The Influence of Economics Knowledge on Students' Attitudes Toward Financial Literacy

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THE INFLUENCE OF ECONOMICS KNOWLEDGE ON STUDENTS' ATTITUDES TOWARDS FINANCIAL LITERACY

by

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ABSTRACT

Financial literacy has developed in importance resulting from the growing intricacy of financial markets and the increased responsibility placed on consumers for their own financial security. During last decade, the necessity of financial literacy has been heightened due to increasingly complex products and services. Managing personal finances is important and people must learn to engage in prudent financial decisions required when planning for retirement, education, and home purchases.

The ability to understand and manage personal finances is a skill critical to long-term financial security, additionally, there are significant consequences to financial illiteracy that can last for a life-time and many of these consequences occur while young adults are in college where financial independence begins.

As young people progress through life, they are inundated with financial decisions which should be made based on prudent financial knowledge, however, many consumers are faced with a myriad of significant financial decisions very early in life and imprudent financial mistakes made by young people can have negative effects for many years.

Because many consumers lack adequate financial literacy skills, they often make poor financial decisions in an increasingly complex economic environment. This purpose of this dissertation is to study how economics knowledge influences students' attitudes in an effort to refine current of knowledge of financial literacy levels and attitudes of students

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1: INTRODUCTION

Overview

Recently, financial illiteracy has developed into an significant issue in the United States. Many young people lack basic financial literacy skills which prohibits them from making informed financial decisions essential for long-term financial security (Valentine & Khayum, 2005; Johnson & Sherraden, 2007).

Financial literacy has grown in importance in our society resulting from the growing intricacy of financial markets and the increased responsibility placed on consumers for their own financial security. During last decade, the necessity of financial literacy has been heightened due to increasingly complex products and services (Cull & Whitton, 2001).

Financial literacy is a critical part of financial decisions and financial security and its significance cannot be overstated, even in industrialized countries with highly sophisticated financial markets, additionally, the variety of financial products now forces individuals to make informed and considered financial choices which impact their long-term economic security (Lusardi & Mitchell, 2009). Many households are unable to engage in prudent long-term financial decision-making because they do not possess the ability to perform rudimentary financial calculations and lack basic financial knowledge (Bernheim, 1995).

Managing personal finances is important and people must learn to engage in prudent financial decisions required when planning for retirement, education, and home purchases (Chen & Volpe, 1998). In the United States, both government agencies and private employers now

expect individuals to take more responsibility for their own savings and investment decisions. (Lursardi, 2015).

Finding a standard definition of financial literacy in literature is problematic, however, several researchers have tried. A list of definitions is presented in Appendix #2 of (Huston, 2010). As outlined in current research, financial literacy has many meanings; it includes a working knowledge of financial markets and products (Financial Literacy, 2013).

Current literature suggests that financial literacy measureS how proficient consumers are in the comprehension and use financial information in an effort to secure their long-term financial well-being (Lusardi & Mitchell, 2006; Remund, 2010; Balatti, 2007). Additionally, this definition is straightforward and does not clash with any prevailing definitions.

Literature suggests that many Americans are financially illiterate. This illiteracy results in poor financial decisions which leads to spending significantly more than incomes dictate; without paying much attention to the fact that expenditures vastly outweigh incomes. Consequently, consumers must possess some basic understanding of financial literacy which ultimately serves as the foundation for thoughtful and informed financial decision-making (Balatti, 2007; EBRI, 1995; Ji et al.; 2010 KPMG, 1995; Mapother, 1999; Money Magazine, 1997). Many high school and college students are financially illiterate and many of them are inept at basic money management (Merrick, 1999).

Research and publication trends suggest that financial literacy is now especially crucial in these worst of economic times which are characterized by highly unstable economic conditions (Ji et al., 2010). Financial literacy has evolved into a critical component of financial and fiscal stability with implications for both individuals and the entire economy (Lusardi, 2015).

Consumers are now carrying exceedingly high levels of debt, while experiencing growing incidences of bankruptcies and foreclosures, it comes as no surprise that financial literacy has risen in prominence in the public discourse. However, researchers have primarily focused on the question of whether consumers intentionally engage in ill-advised financial decisions or if ill-advised financial decisions is a direct result of financial illiteracy (James & Sharpe, 2009).

Statement of Problem

Understanding and managing finances is a skill critical to long-term financial security (Lusardi & Tufano, 2009). Additionally, there are significant consequences to financial illiteracy that can last for a life-time and many of these consequences occur while young adults are in college where financial independence begins (Robb, 2011).

As young people progress through life, they are inundated with financial decisions which should be made based on prudent financial knowledge (Fear & O'Brien 2009). However, many consumers are faced with a myriad of significant financial decisions very early in life and imprudent financial mistakes made by young people can have negative effects for many years (KMPG, 1995).

Because many consumers lack adequate financial literacy skills, they often make poor financial decisions in an increasingly complex economic environment. This study will explore how economics knowledge influences students' attitudes towards financial literacy. This researcher focuses on undergraduates since financial independence is established during the college years (Robb, 2011).

In the United States, there is growing anxiety about poor financial decisions which has prompted concern about financial literacy because people are now more responsible for own economic well-being (Financial Literacy, 2014). Furthermore, financial adversity does not discriminate can be experienced by anyone regardless socio-economic status, even the rich can experience financial hardship (Davis, 2006).

During the last ten years, the importance of financial literacy has been heightened due to intricate products and services (Cull & Whitton, 2001), leading to exorbitant levels of debt (Lusardi & Tufano, 2009). Prior studies focused on high school students and findings suggest they are not well educated and have poor financial literacy knowledge (CFNAMEX, 1991; Langrehr, 1979; NAEP, 1979). Financial illiteracy prompted researchers to debate the efficieny of cosumners when making financial decisions (Ambuehl, Bernheim, & Lusardi, 2014).

Financial illiteracy is being unacquainted with information needed to make practical financial decisions (Lusardi & Mitchell, 2007) define. Financial and economic stability in any country is predicated on the degree of financial literacy possessed by its population (North, 2009; Senn, 1999).

Financial illiteracy is pervasive all over the world and the young usually possess the lowest financial literacy skills. Young people often find themselves with high student loans, while trying to buy cars and houses (Lusardi & Wallace, 2013). Increasingly, young people’s initial financial experiences are connected to some kind of debt. Thirty-three percent of young adults have accrued high debt levels because of financially questionable methods of borrowing (de Bassa Scheresberg, 2013).

More recently, there is increasing concern about the lack financial intelligence among consumers who often make misguided financial decisions (Hilgerth et al., 2003)**.** The global financial marketplace is intricate and prudent financial decisions are essential (Lusardi & Mitchell, 2009). Many consumers do not own checking accounts and carry large credit card debt when more sensible opportunities can be accessed (Hilgert et al., 2003; Gartner & Todd, 2005).

