender. More males ($M = 5.22, SD = 1.481$) than females ($M = 4.38, SD$

= .728) are comfortable talking about consequences of financial decisions with their children, $t(36) = -2.33, p = .03$. All other topics were not significant.

Sixty-three percent of parents/guardians are extremely/moderately concerned about having financial security during retirement, compared to only 24% of participants who said they are slightly/not at all concerned. An independent t-test determined there was no significant difference between being concerned about having financial security during retirement by gender, $t(36) = .312, p = .757$ (See Appendix E76).

Sixty-six percent of parents/guardians rated their self-reported money knowledge and skills as extremely/moderately knowledgeable. Only one participant (3%) said they were not at all knowledgeable. An independent t-test determined there was no significant difference between self-reported money knowledge and skills by gender, $t(36) = -1.650, p = .108$ (See Appendix E77). A Pearson's product moment-correlation coefficient was computed to assess the relationship between self-reported money knowledge and skills and CKS. There was no statistically significant correlation, ($r = -.039, p = .818$).

Most parents/guardians plan to pay for their retirement by using a work pension (74%). The next most popular way to pay for retirement expenses is using a government pension (53%). The least popular method of paying for retirement expenses is through an inheritance (3%). Ten percent of parents/guardians do not know how they are going to pay for expenses during retirement and 7% do not plan to retire (See Appendix E103). An independent t-test determined there was no significant difference between method of paying for retirement by gender, pension, $t(36) = -.311, p = .757$; RRSP, $t(36) = -1.521, p = .137$; savings accounts, $t(36) = -.126, p = .900$; government pension, $t(36) = -.196, p = .846$; investments, $t(36) = -.126, p = .900$; inheritance,

$t(36) = .552, p = .584$; don't plan to retire, $t(36) = .795, p = .432$; I don't know, $t(28) = 1.797, p = .083$ (See Appendix E78).

When parents/guardians do not have enough money to buy something they really want, most parents/guardians save up to buy it (45%), followed by using a credit card or line of credit (32%) and not buying the item (24%). Borrowing money from family or a friend, asking someone else to buy it for them and selling things to get the item were the least favoured methods of obtaining the item (0%). An independent t-test determined there was no significant difference between what parents/guardians do when they do not have enough money to buy something they really want by gender, $t(36) = -1.332, p = .191$ (See Appendix E79).

Most parents/guardians believe they should start talking to their children about money when they are in Grades 4-8 (37%), followed by Grades 9-12 (32%) and kindergarten -Grade 3 (29%). An independent t-test determined there was no statistically significant difference between when parents/guardians think financial literacy should start in school by gender, $t(36) = .222, p = .826$ (See Appendix E80).

Parents/guardians were asked to describe a scenario where they would have discussed financial matters with their child/ren. The most popular scenario was parents/guardians talking to their child/ren about saving a portion of their pay cheque, usually for post-secondary costs. The next most popular scenario was discussing the topic of needs versus wants (23%). This was followed by discussing the cost of post-secondary education and the costs associated with schooling (22%). Other topics of discussion were also mentioned, including cost of activities (sports, vacations, etc.), investments, credit cards and financial shock. Most scenarios were described as situations where the child was being faced with a financial situation and the parent/guardian used it as an opportunity to discuss financial matters. In a few instances the

parents/guardians were dealing with a financial shock and included the child/ren in coming up with solutions or as part of the learning process.

When parents/guardians were asked to provide any additional comments about financial literacy, many parents/guardians commented that they feel the school should provide a course targeting basic financial life skills (credit cards, cost of rent, budgeting, etc.). Three parents/guardians felt schools should start teaching financial concepts at a young age and increase the difficulty as students progress through to high school. One parent/guardian commented that a lack of discussion about investments has left them without the advanced skills (investments) to make better financial choices. One parent/guardian commented that although the skills should likely be taught by parents/guardians, many of them are missing sometimes even the basic skills, so it would be difficult for them to teach them to their child/ren.

Research Question #4: What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: A Sound Investment: Financial Literacy Education in Ontario Schools (2010) and Financial Literacy: Scope and Sequence of Expectations (2016)?

- a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?
- b) According to teachers, what resources (e.g. professional development) are needed?

Data Sample - Teachers

A total of 385 teachers were invited to complete the financial literacy survey for teachers. There were 61 usable surveys - a 16% response rate. Of the 61 teachers who responded 25 indicated they were males (41%), 36 were females (59%; See Appendix E81)

Six teachers (10%) that completed the survey were in their first five years of teaching. Sixteen teachers (26%) had been teaching between 6 and 11 years. Ten teachers (16%) had been teaching 12-17 years, 15 teachers (25%) 18-23 years and 14 teachers (23%) had been teaching for more than 24 years (See Appendix E82). Teachers were teachers from a variety of curriculum areas who completed the survey.

Data Analysis - Teachers

Seventy-two percent of teacher participants indicated they feel it is extremely important for schools to provide a financial literacy program, followed by 25% of teachers that feel it is moderately important and 3% of educators said it was somewhat important. An independent t-test determined there was no statistically significant difference between the importance teachers place on teaching financial education by gender, $t(59) = -.381, p = .704$ (See Appendix E83). A one-way analysis of variance was used to determine if there was a statistically significant difference between years of teaching and the importance of a financial literacy program in schools. There was no statistically significant difference between years of teaching and importance of a financial literacy program in schools, $F(4, 56) = .668, p = .617$.

Overall, 15% of teachers think financial matters should be discussed starting in kindergarten – Grade 3, followed by 52% who think it should start in Grades 4-8 and 33% of teachers who think it should wait until high school (Grades 9-12). An independent t-test revealed there was no statistically significant difference between when financial matters should

start being discussed by gender, $t(59) = -.576, p = .567$ (See Appendix E84). A one-way analysis of variance determined there was no statistically significant difference between when financial matters should start being discussed by years of teaching experience, $F(4, 56) = .908, p = .466$.

In an open-response question, teachers were asked why financial education should be a part of the curriculum. Most teachers (73%) believe the school curriculum should include financial literacy because it is an important life skill. Other reasons mentioned were so that students know the consequences of overspending, using credit cards, how student loans can get out of hand and the value of saving money. One important message that came through in many responses was that some parents/guardians do not feel they have adequate financial literacy skills to teach their children the knowledge and skills they need.

Only 7% of teachers received some level professional development related to financial literacy with all professional development coming outside of the school environment (privately sponsored or union/federation workshop). An independent t-test determined there was no statistically significant difference between taking professional development related to financial literacy by gender, $t(59) = .373, p = .710$ (See Appendix E85). A one-way analysis of variance determined there was no statistically significant difference between having taken professional development related to financial literacy by years of teaching experience, $F(4, 56) = 1.178, p = .330$.

Teachers were asked what they would need to start integrating financial literacy into their high school courses. Eighty percent of teachers indicated they would need course materials that are specific to the course they teach, followed by professional development in the area of financial literacy, to integrate financial education into their course. An independent t-test determined there was no statistically significant difference between what teachers would need to

integrate financial education into their courses by gender (course materials specific to the course I teach, $t(38.69) = -1.92, p = .063$; professional development in financial literacy, $t(59) = .107, p = .915$, nothing, I already have the knowledge, $t(59) = .105, p = .916$; See Appendix E86). A one-way analysis of variance determined there was no statistically significant difference between needing course materials specific to the course by teaching pathway, $F(4, 56) = .631, p = .643$, professional development in financial literacy, $F(4, 56) = 1.306, p = .279$ or nothing, they already have the knowledge, skills and resources, $F(4, 56) = 1.694, p = .164$.

Teachers were asked how comfortable they would be teaching a variety of financial topics. An independent t-test determined there was a statistically significant difference between comfortableness of teaching various financial topics by gender (See Appendix E87). Males ($M = 4.36, SD = .700$) are more comfortable teaching students about managing debt than females ($M = 3.81, SD = 1.14$), $t(58.25) = -2.35, p = .022$. Males ($M = 3.52, SD = .823$) are more confident in teaching about investments than females ($M = 2.78, SD = 1.12$), $t(59) = -2.82, p = .007$. Males ($M = 3.68, SD = 1.11$) are more comfortable teaching about compound interest than females ($M = 3.00, SD = 1.29$), $t(59) = -2.15, p = .036$. Males ($M = 3.68, SD = .900$) are more comfortable with the topic of pensions than females ($M = 2.81, SD = 1.22$), $t(59) = -3.06, p = .003$. Males ($M = 3.96, SD = .841$) are more confident teaching about insurance than females ($M = 3.00, SD = 1.17$), $t(59) = -3.51, p = .001$. Males ($M = 3.96, SD = .978$) are more comfortable teaching about taxes ($M = 3.26, SD = .978$) than females ($M = 3.26, SD = 1.25$), $t(58) = -2.45, p = .018$. Males ($M = 3.28, SD = .936$) are more comfortable teaching about the stock market than females ($M = 2.17, SD = 1.13$), $t(59) = -4.04, p = .001$. Males ($M = 3.96, SD = .889$) are more comfortable teaching about the influences on consumers than females ($M = 3.28, SD = 1.28$), $t(59) = -2.31, p = .025$. More males ($M = 3.84, SD = .800$) say they are comfortable teaching about fraud and its

consequences than females ($M = 3.28$, $SD = 1.11$), $t(59) = -2.30$, $p = .025$. Males ($M = 4.32$, $SD = .627$) are more comfortable teaching about buying a home ($M = 3.44$, $SD = 1.08$), $t(59) = -3.99$, $p = .001$. Males ($M = 4.24$, $SD = .779$) are more confident than females ($M = 3.53$, $SD = 1.08$) at teaching about how interest is calculated on credit cards/loans, $t(59) = -2.99$, $p = .004$. More males ($M = 4.52$, $SD = .59$) than females ($M = 3.67$, $SD = 1.07$) are confident teaching about buying a car, $t(56.43) = 4.00$, $p = .001$. Males ($M = 4.32$, $SD = .627$) are more comfortable teaching about the consequences of financial decisions than females ($M = 3.58$, $SD = 1.025$), $t(58.23) = -3.48$, $p = .001$. More males ($M = 3.83$, $SD = .868$) than females ($M = 3.06$, $SD = 1.136$) are comfortable teaching about retirement planning, $t(59) = -1.36$, $p = .179$. A one-way analysis determined there was no significant difference between comfortableness of teaching specific financial topics by years of teaching experience.

Currently, 25% of teachers are always/often integrating financial literacy into their courses, compared to 30% of teachers who are rarely/never integrating financial literacy into their courses. An independent t-test determined there was no significant difference between frequency of integrating financial literacy into their courses by gender, $t(59) = -.165$, $p = .869$ (See Appendix E88). A one-way analysis of variance determined there was no significant difference between frequency of integrating financial literacy into courses by years of teaching experience, $F(4, 56) = 1.29$, $p = .285$.

Only 18% of teachers are aware of the financial literacy curriculum document – Financial Education: Scope and Sequence of Expectations, which was released in 2016. An independent t-test determined there was no statistically significant difference between being aware of the financial literacy curriculum document by gender, $t(58) = -1.06$, $p = .295$ (See Appendix E89). A one-way analysis of variance revealed there was no statistically significant difference between

being aware of the financial literacy curriculum by years of teaching experience, $F(4, 56) = 1.41$, $p = .242$. Of those that were aware of the curriculum document, 0% of teachers always/often use the document for course planning, compared to 100% who said they rarely/never use the document (See Appendix E90).

Summary of Data Analysis and Findings

In Chapter 4, data analysis methods and results were presented from the NOS. Statistically significant differences were revealed, in some areas, between gender, learning pathway, and mindset among students and their parents/guardians in relation to their knowledge, behaviour and attitudes towards financial literacy. What follows is a discussion of the results from the NOS gathered from students, parents/guardians and, teachers.

CHAPTER FIVE: DISCUSSION

The purpose of this quantitative survey research study was to examine data from northern Ontario high school students and their parents/guardians about their knowledge, attitudes, and behaviours related to financial literacy and the four elements of financial well-being: control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015). This research also gathered data from high school students to identify the factors that motivated and influenced the financial decisions of youth in northern Ontario. The perspectives of high school teachers were also explored to gain a better understanding of their attitudes and perceptions towards financial literacy and what supports would be needed to enhance financial literacy opportunities, so students will be better equipped to make informed financial decisions throughout their lives. This research also gathered perceptions of how financial literacy curriculum documents, developed by the OME, were being integrated into Ontario classrooms and what support teachers would require for full implementation of these resources.

This chapter includes a discussion of major findings as related to the literature on global financial literacy of high school students and parents/guardians, including the factors and influences on financial decisions by high school students in northern Ontario. It also includes a discussion on teacher attitudes and beliefs towards financial education, what they need to adequately prepare to integrate financial learning into their courses, and how the current OME documents are being used within the schools. A discussion related to the theoretical frameworks of behaviour economics and cognitive development is also included.

Throughout this chapter the discussion aims to answer the following research questions:

1. What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, including control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?
2. What factors and influences motivate the financial decisions of high school students?
3. What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?
4. What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: *A Sound Investment: Financial Literacy Education in Ontario Schools* (2010) and *Financial Literacy: Scope and Sequence of Expectations* (2016)?
 - a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?
 - b) According to teachers, what resources (e.g., professional development) are needed?

This chapter concludes with a discussion of future research possibilities.

Financial Well-Being

Joo and Grabble (2004) acknowledge that if people know how to effectively manage their finances, they are more likely to experience financial well-being. The CFPB (2015) defined financial well-being as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future and is able to make choices that allow enjoyment of life” (p. 18). Along with the definition of financial well-being, the CFPB (2015) identified four elements of financial well-being that target current circumstances and

future planning: having control over day-to-day finances, capacity to absorb a financial shock, being on track to meet financial goals and having the financial freedom to make the choices that allow you to enjoy life (CFPB, 2015, p. 19). This definition of financial well-being focuses on an individual's personal values with regards to how they choose to live and spend their money. These values differ from person-to-person, as does one's overall view of one's financial well-being. Some individuals may be very content to live a non-materialistic life, while others value the accumulation of assets and view these as important to their financial well-being. Simply assessing a person's financial well-being based on their level of income or overall worth does not allow for the variety of lifestyles individuals choose (CFPB, 2015). Financial well-being is also dependent on a person's starting point. For example, for some, financial well-being may be about saving for travel or luxuries, whereas for others, financial well-being could be more about earning the necessary funds to survive.

According to Piaget (1950) students do not develop the ability to “think beyond the present” (p. 163), form hypothetical thoughts (abstract thoughts) and theories and apply “operations to operations” (1983, p. 111) until they reach the formal operations stage (ages 11-16) of development which allows them to make complex financial decisions. However, according to Piaget (1973), some individuals fail to reach this stage and are then at a disadvantage when it comes to planning their future and making financial decisions (Holden, 2010). Lacking these important developmental skills would affect all of the elements of financial well-being, since being able to make financial decisions, planning for future events such as saving for post-secondary and retirement, and understanding the future consequences of having debt are all important facets of achieving financial well-being.

Interpretation of Findings – Students and Parents/Guardians

Background of Northern Ontario Sample (NOS)

The most popular source of money from students in the NOS was from a part-time job, followed by receiving money as gifts. According to PISA results, most Canadian students receive most of their money from gifts (90%), followed by an allowance (72%) and informal jobs (55%; OECD, 2017, p. 216). IEF (2012) determined students in southern Ontario get most of their money from an allowance (58%), followed by gifts (48%) and from a part-time job (45%; IEF, 2012, p. 6). In the NOS research, males are more likely to receive money from an allowance for doing chores and working in a family business. This finding was consistent with the PISA results, where more boys than girls received money from doing chores and working in a family business (OECD, 2017, p. 115). These results may suggest males are more likely than females to be paid for doing work within the home and females are more likely to receive money for doing no work in the form of gifts and money from parents/guardians (OECD, 2017). Marshall (2011a) indicates women are still more likely to be involved in unpaid work within the home (e.g., housework) compared to men. In a study of 10 000 users of an allowance tracker, “the average boy [made] \$13.80 per week, while the average girl [made] \$6.71” (Zoellner, 2018). These findings demonstrate to children at a young age that women are paid less than men for the jobs they perform, that men more often get paid for chores done within the home, and the difference in allowance validates the gender pay gap between males and females (Paul, 2018). According to Moyser & Burlock (2018), even if mothers participate in the work-force, there remains an expectancy that women hold the,

ultimate responsibility for the coordination of children’s lives; the smooth functioning of the household (e.g., planning meals; scheduling medical, dental, and other appointments;

and arranging for repairs or deliveries); “emotion work” (i.e., the enhancement of relatives’ emotional well-being and provision of support); and “kin keeping” (i.e., the maintenance of relationships with immediate and extended family by keeping in touch; remembering and acknowledging birthdays and other milestones; and planning and organizing family celebrations and vacations. (p. 4)

This level of unpaid work is modelled for children at a young age and may perpetuate the expectation that women are to participate in unpaid work within the home.

Females were more likely than males to receive money from informal jobs, gifts, and parents/guardians. These findings were also consistent with the PISA research, in that more girls than boys accrued money from informal jobs and from gifts (OECD, 2017). The OECD (2017) suggests these results may indicate that males seek out financial independence sooner than females. The results could also suggest there is still a lingering perception that women need to be taken care of, so they need those around them to provide them with money, through gifts and money parents/guardians (Parker & Stepler, 2017).

Data gathered from all students in the NOS were used to investigate the relationship between sources of money and the effect on financial literacy scores. There was a positive correlation between working at a part-time job and CKS as well as negative correlations between getting money from an allowance for chores and for no chores, working in a family business, doing informal jobs, receiving gifts, selling things and getting money from parents/guardians. This finding is partially similar to the PISA assessment, where “earning money from work (either doing chores or working outside the home) is associated with lower performance in financial literacy” (OECD, 2017, p. 118), which differs slightly from the findings in this research which determined that working at a part-time job had a positive effect on CKS. According to

OECD (2017), these results suggest that, just because students have money does not mean they have the necessary skills or are learning the financial literacy skills necessary to manage the money properly and students need to be taught money management skills (OECD, 2017).

What follows is a discussion that addresses two of the research questions:

- 1. What knowledge, attitudes, and behaviours do high school students exhibit towards the four elements of financial well-being, including control over day-to-day, month-to-month finances; setting and meeting financial goals; absorbing a financial shock; and financial freedom to enjoy life (CFPB, 2015)?**
- 2. What knowledge, behaviours, and attitudes do parents/guardians have towards financial literacy and the teaching of financial literacy to their child/ren?**

Knowledge of the Elements of Financial Well-Being of High School Students and Parents/Guardians

There was an overall lack of financial literacy among high school students and parents/guardians. Students are most successful at answering questions related to financial shock, followed by control over day-to-day finances and financial goals. Students are least successful at the financial freedom element of financial well-being; however, males are significantly more knowledgeable than females in the area of financial freedom. Since many high school students are at the stage of their lives where vehicle insurance is likely a big topic of conversation, it may not come as surprise that students performed best at financial shock since they were asked questions about the purpose of insurance and variables that impact insurance costs. It is also not surprising that students were least successful at the financial freedom

element. As students progress through high school they appear to be more focused on financial matters currently affecting them, rather than the idea of retirement. Pinto (2017) and Drever, et. al. (2015), both believe students will learn financial information better if the information is relevant to their lives. It was, however, concerning that less than half of the students were able to calculate interest on a savings account after one and five years. Being able to calculate interest is a much-needed skill to understand most financial matters, including savings, debt and investments.

Students were asked 15 knowledge questions related to the four elements of financial well-being (control over day-to-day finances, financial goals, financial freedom and financial shock). Student's correct responses for each element of financial well-being were then added together to develop a composite knowledge score (CKS). One point was given for each correct response and the CKS was derived by counting the number of correct responses for each knowledge question which resulted in a score out of 15. Parents/guardians were asked nine questions related to financial literacy knowledge. The parent/guardian CKS resulted in a score out of nine.

The CKS was then converted to an achievement level. In Ontario, students are assessed using an achievement scale ranging from Levels 1 to 4. A Level 3 "represent[s] the "provincial standard" for achievement of the expectations" (OME, 2006, p. 16). "Parents of students achieving at level 3 can be confident that their children will be prepared for work in the next grade" (OME, 2006, p. 16). According to the OME (2006), "Level 1 identifies achievement that falls much below the provincial standard, while still reflecting a passing grade. Level 2 identifies achievement that approaches the standard. Level 4 identifies achievement that surpasses the standard. When an "R" is assessed it means "extensive remediation is needed since

the required skills and knowledge of the subject have not been met” (2018, p. 16). The achievement levels used in Ontario, are the same achievement levels used in this research to identify students’ competency in financial literacy. Thirty-eight percent of the NOS students were given an R (lowest level of achievement) because they were unable to answer at least seven of the fifteen questions correctly (See Appendix E25). On the PISA financial assessment, 13 percent of Canadian students achieved the lowest level of achievement (Level 1). Thirty-six percent of students in the NOS achieved a Level 3 or 4 on the financial literacy knowledge questions, compared to 23 percent of Canadian students who achieved a Level 4 or 5 (levels which relate to Level 3 or 4 on the Ontario achievement scale) on the financial literacy portion of the PISA assessment (OECD, 2017, p. 177). There was no significant difference in achievement levels based on gender on the NOS, which mirrors the PISA assessment of financial literacy, where no significant differences in performance levels between genders was discovered for students in the Canadian provinces (OECD, 2017, p. 94).

Parents/guardians were asked nine questions related to financial literacy to test their financial knowledge. A CKS was derived from counting the number of correct responses for each participant. The CKS was scored out of nine. Twenty-one percent of females and 33 percent of males achieved a Level 3 or 4 on the knowledge questions, even though 59 percent of females and 89 percent of males indicated they were extremely/moderately knowledgeable in their money knowledge and skills. Most females and males were not able to achieve a target score of seven out of nine. Thirty-one percent of females and zero percent of males achieved an R, the lowest level of achievement, which means they were unable to answer at least 5 of the questions correctly (See Appendix E66, E66a). Males were significantly more successful at answering the financial literacy questions correctly which mirrors the findings of the CFCS and

the OECD, where men significantly outscore their female counterparts (Drolet, 2016; Lusardi, 2006).

As in the PISA assessment (OECD, 2017, p. 94), the NOS research identified no significant difference between males and females and financial literacy knowledge while the students are in high school; however, the extant literature shows changes as males and females enter adulthood. Males become significantly more knowledgeable about financial literacy (Drolet, 2016, Lusardi, 2006). Previous research has identified possible explanations for the gender gap. OECD (2017), explains that the gender gap may exist because of differences in “learning opportunities,” “contexts” and “socio-economic background” between men and women “across generations” (p. 97). Fonseca, Mullen, and Zamarro (2012) suggest lack of education for women, lower income for women, and men specializing in managing the household finances, in addition to lower graduation rates, less experience with financial products, and a lack of real-life experiences have all been contributing factors to the gender gap among adults (OECD, 2013). The OECD (2013) also indicates that “depending on cultural and societal norms, men may hold primary or exclusive responsibility for certain aspects of financial decision making” within the household (OECD, 2013, p. 28), which may limit the opportunity for women to be involved in the household finances and ultimately enhance their financial knowledge. According to Marshall (2011), gender specific roles are slowly changing, where women are more involved in the work force and men are more involved in domesticated tasks. This provides some hope that the gap between men and women’s role in household finances will close over time, and ultimately increase women’s financial knowledge and skills.

Self-Reported Financial Knowledge

When students were asked to self-report their overall money knowledge and skills and their knowledge of specific financial topics, males were more confident than females; however, that confidence did not translate into higher knowledge scores. Although most males (65%) rated their money knowledge and skills as extremely/moderately knowledgeable, only 43 percent of males were able to achieve a Level 3 or Level 4 on the knowledge questions. Over half of the students who rated themselves as being extremely/moderately knowledgeable in their money knowledge and skills scored Level 2 or less on the financial knowledge questions. There was a significant relationship between self-reported money knowledge and skills and financial literacy knowledge.

When parents/guardians and teachers were asked to self-report their money knowledge and skills, there was no significant difference between males and females for either parents/guardians or teachers and there was no significant difference for teachers based on years of teaching experience. The NOS results differ from the findings of the CFCS, where more adult men self-reported they were financially knowledgeable than adult women (Drolet, 2016). Drolet (2016) also found that many Canadians were over confident in their money knowledge and skills, since of the CFCS respondents that indicated they were financially knowledgeable, 25 percent of men and 33 percent of women scored 50 percent or less on the knowledge portion of the survey (p. 3). These findings appear to be the case in the NOS results as well.

Although there was no significant difference between males and females on knowledge of specific financial topics, there was a significant difference by learning pathway in some areas. Academic pathway students indicate they are more knowledgeable than Applied pathway students on their knowledge of influences on consumers, fraud and its consequences,

charity/giving, and the cost of post-secondary education. Academic pathway students and mixed Applied/Academic pathway students were more confident than their Applied pathway peers on the difference between wants and needs. The confidence Academic pathway students have in their knowledge of specific financial topics translated into higher knowledge scores, as Academic pathway students outscored their Applied pathway counterparts in all four elements of financial well-being.

According to the OME (2007), students who enrol in the Academic learning pathway are preparing themselves for a university-level post-secondary education. An Academic pathway “develop[s] students’ knowledge and skills by emphasizing theoretical, abstract applications of the essential concepts and incorporating practical applications as appropriate” (p. 14). Students who pursue an Applied learning pathway are preparing themselves for a college-level post-secondary education (OME, 2007). The OME states “Applied courses also focus on the essential concepts of the discipline, but develop students’ knowledge and skills by emphasizing practical, concrete applications of these concepts and incorporating theoretical applications as appropriate” (p. 14).

According to EQAO (2018) students in the Academic pathway (84%) outperformed their Applied pathway (45%) peers on the Grade 9 Assessment of Mathematics and on the Ontario Secondary School Literacy Test (OSSLT) where 90 percent of Academic pathway students compared to only 39 percent of Applied pathway students were able to achieve the provincial standard (Level 3 or Level 4). On the Financial Literacy PISA assessment, a positive correlation was revealed between financial literacy scores and achievement in mathematics ($r = .68$) and language ($r = .70$) among students in Canadian provinces (OECD, 2017). OECD (2017) states “...in general, students who perform at higher levels in mathematics and reading also perform

well in financial literacy” (p. 84). However, the OECD (2017) is cautious in assuming that all students who perform well in mathematics and reading can achieve a high score in financial literacy. The variation in financial literacy achievement among the various levels of achievement in mathematics and reading is vast, which means the skills needed for financial literacy vary from the skills students receive in courses teaching mathematics and reading (OECD, 2017).

In the NOS, learning pathway had a significant impact on financial literacy knowledge. In this research, when students were asked knowledge questions related to control over day-to-day, financial goals, financial shock and financial freedom, which have been identified as the elements of financial well-being (CFPB, 2015), NOS Academic pathway students were significantly more successful than their Applied peers in control over day-to-day finances, financial goals and financial freedom. Academic and mixed Applied/Academic pathway students were significantly more successful than students in the Applied pathway on the element of financial shock. The findings are consistent with other measures of achievement at the high school level. In both the Grade 9 Assessment of Mathematics and the OSSLT, Academic pathway students outperformed their Applied pathway peers and in the financial literacy portion of PISA, students who had high achievement levels in reading and mathematics, also did well on the financial literacy assessment (OECD, 2017). However, as with the PISA results, caution needs to be exercised when analysing the NOS results, since over half (56%) of students in the Academic pathway, who would typically be stronger in mathematics and language, were unable to achieve a score that would meet the provincial standard (See Appendix E27).

Several research studies, including among Canadian students (OECD, 2017), have shown there is a significant positive relationship between socio-economic status and financial literacy –

higher household income results in higher financial literacy scores (Arrowsmith & Pignal, 2010; Atkinson & Messy, 2012; Mandell, 2008; Worthington, 2006). Canadian high school students who are considered to have a socio-economic advantage (top 25% of socio-economic status) outscore students in the lowest 25% of socio-economic status by 77 points (OECD, 2017a, p. 3) and “disadvantaged students are 86% more likely than advantaged students to perform below Level 2 [in] financial literacy” (p. 3).

Research has shown there is a significant relationship between socio-economic status and learning pathway. People for Education (2013) discovered a relationship between household income and students enrolled in the Applied pathway. Boaler (2005) states there is a significant relationship between socio-economic status and learning pathway “with social class working as a subtle filter that results in the over-representation of working class children in low groups” (p. 137). In the NOS research, Academic pathway students outperformed their Applied pathway counterparts. Given that research has shown high socio-economic households outperform low socio-economic households (Arrowsmith & Pignal, 2010; Atkinson et., al, 2007; Atkinson & Messy, 2012; Mandell 2008; Worthington, 2006) and that Academic pathway students outperform Applied pathway students, and a higher number of Applied pathway students come from low socio-economic household, this could explain some of the lower scores among Applied pathway students.

Although a relationship has been identified between financial literacy and socio-economic status, some students from low socio-economic homes did achieve higher scores on the PISA assessment, so socio-economic status alone cannot predict achievement levels (OECD, 2014). Atkinson and Messy (2012) note that although there is a relationship between level of financial literacy and income, being financially literate is not dependent on income and any

individual, regardless of income, can become knowledgeable about finance and develop positive attitudes and behaviours. Based on the Simon-March approach, offering financial education as part of the curriculum could allow all students an opportunity to receive up-to-date, accurate information about relevant financial concepts, and decision-making strategies (Altman, 2012). An educational program integrated into the school curriculum would allow all students the opportunity to build an understanding of financial concepts, and help achieve financial well-being, regardless of learning pathway.

Behaviours and Attitudes Towards the Elements of Financial Well-Being

Control over day-to-day finances. Control over day-to-day finances includes how individuals budget their money, how individuals make financial decisions and how people save and spend their money. Almost half of parents/guardians (47%) indicated they have a family budget and some students say they budget their money for big-ticket items (40%), but very few students always budget their money (35%), even though most students believe having a budget is an important financial strategy. The IEF (2012) research discovered that 19% of high school students always budget their money, compared to 48% of students who only budget for big ticket items (p. 8). Sixty percent of parents/guardians and students who say they always budget their money or budget for big ticket items stay within their budget. The number of parents/guardians who had a budget mirrors the CFCS research that found 46 percent of Canadians have a budget; however, 93 percent of the respondents in the CFCS stay within their budget, which is much less than the parent/guardians in the NOS (FCAC, 2015). For students, a positive relationship was revealed between staying within budget and financial knowledge, but only accounted for 2 percent of the variation in the CKS score.

According to CFCS a budget is a necessary tool for individuals to reach their financial goals (FCAC, 2015). Fernbach, Kan, and Lynch (2015) state “budgeting helps consumers behave more adaptively. Budgeters respond to constraint with more priority planning than non-budgeters, and they report fewer dysfunctional behaviors, like overspending and impulsive shopping” (p. 3). According to Thaler’s (1999) mental accounting theory, the process of creating and using a budget varies depending on the financial resources available to an individual. For individuals who have accumulated wealth, their budgets tend to be less restrictive versus those that have limited resources and are forced to have budgets that are firm and detailed.

In the NOS, financial resources for some individuals are limited. According to Statistics Canada (2016), the average income for northern Ontario is almost \$20 000 less than the average for Ontario and is much lower than their southern counterparts. There are also fewer job opportunities, with the unemployment rate being higher than the provincial average (Statistics Canada, 2016). Miles Corak, Saunders, & Cardoso (2017) report that students living in southern Ontario are more likely to grow up being “income mobile” which means they will likely earn more than their parents (p. 3). This differs from students living in northern Ontario where they are not as likely to earn more than their parents because they are living in an area considered more of a “mobility trap.” Having limited financial resources may have an impact on budgeting, the use of other financial products and general financial behaviour.

When it comes to the use of financial products, Academic pathway students are more likely to have a bank account. Parents of Academic pathway students were more likely to have opened their child/ren a bank account when they were young than Applied pathway students. The IEF (2012) discovered that a majority (70%) of high school students in southern Ontario had a bank account (p. 6). In the present study, a relationship was revealed between having a bank

account and financial knowledge. Even though most students (78%) in the NOS had a bank account, their overall CKS results show a majority do not necessarily have the financial knowledge and skills necessary to manage the account. This finding was consistent with the PISA results which found that 67 percent of 15-year old's who had a bank account "do not have the skills to manage such an account" (p. 16).

Students also have access to other financial products, including debit cards and credit cards. Applied pathway students are more likely to use a debit card and a credit card to pay for their day-to-day purchases than their Academic counterparts. Using a credit card to pay for day-to-day purchases had a negative effect on financial knowledge. Having access to a credit card when the cardholder does not have the financial knowledge and skills necessary to manage the card could have long-lasting negative implications. According to Toraman, Kilic and Bugan (2016), college students with low level of knowledge rarely pay their credit card debts in full when compared with students who have a high level of knowledge. Students with high levels of financial knowledge use less cash advances and they pay more than the minimum balance when compared with students with low level knowledge (p. 268). Since there are age restrictions, most high school students would not be able to hold a credit card in their name, so one could assume they are using a parent/guardian card and the payments are being managed by an adult.

In a hypothetical spending scenario, 33 percent of high school students said if they ran out of money but really wanted to buy something, they would save up to buy it, followed by not buying the item (24%). These findings differ from the results of the PISA assessment where 65 percent of students from Canadian provinces say they would save up to buy it (OECD, 2017). The student's responses differed significantly by gender, but not by learning pathway. When students were asked what they would do if they really wanted to buy something, but had run out

of money, most males said they would save up to buy the item, compared to the majority of females who said they would not buy it, would borrow the money from their family or ask their parents/guardians to buy the item for them. In most countries that participated in the PISA assessment there was no significant difference between hypothetical spending behaviour and gender (OECD, 2017). The NOS findings may differ in gender because, as previously discussed, there may still be the perception that females need to be taken care of, and past behaviour may have set the expectation they can borrow the money or get someone else to pay for it, versus saving up for it.

The hypothetical behaviour of students in the NOS should be of concern, given that previous research has shown there is a relationship between children who save when they are young and their saving behaviour as an adult (Ashby, Schoon, & Webley, 2011; Friedline, Elliott, & Nau, 2011). The most popular choice for students and parents/guardians was to save up for the item, followed by not buying the item for students and using credit for parents/guardians. Although most students either chose to save up to buy the item or not buy the item (57%), this leaves 43 percent of students who chose other options, which may indicate a lack of self-control, which is also reason for concern from a financial literacy perspective since “self-control influences people’s financial behaviour as well as their subjectively perceived financial well-being. Research indicates self-regulation works whereby an inner resource that has limited amounts, becomes depleted and it “interrupt [s] the stream of behaviour and alters[s] it” (Baumeister et al., 2006, p. 1774). As humans use up this inner resource, they enter a state of ego depletion, and once in this state, individuals have less ability to self-regulate their behaviour, which leads to less desirable decisions, including spending money spontaneously (Vohs & Faber, 2001). “Respondents with good self-control were more likely to regularly save money from their

pay-checks, which means that they are better prepared to manage unforeseen expenses and more likely to have enough money towards their retirement” (Stromback, Lind, Skagerlund, Vastfjall, & Tinghog, 2017, p. 37). Research has shown that individuals who participate in self regulation exercises can increase their ability to enhance self-regulation skills (Baumeister et al., 2014). Although self-regulation was thought to be an inborn trait, this has been proven to be false (Mischel, 2014). Mischel (2014) states “self-control skills, both cognitive and emotional, can be learned, enhanced and harnessed so they become automatically activated when you need them” (p. 230). It would be beneficial if financial education programming could include information about self-regulation skills and exercises to enhance those skills, especially for those who have difficulty regulating their behaviour.