Researchers agree that this behavior is caused by high levels of financial illiteracy and lows level of financial information (Hilgert et al., 2003)**.** The effects of financial illiteracy are experienced by all socio-economic groups and linger for many generations (Grinstein-Weiss, et al., 2012). Financial literacy is crucial when engaging in prudent financial behavior which leads to long-term financial security.

Braunstein & Welch (2002) agree with other researchers in the field by highlighting the increasing complexity of the financial services marketplace and consumers increased responsibility for micro-managing their financial affairs without adequate information or understanding necessary to make sound decisions.

Making considered and informed decisions about personal finances is more important than ever. Financial markets are very dynamic and consumers must keep pace with the growing list of complex financial decisions. Consumers are faced with many choices of financial institutions, banks, credit card companies, mortgage companies, and many others who are fiercely competing for their business. Considering all of this, many consumers are filled with financial anxiety and are desperately seeking educated, informed answers.

Purpose of Study

This quantitative study will explore how economics knowledge influences students' attitudes towards financial literacy. This researcher focuses on undergraduates since financial independence is established during the college years (Robb, 2011). This study will assess what students know and their opinions about financial literacy. Many researchers suggest financial literacy education must begin as early as possible in the K9 - K12 years (D'Astous, 1990; Feinburg, 1986; Smith, 1999).

When most students enter college, they lack financial literacy skills which can have significantly negative financial outcomes. Parents and educators must do a better job of educating these young adults about personal finances and the deleterious effects of exorbitant debt. Financially knowledgeable students are more capable of handling difficult financial choices (Jones & Roberts, 2001).

Significance of Study

This research will offer a more broad understanding of financial literacy among college students and how economics knowledge influences those students' attitudes towards financial literacy. Financial literacy research is imperative, allowing researchers to learn how much consumers know, and more importantly, how financial literacy matters over a consumers' life time. Economic choice models postulate that people make assumptions about their resources over their lifetime and make consumption decisions on those expected resources. In general, people typically save to ensure continuous consumption over their lifetime (Lusardi & Mitchell, 2011).

This study will provide a snapshot of how economics knowledge influences undergraduate student's attitudes towards financial literacy. This researcher focused on undergraduates since financial independence is established during the college years (Robb, 2011).

The complexity of financial markets and growing household debt have prompted researchers to highlight the importance of financial education (Cull & Whitton, 2011). Additionally, financial illiteracy leads to exorbitant debt (Lusardi & Tufano, 2009). Furthermore, financially illiterate consumers experience unsubstantiated financial outcomes which are even worse for the poor (De Bruin et al. 2010). Financially literate consumers are better at traversing the financial landscape (Beal & Delpachitra, 2003).

In the past decade, more studies find considerable deficits in financial the United States population (JumpStart Coalition, 2000). The JumpStart Coalition's financial literacy tests indicate that students performed poorly, while adults performed better (JumpStart Coalition, 2002, 2000, and 1997). Financial literacy is an imperative for financial markets to function efficiently and this caused industry, schools, and the government to prioritize financial education for all consumers. (Greenspan, 2003)

The negative financial effects of the Great Recession forced researchers to focus more on financial literacy because Americans are ill-prepared to make sounds financial decisions (Lusardi & Curto, 2010). Finding a standard definition of financial literacy in literature is problematic, however, several researchers have tried. A list of definitions is presented in Appendix #2 of (Huston, 2010). While no agreement exists about financial literacy definitions (Huston, 2010), high levels of financial illiteracy that exists among consumers (Knoll & Houts, 2012).

The significance of financial literacy cannot be overstated and directly impacts how consumers manage financial matters (Yzaguirre, 2002). Financially literate consumers make good financial decisions and are able to maximize returns from their financial portfolios, however, those consumers with low financial literacy skills often experience financial difficulty, furthermore, low financial literacy leads to consumers being misled by their banks (AFSA, 2002).

The Presidential Advisory Council (2009) suggested the economic crisis of 2008 highlighted the importance of improving financial skills, furthermore, financial illiteracy was a significant contributor to the financial crisis of 2008. Many U.S. households are financially illiterate and cannot make sound saving and investment decisions. Additionally, people of all ages seem uneducated about rudimentary financial skills. This financial illiteracy has grave consequences for long-term financial decision-making (Lusardi & Mitchell, 2006).

In a 2011 testimony to Congress, Federal Reserve Chairman, Ben Bernanke, suggested that the financial meltdown of 2008, highlighted the need for increased financial literacy, which benefits consumers and the entire economy. Prudent financial choices is predicated on financial information that is easy for consumers to comprehend and put into practice regarding credit, wealth, and investment (Bernanke 2011).

Consumers face complex financial choices very early in their lives and early mistakes can cause irreparable financial damage. Furthermore, researchers need to recognize the current level of financial illiteracy among the young (Lusardi, et. al., 2009).

In today’s intricate economy, it can be challenging to navigate through all the information necessary to make beneficial financial decisions (Lusardi & Mitchell, 2006). Furthermore, these

financial decisions are highly specific to individuals or households (Kozup & Hogarth, 2008). The results of this study can advance the question of exposure to economics and its influence students' attitudes.

Research Question

The general question that guided this research is - Does economics knowledge influence students' attitudes towards financial literacy?

Conceptual Framework

There are numerous definitions of financial literacy present in research (Huston (2010). However, Remond (2010) points out that financial literacy measures how well consumers comprehend financial information and how well that information is used when making prudent financial choices. Redmond's definition will guide the development of my conceptual framework because no agreement exists about the meaning of literacy in finance (Huston, 2010). This researcher selected this definition because it successfully incorporates the use of the term across multiple disciplines and attempts to incorporate all required components in one comprehensive definition (Remund, 2010).

Based on Remund's (2010) definition, there are two critical components of financial literacy that will guide the development of this researchers conceptual framework. The first is the basic knowledge a person possesses about personal finances. The second is the proper application of this knowledge in an effort towards making prudent financial decisions.

Poor financial decisions early in life can potentially affect consumers all through their lives (Lusardi & Tufano, 2009). Additionally, the financially illiterate are more likely to experience negative economic consequences (De Bruin et al. 2010).

Many researchers have recognized a robust connection between financial knowledge and the life cycle hypothesis (Kozup & Hogarth, 2008; Lusardi, 2012; Lusardi & Tufano, 2009). This technique applied to saving and consumption proposes that individuals minimize consumption in times of high earnings, creating the necessary savings to support consumption when income declines. Consumers arrange their saving to smooth their lifetime consumption (Friedman, 1957; Modigliani & Brumberg, 1954).

My conceptual framework incorporates the Permanent Income Hypothesis (Friedman, 1957), and the Life Cycle Hypotheses (Modigliani, 1970), both of which will be used to support and inform my research question. The selection of these two theories was deliberate since it allows my research to include the many components of financial literacy.

John Maynard Keynes, who is widely regarded as the father of modern macroeconomics (Fuller, 2015), suggested that the sole purpose of individuals in any society is consumption, however, he argued not all income is devoted to current consumption. Keynes postulated that people save because doing so allows them to engage in future consumption (Keynes, 1936).