Most parents/guardians say they would save up to buy the item (45%) followed by using a form of credit, such as a credit card or line of credit (17%). This raises some concern since as parents/guardians move through life, their children watch and listen. They are the first to demonstrate financial skills and management strategies to their children (Vitt, 2009) and when the behaviour being demonstrated is not the best, children learn those same behaviours. It is widely accepted that family is identified as the main socialization agent for children to learn about financial behaviour and that children and youth are highly influenced by the knowledge and skills (both positive and negative) they have learned in the home (CentiQ, 2008; Kerranne & Hogg, 2010; Shim et al., 2010; Tokunaga, 1993).

Financial goals. According to Quicken Inc. (2018), “financial goals are the priorities and targets [individuals] set for how [individuals] want to spend and save [their] money. They aren’t one size fits all, because everyone has different priorities” (para. 1). Almost half of NOS students indicate they set long-term goals and strive to achieve them, and almost half of the

students feel they can achieve their financial goals. A relationship was identified between having a positive attitude towards achieving financial goals they had set and CKS, with six percent of variation in score being attributable to having a positive attitude towards achieving financial goals. The behaviour of setting long-term goals and striving to achieve them, had a positive impact on CKS. The more students say they set goals, the higher the financial literacy score with nine percent of the variation in score being attributable to setting long term goals and striving to achieve them.

Many high school students are currently working towards the goal of attending post-secondary education, including saving to cover the cost. Almost 60 percent of students in the NOS indicated they are saving for post-secondary education. This finding differs from research done by IEF (2012) which found only one-third of students in southern Ontario indicated they were saving for post-secondary education. This difference could be attributed to the availability of post-secondary schools in southern Ontario versus those in northern Ontario. Students in northern Ontario are likely aware that if they want to attend post-secondary education, they will most likely have to attend school outside of their home community, which would increase the cost and the need to start saving earlier. Northern Ontario students attending school away from home have the potential to incur higher student loans, since their cost of attending school away from their home community is significantly higher than some southern Ontario students who have the opportunity to attend school in their home community. Once students have graduated, northern Ontario students may take longer to re-pay their student loans because of the higher balance and if they return to their home communities, there is higher unemployment and income levels are lower. This may delay their ability to fully participate in the economy until later in life (Burley & Awad, 2015). Accessing post-secondary education may also be a contributing factor

to income mobility. Students in southern Ontario have easier access to several different post-secondary institutions and have the opportunity to obtain a higher education than their parents/guardians, which provides higher employment prospects and the potential for a higher income (Saunders & Cardoso, 2017).

Seventy-four percent of parent/guardian NOS participants indicated they were saving for their child/ren to attend post-secondary education, which is similar to the CFCS where 78 percent of parents/guardians indicated they were saving for their child/ren post-secondary education (Imbeau, 2012). The discrepancy between NOS students saving and NOS parent/guardians saving may indicate that in some cases parents/guardians are saving for post-secondary education, but they have not discussed that with their child/ren, so their children may not be aware that a fund has been established to help with the costs of education.

There was no significant difference revealed between gender and saving for post-secondary education, but when analyzed by learning pathway Academic and mixed Applied/Academic pathway students were more likely to save for post-secondary education than their Applied peers. Since students in the Academic pathway are usually students who are planning to pursue a university-level education, their parents/guardians may be more proactive in saving for post-secondary education. Applied pathway students are planning to attend college, pursue an apprenticeship or may not be confident they will be attending post-secondary, which may explain some of the difference in savings behaviour by learning pathway. The cost of a college education in Canada is significantly less than the cost of university (OCAS, 2019), and students working towards a college diploma attend post-secondary for fewer years, so parents/guardians may not feel the same sense of urgency to save. Research has determined that students who attend schools in neighbourhoods which house mostly high-income earners, had

parents who were university educated had less students taking Applied level courses (People for Education, 2013). This lack of saving for Applied pathway students could also indicate limited funds available for saving since as stated earlier there is a significant relationship between level of income and students in the Applied learning pathway (People for Education, 2013).

Using a dedicated savings accounts (28%) was the most popular method of saving for post-secondary education, followed by a RESP (14%), according to students. According to parents/guardians using a RESP (47%) to save for post-secondary education was the most popular method, followed by savings account (29%). The discrepancy in saving method may be a lack of understanding on the difference between methods available for saving for post-secondary education. Students may view a dedicated savings accounts as being the same as an RESP. Most students who said they were not saving for post-secondary education indicated they did not know how they were going to pay to go to school, followed by someone else other than themselves or their parents/guardians saving.

One finding that is of concern is that just under one half of the parents/guardians in the NOS indicated they are using a RESP to save for their child/ren's post-secondary education expenses. RESPs are one tool to help save for post-secondary education. Using Thaler and Sunstein's nudge theory, the government adds additional funds based on the amount that is deposited to encouraged families to enrol in the plan. For low-income earners the government offers a \$500 Canada Learning Bond that families can access to be used towards their child/ren's post-secondary education (Imbeau, 2012). Unfortunately, many families do not get the benefit of this nudge since they are low-income earners and do not have the funds to save or they are unaware of the plan benefits. According to Kirby (2018) "777,000 low-income kids in Canada missed out on \$126 million in Learning Bonds" (Chart 31). Although the process to obtain the

money isn't difficult, it can be time-consuming, and people just never get around to it (Soman, 2013). The Government of Canada could analyse this process and develop a nudge to encourage people to access the program by making it less time-consuming and more accessible.

The OME (2018) has stated that financial literacy means that students have the “knowledge and skills to make responsible economic and financial decisions with confidence” (para. 1). The goals of adding financial literacy to the Ontario curriculum is to give students the knowledge and skills to “carefully consider their financial choices; develop their own perspectives on financial matters; confidently make decisions about where and how to invest their money; and understand the impact of economic choices on the world they live in” (OME, 2018, para. 2). For students to be able to maneuver through the complex financial world, students need financial knowledge and skills, which include research and decision-making skills (Ali, McRae, & Ramsay, 2014). Researching choices before making a financial decision is popular among high school students with the majority saying they research before making a decision, with males more likely than females to engage in research. IEF (2012) research discovered that 58% of southern Ontario students agreed they spend time researching before buying (p. 12). In the present study, there was a positive relationship between researching choices before making a financial decision and financial literacy knowledge. Researching financial choices can range from everyday choices such as shopping for groceries or more long-term decisions like saving for post-secondary education or purchasing a vehicle (OME, 2018) and is a necessary component of successfully managing finances and setting financial goals.

Students save for a variety of reasons and use a variety of savings methods to reach their financial goals. Saving money in a bank account was the most popular method of saving for students, followed by saving cash at home. Surprisingly, a negative relationship was discovered

between saving money in a bank account and financial knowledge. Eighteen percent of the variation in CKS could be attributed to saving money in a bank account, which may indicate students do not have the knowledge and skills necessary to manage a bank account.

As discussed earlier, there is a significant relationship between saving behaviour as a child and saving behaviour as an adult (Ashby, Schoon, & Webley, 2011; Fredelene, Elliott, & Nau, 2011).

Analysis of the NOS determined that students save for a variety of reasons and the purpose of saving differs significantly by gender. Females tend to save for clothing, gifts for others, post-secondary education and vacations, compared to males who prefer to save for technology, vehicles, investments and retirement. According to research done by IEF (2012), 67 percent of students save for clothes, followed by entertainment (55%) and technology (47%). Three percent of students in the IEF (2012) research did not save, compared to four percent of students from the NOS. When it came to learning pathway, Applied students were less likely to save than their Academic pathway peers. Of the Applied pathway students who save, more save to pay off debts than Academic pathway students. This finding of Applied students saving to pay off debt, appears consistent with other areas of the NOS research (Financial Freedom) where more Applied pathway students believe being in debt is okay, believe they will always carry debt through their lifetime and are more likely to borrow money to purchase big-ticket items than students in other learning pathways.

Financial freedom. Hogan (2018) defines financial freedom as “get[ting] to make life decisions without being overly stressed about the financial impact because the [individual is] prepared” (para. 4). When individuals have a sense of financial freedom, they are controlling their finances and not letting finances control them (Hogan, 2018). High levels of debt can have a significant impact on financial freedom and hinder individuals from reaching their financial

goals, realizing financial freedom and ultimately attaining financial well-being. Having debt may impact financial freedom because money which could be used for future savings is being used to pay down debt which could lead to the individual having less security in retirement. Since individuals may lack the savings to pay for their expenses or they are still paying down debt during retirement, the individual may have to return to the workforce to pay for retirement expenses, which isn't always easy because of potential declining health and difficulty returning to the workforce (CBC News, 2018).

Most students in the NOS indicated they had no debt (57%); however, 40 percent of students in the NOS already had some form of debt. Debts ranged from having borrowed money for day-to-day expenses (borrowing to buy lunch, entertainment, etc.), paying off bills and borrowing for big-ticket items, such as vehicles. Males and Applied pathway students were more likely to borrow money for big-ticket items and females and Academic pathway students were more likely to have no debt. The finding that females were more likely to have no debt is consistent with findings from George, Hansen, and Routzahn (2018) who identified that women are risk adverse and are less likely to take on debt to purchase luxury items. Having no debt had a positive impact on CKS with eleven percent of the variation in score being attributable to having no debt. Borrowing money to purchase a big-ticket item, believing being in debt is okay and students believing they will always carry debt through their lifetime had a negative impact on CKS, although the variation in CKS attributable to those behaviours and attitudes was small. This finding could indicate students do not have a basic understanding about debt, the skills necessary to manage debt or an understanding of the consequences of accumulating debt. The Canadian Federation of Students (CFS) (2015) states that students attending post-secondary education are faced with "taking on more education related debt than any previous generation"

(p. 1) and according to remarks made by Bank of Canada (2018), Canadian households have record debt levels, where “the average Canadian owes \$1.70 for every dollar of income he or she earns per year, after taxes” (p. 1). Globally, consumers have been taking on more debt and Canada is no exception (OECD, 2005). Canadian debt has been rising steadily for the past 30 years (Bank of Canada, 2018). A post from Tedesco (2015) states that from a young age, individuals are being “socialized into debt” and then take on so much debt it can take years to pay off (para. 10). As a society, we have become more tolerant and accepting of using credit and accumulating debt. As Lea, Webley and Walker (1995) state, there is a “growing culture of indebtedness.” One way this acceptance has been cultivated is by consumers trying to maintain a lifestyle they cannot afford (Newcomb, 1943). Many people try to match their social counterparts’ spending even if they do not have the matching financial resources (Lea, Webley, & Walker, 1995). Lea, Webley, and Walker (1995) state people who carry high levels of debt may describe their purchases as needs when in fact the items were for status within their social group and not necessity. Duesenberry (1967) called this the demonstration effect, which occurs when individuals purchase items for the purpose of maintaining a lifestyle which is perceived equivalent to the people around them (McCormick, 1983). This behaviour of taking on debt to purchase big-ticket items, can also be referred to as “value expressiveness” which describes a person’s need to enrich their self-image by being part of specific social groups (Kelman, 1961). In the current social climate, individuals have a continually growing list of needs and wants because materialistic items have become a way for individuals to define themselves as different, or to belong (Vitt, 2009). Such growing lists of materialistic items are influenced by our surroundings (including television and advertisements) and social interactions (Vitt, 2009). When high school students are at a stage in their life where ‘fitting in’ is a priority, they may feel

the need to purchase items, such as Skidoos and four wheelers, to will maintain or elevate their social status. They may be comfortable taking on debt to meet their social desires, since this strategy of taking on debt to accumulate luxuries may be the same approach their parents/guardians use. The NOS research found Applied pathway students are more likely to access debt to make big purchase items, than their Academic counterparts. Since Applied pathway students are more likely to come from lower socio-economic households, this could be Applied pathway students trying to maintain the lifestyle of their peers, who may not need to access debt to make big purchases, since they may come from high income households. With the Canadian debt load on the rise, many high school students have grown up in a culture where taking on debt is accessible and socially acceptable.

Currently, Canadians carry one of the highest debt loads in the world (Deen, 2017). Modigliani (1985) developed the life-cycle of consumption theory which brought awareness to the financial changes individuals experience over the course of their lives. The theory “focuses on the systematic variations in income and in “needs” which occur over the life-cycle, as a result of maturing and retiring, and of changes in family size” (p. 154). Modigliani and Brumberg suggest people borrow when they are young, save when their financial resources are high (middle-aged) and begin dis-saving when their resources are low, like during retirement (Dornbusch & Fisher, 1994). As people enter their retirement years, they tend to sell off accumulated assets to pay for wants and needs, and the assets they let go are accumulated by younger people who are still in the process of accumulation (Deaton, 2005). With the high level of debt currently accrued by Canadians, some beginning in high school and many carrying high levels of post secondary debt into middle-age, individuals may not have the opportunity to follow the life-cycle theory. In 1982, the average Canadian was saving 19.9% of their earnings,

compared to 3.9% in 2015 (Grant & McMahon, 2015, para. 10). According to the life-cycle theory, individuals entering the retirement phase of their life should be dis-saving; however, many people (33%) who are currently retired are carrying debt (Marshall, 2011, p. 3) and more senior citizens are accessing the food bank (Ontario Association of Food Banks, 2015). It is essential that as individuals move through their lives, they have the financial skills and knowledge to manage debt efficiently and effectively to avoid having an excessive debt load, which will impact their financial well-being directly.

Approximately a third of students in the NOS are concerned about having financial security during retirement, compared to almost 83 percent of parents/guardians. Applied pathway students are more likely to say they will not be financially secure during retirement. As previously discussed, this may be explained because more students in the Applied pathway come from low socio-economic homes, where they are likely to see more financial struggle and may have lived with financial insecurity their whole lives. Negative and positive learning experiences have an effect on our perceptions and influence the financial decisions we make (Durmaz, 2014; Rani, 2014). If students witness daily struggles with money, there is likely more opportunity for them to develop negative perceptions about finances.

The most common method students chose to pay for their expenses during retirement was a work pension (38%) followed by a savings account (29%) and a government pension (19%). More males believe they will use investments to pay for their expenses during retirement compared to females who do not know how they are going to pay for expenses during retirement. When students were analysed by learning pathway, Applied pathway students were more likely to say they plan to use work pensions or government pensions than students in other learning pathways and Academic and Applied pathway students also plan to use RRSPs to pay for

expenses during retirement. Most parents/guardians, indicated they will use a work pension to pay for retirement expenses, followed by government pensions and RRSPs. Students who are thinking their retirement expenses will be covered by a work pension, may be surprised to find the number of registered pension plans sponsored by employers is decreasing (Fox & Moyser, 2018). In Canada, only 33 percent of women and 24 percent of men have registered pension plans (RPP), which is a significant drop since 1977 when approximately 45 percent of employed people had an RPP (Drolet & Morissette, 2014). It has only been in the last ten years that a number of people have had to devise and support their own retirement planning, and many are not sure what savings vehicles to use and few know how much money they need to retire comfortably (Beyer, 2012). Most concerning of the NOS research is that more female students (36%) than male students (22%) indicated they did not know how they were going to pay for retirement expenses and 10 percent of women in the parent/guardian survey indicated they did not know how they were going to pay for expenses during retirement, compared to zero percent of men. More women (7%) indicated they did not plan to retire than men (0%). Research, including this study, has determined that as adults, males outperform females in financial literacy (Drolet, 2016; Lusardi, 2006) and given women tend to work fewer years (e.g., take time off for child rearing), earn less (Fonseca, et. al., 2012; Lusardi, 2006), have lower levels of pension and live longer (Fonseca et al., 2012) women may struggle to be financially secure throughout retirement. According to Moyser (2017), women continue to earn only “\$0.87 for every dollar earned by men” (p. 26), which significantly reduces their ability to prepare to be financially secure during retirement. With adult men outperforming women in financial literacy and research showing females are less confident than males in their financial skills and knowledge

(OECD, 2013), women may be more “vulnerable to financial insecurity particularly during old age, relative to men” (Fox & Moyser, 2018, p. 19).

Financial shock. The financial crisis that hit the United States in 2008, was a good reminder to everyone that financial shocks can hit at anytime and can hit hard. In some cases, lenders were offering credit to individuals who would not normally qualify and in other cases households were simply accessing more credit because of the availability of low interest rates (Amadeo, 2018a). Banks were open to lending people more than the value of their homes and as home values dropped (Amadeo, 2018a) and interest rates rose (Amadeo, 2018), more and more people were unable to service their debt (Amadeo, 2018a). According to Hurd and Rohwedder (2010), 40 percent of American families were impacted in some way by the financial crisis and many lost it all, including their homes and retirement savings. At the centre of the crisis was developed countries, including the United States, the United Kingdom and Europe; the effects of the financial crisis were felt across the globe (Edey, 2009). Canada felt the effects of the financial crisis when the price of oil and other exports began to weaken (Gordon, 2017). Unemployment was extensive, with over 400 000 job losses primarily in manufacturing, construction, natural resources, transportation, and warehousing (LaRochelle & Gilmore, 2009), which meant a loss of income for many individuals and an inability to maintain their financial obligations.

The Pew Charitable Trusts (2015) defines financial shock as “any expense or loss of income that households do not plan for when budgeting, regardless of the extent to which the shock may harm families financially” (p. 3). According to the CFPB (2015), having the “capacity to absorb a financial shock” (p. 1) is one of the four elements of financial well-being.

About one quarter of high school students in the NOS have already experienced some form of financial shock, which included more males and Applied pathway students; however, having experienced a financial shock had no effect on the CKS. This is concerning, given males and Applied pathway students were also more likely to borrow money for big-ticket items, which may indicate that males and Applied pathway students may not be financially prepared or have the capacity to absorb a financial shock if they are using money to pay down debts and not putting it towards savings or towards an emergency fund for when they do experience financial shocks.

Impact of A Negative Attitude

An individual's attitude towards their finances can have an impact on their financial behaviour (Chien & Devaney, 2001). A positive mindset can have an impact on several financial aspects including investing, the use of credit and general money management (Borden et al., 2008). Within the NOS, students who had a negative attitude towards certain financial aspects had a lower CKS. Overall, students who indicated their money situation would never allow them to have the things they want in their life, believed they would not be financially secure in retirement or thought they would always carry debt through their life, did not do as well on the financial knowledge portion of the survey as students who had a more positive attitude. Students who have a positive attitude towards money, may come from homes where money is not an issue and money is discussed in a positive light, compared to the students who come from homes where money has been a negative experience (e.g., struggling to pay bills).

Although some negative attitudes had only a small variation, one had a significant impact. A negative correlation was identified between students who indicated their money situation would not allow them to have the things they wanted in life and CKS. Nineteen percent

of the variation in score could be attributed to believing that their money situation would not allow them to have the things they wanted in life. Students who had a positive attitude, had a higher financial literacy knowledge score. According to Sabri (2015) individuals who are exposed to “positive early consumer experiences” have enhanced financial literacy, which increases the likelihood that they will manage their money better (p. 844). These positive experiences are developed through childhood by the child’s environment. According to Sundarasan & Rahman (2017) “parents play a central role in imparting and implanting the importance of financial literacy, money attitude and money management amongst young adults” (p. 13). This includes both positive and negative attitudes. As discussed earlier, the median income in northern Ontario is significantly less than their southern counterparts, which may indicate many high school students are living in homes where money is seen in a negative light. Children who are growing up in houses where money has created “emotionally charged experiences” can leave students with negative attitudes towards money and they may be confused about the “role money plays in their family...in their life (Klontz, Britt, Mentzer, & Klontz, 2011, p. 2). For example, children who grow up watching their parents/guardians struggle to make rent payments or purchase groceries could have a negative mindset about money. Growing up with negative thoughts and a lack of understanding about money may impact a student’s ability to achieve a sense of financial well-being because it may be difficult to create a financially stable life and to meet financial goals (Klontz et al., 2011). If financial education is imbedded into the curriculum, it may provide positive experiences for students who haven’t been afforded that opportunity. In addition to the financial knowledge and skills it could provide, it may help improve a student’s understanding about money and give them the

confidence to manage their money, which may in turn help them to develop a more positive mindset towards money.

Research Question #2: What factors and influences motivate the financial decisions of high school students?

Factors and Influences that Motivate the Financial Decisions of High School Students

Money plays an important role in our daily lives, exerting “more power over human lives than any other single commodity,” and it is a significant factor in the decision-making process (Oleson, 2004, p. 83). Financial decisions are individually motivated by many factors and are influenced by our “needs, wants and should” (Vitt, 2009, p. 13). According to Piaget’s cognitive development theory, the rate of an individual’s cognitive development is impacted by their “cultural and educational environment” (Piaget, 1983, p. 119). The delays a child may experience can in part be impacted by “the quality and frequency of intellectual stimulation received from adults or obtained through the possibilities available to the [child]...” (Piaget, 1983, p. 161). Piaget (1972) has indicated that the cognitive structures necessary for individuals to reach the formal operations stage of development, which is the stage needed to make complex financial decisions, may be hindered by a lack of experiences and intellectual stimulation by their social environment. Although, Piaget’s theory of cognitive development of developmental stages acknowledged the role of social interactions on an individual’s development (Piaget, 1983), he did not emphasize social interaction as having a significant impact on learning. Vygotsky (1978) believed all learning happened by being immersed, interacting in a culture and modeling behaviours of adults within their environments, which is similar to Bruner’s (1961)

thinking that a child's cognitive ability is developed through a "sharing of the culture" (Bigge & Shermis, 2004, p. 134).

The power of the parent/guardian influence on future financial attitudes and behaviours cannot be taken lightly. They are the first to demonstrate financial skills and management strategies to their children (Vito, 2009) and are an influence on how their children will view debt and use credit in their later years (John, 1999; Tokunaga, 1993). Tokunaga (1993) discovered a relationship between parent/guardian attitudes and behaviour about credit and that of their children. It is widely accepted that family is identified as the main socialization agent for children to learn financial behaviour and children and youth are highly influenced by the positive and negative knowledge and skills they have learned in the home (CenitQ, 2008; Kerranne & Hogg, 2010, Shim et al., 2010; Sundarasan & Rahman, 2017).

Thirty-four percent of students in the NOS say they always/often speak to their parents about money and financial matters, compared to 23 percent who say they rarely/never discuss financial matters with their parents/guardians. When parents/guardians were asked about the frequency of financial discussions with their child/ren, half of the parents/guardians said they discussed money matters always/often, compared to thirteen percent who said they rarely/never discuss money with their child/ren. Research by IEF (2012) determined that students who were seeking financial advice, most often sought the information from their parents and trusted their parents the most when they had questions or were looking for financial advice. In the NOS research, parents/guardians indicated they were most likely to talk about the cost of post-secondary education and least about future events, including buying a home and retirement planning. Adult males were more comfortable talking with their child/ren about the stock market and the consequences of financial decisions than females. One important topic parents/guardians

talked the least about to their child/ren was compound interest, which may indicate parents/guardians lack an understanding of compound interest. Individuals need to have a thorough understanding of compound interest as they enter adulthood, given that it can significantly impact both their debt, future planning, and investments. This may also explain why students were not as successful on calculating the interest on \$100 in the knowledge section of the survey.

The NOS research discovered that most students (58%) turn to their parents/guardians if they have a financial question or are looking for financial information, compared to 90% of southern Ontario students (IEF, 2012, p. 10). Applied pathway students also used their teachers as a source of information. As discussed earlier, the average income in northern Ontario is significantly lower than the rest of the province and more students in the NOS may see their parents/guardians struggle with money and do not feel their parents/guardians are in a position to answer their financial questions. This could also be why Applied pathway students are more likely than their Academic pathway peers turn to their teachers, since many students in the Applied pathway tend to be from lower-socio economic homes and may be exposed to negative financial experiences and may feel their teachers are more knowledgeable than their parents/guardians. The OECD (2017), determined that parents/guardians who discussed money matters either daily or never, had the same negative impact on a student's financial literacy performance, compared to students who only discussed money matters once or twice per week or month. Although in the NOS research there was a positive relationship between the frequency of discussing money matters with parents/guardians, only one percent of the variation in the CKS could be attributed to the frequency of those discussions. In some cases, students may be exposed to repeated financial conversations at home involving the negative sides of money (not

having enough money to pay bills, buy groceries, etc.), which may be a reason having daily conversations about money did not have more of an impact on financial knowledge. According to Grinstein-Weiss et al., (2012), “parents are critical in the intergenerational transfer of financial skills, and the extent of that transfer appears to have significant social and economic implications” (p. 259). The impact of that transfer of skills can have both positive and negative effects.

Parents/guardians who come from low to moderate income households have an increased chance of passing on negative financial knowledge and skills (Weiss et al., 2012), which may provide an explanation for low income mobility. With so many people lacking financial knowledge and skills (Grifoni & Messy, 2012; Lusardi & Mitchell, 2014; OECD, 2012; Task Force on Financial Literacy, 2010) the fact that incorrect financial knowledge, and negative behaviours and attitudes are being transferred to children is problematic.

The NOS research examined the behaviour and attitudes related to the factors and influences students experience. There were no significant differences between gender or between learning pathway on most behaviours and attitudes related to factors and influences and most behaviours and attitudes had no relationship with the CKS. The research did indicate males were more likely to say they believe the things they own say a lot about how well they are doing in life and more males say they like to own things that impress people. According to Ramsey (2013) “we buy things we don’t need with money we don’t have to impress people we don’t like” (p. 40). There are many reasons why an individual may purchase goods, including “convenience, for style, for prestige, for self-pride or being at par with others” (Durmaz, 2014). The findings from the NOS research may indicate males are more willing to purchase things to impress others whether they can afford the items or not, since males were also found more likely to borrow for

big-ticket items and to have experienced a financial shock. This finding is consistent with research by George et al., (2018) who revealed that women are typically risk averse and are less likely to use credit to buy items considered luxuries.

When students were asked if they ever buy things to make themselves feel good, 45 percent of the students strongly agreed/agreed they have engaged in the behaviour, with more females buying things to make themselves feel better. Although it did not account for a large variation in CKS (2%), there was a negative relationship between students who said they buy things to make themselves feel good and CKS. With the availability of online shopping and the ability to satisfy impulsive shopping needs at any time of day (Kacen & Lee, 2002), individuals buying things to make themselves feel better may have long-term consequences (Zimmerman, 2012). Arrowsmith and Pignal (2010) state “we are living in what is indisputably the most materialistic and consumption-driven culture in the history of mankind. And right in the middle of that, there is a lack of confidence about how money works” (p. 9). If students lack self-regulation skills and they have the availability to satisfy their feelings at their fingertips, this can lead to purchasing items they do not need or overspending. In the past it has been suggested the ability to exert self-control is an inborn trait; however, this has been proven false (Mischel, 2014). Research has shown that individuals who participate in self-regulation exercises can increase their ability to enhance their self-regulation skills (Baumeister et al., 2006) and that “self-control skills, both cognitive and emotional, can be learned, enhanced and harnessed so they become automatically activated when you need them” (Mischel, 2014, p. 230). Adding self-regulation skills to financial curriculum may be advantageous in helping students develop self-control.

Interpretation of Findings – Teacher

What follows is a discussion which addresses the following research question.

Research Question #4: What are the attitudes and perceptions of teachers towards teaching financial literacy and the two Ontario Ministry of Education documents: A Sound Investment: Financial Literacy Education in Ontario Schools (2010) and Financial Literacy: Scope and Sequence of Expectations (2016)?

- a) According to teachers, what progress has been made in implementing these Ontario Ministry of Education financial literacy documents into the classrooms?**
- b) According to teachers, what resources (e.g., professional development) are needed?**

Integrating financial literacy in all areas of the Ontario curriculum allows students to learn specific financial knowledge and skills and allows students to make connections between themselves and how they fit in the economy (OME, 2018). The OME has developed curriculum documents to support the integration of financial literacy into the Ontario curriculum that would enable students to develop “critical thinking, decision making and problem solving” skills that can be used in hypothetical and real-life financial situations (para. 3). These documents also provide an opportunity for teachers to help students see the connections across the curriculum “to deepen students’ learning and make financial literacy more relevant” to students (OME, 2018, para. 4). There is ample research to support the importance of integrating financial education into the curriculum. Batty, Collins and Odders-White (2015) found specific, targeted lessons taught to elementary school children, resulted in an increase in financial knowledge that was sustained up to a year later. Research has also discovered that when individuals are exposed to specific, targeted financial instruction (retirement planning, budget workshops, etc.) there is an

increase in knowledge immediately following the session (Bernheim, Garrett, & Maki, 2001; Brown, Ivkovich, Smith, & Weisbenner, 2008; Varcoe et al., 2005; Walstad, Rebeck, & MacDonald, 2010).

An overwhelming majority of teachers in the NOS (97%) thought it was extremely/moderately important that financial literacy education be taught at school, which is similar to the results of a survey of American teachers, where 92 percent of teachers believe financial literacy should be part of the education curriculum (Schuyler & Buckley, 2016). All parent/guardian respondents in the NOS believed it was important (extremely/moderately) for schools to provide a formal financial literacy program. Teachers and parents/guardians agreed financial education should start in Grades 4-8. The second strongest level of support was high school, with K-3 having the lowest level of support. American teachers indicated financial literacy education should start in elementary school (Schuyler & Buckley, 2016). Teachers and parents/guardians in the NOS believe financial literacy should be taught as part of the school curriculum because it is an important life skill, so students know the consequences of overspending, credit cards, student loans and saving. Parents/guardians also indicated they may not have the necessary skills to prepare their children with the financial knowledge and skills their child/ren will need as they begin to maneuver in the complex financial world.

Most teachers in the NOS indicated that to effectively integrate the financial literacy curriculum into their courses, they would need financial resources to fit into their specific course, followed by professional development in the area of financial literacy. Teachers in the United States also indicated they would need course materials, followed by professional development to be effective at integrating financial literacy into their classrooms (Schuyler & Buckley, 2016). The only area of NOS teacher research that showed a significant difference by gender was in

how comfortable teachers would be at teaching various financial topics. It was determined that male teachers were more comfortable teaching most financial literacy concepts than females. Only 41 percent of teachers in the United States said they were completely/moderately comfortable teaching financial literacy (Schuyler & Buckley, 2016). Eighteen percent of teachers in America say they are not comfortable teaching financial literacy to their students.

In the NOS research, a quarter of teachers say they currently integrate financial literacy into the courses they teach, and 30 percent of teachers say they rarely/never integrate financial concepts into their courses. Only twelve percent of American teachers integrate financial literacy into their courses (Schuyler & Buckley, 2016). Even though the OME has developed financial literacy documents to support the integration of financial literacy into Grades 4-12 classrooms, only 18 percent of teachers in the NOS know about the documents and 100 percent of the teachers say they rarely/never use the documents. Unlike the mathematics and language curriculums, the financial literacy documents have not been made mandatory or a focus of professional development, which may explain why teachers are not aware of the documents and the documents are not used to support instruction.

Implications for Practice

A General Lack of Financial Literacy Among Students and Parents/Guardians

There is a lack of financial knowledge and skills across all generations, across the globe (Grifoni & Messy, 2012; Lusardi & Mitchell, 2014; OECD, 2012; Task Force on Financial Literacy, 2010). This gap in knowledge and skills has become concerning for a number of reasons, including: an aging population, increased life expectancy, the shift in responsibility for financial planning, the reality that full-time, long-term employment is not always available, high consumer debt levels, and the introduction of numerous, complex financial products that are

being offered (OECD, 2006). Only 35 percent of students in the NOS were able to meet financial literacy expectations, by achieving a Level 3 or Level 4. Research has shown that financial illiteracy impacts both short- and long-term well-being. Given that less than half of students were able to meet expectations, there is work to be done.

There is ample research to show that there are consequences for people who are financially illiterate. People who are financially illiterate are more likely to make financial errors (Agarwal et al., 2009; Calvet et al., 2009), are more susceptible to scams (Lusardi & Mitchell, 2014), lack day-to-day financial management skills (Hilgert et al., 2003), make bad investments, and are less likely to participate in financial markets and invest in stocks (Almenberg & Dreber, 2011; Arrondel et al., 2012; van Rooij et al., 2011; Yoong, 2011), fail to plan for retirement (Lusardi & Mitchell, 2007), choose more costly mortgages (Moore, 2003), borrow more and accumulate less wealth (Stango & Zinman, 2009), pay more service fees (Lusardi & Tufano, 2015), use high-cost borrowing, such as payday loans, pawn shops and, rent-to-own shops (Lusardi & de Bassa Scheresberg, 2012; Lusardi & Tufano, 2015), take on excessive debt loads (Lusardi & Tufano, 2015) and engage in costly credit card behaviour (Mottola, 2013).

Individuals who lack financial literacy skills can potentially make decisions that have serious and long-lasting impacts on their financial well-being. In addition to the day-to-day mistakes that are made due to a lack of financial knowledge and skills, there are also several long-term consequences of financial mismanagement, including lack of retirement savings, higher debts loads, (Lusardi & Mitchell (2014) and financial stress (Casey, 2013).

Women and Financial Illiteracy

A lack of financial literacy may be holding individuals back from reaching their full financial potential and ultimately achieving a sense of financial well-being. Although this

research and research conducted by OECD (2017) has shown that the gender gap among high school students in financial literacy knowledge is non-existent, this is not the case among adults. This research and other research studies (Arrowsmith & Pignal, 2010; Atkinson & Messy, 2012; Chen & Volpe, 1998; Harrison & Chudry, 2011) confirmed that as women enter adulthood, they lose the edge on financial literacy and tend to fall behind in the area of finance. According to the OCED (2014), the gender gap among adults could be largely based on the opportunities, experiences, and demographics (labour market) that individuals experience after they leave high school. Bucher-Koenan et al., (2014) state women may be less financially literate due to “traditional societal roles” (p. 10), which may have limited their ability to participate in financial literacy decision-making and restricted opportunities to engage in financial conversations with others (Bucher-Koenan et al., 2016). Hung, Yoong, and Brown (2012) suggested the gender gap among adults could exist because of a perceived lack of skill with basic numeration and men taking on the financial-decision making responsibility in the home. First, the implications of women not having necessary financial skills can be vast and can limit their capacity to accrue financial assets and wealth, including sufficient retirement funds, and may leave them susceptible to an unstable financial future. Next, women who are financially illiterate because they do not play a significant role in financial decision-making within the home, are modelling behaviour to their children as to the roles of the financial decision-makers and may be limiting the transfer of financial knowledge to their children. In this case, the cycle of financially illiteracy continues since children are being taught misguided behaviours and being given limited financial knowledge (Hung, Yoong, & Brown, 2012). With time, the gender gap between women and men should close because household roles are transforming (Moyser & Burlock, 2018), which means women might be taking a more active role in household finances and not

allowing the male to take the lead. The increase in women participating in postsecondary education (Turcotte, 2011) may be helpful at closing the gender gap in financial literacy as well, as more women become more independent and take a more active role in their finances.