This fundamental idea was accepted and shared by both Milton Friedman and Franco Modigliani as the main incentive for wealth accumulation, however, they both believed the main reason people save is to spread out income over their life-time to ensure continuous spending. This shared idea led to two theories, the Life Cycle Hypothesis (Modigliani, 1970) and the Permanent Income Hypotheses (Friedman, 1957), which will be used to support and inform my

research question - Does economics knowledge influence students' attitudes towards financial literacy?

Friedman was credited with the Permanent Income Hypothesis, which states, consumers make consumption choices based on expected income. Additionally, consumers set consumption at a level appropriate with their perceived ability to earn income in the long run, this perceived ability implies uncertainty about their streams of income over a long period of time (Friedman, 1957).

Income uncertainty plays a substantial role when consumers make decisions about wealth accumulation and an appropriate level of savings (Dardanoni, 1991). This uncertainty influences wealth accumulation since consumers with variable incomes typically tend to save more, implying that savings is a function of current interest rates, and in the face of uncertainty, savings inevitably change (Lusardi, 1998).

A newer theory, the Life Cycle Hypothesis, popularized by Franco Modigliani, reached the same conclusion as Friedman. Modigliani suggest that consumer spending changes at each age based on income limitations. People typically modify their consumption to align with their needs at different ages (Modigliani, 1970).

These two theories, the Life Cycle and the Permanent Income Hypotheses will support and inform my research question - The Influence of economics knowledge on students' attitudes towards financial literacy.

Permanent Income Hypothesis

The Permanent Income Hypothesis analyzes consumer behavior and highlights the effect of economic fluctuations on the consumption, furthermore, it proposes current consumption is a foundation of anticipated earnings (Friedman, 1957). The Permanent Income Hypothesis proposes individuals typically spread out consumption to avoid fluctuations in consumption based on changing incomes. Additionally, the Permanent Income Hypothesis provides a valuable analytical tool by which to engage in an exploration of people's attitudes towards financial literacy (Devaney, Anong, & Whirl, 2007).

Several articles have used the Permanent Income Hypothesis as a basis for research and analysis (Hall, 1978). Heckman (1974) asserts that if consumption is not separate from income, consumption patterns will be supported by the Permanent Income Hypothesis.

According to (Shefrin & Thaler, 1988), people do not act reasonably or optimally and most do not make profitable investment choices based on the basic principles of prudent financial literacy. Furthermore, financial illiteracy is a crucial element of poor choices and sound long term decisions (Shefrin & Thaler, 1988),

Lillard and Willis (1978) suggested that income and wealth accumulation is dynamic over time, reflecting consumers' spending patterns, which are based on expectations of income over their life-times. Their rationale clearly had economic roots in Friedman's Permanent Income Hypothesis.

Abowd & Card (1989) used the Permanent Income Hypothesis to guide their research which developed spending habits based on future expected income. Several researchers have used the Permanent Income Hypothesis as an analytical tool including (Banks, Meghir & Weber,

1999; Blundell & Preston, 1998) which all support the importance of savings as it relates to consumption over time. The enduring appeal of the Permanent Income Hypothesis is in its ability to clarify consumer behavior in terms of savings and consumption (Blundell & Preston, 1998).

Life Cycle Hypothesis

The Life Cycle Hypothesis extended the Permanent Income Hypothesis by outlining the framework explaining savings patterns (Fisher, 2006). Devaney at al. (2007) explains that most consumers typically save and forgo present consumption to protect themselves from financial difficulty when their incomes decrease later on in their lives. Furthermore, any analysis of savings must study how consumption is affected by income uncertainty (Hubbard et al., 1994).

Modigliani outlined a framework where savings based on income uncertainty, constitute a major feature in all savings decisions, additionally, the structure of expected earnings is the most significant factor in determining how much people save (Hubbard et al, 1994). Consumers accumulate savings as a way to ensure consumption based on changing incomes, to do so, they attempt to protect consumption from expected variations in future income (Skinner, 1998).

Modigliani (1970) suggested when managing their financial assets, employed people can make plans for periods in which there is no income, modifying their consumption at different ages, independently of their incomes. The Life Cycle Hypothesis lists two cycles of savings in which spending occurs. During first stage, consumer borrowing is a function of wealth and future income, however, borrowing against future income, largely depends on how consumers perceive their ability to repay those debts. In general, if consumers' confidence in their ability,

via increased incomes to repay debt, they will borrow at a higher level. During the second stage, consumption patterns plateau and are supported by increases in income (Modigliani, 1970). The most common reason for current savings is to ensure future spending and consumption (Browning & Lusardi, 1996). This model is central to research on financial literacy and explains poor financial decisions are made based on anticipated income (Modigliani & Brumberg, 1954).

As studying financial literacy becomes more important, household save more in an effort to prepare for retirement, rather than current consumption and financial literacy was one of the major determinants of the amount of money households typically save. (Chase, et al, 2011).

Greenspan (2003) suggested Modigliani's Life Cycle Hypothesis emphasized the importance of financial literacy. Increased financial literacy helps people to successfully apply basic financial knowledge to their financial lives. However, the value of the Life Cycle Hypothesis is in its ability to explain consumer behavior when making financial decisions. Financial literacy has negatively affected consumers, households and the entire economy (Browning & Lusardi, 1996).

In summary, the Permanent Income Hypothesis states consumers make choices based on expected future income. Consumers set consumption at levels appropriate with their perceived ability to earn income in the long run, this perceived ability implies uncertainty about their streams of income. Both hypotheses propose that individual behavior is modified to smooth out consumption independent of income.

Limitations of Study

Like any piece of academic research, limitations exist. This researcher wants readers to know this study employed a quantitative research design. Quantitative research limits robust conclusions (Gall, Gall, & Borg, 2003). Additionally, self-reporting surveys are always subject to measurement error and low participation rates (Dillman, Smyth, & Christian, 2009).

CHAPTER 2: REVIEW OF RELATED LITERATURE

Introduction

An examination of literature was conducted to support this study; it is includes of five segments. The first segment concentrates on the history of financial literacy, including its definition and current knowledge about the financial literacy of young consumers. The second section focuses on the major financial literacy studies. The third section focuses on the operationalizing the financial literacy definition. The fourth section is a brief conclusion. The fifth section explores the future of financial literacy.

History of Financial Literacy

Finance has many definitions including money circulation and investing, it is the science or study of the management of funds, and obtaining capital (Merriam-Webster, 2009). Literacy is defined as the state of being literate, whereas literate is defined as being educated, cultured, or having knowledge or competence (Merriam-Webster).

Financial literacy means understanding and using fiscal concepts, additionally, it implies using financial information to mitigate future financial hardships (Chinadle, 2008).

Numerous explanations of financial literacy are present in current financial literacy research (Huston, 2010; Bucher-Koener & Lusardi, 2001). However, Remund's (2010) description will guide development of this study.