The Need for Financial Education and Conversation

The theories of Piaget (1973), Vygotsky, (1978) and Bruner (1960) all assume that information is passed to younger generations through interaction with people who are more skilled and by being immersed in social interaction and a stimulating environment. According to Sonuga-Burke and Webley (1993), development of financial skills is established by social interactions; however, financial conversations are often a taboo subject in many cultures. The limited social interactions individuals receive may contribute to their lack of financial understanding. If individuals continue to feel uncomfortable with discussing finances, then many individuals will not develop the necessary financial intelligence to make financial decisions, or to repair their financial situations if they get themselves into trouble (Holden, 2010). As Shane (2009) states, “speaking honestly about money is among the last remaining taboos in contemporary American discourse” (para 6.). Since money is still such a difficult topic, individuals may miss out on opportunities that allow them to save, pay down debt or use basic financial strategies all because they are too embarrassed to seek out advice or talk about their money situation.

By including financial education into the school curriculum, students can be taught not only the financial knowledge they will need to navigate the financial market, but also the skills they need to make informed decisions. Across the curriculum, students are being taught research skills (OME, 2007) and as students progress through the high school years, students should be provided with opportunities to practice using these skills in financial situations to refine their

research abilities and to enhance their confidence in making financial decisions. As part of teaching research skills, students should be taught to use various sources to gather their information and how to evaluate those sources, so the information they are receiving is accurate and the financial products they purchase are best suited to meet their individual needs. In the current financial market, consumers are offered a variety of accessible options for their financial products, many of which can be accessed directly by the consumer. If consumers are not well versed in financial knowledge and skills, they may make financial decisions and choose products that are not best suited for their needs or run the risk of losing significant amounts of money. Although the variety of options has opened the competitiveness of financial markets and offers consumers more choice, the options are not designed with the consumer in mind but are focused on growing businesses, increasing profits and earning commissions. For our communities and the global economy to thrive, individuals need to learn the appropriate knowledge and skills (which may include technology and an online presence) necessary to make well-informed financial decisions (Greenspan, 2001). Research skills would allow individuals to become more informed prior to making a decision and choose products designed for their needs.

Based on Kahneman and Tversky's prospect theory, financial education programs would have very little, if any, effect on a person's financial decisions since their behaviour is believed to be physiologically hard-wired (Altman, 2012); however, grounded in the Simon-March approach, financial education could be very effective at helping individuals become more financially literate. Altman (2012), states that based on the Simon-March approach the decision-making process is influenced by real-life experiences and the financial mistakes people make are because of a lack of accurate information, and education, which is why financial education can increase financial literacy and enhance financial decision-making. Teaching students financial

knowledge and skills through the school curriculum gives *all* students an opportunity to learn basic, accurate information of how to navigate the financial world, including students in different learning pathways and those students who are developing negative mindsets about money because of their home environment. Through education, females may also develop a greater sense of financial capability. In the NOS research study, females self-reported lower levels of financial knowledge and skills than men, even though the financial knowledge scores were not significantly different. According to Fernandes, Lynch Jr. and Netemeyer (2014) research has shown that information gathered through financial education workshops or intensive education programs tends to decline over time. Based on the Simon-March approach, Shiller (2009) believes the government should facilitate the distribution of up-to-date, accurate information by helping support the process because it would enhance citizen's decision-making capabilities and have beneficial social effects, which could easily be facilitated through the school curriculum. Some parents/guardians openly admitted they do not have the skills to teach their child/ren what they need to know.

Similar to literacy and math, financial education should include specific, targeted expectations integrated throughout the curriculum and not be simply added on to the current curriculum expectations. For example, the OME has developed a Scope and Sequence of Expectations document that "makes explicit the learning opportunities and expectations in the curriculum that relate to financial literacy education" (OME, 2016, p. 3). The document outlines expectations from each curriculum document that *could* be used to teach financial literacy but were not necessarily specifically developed to target financial concepts. Expectations need to be added to each curriculum document that target specific financial knowledge, attitudes, and behaviours. These expectations should be developed using Bruner's spiral curriculum. The

spiral curriculum begins with a complex idea and the concepts are broken down into levels that students are capable of understanding, and by “revisiting” the concepts students can then engage with the material at a more complex level (Bruner 1963). As Bruner (1963) states “the way to get ahead with learning is to translate an idea into those non-rigorous forms that can be understood. Then one can, with their [teacher/cultural experience] aid, become more precise and powerful” (p. 530). The design of a financial literacy curriculum should be developed using Bruner’s spiral approach by introducing financial concepts that are developmentally appropriate for students and throughout formal education increasing the difficulty of those concepts. Since Fernandes, Lynch Jr., and Netemeyer (2014) found that the effects of financial education decline over time, it would be beneficial for students to be exposed to financial learning early and often throughout their educational career, in addition to specific, targeted financial learning when there is a need for a specific financial product (e.g., mortgages, student loans, retirement savings plans). This can be done by developing resources appropriate for the elementary level and specific course materials to be used in all learning pathways at the high school level. According to Pinto (2017) part of the problem with financial education programs is that many students are not developmentally ready for the level of financial concepts being taught. Individuals learn financial concepts best, when the information is relevant (Drever, et. al., 2015), and they are in need of the information. When individuals are in position to need a mortgage, they are more apt to learn and apply the information necessary to make a financial decision (Pinto, 2017). The curriculum expectations must be based on the developmental age of the student and be relevant to their current experiences with money (Pinto, 2017). The resources and materials should also include information about behavioural economics, so students are aware of the knowledge that has been learned about human behaviour and economics. If financial education concepts are

fully integrated through a child's education, there is a better chance they will be well versed in the concepts by the time they leave formal education (Bruner, 1963). As a final measure of student's knowledge, behaviour and attitudes about financial literacy, a measure of financial education should be included as part of EQAO's OSSLT and Assessment of Mathematics.

Although Applied pathway students were outperformed by their Academic pathway counterparts, students in all learning pathways need to be targeted, since there were several students in each pathway not capable of meeting expectations. As we begin to target financial literacy for *all* students, we also need to consider focusing on their parent/guardians, especially women. As financial education programs are being developed, programs for parents/guardians also need to be developed to target the knowledge, and skills they require to demonstrate proper financial attitudes, and behaviours for their child/ren to support the transfer of financial learning to future generations. Some countries experienced positive results in designing programming, including enhanced self-reported financial behaviour and confidence by developing programs designed specifically for women (deVaney, Gorham, Bechman, Haldeman, 1995; Hung, Yoong, & Brown, 2012). These programs include opportunities for low-income earners to access financial services (e.g., signing up for a bank account with no minimum opening balance), supporting women entrepreneurs to help them increase their socio-economic status, and providing access to a financial mentor (OECD, 2013). Individuals developing programming for women may want to study Thaler and Sunstein's nudging theory to include strategies that will nudge women to take on a more active role in their finances.

Use the Nudging Theory to Bring About Awareness and Motivate

Thaler and Sunstein (2009), define nudge as “any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any option or significantly

changing their economic consequences. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates” (p. 6). In addition to adding financial education to the school curriculum, there should be an increased use of Thaler and Sunstein’s nudging theory to increase awareness of financial concepts and nudge individuals to make the best decisions. Caution would need to be exercised when developing nudges and the nudges would need to be developed by an arm’s length agency to be sure the intention of the nudge was being used for the good and not as a sales tactic. It would be imperative that nudges were being developed by experts who are competent, using up-to-date information, and being developed with the best interests of the target market. The nudging strategy could be used as a way to increase motivation and encourage individuals to behave in a more positive way towards their financial decisions. For example, credit card statements could indicate how long it will take an individual to pay off their credit card balance if they just make the minimum payment, as motivation to pay more than the minimum payment. Also, when students take on student loans or lines of credit, highlighting the interest costs up front, may help students better budget their post-secondary funds.

Make Financial Education a Priority in Schools

According to the NOS research, teachers overwhelmingly support the integration of financial literacy into Ontario classrooms. A good starting point for school boards in Ontario would be to provide the professional development necessary to draw attention and focus to the financial literacy documents which should be embedded into classroom curriculum. The professional development could provide the resources and skills necessary for teachers to build their teaching capacity in financial literacy and their skills and knowledge within their specific grade level or course. For a financial curriculum to be effective and successfully implemented,

the province and school boards would need to make it a priority and teach educators, not only how to effectively integrate the expectations into the curriculum, but also educate teachers on specific financial concepts, given many adults are financially illiterate, including some teachers. Students will learn best when they are taught by teachers who are well trained in the subject area (Lee, 2018) and use well-developed curriculum materials (Khalil, 2016).

Recommendations and Future Research

Policy Makers

Financial education needs to be made a priority in schools. To increase effectiveness, financial literacy should be introduced early and often. As previously discussed, (see page 202) similar to literacy and math, specific, targeted expectations integrated throughout the curriculum and not be simply added on to the current curriculum expectations. Expectations need to be added to each curriculum document to target specific financial knowledge, attitudes, and behaviours. These expectations need to be added to curriculum documents for all learning pathways. Using Bruner's spiral curriculum, the expectations should be developed across grade levels, so concepts are inclusive, developmentally appropriate and relevant for the learners. In addition, as a final measure of students' knowledge, behaviour and attitudes about financial literacy, a measure of financial education should be included as part of EQAO's OSSLT and Assessment of Mathematics.

In addition, Thaler and Sunstein's nudging theory should be explored by policy makers to see what nudges could be used to encourage people to positive financial behaviours. These nudges could be used to target debt loads and savings behaviours (see page 38).

Students/Parents/Guardians

It is recommended that in addition to targeting financial instruction to students, education should be provided to parents/guardians in order to enhance their financial knowledge and skills and to help them prepare for the transfer of knowledge, behaviours, and skills to their child/ren. Specific learning aimed at women should also be explored. This may help to improve not only the behaviour of parents/guardians but may also increase the positive financial conversations in homes, which may help limit the development of negative attitudes towards money.

Teachers

It is recommended teachers be given specific, targeted instruction on financial topics in addition to teaching strategies, and be provided with high-level, well developed learning materials to support instruction in their specific grade or course. The teaching of financial concepts to teachers may impact their personal finances, and it will allow them to become more knowledgeable in the area of financial literacy, allowing them to effectively teach their students financial concepts, in a variety of curriculum areas.

Future Research

This quantitative research study collected information from students, parents/guardians and teachers using a questionnaire about real-world observations related to financial literacy. Part of the original intent of this research was to collect data from both parents/guardians and students and pair up their responses to do a critical analysis of the paired responses. Due to a lack of responses from parents/guardians, this was not possible; however, this area of research could be further explored by creating a qualitative study, which could include a targeted interview with students and their parent/guardians. This would allow the researcher to further probe behaviours and attitudes specific to parents/guardians and their child/ren. Further research

needs to be done to explain the differences between Academic and Applied learning pathways in the area of financial literacy. In addition, this research paper focused on the predictability of variables on the CKS. Future research could include multivariate regression analysis to examine the predictability of multiple variables.

This research study was administered to a population in northern Ontario. Future research could administer this survey to other parts of Ontario, and Canada, and the United States and then to populations outside of North America. A comprehensive analysis of the results could then be used to form global generalizations.

One counterintuitive finding from the NOS research was the idea that students who saved their money in a bank account achieved a lower score on the financial literacy knowledge portion of the survey. Further research could be conducted to further explain this finding.

This research was done primarily with Caucasian participants and lacked diversity. A survey administered to a broader demographic of participants would be beneficial for the study of financial literacy. This study could also be administered to Indigenous communities to gather information related to the knowledge, behaviours and attitudes of Indigenous people. Researching Indigenous people will provide a better understanding of the unique challenges they face to achieving financial well-being. Many Indigenous people live in remote communities and have “limited access to financial institutions and services” in addition to the high cost of energy and food (Prosper Canada, 2015, p. 2). The CFCS discovered that fewer Indigenous people had a bank account than the Canadian average and that Indigenous financial knowledge was significantly lower than the rest of Canada (Prosper Canada, 2015). Many students, including Indigenous students may be missing “family communication and positive financial role models” in their lives (Prosper Canada, 2015, p. 4). When analysing areas of low income mobility, there

is a large population of Indigenous people (Saunders & Cardoso, 2017). This research could provide some insight into the challenges of Indigenous people and their financial knowledge, behaviour, and attitudes related to money, which could then be used to address their needs.

Once financial education has been implemented, a research study should be conducted to explore how the programming has influenced, if at all the knowledge, behaviours and attitudes of the students who were exposed to a specific, targeted financial education curriculum (Huddleston-Casas, Danes, & Boyce, 1999; Mandell & Klein, 2009; Woolsey, 2011). It would also be useful to further investigate the use of financial nudges and their effectiveness of nudges in the financial sector (Long, 2013).

Limitations

The purpose of this research was to examine data from northern Ontario high school students and their parents/guardians about their knowledge, behaviour and attitudes related to financial literacy and the four elements of financial well-being. The goals of the research were to develop knowledge in the area of financial literacy for educators; to provide a better understanding of the financial knowledge, behaviour, and attitudes of high school students; to inform stakeholders on how best to reach the financial literacy needs of youth; and to provide an understanding of the attitudes and perceptions of teachers and what is needed to support financial education. The researcher did her best to design the study to meet the goals of the research and to gather sufficient information to address the research questions. However, the following are some of the limitations of the study.

The sample used for this research involved students who were attending high schools within two publicly funded school boards in northern Ontario, the students' parents/guardians, and high school teachers. Sample representativeness could be an issue (Couper, 2000) since

students, parents/guardians, and teachers volunteered to participate in the research by completing the survey on their own time. Although all students, parents/guardians, and teachers affiliated with the two school boards were eligible to participate, the survey was voluntary. Students who were not comfortable with technology, were uncomfortable with the topic of finances, were not interested in the research topic, or had learning difficulties may not have completed the survey, which would have limited the sample size and representativeness of the sample (Couper, 2000). The research data were gathered from students, parents/guardians, and teachers who were self-reporting which allowed students, parents/guardians, and teachers the possibility to answer untruthfully, to exaggerate behaviours they feel are right or wrong, and to report socially desirable responses (i.e., social desirability bias) compared to their actual behaviour and attitudes (Donaldson & Grant-Vallone, 2002; Kimberlin & Winterstein, 2008; Moorman & Podsakoff, 1992). Also, all participants were given the opportunity to skip questions they were not comfortable answering. This could have limited the data collected in certain areas.

One possible issue that was considered in the design of the survey was the readability. The survey text was written at a Grade 6-7 level so all students, and parents/guardians regardless of learning pathway or level of literacy, respectively, regardless of academic background, could participate in the survey. For parents/guardians or students who required assistance with the reading of the survey, it was suggested to them in the Participant Information Letter (PIL) to use the text reading features on their iPad (i.e., Siri) or mobile device, or students were able to use Kurzweil software. Even with built-in accommodations for students or parents/guardians with disabilities in reading, both students and parents/guardians may have chosen not to participate or abandoned some of the survey questions due to the length of the survey and the amount of text.

Conclusion

Increasing the financial skills of citizens across the globe is becoming an important goal for many countries (Atkinson & Messy, 2011). Although financial well-being can be defined in a variety of ways and differs for each individual, it does affect everyone in some way. The four elements of financial well-being outlined by the CFPB (2015) provide some direction as to the knowledge, behaviours, and skills necessary to move towards a positive feeling of financial well-being. Being able to provide individuals with the knowledge and skills necessary to navigate the financial marketplace may help individuals to be better planned for retirement, reduce financial stress, and help reduce ever-growing levels of personal debt.

The results of this study suggest there is a general lack of financial literacy among both students and adults, and that as people enter adulthood women tend to be outperformed by their male counterparts in terms of financial literacy competence. Students are least knowledgeable about topics that impact their future such as aspects of financial freedom, including debt accumulation and retirement. It was also discovered that students who were enrolled in an Academic learning pathway were more financial knowledgeable than their Applied pathway peers. The results also suggest that parents/guardians influence their child/ren's knowledge, behaviour, and attitudes on financial matters, and there is a need to equip parents/guardians with the skills to transfer accurate knowledge and positive behaviour and attitudes to their child/ren. The research also determined that parents/guardians and teachers believe financial knowledge and skills should be taught at school because it is an essential life skill for all students to acquire.

The lack of financial knowledge and skills among students and parents/guardians in northern Ontario is alarming and this deficiency can potentially have harsh short- and long-term consequences for individuals and for the economy. This research demonstrates that a

parent/guardian's knowledge, behaviours, and attitudes can influence their children. For many individuals, parental/guardian input is the first place one turns to for assistance in making financial decisions. Therefore, there appears to be an urgent need to build capacity in parents/guardians, so they are better able to manage their own finances, but also so they are able to transfer helpful and accurate information to their child/ren. By providing students with a financial education in the school setting, it would allow *all* students the opportunity to be exposed to the knowledge and skills needed to manoeuvre the financial marketplace, regardless of their background and experiences. It may also allow female students the opportunity to develop a higher level of financial confidence, given that their male peers self-reported higher money knowledge and skills even though their financial knowledge scores were similar. Research has discovered that students in the Applied learning pathway, often come from lower socio-economic homes (People for Education, 2013), and the financial information being transferred may not be up-to-date or accurate, which may explain the poor performance of students in the Applied learning pathway.

As with any knowledge or skill it would be naive to think that the majority of students could master a subject area by a single expose to the content (e.g., one workshop, a one semester course). For example, educators would not expect their students to learn math in one semester and assume they would be experts in math, financial literacy is no exception. Bruner (1963) states "rarely is everything learned about anything in one encounter. Yet we seem to be so compelled to cover, [the material] that we forget the obvious point – that the pot is rarely licked clean at one swipe" (p. 531). By using Bruner's spiral curriculum and providing financial education that is relevant and developmentally appropriate throughout at student's elementary and secondary school journey, students will possess a basic toolbox of knowledge and skills to

be able to navigate the financial world with confidence. Thaler and Sunstein's nudging theory would also be a valuable strategy to employ to motivate individuals to behave in more positive ways. Based on the NOS research, schools and the provincial government should work together to develop a plan that will enhance financial knowledge, increase personal confidence, and build financial decision-making capacity so all of our citizens, regardless of gender, and across all generations, would be given the tools to achieve an increased sense of financial well-being.

References

- Agarwal, S., Driscoll, J., Gabaix, X., & Laibson, D. (2009). The age of reason: Financial decisions over the lifecycle with Implications for regulation. *Brookings Papers on Economic Activity, Fall*, 51–101.
- Ali, P., McRae, C., & Ramsay, I. (2014). Financial literacy and financial decision-making of Australian secondary school students. *Australian Business Law Review*, 42(3), 228-233
- Almenberg, J., & Dreber, A. (2011). *Gender, financial literacy, and stock market participation*. Stockholm School of Economics Working Paper Series in Economics and Finance, 737. Retrieved from <http://swopec.hhs.se/hastef/papers/hastef0737.pdf>
- Altman, M. (2012). Implications of behavioural economics for financial literacy and public policy. *Journal of Behavioural and Experimental Economics*, 41(5), 677-690. doi: 10.1016/j.socec.2012.06.002
- Amadeo, K. (2018). *Subprime Mortgage Crisis, Its Timeline and Effect*. Retrieved from <https://www.thebalance.com/subprime-mortgage-crisis-effect-and-timeline-3305745>
- Amadeo, K. (2018a). Causes of the 2008 global financial crisis. Retrieved from <https://www.thebalance.com/what-caused-2008-global-financial-crisis-3306176>
- Arkes H.R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35(1), 124-140. doi:10.1.1.452.2318
- Arrondel, L., Debbich, M., & Savignac, F. (2012). Stockholding and financial literacy in the French population. *International Journal of Social Sciences and Humanity Studies*, 4(2), 1309-8063. Retrieved from http://www.sobiad.org/ejournals/journal_IJSS/archives/2012_2/luc_arrondel.pdf
- Arrowsmith, S., & Pignal, J. (2010). Initial findings from the 2009 Canadian Financial

- Capability Survey (Catalogue No. F2-209/2010E-PDF). Retrieved from <http://publications.gc.ca/site/eng/391784/publication.html>
- Ashby, J. S., Schoon, I., & Webley (2011). Save now, save later? Linkages between saving behaviour in adolescence and adulthood. *The European Psychologist*, *16*(3), 227-237. doi: 10.1027/1016-9040/a000067
- Ashraf, N., Camerer, C.F., & Loewenstein, G. (2005). Adam Smith, behavioral economist. *Journal of Economic Perspectives*, *19*(3), 131-145. doi:10.1257/089533005774357897
- Atkinson, A., & Messy, F.A. (2011). Assessing financial literacy in 12 countries: an OECD/INFE international pilot exercise. *Journal of Pension Economics and Finance*, *10*, 657-665. doi:10.1787/5k9csfs90fr4-en
- Atkinson, A., & Messy, F.A. (2012). Measuring financial literacy: Results of the OECD/International network on financial education (INFE) pilot study. OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing. doi: 10.1787/5k9csfs90fr4-en
- Atkinson, A., McKay, S., Collard, S., & Kempson, E. (2010). Levels of financial capability in the UK. *Public Money Management*. *27*(1), 29-36. doi: 10.1111/j.1467-9302.2007.00552.x
- Atwood, J. D. (2012). Couples and money: the last taboo. *The American Journal of Family Therapy*, *40*, 1-19. doi: 10.1080/01926187.2011.600674
- Australian Council for Educational Research. (2015). What does PISA assess? Retrieved from <https://www.acer.edu.au/ozpisa/what-does-pisa-assess>
- Bachman, J.G. (1983). Premature affluence: Do high school students earn too much? *Economic Outlook USA*, *10*(3), 1-8. Retrieved from <http://monitoringthefuture.org>

Bank of Canada. (2016). Interest rates. Retrieved from

<http://www.bankofcanada.ca/rates/interest-rates/>

Bank of Canada (2018). Canada's economy and household debt: How big is the problem?

Retrieved from <https://www.bankofcanada.ca/2018/05/canada-economy-household-debt-how-big-the-problem/>

Batkoska, L., & Koseska, E. (2012). The impact of cognitive learning on consumer behaviour.

Social and Behavioral Science, 44, 70-77. doi: 10.1016/j.sbspro.2012.05.006

Battaglia, M.P. (2011). Nonprobability sampling. In P.J. Lavrakas, *Encyclopedia of survey*

research methods (pp.526). Thousand Oaks, CA: Sage.

Batty, M., Collins, C.J., & Odders-White, E. (2015). Experimental evidence on the effects of financial education on elementary school students' knowledge, behavior and attitudes.

Journal of Consumer Affairs, 49(1), 69-96. doi:10.1111/joca.12058

Baumeister, R.F., Gailliot, M., Deway, N., & Oaten, M. (2006). Self-regulation and personality:

How interventions increase regulatory success, and how depletion moderates the effects of traits on behavior. *Journal of Personality*, 74(6), 1773-1802. doi: 10.1111/j.1467-6494.2006.00428.

Bearden, W.O., Netemeyer, R., Teel, J. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, 15, 473-481. doi:

10.1086/209186

Becker, G.S. (1962). Irrational behaviour and economic theory. *The Journal of Political*

Economy, 79(1), 1-13. doi: 10.1086/258584

Behrman, J.R., Mitchel, O.S., Soo, C., & Bravo, D. (2011). Trends and issues. Retrieved from

https://www.tiaainstitute.org/public/pdf/institute/research/trends_issues/ti_wealth0211a.pdf

- Bernheim, B.D., Garrett, D.M., & Maki, D.M. (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 80(3), 436-467. doi:10.3386/w6085
- Beyer, L. (2012). *The rise and fall of employer – sponsored pension plans*. Retrieved from <https://www.workforce.com/2012/01/24/the-rise-and-fall-of-employer-sponsored-pension-plans/>
- Bhat, A.D. (2013). Quantitative techniques: an applied perspective. *International Monthly Refereed Journal of Research In Management & Technology*, 2, 35-44. Retrieved from https://www.abhinavjournal.com/images/Management_&_Technology/Oct13/5.pdf
- Bigge, M.L., & Shermis, S.S. (2004). *Learning theories for teachers*. Boston, MA: Pearson Education, Inc.
- Boaler, J. (2005). The ‘psychological prisons’ from which they never escaped: The role of ability grouping in reproducing social class inequalities. *Forum*, 47 (2), 135-144. Retrieved from <https://pdfs.semanticscholar.org/660a/d7a258218f325243875f409b148c6684f87e.pdf>
- Borden, L. M., Lee, S., Serido, J., & Collins, D. (2008). Changing college students’ financial knowledge, attitudes and behavior through seminar participation. *Journal of Family and Economic Issues*, 29, 23–40. doi: 10.1007/s10834-007-9087-2
- Borghans, L, Duckworth, A.L., Heckman, J.J., & Weel, B. (2008). The economics and psychology of personality traits. Working Paper 13810. National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w13810.pdf>

- Bottazzi, L., & Lusardi, A. (2016). Gender differences in financial literacy: Evidence from PISA data in Italy. Retrieved from <https://institute.eib.org/wp-content/uploads/2016/10/gender-diff.pdf>
- Brahier, D.J. (2009). *Teaching Secondary and Middle School Mathematics*. Pearson Education, Inc.
- Brener, N.D., Billy, J. O. G., & Grady, W. R. (2003). Assessment of factors affecting the validity of self-reported health-risk behaviour among adolescents: Evidence from scientific literature. *Journal of Adolescent Health, 33*, 436-457. doi: 10.1016/S1054-139X(03)00052-1
- British Columbia Securities Commission (BCSC). (2011). National report card on youth financial literacy. Retrieved from http://www.bcsc.bc.ca/uploadedFiles/News/News_Releases/National_Youth_Survey_Full_Report-25-10-11.pdf?t=1467667564117
- Brophy, J., & Good, T. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 328-375). New York: Macmillan.
- Bruner, J.S. (1978). The role of dialogue in language acquisition. In A. Sinclair, R.J. Jarvella, & W.J.M. Levelt (Eds.), *The Child's Conception of Language* (pp. 241-256). New York: Springer-Verlag.
- Bruner, J.S. (1966). *Toward a theory of instruction*. Cambridge: MA, Harvard University Press.
- Bruner, J.S. (1963). Needed: a theory of instruction. *Educational Leadership, 20*(8), 523-532. Retrieved from: <http://web.b.ebscohost.com.roxy.nipissingu.ca/ehost/pdfviewer/pdfviewer?sid=de4c80b5-d181-4bf7-82f7-a99e3af65d70%40sessionmgr104&vid=6&hid=129>

Bruner, J.S. (1961). The act of discovery. *Harvard Educational Review*, 31, 21-32.

Retrieved from

https://www.researchgate.net/publication/200772774_The_Act_of_Discovery

Bruner, J.S. (1960). *The process of education*. Cambridge: MA, Harvard University Press.

Brown, J., Ivkovich, Z., Smith, P., & Weisbenner, S. (2008). Neighbours matters: Causal community effects and stock market participation. *The Journal of Finance*, 63(3), 1509 – 1531. doi:10.1111/j.1540-6261.2008.01364.x

Bucher-Koenan, T., Lusardi, A., Alessie, R., & van Rooij, M. (2014). How financially literate are women: An overview and new insights. Working paper, 2014-7, Global Financial Literacy Excellence Center. Retrieved from <http://gflec.org/wp-content/uploads/2015/08/WP-2014-7-How-Financially-Literate-Are-Women.pdf>

Buckland, J. (2010). Are low-income Canadians financially literacy? Placing financial literacy in the context of personal and structural constraints. *Adult Education Quarterly*, 60(4), 351-376. doi: 10.1177/0741713609358449

Burley, G., & Awad, A. (2015). The impact of student debt. Retrieved from <http://dev.cfswpnetwork.ca/wp-content/uploads/sites/71/2015/07/Report-Impact-of-Student-Debt-2015-Final.pdf>

Burnkrant, R.E., & Cousineau, A. (1975). Informational and normative social influence in buyer behavior. *Journal of Consumer Research*, 2(3), 206-215. doi: 10.1086/208633

Butters, R.B., Asarta, C.J., & McCoy, S.G. (2012). Financial literacy and gender in U.S. high schools. *Journal of Economics and Finance Education*, 11(2), 142-149. Retrieved from <https://www.economics-finance.org>

Byrnes, J.P. (2008). *Cognitive development and learning instructional contexts*. Boston, MA:

Pearson Education.

Calvet, L., Campbell, J. Y., & Sodini, P. (2009). Measuring the financial sophistication of households. *American Economic Review*, 99(2), 393-398. doi: 10.3386/w14699

Camperell, K. (1982). *Vygotsky's theory of intellectual development: The effects of subject-matter instruction on self-regulated cognitive processes*. Retrieved from http://americanreadingforum.org/yearbook/yearbooks/82_yearbook/pdf/18_Camperell.pdf

Casey, L. (2013). *Stress and wellbeing in Australia survey 2013*. Retrieved from <https://www.psychology.org.au/Assets/Files/Stress%20and%20wellbeing%20in%20Australia%20survey%202013.pdf>

Castleman, B.L., & Page, L.C. (2014). *Summer nudging: can personalized text messages and peer mentor outreach increase college going among low-income high school graduates*. Working paper Number 9. Curry School of Education: University of Virginia. http://curry.virginia.edu/uploads/resourceLibrary/9_Castleman_SummerTextMessages.pdf

CBC News (2014, Feb. 23). *Canadians carrying debt into retirement*. Retrieved from <https://www.cbc.ca/news/business/taxes/canadians-carrying-debt-into-retirement-1.1168936>

CentiQ. (2008). Summary: financial understanding and behaviour of 8- to 18-year-olds in the Netherlands. Retrieved from www.wijzeringeldzaken.nl/media/13194/summary_financial_understanding_%20to18_netherlands.pdf.

Chan, S., Chau, A., & Chan, K. (2012). Financial knowledge and aptitudes: impacts on college

- students' financial well being. *College Student Journal*, 46(1), 114-132.
doi:10.1007/s10824=011=9255=2
- Chawla, R.K., & Uppal, S. (2012). *Household debt in Canada*. Retrieved from
<http://www.statcan.gc.ca/pub/75-001-x/2012002/article/11636-eng.pdf>
- Chen, H., & Volpe, R.P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2), 107-128. doi: 10.1016/S1057-0810(99)80006-7
- Chen, H., & Volpe, R. (2002). Gender differences in personal financial literacy among college students. *Financial Services Review*, 11, 289-307. doi: 10.1435/79783:y:2015:i:1:p:131-164
- Chien, Y., & Devaney, S.A. (2005). The effects of credit attitude and socioeconomic factors on credit card and installment debt. *The Journal of Consumer Affairs*, 35(1), 162-179. doi: 10.1111/j.1745-6606.2001.tb00107.x
- Cole, S., & Shastry, G.K. (2009). *Smart money: The effect of education, cognitive ability, and financial literacy on financial market participation*. Working paper, 09-071, Harvard Business School. doi: 10.2139/ssrn.1317298
- Collett, P. (2013). *The truth about the psychology of saving and spending*. Retrieved from
<http://www.mikecoady.com/truth-about-psychology-of-saving-and-spending/>
- Consumer Financial Protection Bureau (2015). *Financial well-being: the goal of financial education*. Retrieved from <http://www.consumerfinance.gov/>
- Consumer and Financial Literacy Working Party. (2005). *National consumer and financial literacy framework*. Retrieved from
http://www.curriculum.edu.au/verve/_resources/financial_literacy_framework.pdf

Costco Business Center. (2019). Retrieved from

<https://www.costcobusinessdelivery.com/Roma-Tomatoes%2C-25-lbs.product.11312566.html>

Couper, M.A. (2000). Web surveys: a review of issues and approaches. *Public Opinion Quarterly*, 64(4), 464-494. doi:10.1086/318641

Couper, M.P., Traughott, M.W., & Lamias, M.J. (2001). Web survey design and administration. *Public Opinion Quarterly*, 65(2), 250-253. doi: 10.1086/322199

Crossley, L. (2019). What are the cause of college dropouts? Retrieved from <https://www.theclassroom.com/causes-college-dropouts-4702.html>

Danes, S. M. (2004). *Evaluation of the NEFE high school financial planning program*® 2003-2004. St. Paul, MN: University

Darling-Hammond, L., Bransford, J (Ed.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: John Wiley & Sons

Davis, C.G., & Mantler, J. (2004). *The consequences of financial stress for individuals, families and society*. Retrieved from https://www.researchgate.net/publication/229052873_The_Consequences_of_Financial_Stress_for_Individuals_Families_and_Society

Deaton, A. (2005). *Franco Modigliani and the life cycle theory of consumption*. Retrieved from <https://www.princeton.edu/~deaton/downloads/romelecture.pdf>. doi: 10.2139/ssrn.686475

Deen, M. (2017). *Canadians are the most indebted in the world, OECD says, as it warns on*

- rising debt risk*. Retrieved from <https://business.financialpost.com/personal-finance/debt/canadians-are-the-most-indebted-in-the-world-oecd-says-as-it-warns-on-rising-debt-risk>
- Deng, H., Chi, L., Teng, N., Tang, T., & Chen, C. (2013). Influence of financial literacy of teachers on financial education teaching in elementary schools. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 3(1), 68-73. doi: 10.7763/IJEEEE.2013
- DeVaney, S. A., Gorham, E. E. Bechman, J. C., & Haldeman, V. A.. (1996). Cash flow management and credit use: Effects of financial information program. *Financial Counseling and Planning*, 7, 71-79. Retrieved from http://afcpe.org/assets/journals/vol_78.pdf
- Dommeyer, C.J., Baum, Chapman, P.K., & Hanna, R.W. (2002). Attitudes of business faculty towards two methods of collecting teaching evaluations: paper vs. online. *Assessment and Evaluation in Higher Education*, 27(5), 455–462. doi: 10.1080/0260293022000009320
- Donaldson, S.I., & Grant-Vallone, E.J. (2002). Understanding self-report bias in organizational behaviour research. *Journal of Business & Psychology*, 17(2), 245-260. doi:10.1023/A:1019637632584
- Dornbusch, R., & Fisher, S. (1994). *Macroeconomics*, 6th Ed., New York: McGraw-Hill.
- Drever, A. I., Odders-White, E., Kalish, C. W., Else-Quest, N. M., Hoagland, E. M., & Nelms, E. N. (2015). Foundations of financial well-being: Insights into the role of executive function, financial socialization, and experience-based learning in childhood and youth. *Journal of Consumer Affairs*, 49, 13–38. doi: 10.1111/joca.12068
- Drolet, M. (2016). *Gender differences in the financial knowledge of Canadians*. Retrieved from

- <https://www150.statcan.gc.ca/n1/en/pub/75-006-x/2016001/article/14464-eng.pdf?st=Lqn197wt>
- Drolet, M., & Morissette, R. (2014). *New facts on pension coverage in Canada*. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/75-006-x/2014001/article/14120-eng.pdf?st=4yfl2jNG>
- Duesenberry, J. (1967). *Income, saving and the theory of consumer behaviour*. New York: Oxford University Press.
- Durmaz, Y. (2014). The impact of psychological factors on consumer buying behavior and on empirical application in Turkey. *Asian Social Science*, 10(6), 194-204. doi:10.5539/ass.v10n6p194
- Edey, M. (2009). The global financial crisis and its effects. *Economic Papers*, 28(3), 186-195. doi: 10.1111/j.1759-3441.2009.00032.x
- Emmons, W.R. (2004). *Consumer-finance myths and other obstacles to financial literacy*. Conference paper. Retrieved from <https://EconPapers.repec.org/RePEc:fip:fedlsp:2005-03>
- Educational Quality and Accountability Office (EQAO). *Highlights of the provincial results: Literacy*. Retrieved from <http://www.eqao.com/en/assessments/results/communication-docs/provincial-report-highlights-literacy-2018.pdf>
- Erner, C., Gedde-Menke, M., & Oberste, M. (2016). Financial literacy of high school students: Evidence from Germany. *The Journal of Economic Education*, 47(2), 95-105. doi: 10.1080/00220485.2016.1146102
- Financial Consumer Agency of Canada (FCAC). (2015). *Managing money and planning for the future: key findings from the 2014 Canadian financial capability survey*. Retrieved from

<http://www.fcac-acfc.gc.ca/Eng/resources/researchSurveys/Documents/managing-money-key-findings.pdf>

Financial Consumer Agency of Canada (FCAC). (2014). Towards a national strategy for financial literacy: Phase 1 strengthening seniors' financial literacy. Retrieved from http://www.fcac-acfc.gc.ca/Eng/financialLiteracy/financialLiteracyCanada/strategy/Documents/seniors_financial_literacy_consultation.pdf

Ferguson, D. M., Horwood, L. J., & Beautrais, A. L. (1981). The measurement of family material wellbeing. *Journal of Marriage and Family*, 43(3), 715-725.
doi:10.2307/351771

Fernandes, D., Lynch, J.G., & Netemeyer, R.G. (2013). Financial literacy, financial education and downstream financial behaviours. *Management Science*, 60(8), 1861-2109. doi: 10.1287/mnsc.2013.1849

Fernbach, P.M., Kan, C., & Lynch Jr, J.G. (2015). Squeezed: Coping with constraint through efficiency and prioritization. *Journal of Consumer Research*, 41(5), 1204-1227. doi: 10.1086/679118

Festinger, L. (1957). A theory of cognitive dissonance, Evanston, IL: Row & Peterson.

Fonseca, R. Mullen, K., Zamarro, G., & Zissimopoulos, J. (2012). What explains the gender gap in financial literacy? The role of household decision making. *Journal of Consumer Affairs*, 46(1), 90-106. doi: 10.1111/j.1745-6606.2011.01221.x

Fox, D., & Moyser, M. (2018). *The economic well-being of women in Canada*. Retrieved from <https://www150.statcan.gc.ca/n1/pub/89-503-x/2015001/article/54930-eng.htm>

Friedline, T.L., Elliott, W., & Nam, I. (2011). Predicting savings from adolescence to young

- adulthood: A propensity score approach. *Journal of the Society for Social Work Research, 2*(1), 1-22. doi: 10.5243/jsswr.2010.13
- Furnham, A. (1984) Many sides of the coin: the psychology of money usage. *Personality and Individual Differences, 5*, 501–509. doi:10.1016/0191-8869(84)90025-4
- Gale, W.G., & Levine, R. (2010). *Financial literacy: What works? How could it be more effective?* Retrieved from https://www.brookings.edu/wp-content/uploads/2016/06/10_financial_literacy_gale_levine.pdf
- Garman, E.T., & Fogue, R. (2000). *Personal finances* (6th ed.) Boston: Houghton Mifflin.
- George, E.E., Hansen, M.E., & Routzahn, J.L. (2018). Debt tolerance, gender, and the great recession. *The Journal of Consumer Affairs, 52* (3), 711-732. doi: 10.1111/joca.12184
- Goetting, M.A., & Schmall, V.L. (2003). *Talking with aging parents about finances*. Retrieved from <https://ic.arc.losrios.edu/~wards/302gero/handouts/Week%206/Talking%20With%20Aging%20Parents%20About%20Finances,%20from%20the%20Montana%20.htm>
- Goldberg, H., & Lewis, R. (1978). *Money madne\$\$: the psychology of saving, spending, loving, and hating money*. LA: Wellness Institute, Inc.
- Goldsmith, R., & Goldsmith, E. (1997). Gender Differences in perceived and real knowledge of financial investments. *Psychological Reports, 80*, 236-238. doi:10.2466/pr0.1997.80.1.236
- Gordon, S. (2017). *Recession of 2008-2009 in Canada*. Retrieved from <https://www.thecanadianencyclopedia.ca/en/article/recession-of-200809-in-canada>
- Government of Canada. (2009). *Minister of Finance launches task force on financial literacy*. Retrieved from <http://www.fin.gc.ca/n08/09-067-eng.asp>

- Government of Ontario. (2016). ORPP for employees. Retrieved from <https://www.ontario.ca/page/orpp-for-employees>
- Grant, T., & McMahon, T. (2015). In deep: The high risks of Canada's growing addition to debt. Retrieved from <http://www.theglobeandmail.com/real-estate/the-market/canada-debt-risks/article24327561/>
- Greenspan, A. (2001, April). *The importance of education in today's economy. Remarks made at the Community Affairs Research Conference of the Federal Reserve System, Washington, D.C.* Retrieved from <https://www.federalreserve.gov/boarddocs/speeches/2001/20010406/default.htm>
- Grifoni, A., & Messy, F.A. (2012). *Current status of national strategies for financial education: A comparative analysis and relevant practices*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 16, OECD Publishing. doi:10.1787/20797117
- Grimes, D.A., & Schulz, K.F. (2002). Descriptive studies: What they can and cannot do. *The Lancet*, 359, 145-149. doi:10.1016/S0140-6736(02)07373-7
- Grimm, P. (2010). Social desirability bias. *Wiley International Encyclopedia of Marketing 2*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/9781444316568.wiem02057/abstract>
- Grinstein-Weiss, M, Spader, J., Hun Yeo, Y., Key, C.C., Books-Freeze, E. (2012). Loan performance among low-income households: Does prior parental teaching of money management matter? *National Association of Social Workers*, 36(4), 257-270. doi: 10.1093/swr/svs016
- Hanks, A.S., Just, D.R., Smith, L.E., & Wansink, B. (2012). Healthy convenience: nudging students towards healthier choices in the lunchroom. *Journal of Public Health*, 34(3), 37-

376. doi: 10.1093/pubmed/fds003
- Hansen, P.G., & Jespersen, A.M. (2013). Nudge and the manipulation of choice: A framework for the responsible use of the nudge approach to behaviour change in public policy. *European Journal of Risk Regulation*, (1), 3-28. doi: 10.1017/S1867299X00002762
- Harris, S. (2015). *Seniors going bankrupt in soaring numbers*. Retrieved from <http://www.cbc.ca/news/business/seniors-going-bankrupt-in-soaring-numbers-1.3129176>
- Harrison, N., & Churdy, F. (2011). Overactive, overwrought or overdrawn? The role of personality in undergraduate financial knowledge, decision making and debt. *Journal of Further and Higher Education*, 35(2), 149-182. doi: 10.1080/0309877X.2010.540080
- Hasler, A., & Lusardi, A. (2017). *The gender gap in financial literacy: A global perspective*. Retrieved from <http://gflec.org/wp-content/uploads/2017/07/The-Gender-Gap-in-Financial-Literacy-A-Global-Perspective-Report.pdf?x87657>
- Hathway, I., & Khatiwada, S. (2008). Do financial education programs work? Federal Reserve Bank of Cleveland Working Paper, No. 08-03. doi: 10.2139/ssrn.1118485
- Hayhoe, C., Leach, L., Turner, P., Bruin, M., & Lawrence, F. (2000). Difference in spending habits and credit card use of college students. *Journal of Consumer Affairs*, 34, 113-133. doi: 10.1111/j.1745-6606.2000.tb00087.x
- Haynes, S.N., Richard, D.C.S., & Kubany, E.S. (1995). Content validity in psychological assessment: a functional approach to concepts and methods. *Psychological Assessment*, 7(3), 238-247. doi:10.1037/1040-3590.7.3.238
- Heath, C. (1995). Escalation and de-escalation of commitment in response to sunk costs: The role of budgeting in mental accounting. *Organizational Behavior and Human Decision Processes*, 62, 3-54. doi: 10.1006/obhd.1995.1029

Heath, C., & Soll, J.B. (1996). Mental budgeting and consumer decisions. *Journal of Consumer Research*, 23, 40-52. doi: 10.1086/209465 40-52

Heirloom Tomato Festival. (2018). Retrieved from <https://www.wttr.com/event/heirloom-tomato-festival/>

Hilgert, M., Hogarth, J., & Beverly, S. (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*, 309–322.

Retrieved from

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.379.9686&rep=rep1&type=pdf>

Holden, K. (2010). *The emotions and cognitions behind financial decisions: The implications of theory for practice*. (Working Paper No WP 10-4). doi:10.1.1.220.3294

Hogan, C. (2018). How do I achieve financial freedom? Retrieved from

<https://www.daveramsey.com/blog/what-is-financial-freedom>

Hogarth, J.M., & Hilgert, M.A. (2002). Financial knowledge, experience, and learning preferences: Preliminary results from a new survey on financial literacy. *Consumer Interest Annual*, 48, 1-7. Retrieved from

https://www.consumerinterests.org/assets/docs/CIA/CIA2002/hogarth-hilgert_financial%20knowledge.pdf

Hohwu, L., Lyshol, H., Gissler, M. Jonsson, S.H. Petzold, M., & Obel, C. (2013). Web-based versus traditional paper questionnaires: a mixed-mode survey with a nordic perspective.

Journal of Medical Internet Research, 15(8). doi: 10.2196/jmir.2595

Howlett, E., Kees, J., & Kemp, E. (2008). The role of self-regulation, future orientation, and financial knowledge in long-term financial decisions. *The Journal of Consumer Affairs*,

42(2), 223-242. doi: 10.1111/j.1745-6606.2008.00106.x

Huddleston-Casas, C.A., Danes, S.M., & Boyce, L. (1999). Impact evaluation of a financial literacy program: Evidence for needed educational policy changes. *Consumer Interests*, 45, 109-114. Retrieved from <https://www.consumerinterests.org/assets/docs/cia1999/huddleston-casasdanesboyce.pdf>

Hung, A., Yoong, J., & Brown, E. (2012). Empowering Women Through Financial Awareness and Education, OECD Working Papers on Finance, Insurance and Private Pensions, No. 14, OECD Publishing. doi: 10.1787/5k9d5v6kh56g-en

Hurd, M.D., & Rohwedder, S. (2010). Effects of the financial crisis and great recession on American households. Working paper No. 16407: NBER. doi: 10.3386/w16407

Ihuoma, I.H., & Terrumum, D.J. (2015). Strategies for enhancing wellbeing of spouses in Makurdi Benue State-Nigeria. *Research Journal of Finance and Accounting*, 6(24), 74-79. doi: 10.1023/B:JEEI.0000016722.37994.9f

Imbeau, E. (2012). *Saving for post-secondary education: Findings from the Canadian financial capability study*. Retrieved from http://publications.gc.ca/collections/collection_2017/edsc-esdc/Em20-60-2017-eng.pdf

Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from <http://www.getsmarteraboutmoney.ca/en/research/>

Jabbar, H. (2011). The behavioral economics of education: New directions for research. *Educational Researcher*, 40(9), 446-453. doi:10.3102/0013189X11426351

Jacoby, M.B., Sullivan, T.A., & Warren, E. (2001). Rethinking the debates over health care financing: Evidence from the bankruptcy courts. *New York University Law Review*, 76(2), 375-419. doi: <http://dx.doi.org/10.2139/ssrn.270229>

- John, D.R. (1999), Consumer socialization of children: A retrospective look at twenty-five years of research. *Journal of Consumer Research*, 26 (3), 183 - 213. doi: 10.1086/209559
- Johnston, H. (2012). *The spiral curriculum: research into practice*. Retrieved from <http://files.eric.ed.gov/fulltext/ED538282.pdf>
- Joo, S., & Grable, J.E. (2004). An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues*, 25(1), 162-171. doi: 10.1023/B:JEEL.0000016722.37994.9f.
- Joo, S. (2008). Personal financial wellness. Personal financial wellness. In J.J. Xiao (Ed.), *Handbook of consumer finance* (21-33). New York: Springer.
- Joppe, M. (2000). *The research process*. Retrieved from <https://www.uoguelph.ca/hftm/research-process>
- Kacen, J.J., & Lee, J.A. (2002). The influence of culture on consumer impulsive buying behaviour. *Journal of Consumer Psychology*, 12(2), 163-176. doi: 10.1207/S15327663JCP1202_08
- Kahneman, D., & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. *Econometrica*, 42(2), 263-292. doi: 10.1.1.177.779
- Kaplowitz, M.D., Hadlock, T.D., & Levine, R. (2004). A comparison of web and mail survey response rates. *Public Opinion Quarterly*, 68(1), 94-101. doi: 10.1093/poq/nfh006
- Kasser, T., & Ahuvia, A. (2002). Materialistic values and well-being in business students. *European Journal of Social Psychology*, 32(1), 137-146. doi:10.1002/ejsp.85
- Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, 15(3), 261-266. doi: 10.1093/intqhc/mzg031

- Kelman, H. C. (1961). Processes of opinion change. *Public Opinion Quarterly*, 25, 57-78.
doi: 10.1086/266996
- Khalil, M. (2016). Applying learning theories and instructional design models for effective instruction. *Advances in Physiology Education*, 40(2), 147-156. doi: 10.1152/advan.00138.2015
- Kirby, J. (2018, Dec). *The most important charts to watch in 2019*. Maclean's. Retrieved from <https://www.macleans.ca/economy/economicanalysis/the-most-important-charts-to-watch-in-2019/>
- Keown, L. A., (2011). *The financial knowledge of Canadians*. Retrieved from <http://www.statcan.gc.ca/pub/11-008-x/2011001/article/11413-eng.pdf>
- Kerrane, B., & Hogg, M. (2012). Shared or non-shared? Children's different consumer socialization experiences within the family. *European Journal of Marketing*, 47(3), 506-524. doi: 10.1108/03090561311297436
- Kimberlin, C.L., & Winterstein, A.G. (2008). Validity and reliability of measurement instruments used in research. *Journal of Health System Pharmacy*, 65(Dec), 2276-2281. doi: 10.2146/ajhp070364
- Klontz, B., Britt, S.L., Mentzer, J., Klontz, T. (2011). Money beliefs and financial behaviors: Development of the Klontz money script inventory. *The Journal of Financial Therapy*, 2(1), p. 1 -22. doi: 10.4148/jft.v2i1.451
- Kritikos, E.P. (2010). *Special education assessment: Issues and strategies affecting today's classrooms*. Upper Saddle River, NJ: Pearson Education.
- Lalonde, K., & Schmidt, A. (2011). Credit cards and student interest: A financial literacy survey

- of college students. *Research in Higher Education Journal*, 10, 1-14.
- doi:10.1007/s10834-011-9271-2
- Lange, C., & Byrd, M. (1998). The relationship between perceptions of financial distress and feelings of psychological well-being in New Zealand university students. *International Journal of Adolescence and Youth*, 7, 193-209. doi: 10.1080/02673843.1998.9747824
- Larochelle, S., & Gilmore, J. (2009). *Canada's employment downturn*. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/75-001-x/2009112/pdf/11048-eng.pdf?st=lakkFKyh>
- Lea, S. E. G., Webley, P., & Walker, C. M. (1995). Psychological factors in consumer debt: Money management, economic socialization, and credit use. *Journal of Economic Psychology*, 16, 681-701. doi:10.1016/0167-4870(95)00013-4
- Lee, S., Park, M., & Montalto, C. P. (2000). The effect of family life cycle and financial management practices on household saving patterns. *Journal of Korean Home Economics Association English Edition*, 1, 79-92. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.867.3394&rep=rep1&type=pdf>
- Lee, S.W. (2018). Pulling back the curtain: Revealing the cumulative importance of high-performing, highly qualified teachers on students' educational outcome. *Educational Evaluation and Policy Analysis*, 40(3), 359-381. doi: 10.3102/0162373718769379
- Litwin, M.S. (1995). *How to measure survey reliability and validity*. Thousand Oaks, CA: Sage.
- Long, B.T. (2013). *Nudging student to success: Bridget Terry Long's '8 for 8'*. Retrieved from <https://www.youtube.com/watch?v=BICnQ7GIMmU>
- Long, B.T., & Bettinger, E. (2017). *Simplification, assistance, and incentives: A randomized*

- experiment to increase college savings*. Retrieved from https://scholar.harvard.edu/files/btl/files/long_bettinger_-_rct_to_increase_college_savings_2017-4-26.pdf
- Luong, M. (2010). *The financial impact of student loans*. Retrieved from <http://www.statcan.gc.ca/pub/75-001-x/2010101/pdf/11073-eng.pdf>
- Lusardi, A. (2006). *Planning and financial literacy: How do women fare?* Retrieved from <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/49388/wp136.pdf?sequence=1&isAllowed=y>
- Lusardi, A. (2008). Financial literacy: An essential tool for informed consumer choice. Retrieved from http://www.dartmouth.edu/~alusardi/Papers/Lusardi_Informed_Consumer.pdf. doi:10.3386/w14084
- Lusardi, A., & de Bassa Scheresberg, C. (2012). Financial literacy and high-cost borrowing in the United States. National Bureau of Economic Research Working Paper 18969. NBER Publishing, Cambridge, MA. Retrieved <http://www.nber.org/papers/w18969.pdf>
- Lusardi, A., & Mitchell, O.S. (2014). Research dialogue. Retrieved from https://www.tiaainstitute.org/public/pdf/economic_importance_of_financial_literacy.pdf
- Lusardi, A., & Mitchell, O.S. (2007). Baby boomers' retirement security: The role of planning, financial literacy and housing wealth. *Journal of Monetary Economics*, 54, 205–224. doi:10.1016/j.jmoneco.2006.12.001
- Lusardi, A., & Mitchell, O.S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44. doi: 10.1257/jel.52.1.5
- Lusardi, A., & Tufano, P. (2015). Debt literacy, financial experiences and overindebtedness.

- Journal of Pension Economics and Finance*, 14(04), 332-368. doi: 10.3386/w14808
- Ly, K., Mazar, N., Zhao, M., & Soman, D. (2013). A practitioner's guide to nudging. Retrieved from <http://www-2.rotman.utoronto.ca/facbios/file/GuidetoNudging-Rotman-Mar2013.ashx.pdf>. doi: 10.2139/ssrn.2609347
- Lyons, A. C. (2004). A profile of financially at-risk college students. *Journal of Consumer Affairs*, 38, 56– 80. doi:10.1111/j.1745-6606.2004.tb00465.x.
- Lyons, E., & House, J. (2013). Towards a taxonomy of nudging strategies. Research Report, Rotman School of Management: University of Toronto. Retrieved from <https://www.rotman.utoronto.ca/-/media/Files/Programs.../Towardsataxonomy.pdf>
- Mandell, L. (2008). *The financial literacy of young American adults*. Washington: DC, Merrill Lynch Foundation.
- Mandell, L., & Hanson, K. O. (2009, January). *The impact of financial education in high school and college on financial literacy and subsequent financial decision making*. Paper presented at the American Economic Association Annual Meeting, San Francisco, CA. Retrieved from https://www.researchgate.net/publication/237417649_The_Impact_of_Financial_Education_in_High_School_and_College_On_Financial_Literacy_and_Subsequent_Financial_Decision_Making
- Mandell, L., & Klein, L. (2009). The impact of financial literacy education on subsequent financial behavior. *Association for Financial Counseling and Planning Education*, 20(1), 15-24. doi: 10.1.1.334.3320
- Mans Clipart. (2019). Retrieved from <http://clipart-library.com/man-cliparts.html>
- Marcolin, S., & Abraham, A. (2006). Financial literacy research: Current literature and future

- opportunities. Conference paper. Retrieved from <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1233&context=commpapers>
- Marshall, K. (2011). *Retiring with debt*. Retrieved from <http://www.statcan.gc.ca/pub/75-001-x/2011002/pdf/11428-eng.pdf>
- Marshall, K. (2011a). Generational change in paid and unpaid work. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/11-008-x/2011002/article/11520-eng.pdf?st=FVjQ6XJN>
- Masson, R. R. (2013). *The dangers of an extended period of low interest rates: Why the Bank of Canada should start raising them now*. Retrieved from https://www.cdhowe.org/pdf/Commentary_381.pdf
- McCormick, K. (1983). Duesenberry and veblen: The demonstration effect revisited. *Journal of Economic Issues*, 17(4), 1125 - 1129. Retrieved from <http://moxy.eclibrary.ca/login?url=http://search.proquest.com/docview/1298555321?accountid=12792>
- McCleese, C.S., Daniel, F., & Baranik, L. (2013). *College student stressors: A review of qualitative research*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/23023893>
- McCormick, M. H. (2009). The effectiveness of youth financial education: A review of the literature. *Journal of Financial Counseling and Planning*, 20, 70–83. doi: 10.1007/s11184-005-0095-x
- McDermott, R. (2001). *Risk taking in international politics: Prospect theory in American foreign policy*. University of Michigan Press: Michigan
- Meeks, C.B. (1998). Factors influencing adolescents' income and expenditures. *Journal of Family and Economic issues*, 19(2), 131-150. doi:10.1023/A:1022948623549

Menachemi, N. (2010). Assessing response bias in a web survey at a university faculty.

Evaluation and Research in Education, 24(1), 5-15. doi:

10.1080/09500790.2010.526205

Mills, J. S. (1874). *Essays on some unsettled questions of political economy*. Retrieved from

<http://www.econlib.org/library/mill/m/uqP5.html>

Mischel, W. (2014). *The marshmallow test: Why self-control is the engine of success*. New

York, NY: Hachette Book Group

Mishra, H., Mishra, A., Rixom, J., & Chatterjee, P. (2013). Influence of motivated reasoning on

saving and spending decisions. *Organizational Behavior and Human Decision*

Processes, 121(1), 13-23. doi: 10.1016/j.obhdp.2012.10.003

Modigliani, F. (1985). Life cycle, individual thrift and the wealth of nations. *Economic*

Sciences, 150-171. doi: 10.1126/science.234.4777.704

Moore, D. (2003). *Survey of Financial Literacy in Washington State: Knowledge, Behavior,*

Attitudes and Experiences (Report No. 03-39 2003). Social and Economic Sciences

Research Center: Washington State University. doi: 10.13140/2.1.4729.4722

Moorman, R.H., & Podsakoff, P.M. (1992). A meta-analysis review and empirical test of the

potential confounding effects of social desirability response sets in organizational

behaviour research. *Journal of Occupational and Organizational Psychology, 65*, 131-

149. doi:10.1111/j.2044-8325.1992.tb00490

Morgan, E., & Huebner, A. (2009). Adolescent growth and development. *Virginia Cooperative*

Extension, 350-380, 1-5. Retrieved from

[https://vtechworks.lib.vt.edu/bitstream/handle/10919/49531/350-](https://vtechworks.lib.vt.edu/bitstream/handle/10919/49531/350-850.pdf?sequence=1&isAllowed=y)

[850.pdf?sequence=1&isAllowed=y](https://vtechworks.lib.vt.edu/bitstream/handle/10919/49531/350-850.pdf?sequence=1&isAllowed=y)

Mottola, G. R. (2013). In our best interest: Women, financial literacy and credit card behavior.

Scholar Commons: University of South Florida, 6(2). doi: 10.5038/1936-4660.6.2.4

Moyser, M. (2017). *Women and paid work*. Retrieved from

https://www150.statcan.gc.ca/n1/en/pub/89-503-x/2015001/article/14694-eng.pdf?st=tcAGJ_Z1

Moyser, M., & Burlock, A. (2018). *Time use: total work burden, unpaid work, and leisure*.

Retrieved from https://www150.statcan.gc.ca/n1/en/pub/89-503-x/2015001/article/54931-eng.pdf?st=PJoYMt_P

Naidu-Ghelani, R. (2018). The not so golden years – A quarter of retired Canadians in debt,

survey suggests. Retrieved from <https://www.cbc.ca/news/business/canadians-retirement-debt-1.4547125>

National Association of State Boards of Education (NASBE). (2006). *Who will own our children: The need for financial literacy standards*. Alexandria, VA: NASBE.

Nederhof, A.J. (1985). Methods of coping with social desirability bias: a review. *European*

Journal of Social Psychology, 15(3), 263-280. doi: 10.1002/ejsp.2420150303

Newcomb, T.M. (1943). *Personality and social change*. New York: Dryden.

Norvilitis, J. M., Szablicki, P. B., & Wilson, S. D. (2003). Factors influencing levels of credit

card debt in college students. *Journal of Applied Social Psychology*, 33, 935-947.

doi:10.1111/j.1559-1816.2003.tb01932.x

Novak, J. (n.d.). *Internal influence, learning*. Retrieved from

<http://www.marketingteacher.com/internal-influences-learning/>

OCAS (2019). *Paying for college: Tuition and financial assistance*. Retrieved from

<https://www.ontariocolleges.ca/en/colleges/paying-for-college>

O'Curry, S. (1996). *Income source effects* (Working Paper). Department of Marketing, Chicago, IL: DePaul University.

Office of the Superintendent of Bankruptcy Canada. (2018). *Annual Insolvency Rates*. Retrieved from <https://www.ic.gc.ca/eic/site/bsf-osb.nsf/eng/br01819.html>

Oleson, M. (2004). Exploring the relationship between money attitudes and Maslow's hierarchy of needs. *International Journal of Consumer Studies*, 28(1), 83-93. doi:10.1111/j.1470-6431.2004.00338.x

Ontario Association of Food Banks (2015). *Hunger report: A snapshot of hunger in Ontario*. Retrieved from http://www.oafb.ca/tiny_mce/plugins/filemanager/pics/cms/3/303/FINAL_-_2015_OAFB_Hunger_Report_updated.pdf

Ontario Ministry of Education (OME). (2018). *Financial literacy in Ontario schools*. Retrieved from <http://www.edu.gov.on.ca/eng/surveyliteracy.html>

Ontario Ministry of Education (OME). (2016). *Financial literacy: Scope and sequence of expectations*. Retrieved from <http://www.edu.gov.on.ca/eng/document/policy/FinLitGr9to12.pdf>

Ontario Ministry of Education (OME). (2010). *A sound investment: financial literacy education in Ontario schools*. Retrieved from http://www.edu.gov.on.ca/eng/Financial_Literacy_Eng.pdf

Ontario Ministry of Education (OME). (2007). *The Ontario Curriculum Grade 9 and 10*. Retrieved from <http://www.edu.gov.on.ca/eng/curriculum/secondary/english910curr.pdf>

Ontario Ministry of Education (OME). (2006). *The Ontario curriculum grades 1-8: language*. Retrieved from

<http://www.edu.gov.on.ca/eng/curriculum/elementary/language18currb.pdf>

Organization for Economic Cooperation Development. (2005). *Improving financial literacy: Analysis of issues and policies*. Paris, France: OECD Publishing.

Organization for Economic Cooperation Development. (2006). *The importance of financial education*. Retrieved from <http://www.oecd.org/finance/financial-education/37087833.pdf>

Organization for Economic Cooperation Development. (2011). *Measuring financial literacy: Core questionnaire in measuring financial literacy: Questionnaire and guidance notes for conducting an internationally comparable survey of financial literacy*. Retrieved from <https://www.oecd.org/finance/financial-education/49319977.pdf>

Organization for Economic Cooperation Development. (2012). *Financial education in schools*. Retrieved from http://www.oecd.org/daf/fin/financial-education/FinEdSchool_web.pdf.

Organization for Economic Cooperation Development. (2012a). PISA Financial Literacy Sample Items and Scoring Guides. Retrieved from https://nces.ed.gov/surveys/pisa/pdf/items2_financial.pdf

Organization for Economic Cooperation Development. (2013). *PISA 2012 Financial literacy Framework*. Retrieved from <http://www.oecd.org/finance/financial-education/PISA2012FrameworkLiteracy.pdf>. doi:10.1787/9789264190511-en

Organization for Economic Development Cooperation. (2014). *PISA 2012 results: students and money financial literacy skills for the 21st century*. Retrieved from <https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf>. doi: 10.1787/9789264208094-en

Organization for Economic Cooperation Development (2016). OECD/INFE international survey

- of adult financial literacy competencies. Retrieved from <http://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>
- Organization for Economic Cooperation Development. (2017). PISA 2015 results (volume IV): Students' financial literacy, PISA, OECD Publishing, Paris. doi: 10.1787/9789264270282-en
- Organization for Economic Cooperation Development (2017a). Country note: Canada. Retrieved from <https://www.oecd.org/pisa/PISA-2105-Financial-Literacy-Canada.pdf>
- Otter, D. (2010). *Teaching financial literacy in K-12 schools: A survey of teacher beliefs and knowledge* (Doctoral dissertation). Retrieved from https://digitalrepository.unm.edu/cgi/viewcontent.cgi?article=1029&context=educ_llss_etds
- Page, B. (2014). *Financial literacy in high school: necessary and relevant*. Retrieved from <http://www.edutopia.org/blog/high-school-financial-literacy-resources-brian-page>
- Parker, K., & Stepler, R. (2017). Americans see men as the financial providers, even as women's contributions grow. Retrieved from <http://www.pewresearch.org/fact-tank/2017/09/20/americans-see-men-as-the-financial-providers-even-as-womens-contributions-grow/>
- Peng, T. C. M., Bartholomae, S., Fox, J.J., & Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. *Journal of Family and Economic Issues*, 28, 265–284. doi: 10.1007/s10834-007-9058-7
- People for Education (2013). *The trouble with course choices in Ontario high schools*.

Retrieved from

https://www.researchgate.net/publication/312117297_The_Trouble_with_Applied_Course
e

Phelan, C., & Wren, J. (2006). *Exploring reliability in academic assessment*. Retrieved from
<https://www.uni.edu/chfasoa/reliabilityandvalidity.htm>

Piaget, J. (1950). *Piaget: The psychology of intelligence*. New York, NY: Routledge Classics.

Piaget, J. (1972). *Intellectual evolution from adolescence to adulthood*. Retrieved from
http://www.fondationjeanpiaget.ch/fjp/site/textes/VE/JP70_Evolut_Intellect_Adoles_Adulte.pdf

Piaget, J. (1983). Piaget's theory. In W. Kessen (Ed.), *History, theory, and methods: Handbook of child psychology* (4th ed., pp. 703–732). New York, NY: John Wiley & Sons.

Piaget, J. (1973). *Main trends in psychology*. London, England: George Allen & Unwin.

Pillai, K.R., Carlo, R., & D'souza, R. (2012). Financial prudence among youth. *The Journal – Contemporary Management Research*, 6(2), 52-68. Retrieved from https://mpra.ub.uni-muenchen.de/22450/1/Financial_Prudence_Youth.pdf

Pinto, L. E. (2013). *From discipline to culturally responsive engagement: 45 classroom management strategies*. Thousand Oaks, CA: Corwin.