Remund (2010) asserted, there are two critical components of financial literacy. The first is the basic knowledge a person possesses about personal finances and the second is the proper application of this knowledge in an effort towards making prudent financial decisions.

Early in the twentieth century, financial decisions were relatively simple. Mortgages were simple to negotiate and relatively easy to acquire for most of the century. Although credit cards existed throughout the century, it wasn't until the latter quarter of the century that credit cards became a significant part of American life (Roth, 2006). Because of the World Wide Web, shopping became easier and spending inevitably increased and Americans were spending money they didn't have, and experienced high levels of debt (CUNA, 2002).

The introduction of flexible home loans added to the confusion on the part of the general public because new options made it easier to borrow money, and to extend the time over which the debts were repaid (FLPPP, 2009). Because of these new options, the general public was unaware of the impact of such borrowing on their overall debt. As loans, and offers of credit became more creative, they also got more complicated and consumers simply did not have the education or background to make financially sound and responsible decisions. Citizens lacking basic financial literacy could not make prudent decisions about buying a car, buying insurance, obtaining a mortgage, credit card choices, retirement saving, or creating a budget (FLPPP, 2009).

Financial literacy was initially supported by JumpStart Coalition (Jumpstart Coalition, 1997). Examination of the current state of financial affairs of American citizens yields disturbing results. In 2006, the rate of personal saving dropped to negative one percent and one-third of the outstanding consumer debt is from credit cards (Jumpstart Coalition, 2007).

Financial Literacy and Young People

Upon graduation many student are still deficient in basic financial skill and graduates are inept at any meaningful discourse about financial matters (Johnson & Sherraden, 2007). This financial illiteracy precludes informed decision-making and leads to important societal concerns that calls for additional research (Johnson & Sherraden, 2007).

Approximately 45% of college undergraduates possess at least four credit cards with balances averaging $3000 (Godfrey, 2006). Paying only the minimum payment each month on this balance would require a payoff period of over thirty years, furthermore, average credit card balances for Americans is $8000.00 per person, not per household (Lusardi, 2015). Just over thirty percent of all workers today state they are not financially prepared for retirement. There are more people who declare bankruptcy in the United States than graduate from college (Lusardi, 2015).

The Jumpstart Coalition was founded with the goal of educating our youth in the area of basic personal finance. The Jumpstart Coalition now consists of 180 organizations, as well as state coalitions all with the same goal. Since 1995 the Jumpstart Coalition has educated teachers throughout the United States through many and varied methods including the establishment of an online database called the Jumpstart Coalition Clearinghouse which consists of free, downloadable brochures, lesson plans, stories, teaching guides, workbooks, worksheets, activities, and links to other informative sites to name a few; there are over three hundred resources currently available (Jumpstart Coalition, 2010-a).

The National Endowment for Financial Education (NEFE) is well-known for serving professionals in the finance industry, however, the NEFE soon recognized a growing need for

financial education and resources by the general public and in 1997, and they decided to devote themselves to serving the public instead of financial professionals (NEFE, 2010). Like the Jumpstart Coalition, NEFE also provides extensive resources for educators which are available on their website.

In response to the studies conducted and conclusions by the Jumpstart Coalition, NEFE, and countless others, President Bush created a committee on financial literacy (Department of the Treasury, 2009). The purpose was conducting research about financial issues, to establish standards for financial literacy, and to assist schools in providing quality education in this area (US Department of the Treasury).

Major Studies

The attention to financial literacy occurred earlier than the financial crisis of 2008 and researchers scrutinized financial knowledge and the financial behavior of consumer behavior. Volpe, Chen, and Pavlicko (1996) surveyed students reporting low financial test scores, leading to the conclusion they possess insufficient knowledge about investments.

Two studies that surveyed students concluded upon graduation, they experienced a deficiency in the financial skills to engage in prudent financial decision-making (Mandell, 1997; Volpe & Chen, 1998). Additionally, college graduates leave school holding significant debt and possessing minimal knowledge of the intricate financial landscape, which often leads to negative financial results from which it is difficult to recover (Reed (2008). Sallie Mae (2009) conducted a survey of the young resulting in the recognition of the critical need for financial knowledge and additional financial training.

Other studies conducted on financial literacy in other countries establish similar relationships to financial knowledge and financial decisions. Van Rooij, Lusardi, and Alessie (201l) studied consumers in the Netherland and found consumers with high financial literacy plan better for retirement and engage more in stock market investments. A study of Swedish households found more financially literate consumers invest more wisely (Calvert, Campbell, & Sodini, 2007, 2009).

There ae numerous articles which outline the connection between financial literacy and financial decision-making (Chen & Volpe, 1998; Chen, Volpe, & Liu, 2006; Chatzky, 2002; Cude, 2010; Walsted, Rebeck, & MacDonald, 2010). Consumers with high credit scores pay bills punctually and typically will not declare bankruptcy, furthermore, higher financial literacy leads to better financial decisions, less bankruptcy filings, and increased overall financial stability (Cole, Paulson, & Shastry, 2012). In contrast, consumers with low financial literacy characteristically hold high levels of debt, worry more about retirement and health related costs (Koenig, 2007). Financially illiteracy literacy fosters inadequate future planning and which can lead to financial hardships (Lusardi & Tufano, 2009). While it is costly to procure financial literacy, individuals who do so are rewards with the benefits of being financially literate (Meier & Sprenger, 2012).

It is generally agreed that the general public lacks proficiency in the financial arena, and the need for education in this subject area is sorely in need of improvement. Most of the previous research was done in the financial sector and focused on managing portfolios (NEFE, 1993-1996).

Preceding studies conducted mainly concentrated on students in high school and found severe limitations in personal financial rudiments and financial literacy skills (Chinadle, 2008; CFNAMEX, 1991; NAEP, 1979).

Test results from a recent research study using 1,500 seniors suggested that graduating students lack the necessary skills when making sensible financial choices (Mandell, 1997). A Princeton study surveyed over 1,700 households found that those making the majority financial decisions in households lack a basic understanding of finance. In another study using over 500 adult women, more than half lacked investing knowledge and researchers contend that many people are not saving enough to meets their needs during retirement and will frequently make investment decisions that are not aligned with long term financial goals (Oppenheimer Funds, 1997).

KPMG (1995) surveyed over 1,100 employers and concluded that employees contribute way below the percentage allowed by their 401K plans, suggesting that employees are not take full advantage of existing benefits. According to the Employee Benefit Research Institute (1995), most Americans have inadequate retirement funds and a survey of 1,000 current and retired workers found a high proportion of workers and retirees scored 60% or less on financial literacy assessments (Employee Benefit Research Institute, 1995). Financial illiteracy can be a major deterrent when engaged in financial planning and a limited knowledge of basic finance is the main issue for financial decision-makers (Institute of Certified Financial Planners, 1993).