Pinto, L.E. (2017). *Financial literacy education: Navigating a paradox*. Retrieved from
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Financial_Literacy_Education_Navigating_Paradox_en.pdf

- PiperJaffary (2015). *PiperJaffray survey of 6,200 teens indicates optimistic views*. Retrieved from
from
<http://www.piperjaffray.com/2col.aspx?id=178&releaseid=2035367&title=Piper%20Jaffray%20Survey%20of%206,200%20>
- Prosper Canada. (2015). *Financial Literacy and Aboriginal Peoples*. Retrieved from
<http://prospercanada.org/getattachment/f988e655-6033-40b1-8445-cd539bfdcf09/Financial-Literacy-and-Aboriginal-Peoples.aspx>
- Pryor, B.W. (2004). *A useful model for changing school behaviour*. Sage Publications:
Thousand Oaks.
- Quicken Inc (2018). *What are financial goals?* Retrieved from <https://www.quicken.com/what-are-financial-goals>
- Rani, P. (2014). Factors influencing consumer behaviour. *International Journal of Current Research and Academic Review*, 2(9), 52-61. Retrieved from <http://www.ijcrar.com/vol-2-9/Pinki%20Rani.pdf>
- Richeson, J.A., & Shelton, J.N. (2003). When prejudice does not pay: Effects of interracial contact on executive function. *Psychological Science*, 14, 287-290. doi: 10.1111/1467-9280.03437
- Roach, K. (2016). *External influences and buying decisions*. Retrieved from
<http://study.com/academy/lesson/influences-on-consumer-buying-decisions-cultures-values-more.html>
- Roberts, J.A., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *The Journal of Consumer Affairs*, 35(2), 213-240. doi:10.1111/j.1745-6606.2001.tb00111.x

- Robson, C., & McCarten, K. (2016). *Real world research: a resource for users of social research methods in applied setting* (4th ed.). Chichester, West Sussex: Wiley Ltd.
- Rutherford, L. G., & Fox, W. S. (2010). Financial wellness of young adults age 18-30. *Family and Consumer Sciences Research Journal*, 38(4), 468-484. doi:10.1111/j.1552-3934.2010.00039.x.
- Sabri, M.F.F. (2011). *Pathways to financial success: determinants of financial literacy and financial well-being among young adults*. (Doctoral Dissertation). Retrieved from Digital Repository @ Iowa State University (11205).
- Salmons, J.G. (2015). *Persistence and patience*. Retrieved from <http://www.successwithmoney.com/persistence-and-patience/>
- Sandmo, A. (2014). *Adam Smith and modern economics*. Department of Economics, Norwegian School of Economics. doi: 10.2139/ssrn.2432936
- Sapsford, R. (2007). *Survey research*. Thousand Oaks, CA: London
- Saunders, D., & Cardoso, T. (2017). *A Tale of Two Canadas: Where you grew up affects your income in adulthood*. Retrieved from <https://www.theglobeandmail.com/news/national/a-tale-of-two-canadas-where-you-grow-up-affects-your-adult-income/article35444594/>
- Schofield, T. (2015). *What is consumer behavior in marketing?* Retrieved from <http://study.com/academy/lesson/what-is-consumer-behavior-in-marketing-factors-model-definition.html#transcriptHeader>
- Schuchardt, J., Hanna, S.D., Hira, T.K., Lyons, A.C., Palmer, L., & Xian, J.J. (2009). Financial literacy and education research priorities. *Journal of Financial Counseling and Planning*, 20(1), 84-95. doi: 10.1007/s11205-008-9288-6

- Schuyler, S., & Buckley, E. (2016). *Bridging the financial literacy gap: Empowering teachers to support the next generation*. Retrieved from <https://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf>
- Shane, C. (2009). *The ways we don't talk about wealth*. Retrieved from <http://thenewinquiry.com/essays/the-ways-we-dont-talk-about-wealth/>
- Shefrin, H. (2002). *Beyond greed and fear: Understanding behavioral finance and the psychology of investing*. New York: Oxford University Press.
- Shefrin, H.M., & Thaler, R.H. (1988). The behavioural life-cycle hypothesis. *Economic Inquiry*, XXVI, 609-643. doi:10.1111/j.1465-7295.1988.tb01520.x
- Shiller, R. (2009, January 17). *How about a stimulus for financial advice?* Retrieved from <http://www.nytimes.com/2009/01/18/business/economy/18view>
- Sher, S., McKenize, C.R.M. (2006). Information leakage from logically equivalent frames. *Cognition* 101, 467-494. doi: 10.1016/j.cognition.2005.11.001
- Shim, S., Barber, B.L., Card, N.A., Xiao, J.J., Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education, *Journal of Youth Adolescence*, 39, 1457-1470. doi: 10.1007/s10964-009-9432-x.
- Sills, S., & Song, C. (2002). Innovations in survey research: An application of web surveys. *Social Science Computer Review*, 20(1), 22-30. doi: 10.1177/089443930202000103
- Simon, H. (1957). *Models of man, social and rational: Mathematical essays on rational human behaviour in a social setting*. New York, NY: John Wiley and Sons.
- Smith, A. (1790). *The theory of moral sentiments*. Retrieved from <http://www.econlib.org/library/smith/smMS1.html>.
- Soman, D. (2013). *Nudge here, nudge there, can bring behaviour change*. Retrieved from

- https://www.thestar.com/business/2013/04/05/nudge_here_nudge_there_can_bring_behaviour_change.html
- Sommer, C. (2012). *Purchase power of global teens tops \$819 billion*. Retrieved from <https://insights.mastercard.com/2012/11/21/purchase-power-of-global-teens-tops-819-billion/>
- Sonuga-Barke, E.J.S., & Webley, P. (1993). *Children's saving: A study in the development of economic behaviour*. Hove, England: Erlbaum.
- Stango, V., & Zinman, V. (2009). Exponential growth bias and household finance. *Journal of Finance*, 64, 2807–2849. doi: 10.1111/j.1540-6261.2009.01518.x
- Statistics Canada (2016). *Census Profile, 2016 Census*. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3554020&Geo2=PR&Code2=35&Data=Count&SearchText=Ontario&SearchType=Begin&SearchPR=01&B1=Income&TABID=1>
- Stromback, C., Lind, T., Skagerlund, K. Vastfjall, D., & Tinghog, G. (2017). Does self-control predict financial behavior and financial well-being. *Journal of Behavioral and Experimental Finance*, 14, 30-38. doi: 10.1016/j.jbef.2017.04.002
- Sundarasan, S.D., & Rahman, M.S. (2017). Attitude towards money: Mediation to money management. *Academic of Accounting and Financial Studies Journal*, 21(1), 1- 17. doi: 10.1787/5k9csfs90fr4-en
- Taft, M.K., Hosein, Z.Z., & Mehrizi, S.M.T. (2013). The relation between financial literacy, financial wellbeing and financial concerns. *International Journal of Business and Management*, 8(11), 63-75. doi: 10.5539/ijbm.v8n11p63

Tanner, J.F., & Raymond, M. A. (2011). *Principles of Marketing and Business*

Communication, Flat World Knowledge, Inc., Irvington, New York.

Task Force on Financial Literacy. (2010). *Canadians and their money: Building a brighter financial future*. Retrieved from

<http://www.edugains.ca/resourcesFL/Background/CanadiansAndTheirMoney-2011.pdf>

Tedesco, T. (2015). *The debt 'crisis' in Canada? If your paycheque is \$100,000 plus, that means you*. Retrieved from [https://business.financialpost.com/personal-](https://business.financialpost.com/personal-finance/managing-wealth/the-debt-crisis-in-canada-if-your-paycheque-is-100000-plus-that-means-you)

[finance/managing-wealth/the-debt-crisis-in-canada-if-your-paycheque-is-100000-plus-that-means-you](https://business.financialpost.com/personal-finance/managing-wealth/the-debt-crisis-in-canada-if-your-paycheque-is-100000-plus-that-means-you)

Thaler, R.H. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, 1, 39-60. doi: 10.1016/0167-2681(80)90051-7

Thaler, R.H. (1999). Mental accounting matters. *Journal of Behavioral Decisions Making*, 12, 183-206. doi:10.1002/(SICI)1099-0771(199909)12:3<183::AID-BDM318>3.0.CO;2-F

Thaler, R.H., & Sunstein, C.R. (2009). *Nudge*. New York, USA: Penguin Books

The Economist. (2012). *Nudge nudge, think think*. Retrieved from

<http://www.economist.com/node/21551032>

The Pew Charitable Trusts (2015, Oct). *How do families cope with financial shocks?* Retrieved from [https://www.pewtrusts.org/~media/assets/2015/10/emergency-savings-report-](https://www.pewtrusts.org/~media/assets/2015/10/emergency-savings-report-1_artfinal.pdf)

[1_artfinal.pdf](https://www.pewtrusts.org/~media/assets/2015/10/emergency-savings-report-1_artfinal.pdf)

Thornton, S. (2005). *Teaching social studies that matters*. New York, NY: Teachers College Press

Tintin, R. (2013). *4 major factors that influence consumer buyer behavior*. Retrieved from

<http://www.superprofesseur.com/19.html>

- Tokunaga, H., (1993). The use and abuse of consumer credit: Application of psychological theory and research. *Journal of Economic Psychology*, 14, 285-316. doi:10.1016/0167-4870(93)90004-5
- Toraman, C., Kilic, Y., & Bugan, M.F. (2016). Credit card literacy levels and credit card usage behaviours of college students. *Journal of Business Research*, 266-276. doi: 10.20491/isarder.2016.218
- Totenhagen, C.J., Casper, D.M., Faber, K.M., Bosch, L.A., Bracamonte-Wiggs, C., & Borden, L.M. (2015). Youth financial literacy: A review of key considerations and promising delivery methods. *Journal of Family Economic Issues*, 36, 167-191. doi:10.1007/s10834-014-9397-0
- Turcotte, M. (2011). *Women and education*. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/89-503-x/2010001/article/11542-eng.pdf?st=VNJ7McyV>
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 452-458. doi:10.1126/science.7455683
- Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference –dependent model. *Quarterly Journal of Economics*, 1039-1061. doi:10.2307/2937956
- Varcoe, K.P., Martin, A., Devitto, Z., & Go, C. (2005). Using a financial education curriculum for teens. *Financial Counseling and Planning*, 16(1), 63-71. Retrieved from <https://www.afcpe.org/assets/pdf/vol1617.pdf>
- Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock, market participation. *Journal of Financial Economics*, 101(2), 449–472. doi:10.1016/j.jfineco.2011.03.006

- Van Rooij, M., Lusardi, A., & Alessie, R. (2007). *Financial literacy and stock market participation*. National Bureau of Economic Research Working Paper No. 13565, Cambridge, MA: NEBR. doi:10.3386/w13565
- Visser, P.S., Krosnick, J.A., & Lavrakas, P.J. (2000). Survey research. In H.T. Reis, & C.M. Judd (Eds.). *Handbook of research methods in social and personality psychology* (pp. 223-247). New York, NY: Cambridge University Press.
- Vitt, L.A. (2009). *Values-centred financial education: Understanding cultural influences on learners' financial behaviours*. Retrieved from <http://www.isfs.org/documents-pdfs/Values-Centered-Financial-Education.pdf>
- Vohs, K.D., Baumeister, R.F., & Ciarocco, N.J. (2005). Self-Regulation and Self-Presentation: Regulatory Resource Depletion Impairs Impression Management and Effortful Self-Presentation Depletes Regulatory Resources. *Journal of Personality and Social Psychology, 88(4)*, 632-657. doi: 10.1037/0022-3514.88.4.632
- Vohs, K.D., & Faber, R.J. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. *Journal of Consumer Research, 33*, 537-547. doi: 10.1086/510228
- Volger, C. (1998). Money in households: some underlying issues of power. *The Sociological Review, 46*, 687-713. doi: 10.1111/1467-954X.00136
- Volpe, R.P., Chen, H., & Pavlicko, J.J. (1996). Investment literacy among college students: A survey. *Financial Practice and Education, 6(2)*, 86-94. doi:10.1.1.476.6325
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes* (Cole, M., John-Steiner, V., Scribner, S., & Souberman, E., Eds.). Cambridge, Massachusetts: Harvard University Press.
- Waitress Café Picture. (2019). Retrieved from <https://scubasanmateo.com/explore/waitress->

clipart-animated/

- Walstad, W.B., Rebeck, K., & MacDonald, R.A. (2010). The effects of financial education on the financial knowledge of high school students. *The Journal of Consumer Affairs*, 44(2), 336-357. doi:10.1111/j.1745-6606.2010.01172.x
- Webley, P., & Nyhus, E.K. (2006). Parents' influence in children's future orientation and saving. *Economic Psychology*, 27, 140-164. doi: 10.1016/j.joep.2005.06.016
- Williams, C. (2010). *Economic well-being*. Retrieved from <http://www.statcan.gc.ca/pub/89-503-x/2010001/article/11388-eng.pdf>
- Willis, L.E. (2008). *Against financial literacy education*. Faculty Scholarship Working Paper Number 199, University of Pennsylvania Law School. Retrieved from http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1198&context=faculty_scholarship
- Wolcott, I., & Hughes, J. (1999). *Towards understanding the reasons for divorce*. Working paper No. 20, Australian Institute of Family Services, Melbourne. Retrieved from <https://aifs.gov.au/publications/towards-understanding-reasons-divorce/introduction>
- Worthington, A.C. (2006). *Predicting financial literacy in Australia*. Retrieved from <https://ro.uow.edu.au/cgi/viewcontent.cgi?referer=https://www.google.ca/&httpsredir=1&article=1124&context=commpapers>
- Wood, D., Bruner, J.S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89-100. doi: 10.1111/j.1469-7610.1976.tb00381.x
- Woolsey, A. (2011). *An analysis of first-year freshman financial literacy and the effectiveness*

of an online financial education program at small four-year private universities.

Unpublished doctoral dissertation. University of La Verne, La Verne California

Wyrick, D.L., and Bond, L. (2011). Reducing sensitive survey response bias in research on adolescents: A comparison of web-based and paper-and-pencil administration. *American Journal of Health Promotion, 25(5)*, 349-352. doi: 10.4278/ajhp.080611-ARB-90

Xiao, J. J., & Noring, F. E. (1994). Perceived saving motives and hierarchical financial needs. *Journal of Financial Counseling and Planning, 5*, 25-44. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5673

Yoong, J. (2011). Financial illiteracy and stock market participation: Evidence from the RAND American Life Panel. In *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*. Eds O. S. Mitchell and A. Lusardi. Oxford: Oxford University Press, 76-97.

Zimmerman, I. (2012). *What Motivates Impulse Buying?* Retrieved from <https://www.psychologytoday.com/ca/blog/sold/201207/what-motivates-impulse-buying>

Zoellner, D. (2018, July 11). *Sexism for kids: Gender pay gap could start as early as childhood, with new study revealing that little boys even earn more allowance than girls.* Retrieved from <https://www.dailymail.co.uk/femail/article-5943363/Gender-pay-gap-start-childhood-boys-earn-allowance.html>

Zucchi, K. (2015). *Why are financial literacy and education so important?* Retrieved from <http://www.investopedia.com/articles/investing/100615/why-financial-literacy-and-education-so-important.asp>

Appendix C – Survey 1
Student Survey



SOCIO-DEMOGRAPHIC

1. What is your gender?
 - a) Female
 - b) Male
 - c) Other _____

2. Which of the following do you consider yourself to be:
 - Indigenous (e.g. a member of the First Nations, Inuit or Metis people)
 - White (e.g. Caucasian; British, French, East or West European, Russian, Ukrainian, Mediterranean).
 - Racial minority (racial minority status is based on race or skin colour, not place of birth or nationality; see below for a list of categories which belong to “Racial Minority”)

3. What grade are you in currently?
 - a) 9
 - b) 10
 - c) 11
 - d) 12
 - e) Year 5

4. What is your academic level for course selection in secondary school?
 - a) Essential (Locally Developed)
 - b) Applied
 - c) Academic
 - d) A mix of essential/applied
 - e) A mix of applied/academic
 - f) Other – please specify _____
 - g) Don't know

BACKGROUND

5. Rate your knowledge on the following financial topics by selecting one answer in each row.

	Extremely knowledgeable	Moderately Knowledgeable	Somewhat Knowledgeable	Slightly knowledgeable	Not at all knowledgeable
Managing debt (credit cards, loans, etc.)					
Saving					
Types of investments					
Budgeting					
Compound Interest					
Pensions					
Insurance					
Taxes					
Difference between wants and needs					
Stock market					
Influences on consumers					
Fraud and its consequences					
Buying a home					
How interest is calculated on credit cards/loans					
Dealing with unexpected financial shocks/emergencies					
Financial planning for life after high school					
Buying a car					
Consequences of financial decisions					
Setting financial goals					
Charity/Giving to others					
Retirement planning					
Cost of post-secondary education					
Most effective ways to manage day-to-day finances					

6. Do you get money from any of these sources? Select the answer, *in each row*, that best represents your situation.

	All of My Money	Most of My Money	Some of My Money	A Little of My Money	None of My Money
An allowance or pocket money for regularly doing chores at home					
An allowance or pocket money, without having to do chores					
Working outside school hours (e.g. a holiday job, part time work)					
Working in a family business					
Occasional informal jobs (e.g. babysitting or gardening)					
Gifts of money from friends or relatives					
Selling things (e.g. at local market, eBay or Kijiji)					
Parents give me money when needed					

7. How would you rate your general money knowledge and skills?


- a) Extremely knowledgeable
- b) Moderately knowledgeable
- c) Somewhat knowledgeable
- d) Slightly knowledgeable
- e) Not at all knowledgeable

8. Which of the following classes have you had in high school? (Check **ALL** that apply)

<input type="checkbox"/>	An entire course in money management or personal finance
<input type="checkbox"/>	A portion of a course where at least a week was focused on money management or personal finance
<input type="checkbox"/>	An entire course in economics
<input type="checkbox"/>	A portion of a course where at least a week was focused on economics
<input type="checkbox"/>	A course in which we played a stock market game
<input type="checkbox"/>	I have never talked about financial topics in a class/course in school.

KNOWLEDGE

9.



Breezy Clothing
 Invoice
 Invoice Number: 2034
 Date issued: 28 February

Sarah Johanson
 29 Worthill Road
 Kensington
 Zedland 3122

Breezy Clothing
 498 Marple Lane
 Brightwell
 Zedland 2090

Product code	Description	Quantity	Unit Cost (\$)	Total (excluding tax)
T011	T-shirt	3	20	\$60
J023	Jeans	1	60	\$60
S002	Scarf	1	10	\$10

Total Excluding Tax: \$130
 Tax 10%: \$13
 Postage: \$10
 Total Including Tax: \$153
 Already Paid: \$0

Total Due: \$153
 Date due: 31 March

A) Why was this invoice sent to Sarah?

- a. Because Sarah needs to pay the money to Breezy Clothing.
- b. Because Breezy Clothing needs to pay the money to Sarah.
- c. Because Sarah has paid the money to Breezy Clothing.
- d. Because Breezy Clothing has paid the money to Sarah.

B) How much has Breezy Clothing charged for delivering the clothes?

Delivery charge in dollars (\$):

Type in your answer...

10. You can buy tomatoes by the pound or by the box.



OECD, 2017, p. 54

\$2.75/lb



OECD, 2017, p. 54

\$22 for a 10 lb box

The box of tomatoes is better value for the money than the loose tomatoes.



OECD, 2017, p. 54

Give a reason to support this statement.

Type your answer here...

A. Buying a box of tomatoes may be a bad financial decision for some people.

Explain why.

Type your answer here...

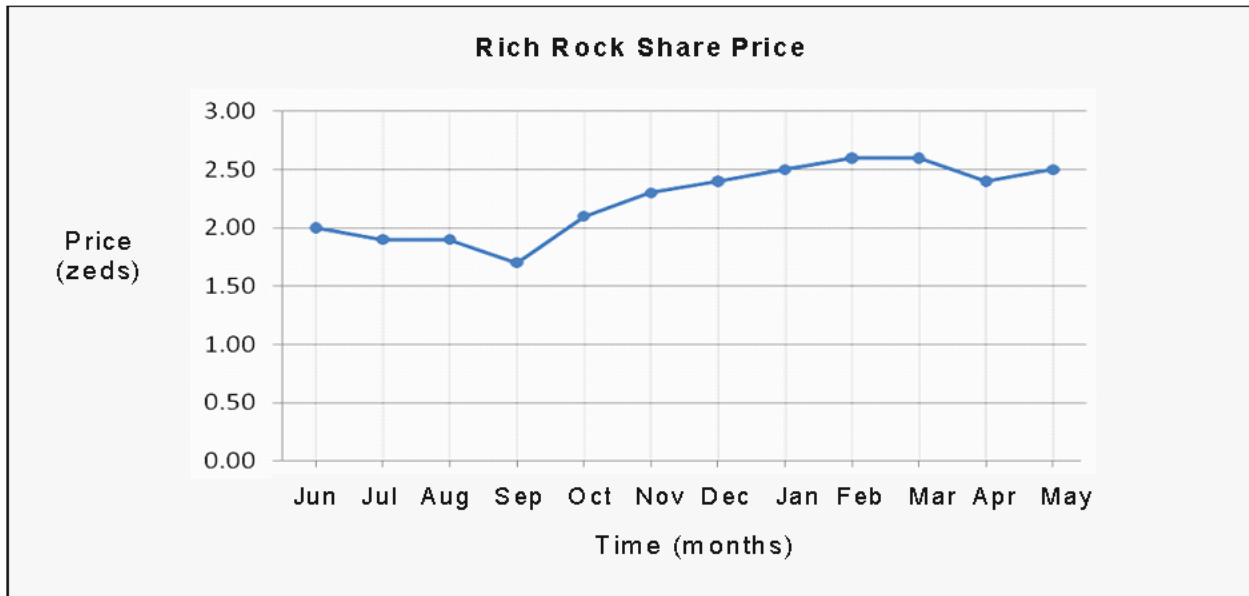
11. Each month, Jane's salary is paid into her bank account.

This is Jane's pay stub for July.

EMPLOYEE PAY STUB: Jane Green	
Position: Manager	July 1 to July 31
Gross Salary	\$2800
Deductions	\$300
Net salary	\$2500
Gross salary to date this year	\$19 600

- A. How much money did Jane's employer pay into her bank account on July 31.
- a) \$300
 - b) \$2500
 - c) \$2800
 - d) \$19600

12. This graph shows the price of one Rich Rock share over a 12-month period.



A) Which statements about the graph are true?

Statement	Is the statement true or false?
The best month to buy the shares was September.	<input type="checkbox"/> True <input type="checkbox"/> False
The share price increased about 50% over the year.	<input type="checkbox"/> True <input type="checkbox"/> False

13. Natasha works in a restaurant 3 evenings each week.

She works for 4 hours each evening and she earns \$10 per hour.

Natasha also earns \$80 each week in tips.

Natasha saves exactly half of the total amount of money she earns each week.

Natasha wants to save \$600 for a vacation.

How many weeks will it take Natasha to save \$600.

Number of weeks:



OECD, 2012a, p. 5

14. When should you start saving for retirement?

- a) When I am done high school
- b) When I am done post-secondary education
- c) As soon as I get my first job
- d) 10-15 years before I plan to retire
- e) I don't know

15. List some ways a retired person can support themselves.

Type your answer here...

16. Suppose you put \$100 into a savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?

Type your answer here...

A. How much would be in the account at the end of five years, remembering there are no fees or tax deductions? Would it be:

- a) More than \$110
- b) Exactly \$110
- c) Less than \$110
- d) It is impossible to tell from the information given.
- e) Other: please specify _____
- f) Don't know

17. What is the purpose of insurance?
- a) To meet the laws set out in Ontario
 - b) A way to reduce or eliminate risk we may face with things we own, our health, and our life
 - c) To protect lenders in case of borrower's death
 - d) I don't know

18. What kinds of insurance do people need?

Type your answer here....

19. Last year, Steve's motorcycle was insured with the PINSURA insurance company. The insurance policy covered damage to the motorcycle from accidents and theft of the motorcycle.

Steve plans to renew his insurance with PINSURA this year, but a number of factors in Steve's life have changed since last year.

How is each of the factors in the table likely to affect the cost of Steve's motorcycle insurance this year?
Check "increases cost", "reduces cost," or "Has no effect on cost" for each factor.

Factor	How is the factor likely to affect the cost of Steve's insurance?
Steve replaced his old motorcycle with a much more powerful motorcycle.	<input type="checkbox"/> Increases cost <input type="checkbox"/> Reduces cost <input type="checkbox"/> Has no effect
Steve has painted his motorcycle a different color.	<input type="checkbox"/> Increases cost <input type="checkbox"/> Reduces cost <input type="checkbox"/> Has no effect
Steve was responsible for two road accidents last year.	<input type="checkbox"/> Increases cost <input type="checkbox"/> Reduces cost <input type="checkbox"/> Has no effect

BEHAVIOUR

20. Thinking about budgeting, please indicate which of the following statements best describes you,

	I always budget my money. (Go to 20A)
	I only budget for bigger ticket items like events, vacations, gifts, etc. (Go to 20A)
	I don't budget my money. (Go to 21)

A) How often do you stay within your personal budget?

- a) Always
- b) Often
- c) Sometimes
- d) Rarely
- e) Never

21. Do you have a bank account?

- a) Yes (Go to 21A)
- b) No (Go to 21B)
- c) Don't know (Go to 22)

A. Why did you open the account?

- a) Save money for a specific purchase
- b) To get a debit card to make purchases
- c) A place to deposit my pay cheque
- d) My parents opened the account to save money when I was young
- e) I don't know

B. Why do you not have a bank account?

- a) No need for a bank account because I have no money
- b) I don't know how to get one
- c) I save my money at home
- d) I don't know

22. When you need to get cash, do you usually...

- a) Use your debit or bankcard at your own financial institutions' cash machine
- b) Use your debit or bankcard at the closest bank machine, whatever is convenient
- c) Use a credit card to get a cash advance
- d) Go to the bank and make a cash withdrawal
- e) Ask for cash back when making a purchase at a store or supermarket
- f) Ask your parents/guardians for cash
- g) Other – please specify _____
- h) I never use cash

23. Please select the statement that best describes you.

	Always	Often	Sometimes	Rarely	Never	Not Applicable
I keep a close personal watch on my financial affairs.						
I pay my bills on time.						
Before I buy something, I carefully consider whether I can afford it.						
I spend according to my established personal budget.						
Using any or all of the following – cash, cheque, debit card - is better than using a credit card.						
It is important to maintain relevant financial records (cell phone contracts, receipts, etc.)						
It is important to spend time thinking about planning for personal finances.						
Acquiring a credit card is necessary to establish good credit history.						
Having a budget is an important personal finance strategy.						

24. What do you do when you run out of money?

- a) Borrow money from family or friends
- b) Cut back spending, do without
- c) Sell or pawn something
- d) Other – please specify _____

25. How often do you use the following to pay for day-to-day purchases? Select **one** answer per row.

	Always	Often	Sometimes	Rarely	Never
Cash					
Debit card (bankcard)					
Credit card					

26. If you don't have enough money to buy something you really want (an item of clothing, sports equipment) what are you most likely to do? (Choose only ONE)

<input type="checkbox"/>	Buy it with money that really should be used for something else
<input type="checkbox"/>	Try to borrow money from a family member
<input type="checkbox"/>	Try to borrow money from a friend
<input type="checkbox"/>	Save up to buy it
<input type="checkbox"/>	I ask my parents/someone to buy it for me
<input type="checkbox"/>	Not buy it
<input type="checkbox"/>	I don't know

27. Please indicate your thoughts on the following statements. Select one answer per row.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I research my choices thoroughly before making any financial decisions.					
I set long term financial goals and strive to achieve them.					

28. Are you currently saving for your post-secondary education?

- a) Yes (Go to 28A)
- b) No (Go to 28B)

A) How are you or your parents/guardians currently saving to support the cost of your post-secondary education?

- a) Contributing to a RESP
- b) Contributing to a dedicated savings plan or account
- c) Mutual Funds
- d) Contributing to a trust fund
- e) I have been given money from a family member or friend to be used for this purpose (includes inheritance)
- f) Other – please specify _____
- g) I don't know how money is being saved.

B) How do you plan to pay for post-secondary education?

- a) You do not expect to go to post-secondary
- b) Someone else is currently saving or has already saved (grandparents, etc.)
- c) Government grants/loans
- d) Student line of credit
- e) Other – please specify _____
- f) I don't know

29. In the past 12 months have you been personally saving money in any of the following ways, whether or not you still have the money?

- a) Saving cash at home or in your wallet/purse
- b) Building up a balance of money in your bank account
- c) Giving money to family to save on your behalf
- d) Buying investment products – bonds, stocks shares
- e) Other – please specify _____
- f) I don't save

30. What do you save for? Select **ALL** that apply

<input type="checkbox"/>	Clothes
<input type="checkbox"/>	Entertainment
<input type="checkbox"/>	Technology
<input type="checkbox"/>	Gifts for others
<input type="checkbox"/>	Pay for my education
<input type="checkbox"/>	Vacation
<input type="checkbox"/>	Buy a Vehicle (e.g. car, snow machine, motorcycle)
<input type="checkbox"/>	Investments
<input type="checkbox"/>	Take a trip
<input type="checkbox"/>	Retirement
<input type="checkbox"/>	Pay off debt
<input type="checkbox"/>	Charity/Giving to others
<input type="checkbox"/>	Emergency fund
<input type="checkbox"/>	Post-secondary education
<input type="checkbox"/>	Sports/Hobbies
<input type="checkbox"/>	I don't save

31. Check **ALL** the reasons you personally have debt (credit card, bank loan, borrowed money from family/friend)?

<input type="checkbox"/>	I borrowed money to buy a big-ticket item (Skidoo, dirt bike, etc.)
<input type="checkbox"/>	I borrowed money to make an online purchase with a credit card
<input type="checkbox"/>	I borrowed money for lunch.
<input type="checkbox"/>	I borrowed money to pay off a bill (cell phone, etc.)
<input type="checkbox"/>	I borrowed money for entertainment purposes (movies, concert, etc.)
<input type="checkbox"/>	I don't have any debt

32. In the past 12 months, have you borrowed money from any of the following (Click **ALL** that apply)?

<input type="checkbox"/>	Parents/Guardians
<input type="checkbox"/>	Friends
<input type="checkbox"/>	Bank (Line of credit, Loan)
<input type="checkbox"/>	Siblings (brothers, sisters)
<input type="checkbox"/>	Other relatives (cousins, aunts/uncle, grandparents)
<input type="checkbox"/>	I have not borrowed any money in the past 12 months (Go to 32A)

A) If yes, what did you borrow the money for?

--

33. Have you ever experienced a financial shock? (major repair of a vehicle, a lost, damaged or stolen cell phone, unexpected purchase, unusually large bill (cell phone, in-app purchases, etc.))

- a) Yes (Go to 33A)
- b) No (Go to 34)

A. How did you manage the financial shock?

- a) Borrow money from family
- b) My parents/guardians gave me the money to pay for it
- c) Use a credit card or line of credit
- d) Used savings to cover the cost
- e) Insurance covered the cost

ATTITUDES

34. How do you plan to pay for expenses during retirement? Check **ALL** that apply.

	Work pension
	RRSP
	Savings Account
	Government Pension
	Investments (stocks, bonds, mutual funds)
	Inheritance
	I don't plan to retire
	I don't know

35. Please indicate your thoughts on the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am concerned about having financial security during retirement.					
Personal savings will be my main sources of income after retirement.					
I will not be financially secure in my retirement.					
Being in financial debt is okay.					
Due to my money situation, I feel I will never have the things I want in my life.					
I will always carry debt during my lifetime.					
Taking out a loan is the only way to buy an automobile.					
I feel capable of achieving my financial goals.					
Insurance coverage is related to my financial security.					
I should have an emergency fund to pay for unexpected emergencies.					
Having a credit card is a basis for a person to feel financially secure.					

FACTORS AND INFLUENCES

36. How often do your parents/guardians talk to you about money and financial matters?

- a) Always
- b) Often
- c) Sometimes
- d) Rarely
- e) Never

37. If you have questions or are looking for information on money management and financial planning, where do you usually turn? (Choose one answer)

- a) Parents/Guardians
- b) Brothers/sisters
- c) Teachers
- d) Friends
- e) Internet
- f) Bank/other financial institution
- g) Other
- h) I have never talked to anyone about money

38. How often do you discuss money matters (spending, saving, banking, investing) with these people? Check **ONE** answer in each row.

	Always	Often	Sometimes	Rarely	Never
Parents/guardians or other adult relatives (aunts, uncles, etc.)					
Friends					
Teachers					
Other Adults (coaches, other parents, bank personnel)					

39. Think about the last large (over \$50) item you purchased (clothing, sports, equipment, etc.). What influenced you to buy the item? Rank *up to* your top 5 influences in order of importance with 1 being the most influential and 5 being the least influential.

You may only have 1 or 2 influences. If that is the case, just rank 1 and 2.

- Emotions
- Friends and peers
- Customs, traditions and habits
- Family members (e.g., parents, siblings, aunts, uncles, grandparents)
- Latest trend
- Advertising
- Sale
- Extra rewards points
- I don't know

40. Please choose the statement that best describes you.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I buy things (clothes, music, etc.) to make me feel good.					
How I spend my money reflects my values.					
Personal finances do not affect relationships with others.					
I try to time my purchases to					

coincide with sales.					
I like to own things that impress people.					
The things I own say a lot about how well I'm doing in life.					
I admire people who own expensive homes, cars and clothes.					

If after completing the survey you have questions or are worried about your financial situation, you can find information and get help by accessing www.fcac-acfc.gc.ca/Eng/resources/ or www.practicalmoneyskills.ca/ or by contacting your bank. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Thank you for participating in this research project by completing the survey. Your participation is appreciated 😊



SOCIO-DEMOGRAPHIC

1. What is your gender?
 - a) Female
 - b) Male
 - c) Other: _____

2. What is your age?
 - a) 25-34 years old
 - b) 35-44 years old
 - c) 45-54 years old
 - d) 55-64 years old
 - e) 65-74 years old
 - f) 75 years or older

3. Which of the following do you consider yourself to be:
 - Indigenous (e.g. a member of the First Nations, Inuit or Metis people)
 - White (e.g. Caucasian; British, French, East or West European, Russian, Ukrainian, Mediterranean).
 - Racial minority (racial minority status is based on race or skin colour, not place of birth or nationality; see below for a list of categories which belong to “Racial Minority”)

4. What grade(s) do/does your child/ren currently attend? (Check all that apply)
 - a) 9
 - b) 10
 - c) 11
 - d) 12
 - e) Year 5
 - f) Other (self-contained, etc.)

5. What gender is/are your child/ren?

Child #1	<input type="checkbox"/>	Female	<input type="checkbox"/>	Male	<input type="checkbox"/>	Other _____
Child #2	<input type="checkbox"/>	Female	<input type="checkbox"/>	Male	<input type="checkbox"/>	Other _____
Child #3	<input type="checkbox"/>	Female	<input type="checkbox"/>	Male	<input type="checkbox"/>	Other _____
Child #4	<input type="checkbox"/>	Female	<input type="checkbox"/>	Male	<input type="checkbox"/>	Other _____
Child #5	<input type="checkbox"/>	Female	<input type="checkbox"/>	Male	<input type="checkbox"/>	Other _____

6. What is the highest level of education you have completed?
- Less than a high school diploma
 - High school diploma or equivalent (e.g., GED)
 - College diploma
 - Undergraduate university degree (Bachelor degree)
 - Master's Degree
 - Doctorate
7. What is your yearly household income?
- Less than \$ 20 000
 - \$20 000 to \$34 999
 - \$35 000 to \$ 49 999
 - \$50 000 to \$ 74 999
 - \$75 000 to \$ 99 999
 - \$100 000 to \$149 999
 - \$150 000 to \$ 199 999
 - \$200 000 or more

BACKGROUND

8.

Have you ever taken a course on how to manage money? Tick one box in each row.	Yes	No
In high school in a subject or course specifically about managing money		
As part of post-secondary education (college/university) in a subject or course specifically about managing money		
At work		
In a privately sponsored seminar, conference or course		

KNOWLEDGE

9. Five brothers are going to be given a gift of \$1,000 in total to share between them.

Now imagine that the brothers have to wait for one year to get their share of the \$1,000 and inflation stays at X percent. In one year's time will they be able to buy:

- a) More with their share of the money than they could today
 - b) The same amount
 - c) Less than they could buy today
 - d) Don't know
10. You lend \$25 to a friend one evening and he gives you \$25 back the next day. How much interest has he paid on this loan?

11. Suppose you put \$100 into a savings account with a guaranteed interest rate of 2% per year. You

don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?

Type your answer here...

- A. How much would be in the account at the end of five years, remembering there are no fees or tax deductions? Would it be:
- a) More than \$110
 - b) Exactly \$110
 - c) Less than \$110
 - d) It is impossible to tell from the information given.
 - e) Other: please specify _____
 - f) I don't know

12. Indicate whether the following statements are **TRUE** or **FALSE**.

	True	False	I Don't know
An investment with a high return is likely to be high risk			
If someone offers you the chance to make a lot of money, it is likely that there is also a chance that you will lose a lot of money.			
High inflation means that the cost of living is increasing rapidly.			
It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares			
It is less likely that you will lose all of your money if you save it in more than one place.			

BEHAVIOUR

13. How often do you talk to your child/ren about financial topics?

- a) Always
- b) Often
- c) Sometimes
- d) Rarely
- e) Never (Go to 15)

14. Which financial topics have you discussed with your child/ren within the past year? Check **ALL** that apply.

<input type="checkbox"/>	Managing debt (credit cards, loans, etc.)
<input type="checkbox"/>	Saving
<input type="checkbox"/>	Types of investments
<input type="checkbox"/>	Budgeting
<input type="checkbox"/>	Compound Interest
<input type="checkbox"/>	Pensions
<input type="checkbox"/>	Insurance
<input type="checkbox"/>	Taxes
<input type="checkbox"/>	Difference between wants and needs
<input type="checkbox"/>	Stock market
<input type="checkbox"/>	Influences on consumers
<input type="checkbox"/>	Fraud and its consequences
<input type="checkbox"/>	Buying a home
<input type="checkbox"/>	How interest is calculated on credit cards/loans
<input type="checkbox"/>	Dealing with unexpected financial shocks/emergencies
<input type="checkbox"/>	Financial planning for life after high school
<input type="checkbox"/>	Buying a car
<input type="checkbox"/>	Consequences of financial decisions
<input type="checkbox"/>	Setting financial goals
<input type="checkbox"/>	Charity/Giving to others
<input type="checkbox"/>	Retirement planning
<input type="checkbox"/>	Cost of post-secondary education
<input type="checkbox"/>	Effective ways to manage day-to-day finances

15. Does your family have a budget?

- a) Yes (Go to 15A)
- b) No (Go to 16)

A) How often do you stay within your household budget?