Current publications publish findings on students and adults, however, most research focus on high schools students and only a few studies explored the financial literacy of college students (Pavlicko, 1996; Volpe, Chen, & Pavlicko, 1996).

A survey of over 300 college students using a questionnaire covering several components of financial literateness suggested a low level of basic monetary knowledge (Danes & Hira, 1987). Pavlicko (1996), specifically focused on participants' knowledge of investments which included over 400 students from a state university; his findings suggest that they have a below average knowledge of finance. American consumers lack the information required for comprehensive financial choices highlighting the necessity for increased financial literacy (Nicolini, Cude, & Chatterjee, 2013).

The current level of financial literacy is critical since Americans' current financial literacy skills will profoundly affect future generations (Jones & Roberts, 2001). Furthermore, consumers' poor financial decision-making will negatively impact the entire economy (Mandell & Klein, 2009). In U.S. colleges and universities, financial illiteracy causes mounting anxiety for both students and administrators (Durband & Britt, 2012). This concern seems valid since financial markets encourages financial independence (Porterba, Rauh, Venti, & Wise, 2006).

Low financial literacy diminishes cognizance of relevant fiscal matters and the inability of those with low financial skills to be successful in complex economic markets (Lusardi, Mitchell, & Curto, 2010). Research points to various groups of United States citizens for whom this is particularly true, and who, historically, have low financial literacy knowledge and skills (Goetz et al., 2011; Lusardi, Mitchell, & Curto, 2010; McWilliams, 2008; Porterba, Rauh, Venti, & Wise, 2006), these groups mainly include young Americans (Lusardi, Mitchell, & Curto, 2010). As a direct result, consumers with a limited understanding of financial literacy find themselves unable take advantage of the significant financial opportunities available in the financial marketplace (Capuano & Ramsay, 2011).

Operational Definition of Financial Literacy

Numerous definitions of financial literacy are present in research (Huston, 2010), however, Remund's (2010) definition will guide this study. While there is no agreement on a financial literacy meaning, this researcher selected this definition because it successfully incorporates the deviations of the term across multiple disciplines and attempts to incorporate all required components into one comprehensive definition.

Based on Remund's (2010) definition, there are two critical components of financial literacy that will this study. The first is the basic knowledge a person possesses about personal finances. The second is the proper application of this knowledge in an effort towards making prudent financial decisions. Financial literacy implies the efficient comprehension and usage of financial data (Redmund, 2010), this definition is straightforward and does not clash with any prevailing definitions.

Researchers frequently use the terms financial mastery, financial information, and training synonymously, and even fewer have made any effort to explain the differences. Financial literacy is comprised of the thoughtful application of economic knowledge (Huston, 2009).

Financial knowledge can be effective when making financial decisions, increasing satisfaction from consumption (Willis, 2008). Financial illiteracy is now recognized by banks, governments, and the community, all of whom are justifiably worried that consumers are deficient in fundamental financial knowledge required to make beneficial decisions critical to their long term economic future. These financial literacy shortcomings can adversely affect consumers' financial ability to secure long term financial security (Braunstein & Welch, 2000).

Many financial education programs distribute information based on the notion that better financial choices will be a natural outcome for people exposed to financial literacy information (Vitt et al., 2000). However, good financial judgment can prove challenging in markets littered with increasingly sophisticated financial products (Burhouse, Grambell, & Harris, 2004).

More recent studies focus on the levels of debt outlining high credit card use and poor repayment practices by college freshmen (Lyons, 2004), additionally, the financial of 2008, highlights the undeniable fact that financial illiteracy contributed to its severity (Crain, 2013).

Industrialized and less developed place emphasis on shifting demographics and complicated financial markets as reasons for the current state of financial illiteracy. (Willis, 2008). Within the last few decades, many states have now mandated financial literacy education (Bernheim, Garrett, & Dean, 2001), and financial literacy education is now required in many U.S. schools (Langrehr, (1979). Financial illiteracy is so pervasive among adults in the U.S. (Campbell, 2006), that policy-makers are now calling for more financial education (Chen & Volpe, 1998

Conclusion

Students, upon graduating from college, will be exposed to financial market that are continually evolving. One element that will remain constant is the need to be financially literate. Students are being thrown into a highly complex financial environment and are not equipped to handle the rigors of complex financial decisions. An increase in financial literacy and financial education can make a significant difference when making financial decisions.

The Future of Financial Literacy

Financial attitudes are constantly evolving and we now live in a culture content with high debt balances, moreover, avoiding debt is not widely practiced and living debt free is non-existent (Diamond & O'Curry, 2003). Ten years ago, few credit card companies pursued college students, however, more recently, college students have been become a major target group for those same companies (Ring, 1997).

In summary, financial literacy is designed to increase the comprehension of and the efficient use of financial information (Huston, 2009). However, a lack of financial literacy can be costly and cannot be ignored any longer; it ultimately leads to lower standards of living that would otherwise be enjoyed with high literacy (Hall, 2008). Financial illiteracy affects individuals and families alike, and have micro and macro effects (Lusardi & Panos, 2013). Individuals who possess diminished financial literacy lack the ability to accumulate financial capital which can negatively affect their lives, as well as the entire economy (Demyanyk & Van Hemert, 2011).

Financial illiteracy leads to very high levels of debt, abnormally high bankruptcy rates, low savings, and the inability to adequately prepare for the future (Anthes, 2004). Financial illiteracy does not affect any specific group more than another, even socio-economic groups with high incomes often find themselves in financial hardship as a direct result of poor financial management (Davis, 2006).

Finally, financial literacy is beneficial since it fosters economic growth reducing poverty and the income distribution gap, furthermore, financial literacy encourages prudent financial decision-making leads to long-term financial security (Grinstein-Weiss, Spader, Yeo, Key &

Freeze, 2012). High levels of financial literacy supports sound financial behavior which provides the basis for prudent financial decision-making and long-term financial security (Chen & Volpe, 1998).

CHAPTER 3: METHODOLOGY

Statement of Problem

Within the last ten years, the necessity of financial literacy has been heightened due to intricate products and services (Cull & Whitton, 2001), leading to exorbitant levels of debt (Lusardi & Tufano, 2009). Prior studies focused on high school students and findings suggest they are not well educated and have poor financial literacy knowledge (CFNAMEX, 1991; Langrehr, 1979; NAEP, 1979).

Financial literacy is critical as younger consumers grow older and must confront major financial decisions regarding life events such as marriage, new home and car purchases, and mortgage acquisition (Fear & O'Brien 2009). The complexity of financial markets and growing household debt have prompted researchers to highlight the importance of financial education (Cull & Whitton, 2011). Additionally, financial illiteracy leads to exorbitant debt (Lusardi & Tufano, 2009). Furthermore, financially illiterate consumers experience unsubstantiated financial outcomes which are even worse for the poor (De Bruin et al. 2010). Financially literate consumers are better at traversing the financial landscape (Beal & Delpachitra, 2003).