- a) Always
- b) Often
- c) Sometimes
- d) Rarely
- e) Never

16. Are you currently saving for your child/ren to attend post-secondary education?

- a) Yes (Go to 16A)
- b) No (Go to 16B)

A) How are currently saving to support the cost of your child/ren’s post-secondary education?

- a) Contributing to a RESP
- b) Contributing to a dedicated savings plan or account
- c) Mutual Funds
- d) Contributing to a trust fund
- e) We have been given money from a family member or friend to be used for this purpose (includes inheritance)
- f) Other – please specify _____

B) How do you plan to pay for post-secondary education for your child/ren?

- a) I do not expect my child/ren will attend post-secondary education
- b) Someone else is currently saving or has already saved (grandparents, etc.)
- c) Government grants/loans
- d) Student line of credit
- e) Other – please specify _____
- f) I don’t know

17. If you don’t have enough money to buy something you really want (clothing, household items, etc.) what are you most likely to do? (Tick only **ONE** box)

<input type="checkbox"/>	Buy it with money that really should be used for something else
<input type="checkbox"/>	Try to borrow money from a family member
<input type="checkbox"/>	Try to borrow money from a friend
<input type="checkbox"/>	Save up to buy it
<input type="checkbox"/>	Ask someone else to buy it for me
<input type="checkbox"/>	Use credit (credit card, line of credit)
<input type="checkbox"/>	See things you already own or trade them for the item
<input type="checkbox"/>	Not buy it
<input type="checkbox"/>	Other- please specify _____

18. In the box below, please describe a scenario where you have discussed financial matters with your child/ren?

ATTITUDE

19. Please indicate your thoughts on the following questions. (Check **ONE** per child)

	Extremely	Moderately	Somewhat	Slightly	Not at All
How prepared is/are your child/ren for managing money after high school?					
Child #1					
Child #2					
Child #3					
Child #4					
Child #5					
How important is it that schools formally provide a program that helps children become knowledgeable about personal finances?					

20. How comfortable would you be talking about the following financial topics with your child/ren?

	Extremely Comfortable	Moderate ly Comfortable	Somewhat Comfortable	Slightly Comfortable	Not at all Comfortable
Managing debt (credit cards, loans, etc.)					
Saving					
Types of investments					
Budgeting					
Compound Interest					
Pensions					
Insurance					
Taxes					
Difference between wants and needs					
Stock market					
Influences on consumers					
Fraud and its consequences					
Buying a home					
How interest is calculated on credit cards/loans					
Dealing with unexpected financial shocks/emergencies					
Financial planning for life after high school					
Buying a car					
Consequences of financial decisions					
Setting financial goals					
Charity/Giving to others					
Retirement planning					
Cost of post-secondary education					
Most effective ways to manage day-to-day finances					

21. How early should parents start discussing financial matters with their child/ren?

- a) Kindergarten – Grade 3
- b) Grades 4-8
- c) Grades 9-12

22. Are you concerned about having financial security during retirement?

- a) Extremely concerned
- b) Moderately concerned
- c) Somewhat concerned
- d) Slightly concerned
- e) Not at all concerned

23. How would you rate your general money knowledge and skills?

- a) Extremely knowledgeable
- b) Moderately knowledgeable
- c) Somewhat knowledgeable
- d) Slightly knowledgeable
- e) Not at all knowledgeable

24. How do you plan to pay for expenses during retirement? Check **ALL** that apply.

<input type="checkbox"/>	Work pension
<input type="checkbox"/>	RRSP
<input type="checkbox"/>	Savings Account
<input type="checkbox"/>	Government Pension
<input type="checkbox"/>	Investments (stocks, bonds, mutual funds)
<input type="checkbox"/>	Inheritance
<input type="checkbox"/>	I don't plan to retire
<input type="checkbox"/>	I don't know

25. Please share any other comments you have about financial literacy/education in the box below.

If after completing the survey you have questions or are worried about your financial situation, you can find information and get help by accessing www.fcac-acfc.gc.ca/Eng/resources/ or www.practicalmoneyskills.ca/ or by contacting your bank. [REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Thank you for participating in this research project by completing the survey. Your participation is appreciated 😊

Appendix C – Survey 3
Teacher Survey



1. What is your gender?

- a) Female
- b) Male
- c) Other _____

2. How many years have you been teaching?

3. What subjects/courses do you normally teach?

4. How would you rate your general money knowledge and skills?

- a) Extremely knowledgeable
- b) Moderately knowledgeable
- c) Somewhat knowledgeable
- d) Slightly knowledgeable
- e) Not at all knowledgeable

5. Do you believe financial education should be taught in schools?

- a) Yes
- b) No

A) Why or why not?

6. Do you integrate financial education into your classroom?
 - a) Always
 - b) Often
 - c) Sometimes
 - d) Rarely
 - e) Never

7. How comfortable would you be with integrating financial education into your courses?
 - a) Extremely comfortable
 - b) Moderately comfortable
 - c) Somewhat comfortable
 - d) Slightly comfortable
 - e) Not at all

8. How important is it that schools formally provide a program that helps children become knowledgeable about personal finances?
 - a) Extremely important
 - b) Moderately important
 - c) Somewhat important
 - d) Slightly important
 - e) Not at all important

9. How early should teachers start discussing financial matters with their students?
 - a) Kindergarten – Grade 3
 - b) Grades 4-8
 - c) Grades 9-12

10. Have you received any professional development in the area of teaching financial literacy?
 - a) Yes (Go to 10A)
 - b) No (Go to 11)

A. Which of the following courses have you taken on how to teach financial literacy? (Check **ALL** that apply)

	As part of post-secondary education (college/university) in a subject or course specifically about teaching financial literacy.
	A work sponsored seminar/workshop/conference specifically focused on teaching financial literacy.
	A union/federation seminar/workshop/conference specifically focused on teaching financial literacy.
	I have attended a privately sponsored seminar/conference/workshop on teaching financial literacy.

11. What would you need in order to be able to integrate financial literacy into your classroom?

(Check **ALL** that apply)

- Course materials specific to the courses I teach
- Professional development in the area of financial literacy
- Nothing, I already have the knowledge, skills and resources to integrate financial literacy
- Other: Please specify _____
- I wouldn't know where to start.

11. How comfortable would you be integrating the following topics into your classroom?

	Extremely Comfortable	Moderately Comfortable	Somewhat Comfortable	Slightly comfortable	Not at all comfortable
Managing debt (credit cards, loans, etc.)					
Saving					
Types of investments					
Budgeting					
Compound Interest					
Pensions					
Insurance					
Taxes					
Difference between wants and needs					
Stock market					
Influences on consumers					
Fraud and its consequences					
Buying a home					
How interest is calculated on credit cards/loans					
Dealing with unexpected financial shocks/emergencies					
Financial planning for life after high school					
Buying a car					
Consequences of financial decisions					
Setting financial goals					
Charity/Giving to others					
Retirement planning					

Cost of post-secondary education					
Most effective ways to manage day-to-day finances					

12. Are you aware of the financial literacy curriculum document – *Financial Education: Scope and Sequence of Expectations* – developed by the Ontario Ministry of Education?
- a) Yes (Go to 13A)
 - b) No (Go to 14)

- A) Do you use the curriculum document – *Financial Education: Scope and Sequence of Expectations* to integrate financial education into your courses?
- a) Always
 - b) Often
 - c) Sometimes
 - d) Rarely
 - e) Never

- B) How useful do you find the curriculum document – *Financial Education: Scope and Sequence of Expectations* in planning your lessons and integrating financial education into your courses?
- a) Extremely useful
 - b) Moderately useful
 - c) Somewhat useful
 - d) Slightly useful
 - e) Not at all useful

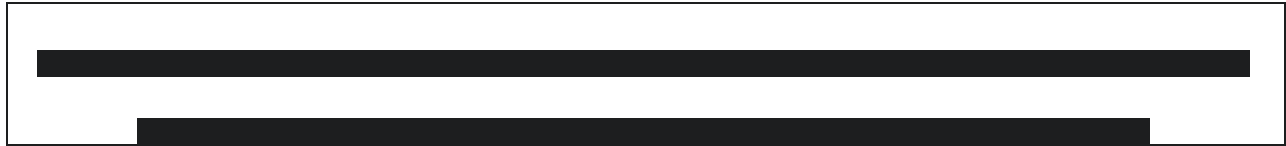
13. Do you have any other thoughts about financial education or financial literacy in general? Please feel free to comment below.

If after completing the survey you have questions or are worried about your financial situation, you can find information and get help by accessing www.fcac-acfc.gc.ca/Eng/resources/ or www.practicalmoneyskills.ca/ or by contacting your bank. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Thank you for participating in this research project by completing the survey. Your participation is appreciated 😊

Appendix D – Table 1
 Categorization and Reference List for Student Survey Questions

Survey Question Number	Research Question	Source
1	Socio-demographic	
2	Socio-demographic	Ontario Provincial Police (2016). Constable Application. Retrieved from https://www.opp.ca/index.php?id=115&entryid=56b7bc9c8f94ac9e5828d17c
3	Socio-demographic	
4	Socio-demographic	
5	Background	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
6	Background	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
7	Background	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
8	Background	Jumpstart (2008). Personal financial survey. Retrieved from http://www.jumpstart.org/assets/State-Sites/VA/files/2008%20Questionnaire%20for%20Print.pdf
9	Question #1 – Knowledge – Control of day-to-day finances	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
10	Question #1 – Knowledge – Control of day-to-day finances	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
11	Question #1 – Knowledge – Control of day-to-day finances	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
12	Question #1 – Knowledge - Financial Goals	Organization for Economic Cooperation Development. (2013). <i>PISA 2012 Financial literacy Framework</i> . Retrieved from http://www.oecd.org/finance/financial-

		education/PISA2012FrameworkLiteracy.pdf. doi:10.1787/9789264190511-en
13	Question #1 – Knowledge - Financial Goals	Organization for Economic Cooperation Development. (2012a). <i>PISA Financial Literacy Sample Items and Scoring Guides</i> . Retrieved from https://nces.ed.gov/surveys/pisa/pdf/items2_financial.pdf
14	Question #1 – Knowledge - Financial Freedom	Self-created
15	Question #1 – Knowledge- Financial Freedom	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
16	Question #1 – Knowledge – Financial Freedom	Organization for Economic Cooperation Development. (2011). <i>Improving financial education efficiency: OECD – bank of Italy symposium on financial literacy</i> . Retrieved from http://www.keepeek.com/Digital-Asset-Management/oecd/finance-and-investment/improving-financial-education-efficiency_9789264108219-en#page6 . http://dx.doi.org/10.1787/9789264108219-en
17	Question #1 – Knowledge – Financial shock	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
18	Question #1 – Knowledge- Financial shock	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
19	Question #1 – Knowledge – Financial shock	Organization for Economic Cooperation Development. (2013). <i>PISA 2012 Financial literacy Framework</i> . Retrieved from http://www.oecd.org/finance/financial-education/PISA2012FrameworkLiteracy.pdf . doi:10.1787/9789264190511-en
20	Question #1 – Behaviour – Control over day-to-day finances	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
21	Question #1 – Behaviour – Control over day-to-day finances	Self-created
22	Question #1 – Behaviour – Control over day-to-day finances	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
23	Question #1 – 1-4, Behaviour, 5-9 – Attitudes – Control over day-to-day finances	Marsh, B. (2006). Examining the personal finance attitudes, behaviors, and knowledge levels of first-year and senior students at Baptist universities in the state of Texas. Retrieved from https://etd.ohiolink.edu/rws_etd/document/get/bgsu1151189375/inline

24	Question #1 – Behaviour – Control over day-to-day finances	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
25	Question #1 – Behaviour – Control over day-to-day finances	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
26	Question #1 – Behaviour – Control over day-to-day finances	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
27	Question #1 – Behaviour – Financial Goals	Marsh, B. (2006). Examining the personal finance attitudes, behaviors, and knowledge levels of first-year and senior students at Baptist universities in the state of Texas. Retrieved from https://etd.ohiolink.edu/rws_etd/document/get/bgsu1151189375/inline
28	Question #1 – Behaviour – Financial Goals	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
29	Question #1 – Behaviour- Financial Goals	Organization for Economic Development Cooperation. (2015). 2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion. Retrieved from http://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf
30	Question #1 – Behaviour – Financial goals	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
31	Question #1 – Behaviour – Financial Freedom	Self-created
32	Question #1 – Behaviour – Financial Freedom	Self-created
33	Question #1 – Behaviour – Financial Shock	Self-created
34	Question #1 – Attitudes – Financial Freedom	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
35	Question #1 – 1-6, Attitudes – Financial Freedom, 7-8, Attitudes,	Marsh, B. (2006). Examining the personal finance attitudes, behaviors, and knowledge levels of first-year and senior students at Baptist universities in the state of Texas. Retrieved from

	Financial Goals, 9-11, Attitudes – Financial shock	https://etd.ohiolink.edu/rws_etd/document/get/bgsu1151189375/inline
36	Question #2 – Factors/Influences	Self-created
37	Question #2 – Factors/Influences	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
38	Question #2 – Factors/Influences	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
39	Question #2 – Factors/Influences	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
40	Question #2 – Factors/Influences	Marsh, B. (2006). Examining the personal finance attitudes, behaviors, and knowledge levels of first-year and senior students at Baptist universities in the state of texas. Retrieved from https://etd.ohiolink.edu/rws_etd/document/get/bgsu1151189375/inline

Appendix D – Table 2
 Categorization and Reference List for Parent/Guardian Survey Questions

Survey Question Number	Research Question	Source
1	Socio-demographic	
2	Socio-demographic	
3	Socio-demographic	
4	Socio-demographic	
5	Socio-demographic	
6	Socio-demographic	
7	Socio-demographic	
8	Background	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
9	Knowledge	Organization for Economic Development (2015). 2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion. Retrieved from https://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf
10	Knowledge	Organization for Economic Development (2015). 2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion. Retrieved from https://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf
11	Knowledge	Organization for Economic Development (2015). 2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion. Retrieved from https://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf
12	Knowledge	Organization for Economic Development (2015). 2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion. Retrieved from https://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf
13	Behaviour	Self-created
14	Behaviour	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/

15	Behaviour	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
16	Behaviour	Statistics Canada (2014). 2014 Canadian financial capability survey (CFCS). Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=assembleInstr&a=1&&lang=en&Item_Id=201522#qb201548
17	Behaviour	Organization for Economic Development Cooperation. (2014). <i>PISA 2012 results: students and money financial literacy skills for the 21st century</i> . Retrieved from https://www.oecd.org/pisa/keyfindings/PISA-2012-results-volume-vi.pdf . http://dx.doi.org/10.1787/9789264208094-en
18	Behaviour	Self-created
19	Attitude	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
20	Attitude	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
21	Attitude	Self-created
22	Attitude	Marsh, B. (2006). Examining the personal finance attitudes, behaviors, and knowledge of first-year and senior students at Baptist universities in the state of Texas. Retrieved from https://etd.ohiolink.edu/rws_etd/document/get/bgsu1151189375/inline
23	Attitude	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
24	Attitude	Rabbior, G. (2012). Money and youth. Toronto, Canada: Canadian Foundation for Economic Education
25	Behaviour/Attitude /Perception – dependent on response	Self-created

Appendix D – Table 3
 Categorization and Reference List for Teacher Survey Questions

Survey Question Number	Research Question	Source
1	Socio-demographic	
2	Socio-demographic	
3	Socio-demographic	
4	Attitude	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
5	Attitude	Self-created
6	Perception	PWC. (2016). Bridging the financial literacy gap: empowering teachers to support the next generation. Retrieved from http://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf
7	Attitude	PWC. (2016). Bridging the financial literacy gap: empowering teachers to support the next generation. Retrieved from http://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf
8	Perception	Self-created
9	Perception	PWC. (2016). Bridging the financial literacy gap: empowering teachers to support the next generation. Retrieved from http://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf
10	4a	Self-created
11	Perception	PWC. (2016). Bridging the financial literacy gap: empowering teachers to support the next generation. Retrieved from http://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf
12	Attitude	Investor Education Fund (IEF). (2012). 2012 youth financial literacy study. Retrieved from http://www.getsmarteraboutmoney.ca/en/research/
13	4a	Self-created
14	Attitudes/Perception – dependent on comments	Self-created

Appendix E
 Tables to Accompany Chapter 4 – Data Analysis and Findings

Table 1

Profile of Students - by Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	280	52.3	52.3	52.3
Male	230	43.0	43.0	95.3
Other	25	4.7	4.7	100.0
Total	535	100.0	100.0	

Table 2

Self-Identification of Students

	Frequency	Percent	Valid Percent	Cumulative Percent
No Response	12	2.2	2.2	2.2
Indigenous (e.g. a member of the First Nations, Inuit or Métis people)	43	8.0	8.0	10.3
Racial minority (racial minority status is based on race or skin colour, not place of birth or nationality)	13	2.4	2.4	12.7
White (e.g. Caucasian; British, French, East or West European, Russian, Ukrainian, Mediterranean)	467	87.3	87.3	100.0
Total	535	100.0	100.0	

Table 3

Profile of Students – by Learning Pathway

	Frequency	Percent	Valid Percent	Cumulative Percent
Academic	289	54.0	54.0	54.0
Applied	159	29.7	29.7	83.7
Essential	9	1.7	1.7	85.4
Mix of Academic/Applied	57	10.7	10.7	96.1
Mix of Applied/Essential	6	1.1	1.1	97.2
I don't know	7	1.3	1.3	98.5
Other	8	1.5	1.5	100.0
Total	535	100.0	100.0	

Table 4

Profile of Students – by Grade

		Frequency	Percent	Valid Percent	Cumulative Percent
Grade	9	146	27.3	27.3	27.3
	10	136	25.4	25.4	52.7
	11	122	22.8	22.8	75.5
	12	111	20.7	20.7	96.3
	No Response	20	3.7	3.7	100.0
	Total	535	100.0	100.0	

Table 5

Student Self-Reported Money Knowledge and Skills – Percentage, Number of Students and t-test Results – by Gender

	Percentage of Participants				
	Extremely Knowledgeable	Moderately Knowledgeable	Somewhat Knowledgeable	Slightly Knowledgeable	Not at All Knowledgeable
Female*** (n = 280)	7% (20)	39% (108)	32% (90)	17% (47)	5% (14)
Male*** (n = 230)	16% (36)	50% (114)	21% (49)	9% (21)	3% (7)

*p < .05

**p < .01

***p < .001

Table 6

Student Self-Reported Money Knowledge and Skills – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Academic Pathway	Percentage of Participants				
	Extremely Knowledgeable	Moderately Knowledgeable	Somewhat Knowledgeable	Slightly Knowledgeable	Not at All Knowledgeable
Academic (n = 289)	11% (31)	43% (124)	28% (81)	14% (40)	3% (10)
Applied (n = 159)	11% (18)	42% (67)	29% (46)	14% (22)	4% (6)
Mix of Applied/Academic (n = 57)	7% (4)	53% (30)	21% (12)	11% (6)	7% (4)

*p < .05

**p < .01

***p < .001

Table 7

Student Self-Reported Knowledge on Various Financial Topics – Percentage, Number of Students and t-test Results – by Gender

Financial Topic	Percentage of Participants			
	Extremely/Moderately (%)		Slightly/Not at All (%)	
	Female (n = 280)	Male (n = 230)	Female (n = 280)	Male (n = 230)
Managing debt (credit cards, loans, etc.) *	32% (90)	39% (89)	38% (106)	29% (66)
Saving	56% (157)	55% (126)	19% (53)	17% (39)
Types of investments***	19% (53)	31% (71)	51% (142)	37% (85)
Budgeting	43% (120)	45% (103)	30% (84)	27% (62)
Compound Interest***	13% (37)	26% (59)	60% (168)	47% (108)
Pensions***	23% (64)	30% (69)	56% (156)	41% (94)
Insurance***	28% (74)	45% (103)	42% (117)	29% (66)
Taxes***	36% (100)	51% (117)	38% (106)	24% (55)
Difference between wants and needs	83% (232)	77% (177)	9% (25)	9% (20)
Stock market***	13% (36)	30% (69)	56% (156)	38% (87)
Influences on consumers*	36% (100)	44% (101)	36% (100)	27% (62)
Fraud and its consequences*	44% (123)	53% (121)	30% (84)	27% (62)
Buying a home	33% (92)	37% (85)	36% (100)	30% (69)
How interest is calculated on credit cards/loans***	24% (67)	34% (78)	50% (140)	37% (85)
Dealing with unexpected financial shocks/emergencies***	20% (56)	28% (64)	55% (154)	42% (96)
Financial planning for life after high school	38% (106)	42% (96)	39% (109)	30% (69)
Buying a car***	42% (117)	62% (142)	33% (92)	19% (43)
Consequences of financial decisions***	32% (90)	46% (105)	40% (112)	23% (52)
Setting financial goals**	39% (109)	45% (103)	35% (98)	25% (57)
Charity/Giving to others	48% (134)	39% (89)	25% (70)	30% (30)
Retirement planning***	19% (53)	27% (62)	54% (151)	41% (94)
Cost of post-secondary education	53% (148)	54% (124)	24% (67)	21% (48)
Most effective ways to manage day-to-day finances***	27% (75)	39% (89)	49% (137)	35% (80)

*p < .05

**p < .01

***p < .001

Table 7a

t-test Results Comparing Student Self-Reported Knowledge on Various Financial Topics

	Female (M, SD)	Male (M, SD)	Significance
Managing debt (credit cards, loans, etc.) **	M = 2.88, SD = 1.154	M = 3.13, SD = 1.149	t (505) = -2.46, p = .014
Saving	M = 3.49, SD = 1.160	M = 3.53, SD = 1.070	t (502) = -.340, p = .734
Types of investments***	M = 2.47, SD = 1.105	M = 2.93, SD = 1.163	t (502) = -4.50, p = .001
Budgeting	M = 3.12, SD = 1.217	M = 3.22, SD = 1.212	t (500) = -.945, p = .345
Compound Interest***	M = 2.12, SD = 1.160	M = 2.66, SD = 1.304	t (496) = -4.84, p = .001
Pensions***	M = 2.39, SD = 1.187	M = 2.76, SD = 1.205	t (505) = -3.52, p = .001
Insurance***	M = 2.78, SD = 1.160	M = 3.21, SD = 1.153	t (500) = -4.18, p = .001
Taxes***	M = 2.93, SD = 1.174	M = 3.37, SD = 1.146	t (507) = -4.24, p = .001
Difference between wants and needs	M = 4.20, SD = 1.033	M = 4.11, SD = 1.068	t (507) = .938, p = .348
Stock market***	M = 2.28, SD = 1.060	M = 2.83, SD = 1.248	t (426.44) = -5.23, p = .001
Influences on consumers*	M = 2.94, SD = 1.257	M = 3.21, SD = 1.207	t (505) = -2.46, p = .014
Fraud and its consequences**	M = 3.15, SD = 1.266	M = 3.40, SD = 1.252	t (500) = -2.18, p = .030
Buying a home	M = 2.90, SD = 1.171	M = 3.06, SD = 1.162	t (503) = -1.59, p = .112
How interest is calculated on credit cards/loans***	M = 2.51, SD = 1.223	M = 2.96, SD = 1.234	t (505) = -4.11, p = .001
Dealing with unexpected financial shocks/emergencies***	M = 2.39, SD = 1.205	M = 2.75, SD = 1.239	t (504) = -3.36, p = .001
Financial planning for life after high school	M = 2.92, SD = 1.257	M = 3.13, SD = 1.264	t (506) = -1.84, p = .067
Buying a car***	M = 3.05, SD = 1.195	M = 3.59, SD = 1.204	t (508) = -5.00, p = .001
Consequences of financial decisions***	M = 2.82, SD = 1.216	M = 3.30, SD = 1.145	t (504) = -4.55, p = .001
Setting financial goals*	M = 2.93, SD = 1.243	M = 3.326, SD = 1.173	t (501) = -3.02, p = .003
Charity/Giving to others	M = 3.28, SD = 1.20	M = 3.12, SD = 1.187	t (502) = .576, p = .149
Retirement planning***	M = 2.37, SD = 1.173	M = 2.73, SD = 1.196	t (503) = 3.33, p = .001
Cost of post-secondary education	M = 3.39, SD = 1.227	M = 3.45, SD = 1.169	t (502) = -.529, p = .597
Most effective ways to manage day-to-day finances***	M = 2.54, SD = 1.262	M = 3.00, SD = 1.266	t (503) = -4.07, p = .001

*p < .05

** p < .01

***p < .001

Table 8

Student Self-Reported Knowledge on Various Financial Topics- Percentage, Number of Students and ANOVA by Learning Pathway

Financial Topic	Percentage of Participants					
	Extremely/Moderately (%)			Slightly/Not at All (%)		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
Managing debt (credit cards, loans, etc.)	33% (96)	35% (55)	46% (26)	37% (108)	30% (48)	25% (14)
Saving	60% (172)	47% (75)	56% (32)	19% (55)	21% (34)	16% (9)
Types of investment	21% (62)	25% (40)	26% (15)	46% (132)	45% (72)	42% (24)
Budgeting	46% (134)	39% (62)	44% (25)	29% (85)	33% (53)	21% (12)
Compound Interest *	16% (46)	20% (32)	33% (19)	58% (169)	49% (78)	46% (26)
Pensions	24% (68)	30% (47)	28% (16)	54% (156)	43% (69)	46% (26)
Insurance	33% (94)	40% (63)	40% (23)	39% (113)	33% (52)	28% (16)
Taxes	42% (121)	43% (68)	51% (29)	31% (91)	31% (50)	26% (15)
Difference between wants and needs ***	88% (253)	67% (107)	86% (49)	6% (17)	14% (22)	5% (3)
Stock market	21% (61)	20% (32)	21% (12)	47% (136)	48% (77)	42% (24)
Influences on consumers *	46% (132)	29% (46)	42% (24)	30% (87)	36% (58)	30% (17)
Fraud and its consequences *	53% (152)	43% (69)	46% (26)	23% (67)	36% (58)	25% (14)
Buying a home	36% (104)	35% (55)	32% (18)	34% (97)	31% (50)	32% (18)
How interest is calculated on credit cards/loans	27% (78)	29% (46)	32% (18)	46% (132)	40% (64)	40% (23)
Dealing with unexpected financial shocks/emergencies	20% (58)	28% (45)	28% (16)	53% (154)	43% (69)	39% (22)
Financial planning for life after high school	38% (109)	41% (65)	44% (25)	36% (103)	32% (51)	32% (18)
Buying a car	48% (139)	52% (83)	58% (33)	29% (83)	25% (40)	21% (12)
Consequences of financial decisions	38% (110)	34% (54)	47% (27)	33% (95)	31% (50)	25% (14)
Setting financial goals	43% (123)	37% (59)	51% (29)	31% (91)	31% (49)	26% (15)
Charity/Giving to others	47% (135)	35% (55)	56% (32)	26% (74)	31% (50)	18% (10)
Retirement planning	20% (58)	27% (43)	25% (14)	51% (148)	43% (68)	51% (29)
Cost of post-secondary education*	60% (172)	45% (71)	58% (33)	19% (55)	25% (40)	19% (11)
Most effective ways to manage day-to-day finances	35% (102)	28% (44)	33% (19)	42% (122)	43% (69)	37% (21)

*p < .05

**p < .01

***p < .001

Table 9

Student Source of Money – Percentage, Number and Independent t-test Results – by Gender

Response	Percentage of Participants							
	Allowance for Chores*	Allowance for No Chores	Part-time Job	Working in a Family Business***	Informal Job (Babysitting, Gardening)**	Gifts*	Selling Things	Parents***
All of My Money								
Female (n = 280)	1% (4)	4% (10)	21% (58)	2% (6)	4% (10)	5% (14)	2% (5)	7% (20)
Male (n = 230)	7% (16)	6% (13)	30% (68)	13% (29)	5% (11)	7% (15)	6% (13)	5% (12)
Most of My Money								
Female (n = 280)	9% (25)	10% (27)	33% (93)	6% (18)	14% (40)	20% (57)	7% (20)	18% (50)
Male (n = 230)	10% (24)	7% (15)	30% (68)	9% (20)	10% (23)	13% (30)	5% (12)	11% (26)
Some of My Money								
Female (n = 280)	16% (44)	13% (37)	10% (29)	10% (28)	21% (58)	26% (72)	10% (29)	24% (66)
Male (n = 230)	15% (35)	14% (32)	8% (18)	10% (24)	17% (38)	24% (55)	12% (28)	16% (37)
A Little of My Money								
Female (n = 280)	22% (62)	19% (52)	8% (22)	11% (32)	26% (72)	40% (113)	19% (52)	34% (96)
Male (n = 230)	17% (40)	20% (45)	10% (23)	7% (16)	19% (44)	38% (87)	17% (39)	40% (93)
None of My Money								
Female (n = 280)	16% (44)	54% (152)	27% (76)	69% (193)	34% (96)	8% (21)	61% (170)	17% (47)
Male (n = 230)	49% (113)	53% (121)	21% (48)	60% (137)	47% (108)	16% (37)	57% (132)	24% (56)

*p < .05

**p < .01

***p < .001

Table 10

Student Source of Money – Percentage, Number of Students and ANOVA Results – by Learning Pathway

Response	Percentage of Participants							
	Allowance for Chores*	Allowance for No Chores	Part-time Job	Working in a Family Business***	Informal Job (Babysitting, Gardening)*	Gifts*	Selling Things	Parents***
All of My Money								
Academic (n = 289)	1% (4)	4% (13)	24% (68)	4% (12)	2% (6)	3% (9)	1% (4)	6% (16)
Applied (n = 159)	8% (13)	6% (10)	27% (43)	11% (17)	6% (10)	6% (10)	8% (13)	9% (14)
Mixed Applied/Academic (n = 57)	4% (2)	4% (2)	32% (18)	7% (4)	7% (4)	7% (4)	2% (1)	7% (4)
Most of My Money								
Academic (n = 289)	9% (25)	9% (26)	36% (105)	7% (19)	15% (43)	17% (49)	4% (13)	17% (48)
Applied (n = 159)	13% (20)	9% (15)	26% (41)	8% (12)	11% (18)	19% (30)	9% (14)	14% (23)
Mixed Applied/Academic (n = 57)	7% (4)	5% (3)	30% (17)	11% (6)	5% (3)	14% (8)	7% (4)	7% (4)
Some of My Money								
Academic (n = 289)	15% (43)	10% (29)	7% (19)	10% (30)	16% (45)	24% (70)	9% (25)	18% (52)
Applied (n = 159)	18% (28)	20% (32)	8% (12)	11% (18)	21% (33)	24% (38)	14% (23)	24% (38)
Mixed Applied/Academic (n = 57)	16% (9)	11% (6)	11% (6)	5% (3)	28% (16)	35% (20)	18% (10)	23% (13)
A Little of My Money								
Academic (n = 289)	19% (55)	20% (57)	9% (25)	9% (27)	24% (68)	44% (128)	18% (53)	40% (115)
Applied (n = 159)	22% (35)	19% (30)	11% (17)	10% (16)	23% (37)	33% (52)	17% (27)	28% (45)
Mixed Applied/Academic (n = 57)	21% (12)	12% (7)	4% (2)	11% (6)	25% (14)	35% (20)	19% (11)	47% (27)

Table 10 (continued)

Student Sources of Money – Percentage, Number of Students and Results of ANOVA - by Learning Pathway (continued)

None of My Money	Allowance for Chores*	Allowance for No Chores	Part-time Job	Working in a Family Business***	Informal Job (Babysitting, Gardening)*	Gifts*	Selling Things	Parents***
Academic (n = 289)	55% (160)	55% (160)	23% (66)	68% (197)	42% (120)	10% (28)	65% (188)	18% (53)
Applied (n = 159)	39% (62)	44% (70)	23% (37)	59% (94)	36% (58)	13% (20)	49% (78)	23% (37)
Mixed Applied/ Academic (n = 57)	53% (30)	68% (39)	26% (15)	63% (37)	35% (20)	11% (6)	54% (31)	16% (9)

*p < .05

**p < .01

***p < .001

Table 11

Student Exposure to Financial Topics in High School – Percentage, Number of Students and t-test Results – by Gender

Type of Exposure	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
An entire course in personal finance	14% (40)	17% (38)
A portion of course where at least a week was focused on money management of personal finance	15% (42)	18% (41)
An entire course in economics	3% (8)	7% (15)
A portion of a course where a least a week was focused on economics	11% (30)	13% (31)
A course in which we played a stock market game	14% (38)	16% (36)
I have never talked about financial topics in a class/course in school.	52% (145)	44% (102)

*p < .05

**p < .01

***p < .001

Table 12

Students Exposure to Financial Topics in High School – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Type of Exposure	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/Academic (n = 57)
An entire course in personal finance	15% (43)	14% (23)	25% (14)
A portion of course where at least a week was focused on money management of personal finance	15% (43)	16% (26)	23% (13)
An entire course in economics	4% (13)	4% (6)	7% (4)
A portion of a course where a least a week was focused on economics	11% (32)	14% (23)	14% (8)
A course in which we played a stock market game	13% (37)	18% (28)	18% (10)
I have never talked about financial topics in a class/course in school.	51% (148)	45% (72)	37% (21)

*p < .05

**p < .01

***p < .001

Table 13

Correct Responses - Control Over Day-to-Day Finances – Percentage, Number of Students and t-test Results - by Gender

Question	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Purpose of an Invoice	82% (230)	77% (176)
Delivery Charge	55% (154)	49% (112)
Buying Bulk vs Buying Single	64% (179)	60% (138)
Buying Bulk – Not Always a Good Decision*	72% (202)	64% (147)
Identifying Net Pay on Paystub	57% (160)	54% (125)

*p < .05

**p < .01

***p < .001

Table 14

Correct Responses - Control Over Day-to-Day Finances – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

Question	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
Purpose of an Invoice**	83% (241)	70% (112)	84% (48)
Delivery Charge***	59% (171)	37% (59)	58% (33)
Buying Bulk vs Buying Single *	70% (203)	47% (75)	65% (37)
Buying Bulk – Not Always A Good Decision	75% (216)	55% (87)	75% (43)
Identifying Net Pay on a Paystub***	63% (181)	43% (68)	54% (31)