The significance of financial literacy cannot be overstated and directly impacts how consumers manage financial matters (Yzaguirre, 2002). Financially literate consumers make good financial decisions and are able to maximize returns from their financial portfolios, however, those consumers with low financial literacy skills often experience financial difficulty and are often misled by their banks institutions (AFSA, 2002).

Financial literacy has assumed increased prominence resulting from the growing intricacy of financial markets and the increased responsibility placed on consumers for their own financial security (Cull & Whitton, 2001). Researchers in the financial literacy field highlight the increasing complexity of the financial services marketplace and consumers increased responsibility for micro-managing their financial affairs – often without adequate information or understanding necessary to make sound decisions (Braunstien & Welch, 2012).

Making considered and informed decisions about personal finances is more important than ever. Financial markets are very dynamic and consumers must keep pace with the growing list of complex financial decisions. Consumers are faced with many choices of financial institutions, banks, credit card companies, mortgage companies, and many others who are fiercely competing for their business. Considering all of this, many consumers are filled with financial anxiety and are desperately seeking educated, informed answers (Lusardi & Mitchell, 2006).

Research Methodology

This quantitative study explores how economics knowledge influences students' attitudes in an effort to refine current of knowledge of financial literacy levels and attitudes of students enrolled in economics classes in one state university and two state colleges. This researcher focused on undergraduates because financial autonomy is established during the college years (Robb, 2011).

This study uses a comprehensive on-line questionnaire, developed by (Chen & Volpe, 1998), as a method of data collection, which addressed major features of financial literacy. The

questionnaire includes questions on general financial knowledge, along with questions on insurance, investments, and borrowing and savings.

Research Question

Does economics knowledge influence students' attitudes toward financial literacy?

Research Design

The conceptual framework developed relies upon two constructs, the Permanent Income and Life Cycle Hypotheses, both of which will be used to support and inform my research question. The selection of these two theories was deliberate allowing this research to include the many components of financial literacy. These two theories will support and inform my research question - The Influence of economics knowledge on students' attitudes towards financial literacy. The Permanent Income Hypothesis analyzed consumer behavior and highlights the influence of economic fluctuations on consumption behavior (Friedman, 1957). This hypothesis postulates consumption is based on expected future income and proposes individuals typically spread out consumption over their lives and avoid fluctuations in consumption based on changing incomes. Additionally, the Permanent Income Hypothesis provides a valuable analytical tool by which to engage in an exploration of people's attitudes towards financial literacy (Devaney, Anong, & Whirl, 2007).

Several articles have used the Permanent Income Hypothesis as a basis for research and analysis (Hall, 1978). Heckman (1974) asserts that if consumption is not separate from income, consumption patterns will be supported by the Permanent Income Hypothesis.

According to (Shefrin & Thaler, 1988), people do not act reasonably or optimally and most do not make profitable investment choices based on the basic principles of prudent financial literacy. Furthermore, financial illiteracy promotes unbeneficial long term financial results (Shefrin & Thaler, 1988),

Lillard and Willis (1978) suggested that income and wealth accumulation is dynamic over time, reflecting consumers' spending patterns, which are based on expectations of income over their life-times. Their rationale clearly had economic roots in Friedman's Permanent Income Hypothesis.

Abowd & Card (1989) used the Permanent Income Hypothesis to guide their research which developed spending habits based on future expected income. Several researchers have used the Permanent Income Hypothesis as an analytical tool including (Banks, Meghir & Weber, 1999; Blundell & Preston, 1998) which all support the importance of savings as it relates to consumption over time. The enduring appeal of the Permanent Income Hypothesis is in its ability to explain consumer behavior in terms of savings and consumption (Blundell & Preston, 1998). The Life Cycle Hypothesis extended the Permanent Income Hypothesis by outlining a framework explaining savings patterns (Fisher, 2006). Devaney at al. (2007) explains that most consumers typically save and forgo present consumption to protect themselves from financial difficulty when their incomes decrease later on in their lives. Furthermore, any analysis of savings must study how consumption is affected by income uncertainty (Hubbard et al., 1994).

Modigliani outlined a framework where savings based on income uncertainty, constitute a major feature in all savings decisions, additionally, the structure of expected earnings is the most significant factor in determining how much people save (Hubbard et al, 1994). Consumers

accumulate savings as a way to ensure consumption based on changing incomes, to do so, they attempt to protect consumption from expected variations in future income (Skinner, 1998).

By managing their financial assets, employed people make plans for periods in which there is no income, modifying their consumption at different ages, independently of their incomes (Modigliani, 1970). The Life Cycle Hypothesis lists two cycles in which spending occurs. During first stage, consumer borrowing is a function of wealth and future income, however, borrowing against future income, largely depends on how consumers perceive their ability to repay those debts. In general, if consumers' confidence in their ability, via increased incomes to repay debt, they will borrow at a higher level. During the second stage, consumption patterns plateau and are supported by increases in income (Modigliani, 1970). The most common reason for current savings is to ensure future spending and consumption (Browning & Lusardi, 1996). This model is central to research on financial literacy and explains poor financial decisions are made based on anticipated income (Modigliani & Brumberg, 1954). As studying financial literacy becomes more important, household savings are undertaken in an effort to prepare for retirement, rather than current consumption and financial literacy was one of the major determinants of the amount of money households typically save. (Chase, et al, 2011).

Greenspan (2003) suggested Modigliani's Life Cycle Hypothesis stressed the significance of financial literacy suggesting increased financial knowledge helps people to successfully apply basic financial knowledge to their financial lives. However, the value of the Life Cycle Hypothesis is in its ability to explain consumer behavior when making financial decisions. Financial literacy has negatively affected consumers, households and the entire economy (Browning & Lusardi, 1996).

In summary, the Permanent Income Hypothesis states consumers make choices based on expected future income. Consumers set consumption at levels appropriate with their perceived ability to earn income in the long run, this perceived ability implies uncertainty about their streams of income. Both hypotheses propose that individual behavior is modified to smooth out consumption independent of income.

This study uses a comprehensive on-line questionnaire, developed by (Chen & Vople, 1998), as a method of data collection, which addressed major features of financial literacy. The questionnaire includes questions on general financial knowledge, along with questions on insurance, investments, and borrowing and savings and all data will be collected through Qualtrics and will be analyzed using Partial Least Squares regression analysis and descriptive statistics.

This study utilized Partial Least Squares and structural equation modeling (PLS-SEM) allowing this researcher to assess both structural and measurement components in the one comprehensive model. To measure financial literacy, participants reported on questions using five categories ranging from very important to very unimportant.

Population and Sampling

The population chosen was undergraduates because financial independence is established during the college years (Robb, 2011). The sample size for this study included six sections of economics classes, with a minimum of 300 students each, to withstand any student attrition. The sampling procedure for this study will employ the matching technique to highlight any close

differences between the two groups (Gall, Gall, & Borg, 2007). Six classes from three different schools within the state of Florida were surveyed to ensure each class covered similar content.

Data Collection Procedures

This researcher acquired authorization from the Institutional Review Board at the University of Central Florida Institutional before distributing surveys. Students were asked to voluntarily and anonymously participate in this study which used a comprehensive questionnaire designed by (Chen & Volpe, 1998. The study used an on-line questionnaire for data collection, which addressed major features of financial literacy. The questionnaire includes questions on general financial knowledge, along with questions on insurance, investments, and borrowing and savings. Surveys were administered to undergraduate students enrolled in six sections of economics classes offered at one university and two state colleges in Florida during the Spring and Summer semesters of 2016. These schools were chosen because of their diverse student population. The researcher recruited participants by requesting each professor encourage students to complete the questionnaire on-line using the Qualtrics platform. The sample size included 350 participants between the ages 18 and 45. Respondents were informed of voluntary participation, additionally, there was no promise of compensation for completing surveys. There was no risk to participants because the survey was completed voluntarily and anonymously.

Data Analysis

All data collected was investigated using Partial Least Squares and Structural Equation Modeling (PLS-SEM), (Ringle, 1996) which permits analysis of interconnected inquiries in one model (Chin, 1998).

Partial Least Squares (PLS) allows structural components (path models) and measurement components (factor model) in one model, while Structural Equation Modeling (SEM) allows for analyzing the connections between constructs (Geffen & Straub 2005). While the Partial Least Squares (PLS) software is relatively new, it proves to be a very powerful analytical tool and is effective because of its robust ability in the areas of modeling and predictive capabilities. Research suggests that Partial Least Squares and Structural Equation Modeling (PLS -SEM) has been widely accepted as effective analytical tools (Chin & Newsted, 1999; Helland, 1990; Stone & Brooks, 1990).

Partial Least Squares (PLS) is comparable to regression analysis and allows the researcher to use a structural equations model analyzing the structural and measurement paths technique (Chin, Marcolin & Newsted, 2003; Lohmöller, 1989). Furthermore, Partial Least Squares (PLS) is valuable because the sample size requirement does not require rigorous adherence to power analysis (Chin, Marcolin, & Newsted, 2003) and it is quite effective when analyzing smaller sample sizes (Wittingslow & Markham, 1999).

Limitations

Quantitative research design precludes strong conclusions (Gall, Gall, & Borg, 2003), and self-reporting surveys inherently include errors in measurement, sampling, and coverage

(Dillman et al., 2009). Measurement error is inherent in any financial literacy study (Lusardi & Mitchell, 2009). Klein (2007) suggests more insight does not always translate into improved behavior, furthermore, financial education, when related to behavior, does not account for the reasons motivating individual choices.

CHAPTER 4: FINDINGS

Introduction

Financial literacy has developed in importance in our society resulting from the growing intricacy of financial markets and the increased responsibility placed on consumers for their own financial security (Lusardi & Mitchell, 2006). During last decade, the necessity of financial literacy has been heightened due to increasingly complex products and services (Cull & Whitton, 2001).

This study was conducted and is significant because poor financial literacy is a major issue and many young people lack basic financial skills, which prohibits educated financial decisions essential for long-term financial security (Valentine & Khayum, 2005; Johnson & Sherraden, 2007). Managing personal finances is important and people must learn to engage in prudent financial decisions required when planning for retirement, education, and home purchases (Chen & Volpe, 1998). In the United States, both government agencies and private employers now expect individuals to take more responsibility for their own savings and investment decisions (Lusardi, 2015).

This study explores how economics knowledge influences students' attitudes towards financial literacy to refine current knowledge of financial literateness and attitudes of students enrolled in economics. The guiding research question is - Does economics knowledge influence students' attitudes towards financial literacy? Financial literacy research continues to be important because researchers want to learn how much consumers know, and more importantly, how financial literacy matters over a consumers' lifetime (Lusardi & Mitchell, 2011).

Consistent with the protocol outlined in Chapter #3 - Methodology, this study used a comprehensive on-line questionnaire, developed by (Chen & Volpe, 1998), as the primary method of data collection, which addressed major features of financial literacy. The questionnaire includes questions about financial knowledge, investments, borrowing & savings, insurance, and personal finance opinions (See Appendix #2 for full survey).

The instrument was given to undergraduates enrolled in six sections of economics classes offered at one university and two state colleges in Florida during the Spring and Summer semesters of 2016. These schools were chosen because of their diverse student population. All data was collected through Qualtrics and investigated using Partial Least Squares and Structural Equation Modeling (PLS-SEM) and descriptive statistics.

This chapter is comprised of two main segments. The first segment will explore the results derived from descriptive analysis, and the second, the results derived from the Partial least squares structural equation modeling (PLS-SEM), which allowed simultaneous evaluation the structural and measurement components in one model (Geffen & Straub 2005).

Descriptive Statistics

The survey used in this study was comprised of 52 questions which included, nine questions on personal finance knowledge, nine questions on savings and borrowings, six questions on insurance, 12 questions on investments, eight questions on personal finance opinions, decisions, and education, and eight demographic (see Appendix #2) for full questions and answers.

When deriving the Full Path Model (Figure 1), this researcher abbreviated the relevant questions to fit in the model, and established second order constructs. The measurement model (see Figure 1) explores the relationships between the conceptual factors and construct measures. For example, this researcher conducted an analysis of "Savings and Borrowings, using questions from the "Savings and Borrowings" category below, see (Survey of Personal Financial Literacy**)**. Specifically, "Savings and Borrowings" was measured using three indicators, SB2 - (question #11), SB3 - (question #12), and SB4 - (question #13). (See Appendix #2 for full questions and answers). For example, this researcher conducted an analysis of "Opinions" using questions from the categories below see (Survey of Personal Financial Literacy) about investments, insurance, and personal finance opinions, decisions, and education. Specifically, opinions can be explained using questions #27 and #34 from the "investment category", question #19 from the "insurance category," and questions #41 and #42 from the "personal finance opinions, decisions, and education**,"** category (See Appendix #2 for full questions and answers)**.**

Furthermore, this researcher grouped variables together consistent with the groupings in the original survey assuming the constructs are supported by content justification and represent a regression model. In summary, knowledge can be explained using (3) second order constructs. Insurance can be explained using (2) second orders constructs. Investments can be explained using (2) second order constructs. Savings & Borrowings can be explained using (3) second order constructs. Opinions can be explained using (5) second order constructs. Opinions (2) can be explained using (3) second order constructs. Because of the analysis based on these groupings, this researcher can conclude economics knowledge does influence students' attitudes towards financial literacy because the results can explain 41% of the variance in opinions.