*p < .05

**p < .01

***p < .001

Table 15

Correct Responses - Financial Goals – Percentage, Number of Students and t-test Results - by Gender

Question	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Saving for Vacation	37% (104)	41% (94)
Share Price Increase*	63% (175)	70% (160)
Best Time to Buy Shares	59% (166)	78% (179)

*p < .05

**p < .01

*** p < .001

Table 16

Correct Responses – Financial Goals – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Question	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
Saving for Vacation**	46% (133)	20% (45)	42% (22)
Share Price Increase	71% (206)	58% (92)	63% (36)
Best time to buy shares	72% (209)	61% (97)	70% (40)

*p < .05

**p < .01

***p < .001

Table 17

Correct Responses – Financial Freedom – Percentage, Number of Students and t-test Results – by Gender

Question	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
When to start saving for retirement	54% (152)	56% (128)
Interest on \$100 after 1 year*	38% (105)	50% (115)
Interest on \$100 after 5 years	26% (74)	35% (81)

*p < .05

**p < .01

***p < .001

Table 18

Correct Responses – Financial Freedom – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

Question	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
When to start saving for retirement	60% (174)	47% (74)	53% (30)
Interest after 1 year**	51% (147)	33% (52)	44% (25)
Interest after 5 years	30% (88)	35% (56)	25% (14)

*p < .05

**p < .01

***P < .001

Table 19

Correct Responses – Financial Shock – Percentage, Number of Students and t-test Results - by Gender

Question	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Purpose of Insurance*	65% (182)	64% (147)
Effect of Power on Insurance	60% (168)	67% (154)
Effect of Paint Colour on Insurance	55% (155)	60% (138)
Effect of Accidents on Insurance	60% (167)	65% (149)

*p < .05

**p < .01

***P < .001

Table 20

Correct Responses – Financial Shock – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

Question	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
Purpose of Insurance***	70% (201)	52% (83)	72% (41)
Power of Vehicle***	68% (197)	52% (82)	68% (39)
Colour of Vehicle**	63% (181)	49% (78)	60% (34)
At Fault Accidents**	66% (192)	52% (83)	65% (37)

*p
<
.05
**p

< .01

***p < .001

Table 21

Correct Responses - Elements of Financial Well-Being – All Students

Element of Financial Well-Being	Percentage of Participants					
	0 Correct Responses (N = 535)	1 Correct Response (N = 535)	2 Correct Responses (N = 535)	3 Correct Responses (N = 535)	4 Correct Responses (N = 535)	5 Correct Responses (N = 535)
Control Over Day-to-Day Finances	6% (34)	11% (60)	14% (75)	18% (96)	27% (143)	22% (117)
Financial Goals	23% (124)	11% (60)	37% (196)	29% (155)		
Financial Freedom	23% (123)	37% (198)	30% (158)	10% (56)		
Financial Shock	16% (83)	15% (81)	14% (74)	22% (118)	33% (179)	

Table 22

Correct Responses – Elements of Financial Well-Being – Percentage, Number of Students and t-test Results – by Gender

Element of Financial Well-Being	Percentage of Participants					
	0 Correct Responses	1 Correct Response	2 Correct Responses	3 Correct Responses	4 Correct Responses	5 Correct Responses
Control Over Day-to-Day Finances						
Female (n = 280)	4% (12)	9% (24)	15% (43)	18% (50)	29% (80)	25% (69)
Male (n = 230)	8% (18)	12% (27)	12% (28)	19% (44)	29% (67)	19% (43)
Financial Goals						
Female (n = 280)	18% (50)	14% (38)	36% (102)	26% (72)		
Male (n = 230)	16% (36)	8% (19)	37% (85)	33% (77)		
Financial Freedom*						
Female (n = 280)	17% (48)	42% (117)	29% (80)	6% (18)		
Male (n = 230)	18% (41)	31% (72)	31% (72)	16% (36)		
Financial Shock						
Female (n = 280)	6% (17)	16% (46)	14% (38)	24% (66)	31% (88)	
Male (n = 230)	8% (18)	12% (28)	14% (32)	21% (48)	38% (88)	

*p < .05

**p < .01

*** p < .001

Table 23

Correct Responses – Elements of Financial Well-Being – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Element of Financial Well-Being	Percentage of Participants					
	0 Correct Responses	1 Correct Response	2 Correct Responses	3 Correct Responses	4 Correct Responses	5 Correct Responses
Control Over Day-to-Day Finances***						
Academic (n = 289)	4% (11)	5% (15)	12% (35)	18% (51)	31% (91)	28% (82)
Applied (n = 159)	10% (16)	17% (27)	21% (34)	19% (30)	24% (39)	8% (12)
Mix of Applied/Academic (n = 57)	4% (2)	14% (8)	7% (4)	19% (11)	30% (17)	26% (15)
Financial Goals**						
Academic (n = 289)	13% (37)	11% (32)	35% (102)	36% (104)		
Applied (n = 159)	21% (34)	10% (16)	40% (64)	19% (30)		
Mix of Applied/Academic (n = 57)	21% (12)	12% (7)	35% (20)	30% (17)		
Financial Freedom*						
Academic (n = 289)	13% (37)	40% (116)	30% (88)	13% (39)		
Applied (n = 159)	26% (41)	31% (50)	30% (48)	8% (12)		
Mix of Applied/Academic (n = 57)	12% (7)	37% (21)	32% (18)	7% (4)		
Financial Shock***						
Academic (n = 289)	4% (12)	12% (35)	12% (35)	21% (62)	42% (120)	
Applied (n = 159)	13% (20)	18% (28)	19% (30)	26% (42)	18% (28)	
Mix of Applied/Academic (n = 57)	7% (4)	19% (11)	9% (5)	18% (10)	44% (25)	

*p < .05

**p < .01

***p < .001

Table 24

Achievement Levels - Percentage and Number of Students – All Students

	Percentage of Participants				
	R 0-7 Correct Responses	Level 1 8 Correct Responses	Level 2 9-10 Correct Responses	Level 3 11 Correct Responses	Level 4 12-15 Correct Responses
All Students (N = 535)	38% (204)	9% (46)	18% (98)	9% (47)	26% (140)

Table 25

Student Achievement – Percentage, Number of Students and t-test Results – by Gender

	Percentage of Participants				
	R 0-7 Correct Responses	Level 1 8 Correct Responses	Level 2 9-10 Correct Responses	Level 3 11 Correct Responses	Level 4 12-15 Correct Responses
Female (n = 280)	37% (104)	10% (27)	20% (57)	10% (27)	23% (65)
Male (n = 230)	37% (84)	8% (19)	17% (38)	8% (19)	30% (70)

*p < .05

**p < .01

*** p < .001

Table 25a

Composite Knowledge Score (CKS) - Percentage, Number of Students and t-test Results – by Gender

<i>Composite Knowledge Score</i>	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
15	1% (4)	3% (7)
14	5% (14)	8% (18)
13	9% (24)	11% 9(25)
12	8% (23)	9% (20)
11	10% (27)	8% (19)
10	13% (36)	8% (19)
9	8% (21)	8% (19)
8	10% (27)	8% (19)
7	9% (24)	8% (18)
6	8% (23)	8% (18)
5	6% (18)	5% (11)
4	4% (12)	6% (14)
3	1% (4)	3% (7)
2	3% (9)	3% (7)
1	2% (6)	3% (6)
0	3% (8)	1% (3)

*p < .05

**p < .01

*** p < .001

Table 26

Achievement Levels – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Learning Pathway	Percentage of Participants				
	R 0-7 Correct Responses	Level 1 8 Responses Correct	Level 2 9-10 Responses Correct	Level 3 11 Responses Correct	Level 4 12-15 Responses Correct
Academic*** (n = 289)	27% (78)	9% (26)	20% (57)	10% (30)	34% (98)
Applied*** (n = 159)	52% (83)	8% (12)	21% (34)	9% (14)	10% (16)
Mix of Applied/Academic*** (n = 57)	39% (22)	11% (6)	12% (7)	5% (3)	33% (19)

*p < .05

**p < .01

***p < .001

Table 26a

Composite Knowledge Score (CKS) - Percentage, Number of Students and Results of ANOVA – by Learning Pathway

<i>Composite Knowledge Score</i>	Percentage of Participants		
	Academic*** (n = 289)	Applied*** (n = 159)	Mixed Applied/Academic*** (n = 57)
15	3% (9)	1% (1)	4% (2)
14	8% (24)	3% (4)	5% (3)
13	12% (34)	4% (7)	12% (7)
12	11% (31)	3% (4)	12% (7)
11	10% (30)	9% (14)	5% (3)
10	13% (37)	9% (15)	9% (5)
9	7% (20)	12% (19)	4% (2)
8	9% (26)	16% (10)	11% (6)
7	7% (20)	11% (18)	11% (6)
6	5% (15)	8% (13)	9% (5)
5	4% (12)	4% (7)	7% (4)
4	5% (14)	4% (7)	7% (4)
3	1% (3)	4% (7)	2% (1)
2	1% (4)	7% (11)	2% (1)
1	1% (4)	4% (6)	2% (1)
0	2% (6)	3% (5)	0% (0)

*p < .05

**p < .01

***p < .001

Table 27

Student Attitudes Towards Control Over Day-to- Day Finances – Percentage, Number of Students and t-test and ANOVA Results – by Gender and Learning Pathway

Having a budget is an important personal finance strategy – by Gender			
	Percentage of Participants		
Gender	Always/Often	Sometimes	Rarely/Never
Female (n = 280)	59% (164)	10% (27)	9% (24)
Male (n = 230)	60% (137)	13% (29)	7% (16)

Having a budget is an important personal finance strategy. * - by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Always/Often	Sometimes	Rarely/Never
Academic (n = 289)	61% (177)	9% (27)	9% (25)
Applied (n = 159)	52% (83)	16% (25)	7% (11)
Mix of Applied/Academic (n = 57)	68% (39)	7% (4)	2% (1)

*p < .05

**p < .01

***p < .001

Table 28

Budgeting Behaviour – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Budgeting Behaviour – by Gender			
	Percentage of Participants		
Gender	I always budget my money.	I only budget for bigger ticket items.	I don't budget my money.
Female (n = 280)	33% (93)	41% (114)	16% (45)
Male (n = 230)	37% (85)	35% (80)	17% (40)

Budgeting Behaviour – by Learning Pathway			
	Percentage of Participants		
Learning Pathway	I always budget my money.	I only budget for big ticket items.	I never budget my money.
Academic (n = 289)	35% (100)	41% (118)	14% (39)
Applied (n = 159)	36% (58)	34% (54)	21% (33)
Mix of Applied/Academic (n = 57)	32% (18)	46% (26)	16% (9)

*p < .05

**p < .01

***p < .001

Table 29

Staying Within Budget – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

How often do you stay within budget? – by Gender					
	Percentage of Participants				
Gender	Always	Often	Sometimes	Rarely	Never
Female (n = 280)	12% (33)	35% (97)	17% (48)	6% (17)	4% (10)
Male (n = 230)	13% (29)	33% (76)	16% (36)	7% (15)	3% (7)

How often do you stay within budget? – by Learning Pathway					
	Percentage of Participants				
Learning Pathway	Always	Often	Sometimes	Rarely	Never
Academic (n = 289)	13% (37)	36% (105)	16% (46)	6% (18)	3% (10)
Applied (n = 159)	14% (22)	28% (44)	19% (30)	7% (11)	2% (3)
Mix of Applied/Academic (n = 57)	7% (4)	44% (25)	14% (8)	5% (3)	7% (4)

*p < .05

**p < .01

***p < .001

Table 30

Self-Reported Behaviour – Percentage, Number of Students and t-test Results – by Gender

Gender	Percentage of Participants				
	Always	Often	Sometimes	Rarely	Never
I keep a close watch on my financial affairs. *					
Female (n = 280)	18% (50)	21% (58)	18% (49)	12% (33)	8% (21)
Male (n = 230)	24% (55)	23% (54)	17% (39)	9% (21)	5% (11)
Before I buy something I carefully consider whether I can afford it.					
Female (n = 280)	37% (103)	25% (70)	13% (36)	4% (12)	4% (11)
Male (n = 230)	36% (83)	24% (56)	11% (26)	7% (15)	3% (7)
I spend according to my established personal budget.					
Female (n = 280)	22% (62)	26% (74)	15% (42)	7% (19)	8% (22)
Male (n = 230)	27% (62)	22% (50)	17% (38)	8% (18)	3% (7)

*p < .05

**p < .01

***p < .001

Table 31

Self-Reported Behaviour – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Learning Pathway	Percentage of Participants				
	Always	Often	Sometimes	Rarely	Never
I keep a close watch on my financial affairs.					
Academic (n = 289)	19% (56)	25% (71)	17% (50)	11% (33)	6% (18)
Applied (n = 159)	22% (35)	19% (30)	18% (29)	16% (10)	8% (13)
Mix of Academic/ Applied (n = 57)	25% (14)	21% (12)	16% (9)	9% (5)	2% (1)
Before I buy something I carefully consider whether I can afford it.					
Academic (n = 289)	39% (114)	25% (72)	9% (27)	5% (15)	4% (13)
Applied (n = 159)	30% (47)	23% (36)	21% (33)	6% (9)	2% (3)
Mix of Academic/ Applied (n = 57)	40% (23)	28% (16)	9% (5)	0% (0)	4% (2)
I spend according to my established personal budget.					
Academic (n = 289)	26% (75)	26% (74)	17% (50)	6% (16)	7% (19)
Applied (n = 159)	23% (36)	21% (34)	18% (28)	12% (19)	4% (6)
Mix of Academic/ Applied (n = 57)	19% (11)	33% (19)	7% (4)	2% (1)	5% (3)

*p < .05

**p < .01

***p < .001

Table 32

Students Who Have a Bank Account – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Do you have a bank account? – by Gender			
Gender	Percentage of Participants		
	Yes	No	I don't know
Female (n = 280)	78% (218)	11% (30)	4% (12)
Male (n = 230)	77% (178)	9% (20)	3% (8)

Do you have a bank account? – by Learning Pathway			
Learning Pathway	Percentage of Participants		
	Yes	No	I don't know
Academic*** (n = 289)	83% (239)	6% (18)	2% (6)
Applied*** (n = 159)	72% (115)	13% (21)	7% (11)
Mix of Applied/Academic*** (n = 57)	72% (41)	16% (9)	5% (3)

*p < .05

**p < .01

***p < .001

Table 33

Purpose of Opening a Bank Account – Number, Percentage of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Purpose of Opening a Bank Account – by Gender						
	Percentage of Participants					
Gender	Save money for a specific purpose	To get a debit card to make purchases	A place to deposit a pay cheque	My parents opened the account to save money when I was young.	I don't know	Other
Female (n = 280)	17% (47)	14% (40)	16% (44)	28% (77)	1% (4)	1% (3)
Male (n = 230)	17% (39)	13% (31)	21% (49)	21% (49)	1% (3)	1% (2)

Purpose of Opening a Bank Account – by Learning Pathway						
	Percentage of Participants					
Learning Pathway	Save money for a specific purpose	To get a debit card to make purchases	A place to deposit a pay cheque	My parents opened the account to save money when I was young.	I don't know	Other
Academic** (n = 289)	18% (49)	13% (38)	18% (49)	31% (92)	1% (4)	1% (3)
Applied** (n = 159)	20% (32)	14% (23)	21% (33)	14% (22)	2% (3)	0% (0)
Mix of Applied/Academic** (n = 57)	12% (7)	11% (6)	16% (9)	26% (15)	2% (1)	4% (2)

*p < .05

**p < .01

***p < .001

Table 34

Method of Accessing Cash – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Method of Accessing Cash – by Gender		
Options for Getting Cash	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Use your debit or bankcard at your own financial institutions' cash machine	28% (78)	25% (58)
Use your debit or bankcard at the closest bank machine, whatever is convenient	8% (23)	7% (17)
Use a credit card to get a cash advance	2% (5)	3% (7)
Go to the bank and make a cash withdrawal	15 (43)	22% (51)
Ask for cash back when making a purchase at a store or supermarket	3% (8)	3% (6)
Ask parents/guardians for cash	24% (68)	13% (29)
I never use cash	5% (15)	7% (16)
Other	3% (7)	6% (13)

Method of Accessing Cash – by Learning Pathway			
Options for Getting Cash	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix Applied/ Academic (n = 57)
Use your debit or bankcard at your own financial institutions' cash machine	28% (80)	23% (37)	26% (15)
Use your debit or bankcard at the closest bank machine, whatever is convenient	8% (24)	10% (16)	5% (3)
Use a credit card to get a cash advance	1% (4)	4% (7)	4% (2)
Go to the bank and make a cash withdrawal	18% (51)	20% (32)	19% (11)
Ask for cash back when making a purchase at a store or supermarket	3% (9)	4% (6)	0% (0)
Ask parents/guardians for cash	19% (56)	16% (25)	18% (10)
I never use cash	4% (12)	4% (6)	9% (5)
Other	5% (14)	7% (11)	9% (5)

*p < .05

**p < .01

***p < .001

Table 35

Student Behaviour When They Run Out of Money – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Student Behaviour When They Run Out of Money – by Gender				
	Percentage of Participants			
Gender	Borrow money from family and friends	Cut back on spending	Sell something of value	Other
Female** (n = 280)	23% (64)	55% (153)	4% (11)	8% (22)
Male** (n = 230)	16% (36)	52% (119)	8% (18)	13% (29)

Student Behaviour When They Run Out of Money – by Learning Pathway				
	Percentage of Participants			
Learning Pathway	Borrow money from family and friends	Cut back on spending	Sell something of value	Other
Academic (n = 289)	21% (61)	53% (154)	4% (12)	9% (25)
Applied (n = 159)	16% (26)	54% (86)	9% (15)	12% (19)
Mix of Applied/Academic (n = 57)	18% (10)	54% (31)	2% (1)	14% (8)

*p < .05

**p < .01

***p < .001

Table 36

Student Attitudes about Control Over Day-to-Day Finances – Percentage, Number of Students and t-test and ANOVA Results – by Gender and Learning Pathway

Using any or all of the following – cash, cheque, debit card - is better than using a credit card. – by Gender			
	Percentage of Participants		
Gender	Always/Often	Sometimes	Rarely/Never
Female (n = 280)	39% (109)	23% (63)	9% (26)
Male (n = 230)	45% (103)	14% (32)	11% (26)

Using any or all of the following – cash, cheque, debit card - is better than using a credit card. – by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Always/Often	Sometimes	Rarely/Never
Academic (n = 289)	44% (128)	17% (50)	11% (33)
Applied (n = 159)	38% (61)	18% (28)	11% (18)
Mix of Applied/Academic (n = 57)	39% (22)	21% (12)	5% (3)

*p < .05

**p < .01

***p < .001

Table 37

Student Behaviour – Method of Paying for Day-to-Day Purchases (Always/Often) – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

How do you most often pay for day-to-day purchases? – by Gender				
	Percentage of Participants			
Gender	Cash	Debit Card	Credit Card	Other
Female (n = 280)	54% (151)	47% (132)	9% (27)	4% (12)
Male (n = 230)	56% (128)	45% (104)	14% (33)	10% (23)

How do you most often pay for day-to-day purchases? – by Learning Pathway				
	Percentage of Participants			
Learning Pathway	Cash	Debit Card*	Credit Card***	Other**
Academic (n = 289)	55% (159)	45% (131)	8% (22)	6% (17)
Applied (n = 159)	54% (86)	53% (85)	21% (33)	11% (17)
Mix of Applied/Academic (n = 57)	56% (32)	40% (23)	7% (4)	5% (3)

*p < .05

**p < .01

***p < .001

Table 38

Student Behaviour – Hypothetical Spending Behaviour – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Hypothetical Spending Behaviour – by Gender								
	Percentage of Participants							
Gender	Buy it with money that should be used for something else.	Borrow money from a family member.	Borrow money from a friend.	Save up to buy it.	I ask my parents/so meone else to buy it for me.	Not buy it	Other	I don't know
Females** (n = 280)	5% (15)	11% (31)	1% (3)	28% (79)	12% (34)	26% (72)	1% (3)	3% (9)
Males** (n = 230)	6% (14)	6% (26)	2% (5)	40% (92)	4% (10)	21% (49)	1% (2)	.5% (1)

Hypothetical Spending Behaviour – by Learning Pathway								
	Percentage of Participants							
Learning Pathway	Buy it with money that should be used for something else.	Borrow money from a family member.	Borrow money from a friend.	Save up to buy it.	I ask my parents/so meone else to buy it for me.	Not buy it	Other	I don't know
Academic (n = 289)	5% (14)	11% (33)	0% (0)	35% (100)	11% (33)	22% (64)	1% (3)	2% (5)
Applied (n = 159)	9% (15)	10% (16)	4% (6)	31% (49)	5% (8)	25% (39)	2% (3)	3% (5)
Mix of Applied/ Academic (n = 57)	4% (2)	11% (6)	2% (1)	37% (21)	2% (1)	30% (17)	0% (0)	2% (1)

*p < .05

**p < .01

***p < .001

Table 39

Student Self-Reported Financial Behaviours – Percentage, Number of Students and t-test and ANOVA Results – by Gender and Learning Pathway

<i>I research my choices thoroughly before making any financial decisions – by Gender</i>		
	Percentage of Participants	
	Female*** (n = 280)	Male*** (n = 230)
Strongly Agree	23% (63)	30% (84)
Agree	31% (88)	31% (72)
Neutral	24% (68)	10% (29)
Disagree	3% (9)	2% (5)
Strongly Disagree	4% (10)	2% (6)

*p < .05

**p < .01

***p < .001

<i>I research my choices thoroughly before making any financial decisions – by Learning Pathway</i>			
	Percentage of Participants		
Response	Academic (n = 289)	Applied (n = 159)	Mixed Applied/Academic (n = 57)
Strongly Agree	31% (89)	28% (45)	23% (13)
Agree	31% (89)	28% (45)	42% (24)
Neutral	18% (53)	21% (34)	16% (9)
Disagree	3% (8)	3% (5)	2% (1)
Strongly Disagree	3% (8)	3% (5)	2% (1)

*p < .05

**p < .01

***p < .001

Table 40

Student Attitudes about Control Over Day-to-Day Finances – Percentage, Number of Students and t-test and ANOVA Results - by Gender and Learning Pathway

It is important to spend time thinking about planning for personal finances – by Gender			
	Percentage of Participants		
Gender	Always/Often	Sometimes	Rarely/Never
Female (n = 280)	45% (126)	14% (40)	15% (41)
Male (n = 230)	50% (114)	15% (35)	13% (30)

It is important to spend time thinking about planning for personal finances – by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Always/Often	Sometimes	Rarely/Never
Academic (n = 289)	46% (132)	15% (43)	16% (45)
Applied (n = 159)	42% (67)	16% (26)	14% (23)
Mix of Applied/Academic (n = 57)	54% (31)	16% (9)	4% (2)

*p < .05

**p < .01

***p < .001

Table 41

Student Self-reported Behaviour – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

<i>I set long term financial goals and strive to achieve them. – by Gender</i>		
	Percentage of Participants	
Response	Female (n = 280)	Male (n = 230)
Strongly Agree	20% (57)	22% (51)
Agree	26% (74)	31% (72)
Neutral	27% (75)	23% (54)
Disagree	6% (16)	5% (11)
Strongly Disagree	5% (15)	3% (6)

<i>I set long term financial goals and strive to achieve them. – by Learning Pathway</i>			
	Percentage of Participants		
Response	Academic (n = 289)	Applied (n = 159)	Mix of Applied/Academic (n = 57)
Strongly Agree	25% (73)	16% (26)	15% (9)
Agree	27% (79)	28% (44)	35% (20)
Neutral	25% (72)	27% (43)	25% (14)
Disagree	4% (12)	8% (12)	5% (3)
Strongly Disagree	3% (10)	4% (7)	4% (2)
No response	15% (43)	17% (27)	16% (9)

*p < .05

**p < .01

***p < .001

Table 42

Student Behaviour - Saving for Post-Secondary Education – Percentage, Number of Students and t-test Results – by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Are you currently saving for post-secondary education? – by Gender			
	Percentage of Participants		
Gender	Yes	No	I don't know
Female (n = 280)	63% (177)	15% (42)	10% (28)
Male (n = 230)	55% (126)	22% (51)	10% (24)

Are you currently saving for post-secondary education? – by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Yes	No	I don't know
Academic*** (n = 289)	66% (190)	14% (40)	8% (22)
Applied*** (n = 159)	49% (78)	24% (38)	16% (26)
Mix Applied/Academic*** (n = 57)	65% (37)	16% (9)	7% (4)

*p < .05

**p < .01

***p < .001

Table 43

Method of Saving for Post-Secondary Education – Percentage, Number of Students and t-test Results -by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

How are you currently saving for post-secondary education? – by Gender		
Method of Saving	Percentage of Respondents	
	Female (n = 177)	Male (n = 126)
Registered Education Savings Plan (RESP)	11% (20)	17% (21)
Dedicated savings account	31% (55)	24% (31)
Mutual Funds	4% (7)	13% (16)
Trust Fund	5% (9)	7% (9)
Given money by a family/friend for the purpose of post-secondary education	7% (13)	6% (8)
Other	6% (10)	6% (7)
I don't know	32% (58)	25% (31)

How are you currently saving for post-secondary education? – by Learning Pathway			
Method of Saving	Percentage of Respondents		
	Academic (n = 190)	Applied (n = 78)	Mix of Applied/Academic (n = 37)
Registered Education Savings Plan (RESP)	13% (24)	15% (12)	14% (5)
Dedicated savings account	33% (62)	23% (18)	19% (7)
Mutual Funds	6% (12)	12% (9)	5% (2)
Trust Fund	5% (9)	6% (5)	14% (5)
Given money by a family/friend for the purpose of post-secondary education	5% (9)	13% (10)	5% (2)
Other	5% (10)	6% (5)	5% (2)
I don't know	31% (58)	22% (17)	38% (14)

*p < .05

**p < .01

***p < .001

Table 44

Student Behaviour – Paying for Post-Secondary Education if Not Already Saving – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Method of Paying for Post-Secondary Education if Not Already Saving – by Gender		
Response	Percentage of Respondents	
	Female (n = 42)	Male (n = 51)
I do not expect to go to post-secondary education.	5% (2)	22% (11)
Someone else is saving or has already saved (e.g., grandparents)	21% (9)	20% (10)
Government grants/loans	19% (8)	12% (6)
Student Line of Credit	5% (2)	8% (4)
Other	14% (6)	8% (4)
I don't know	33% (14)	24% (12)

Method of Paying for Post-Secondary Education if Not Already Saving – by Learning Pathway			
Response	Percentage of Respondents		
	Academic (n = 40)	Applied (n = 38)	Mix of Applied/Academic (n = 9)
I do not expect to go to post-secondary education.	5% (2)	16% (6)	22% (4)
Someone else is saving or has already saved (e.g., grandparents)	28% (11)	16% (6)	22% (4)
Government grants/loans	25% (10)	11% (4)	22% (4)
Student Line of Credit	8% (3)	8% (3)	0% (0)
Other	5% (2)	8% (3)	22% (2)
I don't know	28% (11)	32% (12)	11% (1)

*p < .05

**p < .01

***p < .001

Table 45

Student Behaviour – How Students Save – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

How do you save your money? – by Gender					
	Percentage of Participants				
Gender	Cash at home	Bank Account	Give to a family member	Investments	I don't save.
Female (n = 280)	34% (95)	49% (138)	14% (39)	7% (20)	12% (33)
Male (n = 230)	39% (89)	47% (107)	12% (28)	7% (15)	9% (20)

How do you save your money? – by Learning Pathway					
	Percentage of Participants				
Learning Pathway	Cash at home	Bank Account	Give to a family member	Investments	I don't save. **
Academic (n = 289)	42% (120)	54% (157)	13% (37)	8% (23)	7% (20)
Applied (n = 159)	28% (44)	38% (61)	14% (23)	8% (12)	15% (24)
Mix of Applied/Academic (n = 57)	37% (21)	49% (28)	11% (6)	2% (1)	11% (6)

*p < .05

**p < .01

***p < .001

Table 46

Student Behaviour – Why Students Save – Percentage, Number of Students and t-test Results – by Gender

Item	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Clothes***	54% (150)	33% (75)
Entertainment	24% (67)	30% (68)
Technology ***	33% (93)	46% (105)
Gifts for Others***	45% (125)	30% (69)
Education***	45% (126)	28% (64)
Vacation***	25% (69)	13% (29)
Vehicles***	20% (57)	33% (75)
Investments*	6% (18)	12% (27)
Trips	18% (50)	12% (27)
Retirement***	3% (9)	10% (22)
Debt	6% (18)	10% (23)
Charity/Giving to Others	7% (19)	4% (9)
Emergency	12% (33)	14% (32)
Post-secondary Education***	44% (124)	29% (67)
Sports	31% (87)	38% (87)
I don't save	4% (11)	4% (10)

*p < .05

**p < .01

***p < .001

Table 46a

Student Behaviour – Why Students Save – Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Item	Percentage of Participants		
	Academic (n = 280)	Applied (n = 230)	Mix Applied/ Academic (n = 57)
Clothes	46% (130)	57% (132)	47% (27)
Entertainment	28% (79)	18% (41)	19% (11)
Technology	43% (120)	28% (64)	35% (17)
Gifts for Others	42% (118)	24% (55)	35% (20)
Education***	46% (130)	18% (41)	46% (26)
Vacation	19% (54)	12% (27)	21% (12)
Vehicles	23% (64)	23% (52)	30% (17)
Investments	10% (28)	7% (17)	7% (4)
Trips	15% (41)	10% (23)	12% (7)
Retirement	5% (14)	7% (15)	4% (2)
Debt*	6% (16)	9% (21)	5% (3)
Charity/Giving to Others	6% (18)	4% (10)	2% (1)
Emergency	13% (37)	7% (17)	14% (8)
Post-secondary Education***	49% (137)	15% (34)	42% (24)
Sports	38% (105)	21% (48)	33% (19)
I don't save	4% (11)	4% (9)	4% (2)

*p < .05

**p < .01

***p < .001

Table 47

Student Attitudes About Financial Goals – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Due to my money situation, I feel I will never have the things I want in my life. – by Gender			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	15% (41)	28% (79)	37% (103)
Male (n = 230)	16% (36)	22% (51)	39% (89)

I feel capable of achieving my financial goals. – by Gender			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	45% (125)	25% (70)	10% (27)
Male (n = 230)	52% (119)	17% (39)	8% (18)

Due to my money situation, I feel I will never have the things I want in my life.* - by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	13% (39)	43% (68)	41% (119)
Applied (n = 159)	18% (28)	32% (51)	28% (45)
Mix of Applied/Academic (n = 57)	16% (9)	18% (10)	46% (26)

I feel capable of achieving my financial goals. – by Learning Pathway			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	39% (112)	20% (58)	9% (26)
Applied (n = 159)	43% (69)	25% (40)	9% (14)
Mix of Applied/Academic (n = 57)	54% (31)	16% (9)	7% (4)

*p < .05

**p < .01

***p < .001

Table 48

Student Behaviour - Student Debt – Percentage, Number of Students and t-test Results - By Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Why do you personally have debt? – by Gender		
Purpose of Borrowing	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
I borrowed money to buy a big-ticket item (skidoo, dirt bike, etc.). ***	5% (14)	13% (31)
I borrowed money to make an online purchase with a credit card.	12% (33)	7% (17)
I borrowed money for lunch.	12% (34)	10% (23)
I borrowed money to pay off a bill (cell phone, etc.).	5% (15)	5% (12)
I borrowed money for entertainment purposes (movies, concert, etc.).	5% (15)	3% (8)
I don't have any debt. *	62% (173)	50% (116)

Why do you personally have debt? – by Learning Pathway			
Purpose of Borrowing	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix Applied/ Academic (n = 57)
I borrowed money to buy a big-ticket item (skidoo, dirt bike, etc.). ***	5% (15)	18% (29)	5% (3)
I borrowed money to make an online purchase with a credit card.	12% (35)	7% (11)	7% (4)
I borrowed money for lunch.	12% (31)	12% (19)	9% (5)
I borrowed money to pay off a bill (cell phone, etc.).	6% (16)	5% (8)	7% (4)
I borrowed money for entertainment purposes (movies, concert, etc.).	5% (14)	4% (6)	4% (2)
I don't have any debt. ***	60% (172)	47% (75)	67% (38)

*p < .05

**p < .01

***p < .001

Table 49

Student Behaviour – Where Do Students Borrow? – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Who have you borrowed money from? – by Gender						
	Percentage of Participants					
Gender	Parents/ Guardians **	Friends	Loan/LOC	Siblings	Other Relatives	I have not borrowed money.
Female (n = 280)	60% (167)	19% (53)	4% (10)	14% (39)	8% (22)	20% (57)
Male (n = 230)	45% (104)	17% (40)	1% (3)	12% (28)	9% (20)	25% (58)

Who have you borrowed money from? – by Learning Pathway						
	Percentage of Participants					
Learning Pathway	Parents/ Guardians**	Friends	Loan/LOC	Siblings	Other Relatives	I have not borrowed money.
Academic (n = 289)	56% (161)	19% (54)	1% (4)	14% (40)	9% (25)	24% (68)
Applied (n = 159)	44% (70)	18% (29)	5% (8)	13% (20)	8% (12)	22% (35)
Mix Applied/Academic (n = 57)	56% (32)	18% (10)	2% (1)	12% (7)	9% (5)	21% (12)

*p < .05

**p < .01

***p < .001

Table 50

Student Behaviour – Why Students Borrow Money – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Reason for Borrowing Money – by Gender		
Item	Percentage of Respondents	
	Female (n = 223)	Male (n = 172)
Food	33% (74)	22% (38)
Entertainment	9% (21)	6% (10)
Clothing	13% (30)	5% (8)
Vehicles (dirt bikes, Ski-doo's, cars, gas)	3% (7)	11% (19)
Technology (cell phones, computers, etc.)	2% (5)	5% (9)
Trip	4% (10)	1% (1)
Games	1% (2)	2% (3)
Pay Bills	5% (11)	2% (3)
School Supplies	2% (4)	3% (5)
Gifts	<1% (1)	0% (0)
Cigarettes	1% (2)	1% (1)
Pets	1% (2)	0% (0)
Souvenirs	1% (2)	0% (0)
Medication	<1% (1)	0% (0)
Investments	<1% (1)	1% (1)

Reason for Borrowing Money – by Learning Pathway			
Item	Percentage of Participants		
	Academic (n = 221)	Applied (n = 124)	Mix of Applied/Academic (n = 45)
Food	31% (68)	21% (26)	22% (10)
Entertainment	8% (17)	8% (10)	7% (3)
Clothing	12% (26)	5% (6)	9% (4)
Vehicles (dirt bikes, Ski-doo's, cars, gas)	3% (6)	10% (12)	16% (7)
Technology (cell phones, computers, etc.)	4% (9)	4% (5)	9% (4)
Trip	4% (9)	0% (0)	4% (2)
Games	0% (0)	1% (1)	4% (2)
Pay Bills	2% (4)	0% (0)	0% (0)
School Supplies	4% (9)	3% (4)	4% (2)
Gifts	0% (0)	1% (1)	4% (2)
Cigarettes	0% (0)	2% (2)	0% (0)
Pets	<1% (1)	1% (1)	0% (0)
Souvenirs	0% (0)	0% (0)	0% (0)
Medication	<1% (1)	0% (0)	0% (0)
Investments	1% (2)	0% (0)	0% (0)

*p < .05

**p < .01

***p < .001

Table 51

Student Attitudes about Debt – Percentage, Number of Students and t-test Results - by Gender

Being in financial debt is okay.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	20% (55)	25% (70)	34% (95)
Male (n = 230)	19% (44)	33% (53)	35% (81)
I will always carry debt during my lifetime.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	14% (40)	25% (71)	40% (111)
Male (n = 230)	13% (30)	21% (48)	42% (97)
Taking out a loan is the only way to buy an automobile.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	15% (42)	28% (77)	36% (101)
Male (n = 230)	14% (33)	25% (57)	37% (84)

*p < .05

**p < .01

***p < .001

Table 51a

Student Attitudes about Debt – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

Being in financial debt is okay. *			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	20% (57)	22% (63)	36% (104)
Applied (n = 159)	12% (36)	27% (43)	28% (45)
Mix of Applied/Academic (n = 57)	12% (7)	21% (12)	46% (26)
I will always carry debt during my lifetime. *			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	12% (34)	22% (64)	44% (128)
Applied (n = 159)	10% (29)	28% (44)	17% (50)
Mix of Applied/Academic (n = 57)	9% (5)	21% (12)	47% (27)
Taking out a loan is the only way to buy an automobile.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	15% (44)	25% (73)	37% (107)
Applied (n = 159)	16% (25)	28% (45)	33% (53)
Mix of Applied/Academic (n = 57)	12% (7)	30% (17)	35% (20)

*p < .05

**p < .01

***p < .001

Table 52

Student Behaviour – How Students Plan to Pay for Expenses During Retirement – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Method of paying for expenses during retirement – by Gender								
	Percentage of Participants							
Gender	Work Pension	RRSP	Savings Account	Government Pension	Investments*	Inheritance	I don't plan to retire.	I don't know. ***
Female (n = 280)	39% (109)	11% (30)	29% (82)	20% (56)	11% (32)	6% (18)	4% (12)	36% (101)
Male (n = 230)	37% (84)	7% (17)	28% (65)	17% (40)	21% (49)	7% (17)	4% (10)	22% (51)

Method of paying for expenses during retirement – by Learning pathway								
	Percentage of Participants							
Learning Pathway	Work Pension *	RRSP *	Savings Account	Government Pension ***	Investments	Inheritance	I don't plan to retire.	I don't know.
Academic (n = 289)	42% (122)	8% (23)	33% (95)	22% (63)	18% (51)	6% (18)	3% (9)	29% (85)
Applied (n = 159)	30% (48)	8% (12)	24% (38)	11% (17)	13% (20)	9% (15)	6% (9)	30% (48)
Mix of Applied/ Academic (n = 57)	39% (22)	19% (11)	28% (16)	28% (16)	19% (11)	5% (3)	5% (3)	33% (19)

*p < .05

**p < .01

***p < .001

Table 53

Student Attitudes about Retirement – Percentage, Number of Students and t-test Results - by Gender

I am concerned about having financial security during retirement.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	31% (86)	36% (102)	14% (38)
Male (n = 230)	37% (85)	33% (76)	11% (26)
Personal savings will be my main sources of income after retirement.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	33% (92)	34% (94)	13% (36)
Male (n = 230)	43% (98)	27% (63)	10% (23)
I will not be financially secure in my retirement.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	14% (39)	33% (93)	33% (92)
Male (n = 230)	19% (44)	23% (52)	37% (85)

*p < .05

**p < .01

***p < .001

Table 53a

Student Attitudes about Retirement – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

I am concerned about having financial security during retirement.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	33% (96)	36% (101)	13% (38)
Applied (n = 159)	27% (44)	35% (55)	12% (19)
Mix of Applied/Academic (n = 57)	11% (18)	42% (24)	7% (4)
Personal savings will be my main sources of income after retirement.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	37% (108)	30% (87)	13% (37)
Applied (n = 159)	42% (66)	30% (48)	8% (12)
Mix of Applied/Academic (n = 57)	25% (14)	42% (24)	11% (6)
I will not be financially secure in my retirement. *			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Academic (n = 289)	14% (41)	48% (81)	37% (106)
Applied (n = 159)	25% (3)	30% (47)	26% (41)
Mix of Applied/Academic (n = 57)	16% (9)	30% (17)	35% (20)

*p < .05

**p < .01

***p < .001

Table 54

*Student Behaviour – Experiencing a Financial Shock – Percentage, Number of Students and t-test Results
-by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway*

Have you ever experienced a financial shock? ***	Percentage of Participants
Female (n = 280)	20% (56)
Male (n = 230)	33% (76)

Have you ever experienced a financial shock? *	Percentage of Participants
Academic (n = 289)	23% (67)
Applied (n = 159)	33% (52)
Mix Applied/Academic (n = 57)	23% (13)

*p < .05

** p < .01

***p < .001

Table 55

Student Attitudes about Financial Shock – Percentage, Number of Students and t-test Results -by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

Insurance coverage is related to my financial security. – by Gender			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	30% (83)	41% (114)	8% (21)
Male (n = 230)	34% (78)	33% (75)	10% (22)

I should have an emergency fund to pay for unexpected emergencies – by Gender.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	49% (137)	23% (65)	8% (21)
Male (n = 230)	46% (105)	22% (50)	9% (20)

Insurance coverage is related to my financial security – by Learning Pathway.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Sometimes	Disagree/Strongly Disagree
Academic (n = 289)	32% (93)	36% (105)	8% (24)
Applied (n = 159)	31% (50)	36% (58)	9% (15)
Mix of Applied/Academic (n = 57)	37% (21)	35% (20)	4% (2)

I should have an emergency fund to pay for unexpected emergencies – by Learning Pathway.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Sometimes	Disagree/Strongly Disagree
Academic (n = 289)	49% (143)	21% (60)	8% (22)
Applied (n = 159)	41% (65)	29% (46)	8% (13)
Mix of Applied/Academic (n = 57)	56% (32)	19% (11)	4% (2)

*p < .05

**p < .01

***p < .001

Table 56

Factors and Influences - Frequency of Discussing Financial Matters with Parents/Guardians – Percentage, Number of Students and t-test Results - by Gender

How often do you discuss financial matters with parents/guardians? – by Gender			
Gender	Percentage of Participants		
	Always/Often	Sometimes	Rarely/Never
Female (n = 280)	35% (98)	26% (73)	24% (68)
Male (n = 230)	32% (74)	29% (67)	20% (47)

How often do you discuss financial matters with parents/guardians? – by Learning Pathway			
Learning Pathway	Percentage of Participants		
	Always/Often	Sometimes	Rarely/Never
Academic (n = 289)	36% (105)	31% (88)	17% (50)
Applied (n = 159)	39% (48)	17% (40)	27% (43)
Mix of Applied/Academic (n = 57)	33% (19)	48% (12)	30% (17)

*p < .05

**p < .01

***p < .001

Table 57

Factors and Influences – Source of Information for Financial Questions (Always/Often) – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and Results of ANOVA – by Learning Pathway

If you have questions or are looking for information on money management and financial planning, where do you usually turn?							
	Percentage of Participants						
Gender	Parents/ Guardians	Internet	Bank	Brothers/ Sisters	Friends	Teacher	I have never talked to anyone about financial matters.
Female (n = 280)	65% (181)	4% (12)	3% (7)	1% (4)	3% (9)	2% (6)	8% (21)
Male (n = 230)	53% (123)	6% (13)	5% (12)	2% (4)	2% (4)	3% (6)	7% (16)

If you have questions or are looking for information on money management and financial planning, where do you usually turn?							
	Percentage of Participants						
Learning Pathway	Parents/ Guardians	Internet	Bank	Brothers/ Sisters	Friends	Teacher	I have never talked to anyone about financial matters.
Academic (n = 289)	63% (183)	5% (14)	4% (13)	2% (5)	2% (6)	1% (4)	6% (17)
Applied (n = 159)	55% (88)	5% (8)	3% (4)	2% (3)	<1% (1)	4% (7)	9% (14)
Mix of Applied/Academic (n = 57)	56% (32)	5% (3)	2% (1)	0% (0)	7% (4)	0% (0)	7% (4)

*p < .05

**p < .01

***p < .001

Table 58

Factors and Influences - Frequency of Discussing Money Matters with Other People – Percentage, Number of Students and t-test Results - by Gender and Percentage, Number of Students and ANOVA Results – by Learning Pathway

Frequency of Discussing Money Matters with Other People – by Gender						
	Percentage of Participants					
	Always/Often		Sometimes		Rarely/Never	
	Female (n = 280)	Male (n = 230)	Female (n = 280)	Male (n = 230)	Female (n = 280)	Male (n = 230)
Relatives (including parents/ guardians)	43% (119)	38% (88)	28% (78)	24% (56)	14% (38)	17% (38)
Friends	14% (38)	16% (36)	23% (64)	20% (45)	48% (133)	44% (100)
Teachers	6% (17)	9% (20)	11% (31)	9% (21)	67% (187)	59% (136)
Other Adults	10% (28)	11% (26)	12% (33)	12% (28)	62% (174)	54% (124)

Frequency of Discussing Money Matters with Other People – by Learning Pathway									
	Percentage of Participants								
	Always/Often			Sometimes			Rarely/Never		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)	Academic (n = 289)	Applied (n = 159)	Mix of Applied/ Academic (n = 57)
Relatives (including parents/guardians)	42% (121)	39% (62)	46% (26)	31% (91)	18% (29)	14% (8)	10% (29)	21% (33)	23% (13)
Friends	12% (34)	19% (31)	18% (10)	21% (60)	19% (31)	28% (16)	51% (147)	39% (62)	37% (21)
Teachers***	5% (15)	13% (21)	4% (2)	10% (28)	9% (20)	7% (12)	68% (196)	50% (80)	67% (38)
Other Adults**	9% (25)	16% (25)	7% (4)	11% (32)	14% (22)	12% (7)	63% (182)	48% (76)	61% (35)

*p < .05

**p < .01

***p < .001

Table 59

Factors and Influences – Student Influences on Purchases – Percentage, Number of Students and t-test Results - by Gender

Influence #1	Percentage of Participants	
	Female (n = 280)	Male (n = 230)
Latest Trend	6% (18)	5% (11)
Emotions	13% (36)	15% (34)
I don't now	18% (51)	11% (25)
Customs, Traditions, etc.	3% (8)	8% (18)
Friends/Peers	6% (17)	10% (23)
Sales	14% (39)	10% (22)
Advertising	4% (11)	4% (9)
Family Members	8% (22)	5% (11)
Extra Reward Points	2% (5)	3% (6)
Influence #2	Female (n = 280)	Male (n = 230)
Latest Trend	7% (20)	4% (10)
Emotions	9% (26)	11% (26)
I don't now	1% (2)	2% (4)
Customs, Traditions, etc.	2% (6)	5% (12)
Friends/Peers	6% (17)	8% (18)
Sales	15% (42)	12% (27)
Advertising	5% (14)	3% (6)
Family Members	3% (8)	6% (14)
Extra Reward Points	5% (15)	4% (9)
Influence #3	Female (n = 280)	Male (n = 230)
Latest Trend	5% (13)	3% (6)
Emotions	7% (19)	3% (8)
I don't now	2% (6)	2% (5)
Customs, Traditions, etc.	3% (7)	4% (9)
Friends/Peers	8% (21)	7% (15)
Sales	5% (13)	7% (16)
Advertising	5% (13)	3% (6)
Family Members	6% (16)	7% (17)
Extra Reward Points	3% (9)	1% (2)

*p <.05

**p <.01

***p <.001

Table 59a

Factors and Influences – Student Influences on Purchases – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

Influence #1	Percentage of Participants		
	Academic (n = 289)	Applied (n = 159)	Mix of Applied/Academic (n = 57)
Latest Trend	6% (16)	6% (10)	4% (2)
Emotions	17% (48)	10% (16)	11% (6)
I don't now	15% (43)	17% (27)	7% (4)
Customs, Traditions, etc.	5% (14)	5% (8)	5% (3)
Friends/Peers	7% (19)	9% (15)	11% (6)
Sales	15% (42)	11% (17)	7% (4)
Advertising	2% (6)	5% (8)	11% (6)
Family Members	7% (19)	5% (8)	9% (5)
Extra Reward Points	2% (7)	3% (4)	2% (1)
Influence #2			
Latest Trend	6% (17)	4% (7)	9% (5)
Emotions	10% (28)	9% (14)	16% (9)
I don't now	1% (3)	3% (5)	0% (0)
Customs, Traditions, etc.	4% (11)	4% (6)	2% (1)
Friends/Peers	8% (23)	6% (10)	4% (2)
Sales	15% (44)	13% (20)	12% (7)
Advertising	4% (11)	3% (4)	5% (3)
Family Members	4% (12)	4% (7)	2% (1)
Extra Reward Points	4% (13)	6% (9)	4% (2)
Influence #3			
Latest Trend	3% (10)	3% (5)	4% (2)
Emotions	7% (20)	4% (6)	4% (2)
I don't now	2% (6)	4% (6)	0% (0)
Customs, Traditions, etc.	3% (9)	4% (7)	2% (1)
Friends/Peers	8% (22)	6% (9)	11% (6)
Sales	5% (15)	5% (8)	7% (4)
Advertising	4% (11)	3% (5)	5% (3)
Family Members	7% (20)	8% (12)	7% (4)
Extra Reward Points	2% (5)	1% (2)	7% (4)

*p < .05

**p < .01

***p < .001

Table 60

Student Attitudes Towards Factors and Influences – Percentage, Number of Students and t-test Results - by Gender

I buy things (clothes, music, etc.) to make me feel good. **			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	50% (141)	18% (51)	15% (41)
Male (n = 230)	38% (88)	21% (49)	19% (44)
How I spend my money reflects my values.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	34% (95)	30% (83)	19% (52)
Male (n = 230)	40% (91)	22% (50)	16% (36)
Personal finances do not affect relationships with others.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	35% (99)	30% (83)	18% (49)
Male (n = 230)	39% (89)	24% (56)	14% (33)
I try to time my purchases to coincide with sales.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	40% (112)	33% (91)	9% (26)
Male (n = 230)	38% (87)	28% (64)	12% (27)

*p < .05

**p < .01

***p < .001

Table 60 (continued)

Student Attitudes Towards Factors and Influences – Percentage, Number of Students and t-test Results - by Gender

The things I own say a lot about how well I'm doing in life. *			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	25% (71)	24% (67)	31% (88)
Male (n = 230)	30% (68)	21% (48)	26% (59)
I admire people who own expensive homes, cars and clothes.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	30% (85)	25% (70)	24% (67)
Male (n = 230)	35% (80)	22% (51)	21% (49)
I like to own things that impress people.			
	Percentage of Participants		
Gender	Strongly Agree/Agree	Neutral	Disagree/Strongly Disagree
Female (n = 280)	24% (68)	28% (77)	24% (95)
Male (n = 230)	31% (72)	22% (50)	26% (59)

*p < .05

**p < .01

***p < .001

Table 60a

Student Attitudes Towards Factors and Influences – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

I buy things (clothes, music, etc.) to make me feel good.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	46% (134)	20% (58)	16% (46)
Applied (n = 159)	31% (72)	19% (30)	14% (23)
Mix of Applied/Academic (n = 57)	40% (23)	23% (13)	19% (11)
How I spend my money reflects my values.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	39% (114)	24% (69)	19% (52)
Applied (n = 159)	31% (50)	20% (46)	8% (24)
Mix of Applied/Academic (n = 57)	42% (24)	23% (13)	18% (10)
Personal finances do not affect relationships with others.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	39% (109)	25% (72)	19% (55)
Applied (n = 159)	36% (57)	31% (49)	11% (17)
Mix of Applied/Academic (n = 57)	35% (20)	35% (20)	11% (6)
I try to time my purchases to coincide with sales.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	45% (129)	27% (79)	9% (25)
Applied (n = 159)	34% (55)	33% (53)	11% (17)
Mix of Applied/Academic (n = 57)	30% (17)	40% (23)	9% (5)

Table 60a (continued)

Student Attitudes Towards Factors and Influences – Percentage, Number of Students and Results of ANOVA - by Learning Pathway

I like to own things that impress people.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	30% (87)	21% (61)	30% (86)
Applied (n = 159)	29% (46)	23% (36)	27% (43)
Mix of Applied/Academic (n = 57)	21% (12)	28% (16)	32% (18)
The things I own say a lot about how well I'm doing in life. *			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	24% (70)	24% (68)	33% (95)
Applied (n = 159)	31% (49)	25% (40)	23% (36)
Mix of Applied/Academic (n = 57)	26% (15)	26% (15)	26% (15)
I admire people who own expensive homes, cars and clothes.			
	Percentage of Participants		
Learning Pathway	Strongly Agree/Agree	Somewhat	Disagree/Strongly Disagree
Academic (n = 289)	32% (90)	24% (69)	25% (71)
Applied (n = 159)	31% (50)	27% (43)	20% (32)
Mix of Applied/Academic (n = 57)	33% (19)	25% (14)	23% (13)

*p < .05

**p < .01

***p < .001

Table 61

Profile of Parents/Guardians – Percentage, Number of Parents/Guardians - by Gender and Age

	Percentage of Participants		
	Gender	35 - 44 Years of Age	45 - 54 Years of Age
Female	76% (29)	38% (11)	47% (18)
Male	24% (9)	11% (1)	89% (8)

Table 62

Profile of Parents/Guardians - Highest Level of Education – Number, Percentage of Parents/Guardians - by Gender

Education	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Less than a High School Diploma	0% (0)	0% (0)
High School Diploma or Equivalent	21% (6)	22% (2)
College Diploma	34% (10)	56% (5)
University Degree – Bachelor's Degree	38% (11)	22% (2)
Master's Degree	4% (1)	0% (0)
Doctorate	0% (0)	0% (0)

Table 63

Profile of Parents/Guardians – Household Income - Number, Percentage of Parents/Guardians – by Gender

Income	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Less than \$20 000	7% (2)	0% (0)
\$20 000 to \$34 999	3% (1)	0% (0)
\$35 000 to \$ 49 999	3% (1)	0% (0)
\$50 000 to \$75 000	3% (1)	0% (0)
\$75 000 to \$99 999	34% (10)	22% (2)
\$100 000 to \$149 999	31% (9)	22% (2)
\$150 000 to \$199 999	7% (2)	22% (2)
Over \$200 000	10% (3)	33% (3)

Table 64

Parent/Guardian Exposure to Money Management Class – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Course	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
In high school in a subject or course specifically about managing money	14% (4)	22% (2)
As part of post-secondary education (college/university) in a subject or course specifically about managing money	7% (2)	11% (1)
At work	14% (4)	11% (1)
In a privately sponsored seminar, conference or course	7% (2)	11% (1)

*p < .05

**p < .01

***p < .001

Table 65

Correct Responses - Knowledge Questions – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Question	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Inflation	52% (15)	78% (7)
Interest After 1 Year	90% (26)	100% (9)
Interest After 5 Years	52% (15)	78% (7)
Interest on \$25	100% (29)	100% (9)
An investment with a high return is likely to be high risk	83% (24)	89% (8)
If someone offers you the chance to make a lot of money, it is likely that there is also a chance that you will lose a lot of money.	83% (24)	100% (9)
High inflation means that the cost of living is increasing rapidly. **	72% (21)	78% (7)
It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares	66% (19)	78% (7)
It is less likely that you will lose all of your money if you save it in more than one place.	86% (25)	89% (8)

*p < .05

** p < .01

*** p < .001

Table 66

Achievement Levels – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Gender	Percentage of Participants				
	R 0 -4 Correct Responses	Level 1 5 Correct Responses	Level 2 6 Correct Responses	Level 3 7 Correct Responses	Level 4 8-9 Correct Responses
Female* (n = 29)	31% (9)	17% (5)	31% (9)	17% (5)	3% (1)
Male* (n = 9)	0% (0)	33% (3)	33% (3)	33% (3)	0% (0)

*p < .05

**p < .01

***p < .001

Table 66a

Parent/Guardian Composite Knowledge Score (CKS) – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Composite Knowledge Score	Female * (n = 29)	Male * (n = 9)
9	0% (0)	0% (0)
8	3% (1)	0% (0)
7	17% (5)	33% (3)
6	31% (9)	33% (3)
5	17% (5)	33% (3)
4	10% (3)	0% (0)
3	7% (2)	0% (0)
2	10% (3)	0% (0)
1	0% (0)	0% (0)
0	3% (1)	0% (0)

*p < .05

**p < .01

***p < .001

Table 67

Parent/Guardian Behaviour - Frequency of Discussing Financial Topics with Children – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Gender	Percentage of Responses		
	Always/Often	Sometimes	Rarely/Never
Female (n = 29)	55% (16)	34% (10)	14% (4)
Male (n = 9)	33% (3)	56% (5)	17% (1)

*p < .05

**p < .01

***p < .001

Table 68

Parent/Guardian Behaviour - Frequency of Discussions on Various Financial Topics with Their Child/ren – Percentage, Number of Parents/Guardians and t- test Results - by Gender

Financial Topic	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Managing debt (credit cards, loans, etc.)	45% (13)	44% (4)
Saving	93% (27)	22% (2)
Types of investments	14% (4)	22% (2)
Budgeting	59% (17)	56% (5)
Compound Interest	0% (0)	0% (0)
Pensions	17% (5)	11% (1)
Insurance	24% (7)	22% (2)
Taxes	48% (14)	33% (3)
Difference between wants and needs	86% (24)	67% (6)
Stock market	10% (3)	22% (2)
Influences on consumers*	21% (6)	0% (0)
Fraud and its consequences	28% (5)	11% (1)
Buying a home	10% (3)	11% (1)
How interest is calculated on credit cards/loans	14% (4)	11% (1)
Dealing with unexpected financial shocks/emergencies	17% (5)	22% (2)
Financial planning for life after high school	48% (14)	56% (5)
Buying a car	34% (10)	44% (4)
Consequences of financial decisions	41% (12)	33% (3)
Setting financial goals	38% (11)	22% (2)
Charity/Giving to others	21% (6)	11% (1)
Retirement planning	10% (3)	0% (0)
Cost of post-secondary education	90% (26)	56% (5)
Effective ways to manage day-to-day finances	41% (12)	33% (3)

*p < .05

**p < .01

***p < .001

Table 69

Parent/Guardian Behaviour – Family Budget – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Yes	45% (13)	55% (5)
No	55% (16)	44% (4)

*p < .05

**p < .01

***p < .001

Table 70

Parent/Guardian Behaviour – Staying Within Budget – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Response	Percentage of Participants	
	Female (n = 13)	Male (n = 5)
Always	0% (0)	20% (1)
Often	62% (8)	40% (2)
Sometimes	23% (3)	40% (2)
Rarely	15% (2)	0% (0)
Never	0% (0)	0% (0)

*p < .05

**p < .01

***p < .001

Table 71

Parent/Guardian Behaviour – Saving for Child/ren’s Post-Secondary Education – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Yes	72% (21)	78% (7)

*p < .05

**p < .01

***p < .001

Table 72

Parent/Guardian Behaviour – Method of Saving for Post-Secondary Education – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Method of Saving	Percentage of Respondents	
	Female (n = 21)	Male (n = 7)
Mutual Funds	10% (2)	0% (0)
RESP	57% (12)	86% (6)
Dedicated Savings Account	29% (6)	0% (0)
Trust Fund	0% (0)	14% (1)
Given money by a family member or friend	5% (1)	0% (0)

*p < .05

**p < .01

***p < .001

Table 73

Percentage and Number of Parent/Guardian Responses to How prepared is/are your child/ren to manage money after high school

	Percentage of students (Number of respondents) (n = 40) **
Extremely Prepared	5% (2)
Moderately Prepared	8% (3)
Somewhat Prepared	35% (14)
Slightly Prepared	45% (18)
Not at all Prepared	8% (3)

** Some parents/guardians gave a different response for each child which is why the number is higher than the number of total participants

Table 74

Parent/Guardian Responses to How important is it that schools formally provide a program that helps children become more knowledgeable about personal finance – Percentage, Number of Parents/Guardians and t-test Results –by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Extremely Important	86% (25)	89% (8)
Moderately Important	14% (4)	11% (1)
Somewhat Important	0% (0)	0% (0)
Slightly Important	0% (0)	0% (0)
Not at all Important	0% (0)	0% (0)

*p < .05

**p < .01

***p < .001

Table 75

Parent/Guardian Comfortableness of Discussing Financial Topics with Their Child/ren – Percentage, Number of Parents/Guardians and t-test Results – by Gender

Financial Topic	Extremely/Moderately Comfortable		Slightly/Not at All Comfortable	
	Female (n = 29)	Male (n = 9)	Female (n = 29)	Male (n = 9)
Managing debt (credit cards, loans, etc.)	90% (26)	89% (8)	0% (0)	0% (0)
Saving	93% (27)	78% (7)	0% (0)	0% (0)
Types of investments	41% (12)	56% (5)	34% (10)	11% (1)
Budgeting	76% (22)	56% (5)	10% (3)	0% (0)
Compound Interest	34% (10)	78% (7)	52% (15)	11% (1)
Pensions	55% (16)	78% (7)	56% (5)	11% (1)
Insurance	72% (21)	67% (6)	10% (3)	0% (0)
Taxes	59% (17)	67% (6)	14% (4)	0% (0)
Difference between wants and needs	97% (28)	100% (9)	0% (0)	0% (0)
Stock market *	21% (6)	67% (6)	62% (18)	11% (1)
Influences on consumers	48% (14)	78% (7)	24% (7)	11% (1)
Fraud and its consequences	69% (20)	78% (7)	14% (4)	11% (1)
Buying a home	76% (22)	44% (4)	67% (6)	11% (1)
How interest is calculated on credit cards/ loans	62% (18)	78% (7)	14% (4)	0% (0)
Dealing with unexpected financial shocks/emergencies	66% (19)	89% (8)	31% (9)	11% (1)
Financial planning for life after high school	72% (21)	33% (3)	3% (1)	0% (0)
Buying a car	86% (25)	100% (9)	0% (0)	0% (0)
Consequences of financial decisions *	86% (25)	89% (8)	0% (0)	0% (0)
Setting financial goals	86% (25)	100% (9)	3% (1)	0% (0)
Charity/Giving to others	90% (26)	89% (8)	0% (0)	0% (0)
Retirement planning	66% (19)	100% (9)	7% (2)	0% (0)
Cost of post-secondary education	86% (25)	100% (9)	3% (1)	0% (0)
Most effective ways to manage day-to-day finances	76% (22)	89% (8)	3% (1)	0% (0)

*p < .05

**p < .01

***p < .001

Table 76

Concerned About Having Financial Security During Retirement – Percentage, Number of Parent/s Guardians and t-test Results – by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Extremely concerned	45% (13)	22% (2)
Moderately concerned	17% (5)	44% (11)
Somewhat concerned	14% (4)	11% (1)
Slightly concerned	14% (4)	11% (1)
Not at all concerned	10% (3)	11% (1)

*p < .05

**p < .01

***p < .001

Table 77

Parent/Guardian Self-reported Money Knowledge and Skills – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Extremely knowledgeable	17% (5)	33% (3)
Moderately knowledgeable	41% (12)	56% (5)
Somewhat knowledgeable	38% (11)	11% (1)
Slightly knowledgeable	0% (0)	0% (0)
Not at all knowledgeable	3% (1)	0% (0)

*p < .05

**p < .01

***p < .001

Table 78

Parent/Guardian's Plan to Pay for Expenses During Retirement – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Method of Payment	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Work pension	72% (21)	78% (7)
RRSP	38% (11)	67% (6)
Savings Account	31% (9)	33% (3)
Government Pension	52% (15)	56% (5)
Investments (stocks, bonds, mutual funds)	31% (9)	33% (3)
Inheritance	3% (1)	0% (0)
I don't plan to retire	7% (2)	0% (0)
I don't know	10% (3)	0% (0)

*p < .05

**p < .01

***p < .001

Table 79

Parent/Guardian Hypothetical Spending Behaviours – Percentage, Number of Parents/Guardians and t-test Results - by Gender

Response	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Buy it with money that really should be used for something else	7% (2)	11% (1)
Try to borrow money from a family member	0% (0)	0% (0)
Try to borrow money from a friend	0% (0)	0% (0)
Save up to buy it	45% (13)	44% (4)
Ask someone else to buy it for me	0% (0)	0% (0)
Use credit (credit card, line of credit)	31% (9)	33% (3)
Sell things you already own or trade them for the item	0% (0)	0% (0)
Not Buy It	17% (5)	11% (1)

*p < .05

**p < .01

***p < .001

Table 80

Parents/Guardians Attitude as to When to Start Talking about Financial Matters – Percentage, Number of Parent/Guardians and t-test Results – by Gender

Grade	Percentage of Participants	
	Female (n = 29)	Male (n = 9)
Kindergarten – Grade 3	24% (7)	44% (4)
Grades 4-8	45% (13)	11% (1)
Grades 9-12	31% (9)	33% (3)
Other	0% (0)	11% (1)

*p < .05

**p < .01

***p < 0001

Table 81

Profile of Teachers – by Gender

Gender	Percentage (Number)
Female	59% (36)
Male	41% (25)

Table 82

Profile of Respondents – Percentage and Number of Teachers - by Teaching Experience and Gender

Years Teaching	Female (n = 36)	Male (n = 25)
1-5 Years	8% (3)	12% (3)
6-11 Years	25% (9)	28% (7)
12-17 Years	11% (4)	24% (6)
18-23 Years	22% (8)	28% (7)
24+	33% (12)	8% (2)

Table 83

Importance of Schools Providing a Formal Financial Literacy Program – Percentage, Number of Teacher and t-test Results - by Gender

	Female (n = 36)	Male (n = 25)
Extremely important	69% (25)	76% (19)
Moderately important	28% (10)	20% (5)
Somewhat important	3% (1)	4% (1)
Slightly important	0% (0)	0% (0)
Not at all important	0% (0)	0% (0)

*p < .05

**p < .01

***p < .001

Table 84

Percentage, Number and t-test Results of How Early Schools Should Start Discussing Financial Matters with Students - by Gender

Grade	Female (n = 36)	Male (n = 25)
Kindergarten – Grade 3	19% (7)	8% (2)
Grades 4-8	47% (17)	60% (15)
Grades 9-12	33% (12)	32% (8)

*p < .05

**p < .01

***p < .001

Table 85

Percentage, Number of Teachers and t-test Results of Teachers Who Have Participated in Professional Development in Financial Literacy – by Gender

	Female (n = 36)	Male (n = 25)
Yes	6% (2)	8% (2)
No	94% (34)	92% (23)

*p < .05

**p < .01

***p < .001

Table 86

Teacher Needs to Begin Integrating Financial Literacy into Courses - Percentage, Number of Teachers and t-test Results – by Gender

	Females (n = 36)	Males (n = 25)
Course materials specific to the courses I teach	89% (32)	68% (17)
Professional development in the area of financial literacy	67% (24)	68% (17)
Nothing, I already have the knowledge, skills and resources to integrate financial literacy	11% (4)	12% (3)
I wouldn't know where to start.	0% (0)	0% (0)

*p < .05

**p < .01

***p < .001

Table 87

Comfortableness of Integrating Financial Topics into Specific Courses – Percentage, Number of Teachers and t-test Results – by Gender

	Extremely/Moderately Comfortable		Slightly/Not at all Comfortable	
	Female (n = 36)	Male (n = 25)	Female (n = 36)	Male (n = 25)
Managing debt (credit cards, loans, etc.) *	67% (24)	96% (24)	17% (6)	4% (1)
Saving	72% (26)	84% (21)	6% (2)	4% (1)
Types of investments**	31% (11)	48% (12)	39% (14)	8% (2)
Budgeting	75% (27)	84% (21)	11% (4)	4% (1)
Compound Interest*	39% (14)	84% (21)	39% (14)	16% (4)
Pensions**	31% (11)	64% (16)	42% (15)	12% (3)
Insurance***	39% (14)	56% (20)	36% (13)	8% (2)
Taxes*	50% (18)	76% (19)	28% (10)	12% (3)
Difference between wants and needs	86% (31)	96% (24)	28% (10)	12% (3)
Stock market***	14% (5)	44% (11)	64% (23)	24% (6)
Influences on consumers*	50% (18)	76% (19)	33% (12)	8% (2)
Fraud and its consequences*	44% (16)	68% (17)	25% (9)	4% (1)
Buying a home***	56% (20)	92% (23)	19% (7)	0% (0)
How interest is calculated on credit cards/loans**	56% (20)	88% (22)	19% (7)	4% (1)
Dealing with unexpected financial shocks/emergencies	53% (19)	72% (18)	22% (8)	12% (3)
Financial planning for life after high school	67% (24)	50% (18)	17% (6)	8% (2)
Buying a car***	67% (24)	96% (24)	14% (5)	0% (0)
Consequences of financial decisions**	58% (21)	92% (23)	11% (4)	0% (0)
Setting financial goals	69% (25)	84% (21)	6% (2)	4% (1)
Charity/Giving to others	58% (21)	80% (20)	8% (3)	0% (0)
Retirement planning**	36% (13)	60% (15)	28% (10)	4% (1)
Cost of post-secondary education	86% (31)	92% (23)	3% (1)	0% (0)
Most effective ways to manage day-to-day finances	75% (27)	92% (23)	6% (2)	4% (1)

*p < .05

**p < .01

***p < .001

Table 88

Percentage, Number of Teachers and t-test Results – Teachers Who Integrate Financial Literacy into Their Current Courses – by Gender

	Female (n = 36)	Male (n = 25)
Always	6% (2)	8% (2)
Often	19% (7)	16% (4)
Sometimes	44% (16)	48% (12)
Rarely	22% (8)	20% (5)
Never	8% (3)	8% (2)

*p < .05

**p < .01

***p < .001

Table 89

*Percentage, Number and t-test Results of Teacher Awareness of the Financial Literacy Document:
Financial Education: Scope and Sequence of Expectations – by Gender*

	Female (n = 36)	Male (n = 25)
Yes	22% (8)	12% (3)
No	77% (28)	88% (22)

*p < .05

**p < .01

***p < .001

Table 90

Percentage, Number of Teachers and t-test Results of Teachers Who Use the Curriculum Document – Financial Education: Scope and Sequence of Expectations to Integrate Financial Education Into Their Courses – by Gender

	Always	Often	Sometimes	Rarely	Never
Female (n = 8)	0% (0)	0% (0)	0% (0)	38% (3)	63% (5)
Male (n = 3)	0% (0)	0% (0)	0% (0)	33% (1)	66% (2)

*p < .05

**p < .01

***p < .001