Table 1 Survey of Personal Financial Literacy

Topic Item	Response Options
General Personal Finance Knowledge	Multiple Choice, Options A-E
1. Personal finance literacy can help you:	
2. Personal financial planning involves:	
3. The most liquid asset is:	
4. Your net worth is:	
5. Assuming dependent children; is a $500 tax credit per child what option is most valuable?	
6. You are not overspending if:	
7. Which of the following is not relevant to leasing an apartment?	
8. If you signed a lease for $300/ month but never occupied:	
9. Checking account reconciliation involves:	
Savings and Borrowings	Multiple Choice, Options A-E
10. Your savings accounts in a federally insured commercial bank are insured by:	
11. If you invest $1,000 today at 4% for a year, your balance in a year will be:	
12. Which of the following investments requires that you keep your money invested?	
13. Which of the following statements is TRUE about the annual percentage rate (APR)?	
14. You can receive your credit report from:	
15. Which is FALSE concerning credit cards?	
16. An overdraft:	
17. You will improve your creditworthiness by:	
18. If you co-sign a loan for a friend, then:	
Insurance	Multiple Choice, Options A-E
19. Auto insurance companies determine your premium based on:	
20. The main reason to purchase insurance is to:	
21. Regarding purchasing insurance:	
22. Which of the following would not ordinarily be covered under a homeowner’s policy.	
23. Which of the following statements is FALSE?	
24. You have a better chance or resolving a complaint:	
Investments	Multiple Choice, Options A-E
25. If interest rates rise, the price of a Treasury bond will:	
26. A dollar-cost-averaging approach to investing involves:	
27. What is the main advantage of a dollar-cost- averaging approach to investing?	
28. High risk means:	
29. A high-risk and high-return investment strategy would be most suitable for	
30. Which of the following is FALSE?	
31. The returns from a balanced mutual fund include:	
32. No-load mutual funds are recommended over load funds because investors:	
33. All other factors remain the same, U.S. dollar value of a Japan fund will be:	
34. You have just graduated from college and found a job earning $28,000 per year.	
35. Which of the following is true regarding Japanese Yen?	
36. Which of the following is true regarding the U.S. dollar?	
Personal Finance Options, Decisions, and Education	Multiple Choice, Options A-E for questions 37-40
37. Assume you're in your early twenties and you would like to build up your nest egg	
38. Assuming you are in your early twenties without any dependents	
39. In your opinion, low risk means:	

Topic Item	Response Options
40. Do you maintain financial records?	Likert Scale for questions 41-44
41. Maintaining adequate financial records.	
42. Spending less than your income.	
43. Maintaining adequate insurance coverage.	
44. Planning and implementing a regular investment program.	
About Yourself	Multiple Choice, Options A-E for questions 45-51
45. What is your class rank?	
46. What is your age?	
47. What is your sex?	
48. What is your race or ethnic background?	Multiple Choice, Options A-B for question 52
49. Which best describes your or your family's personal income last year?	
50. How many years of working experience do you have?	
51. What is your major field of study?	
52. Are you a foreign student?	

Participants self-reported "Gender" (Table 1). Participants chose between (a) male or (b) female. 33.8% were Male (N = 49), and 66.2% were Female (N = 96). Participants self-reported "Age" (Table 1). The participants chose: (a) 18-22 (b) 23-29 (c) 30-39, and (d) 40-59. Approximately 53.8% of the participants were between the ages of 18-22 (N = 78), 17.9% of the participants were between the ages of 23-29 (N = 26), 9.7% of the participants were between the ages of 30-39 (N = 14), and 17.2% of the participants were between the ages of 40-59 (N = 25). Finally, 1.4% of the participants did not report their age (N = 2).

Table 2 Gender and Age

	Frequency (*n*)	Percent (%)
Gender		
Male	49	33.8
Female	96	66.2
Total	145	100
Age		
18-22	78	53.8
23-29	26	17.9
30-39	14	9.7
40-59	25	17.2
Total	143	98.6
Missing	2	1.4
Final Total	145	100

Participants self-reported "Race/Ethnicity" (Table 2). The participants chose: (a) White, (b) Black/African-American, (c) Hispanic, and (d) Asian, (e) American Indian and (f) Other.

55.2% of the participants were White, (N = 80), 20.7% were Black/African American (N = 30), 2.1% were Hispanic (N = 3), 9.0 % were Asian (N = 13), 2.1% were American Indian (N = 3). Finally, 16% of the participants chose not to report their Race/Ethnicity (N = 16).

Table 3 Race/Ethnicity

	Frequency (*n*)	**Percent (%)**
White	80	55.2
Black/African-American	30	20.7
Hispanic	3	2.1
Asian	13	9
American Indian	3	2.1
Other	16	11
Total	145	100

Participants self-reported on “Class Rank” (Table 3). The participants chose from: (a) Freshman, (b) Sophomore, (c) Junior, and (d) Senior. 23.4% were freshmen, (N = 34), 37.9% were sophomores (N = 55), 24.8% were juniors (N = 36), and 13.8 % were seniors (N = 20).

Table 4 Class Rank

	Frequency (*n*)	**Percent (%)**
Freshman	34	23.4
Sophomore	55	37.9
Junior	36	24.8
Senior	20	13.8
Total	145	100

Participants self-reported on “Family's Personal Income” (Table 4). The participants chose from: (a) under $10,000, (b) $10, 000 - $29,999, (c) $30,000 - $49,000, and (d) $50,000 or more. 9% reported family personal income of under $10,000, (N = 13), 27.6% reported family personal income of $10, 000 - $29,999, (N = 40), 22.8% reported family personal income of $30,000 - $49,000, (N = 3), and 40.7 % reported family personal income of $50,000 or more (N = 59).

Table 5 Family Income

	Frequency (*n*)	Percent (%)
Under $10.000	13	9
$10,000 - $29,999	40	27.6
$30,000 - $49,000	33	22.8
$50,000 or more	59	40.7
Total	145	100

Participants self-reported on “Years of Work Experience” (Table 5). The participants chose from: (a) Less than 2 years, (b), two to less than four years (c) four to less than six years, and (d) More than six years. 29.7% reported years of experience of less than 2 years, (N = 43). 20.7% reported years of work experience of two to less than four years, (N = 30). 13.8% reported years of work experience of four to less than six years, (N = 20), and 35.9% reported years of work experience of more than six years, (N=52).

Table 6 Years of Work Experience

	Frequency (*n*)	Percent (%)
Less than two years	43	29.7
Two to less than four years	30	20.7
Four to less than six years	20	13.8
More than six years	52	35.9
Total	145	100

Participants self-reported on “Major” (Table 6). The participants chose from: (a) Business, (b), Education (c) Liberal Arts, (d) Science and Engineering and (e) other.

36.6% reported their major as Business, (N = 53), 6.9% reported their major as Education (N = 10). 2.8 % reported their major as Liberal Arts (N = 4). 27.6 % reported their major as Science or Engineering (N = 40) and 26.2% reported their major as other (N = 38).

Table 7 Major

	Frequency (*n*)	Percent (%)
Business	53	36.6
Education	10	6.9
Liberal Arts	4	2.8
Science or Engineering	40	27.6
Other	38	26.2
Total	145	100

Participants reported on “Foreign Student.” The participants chose from: (a) Yes, and (b) No. 6.2% reported that they were foreign students, (N = 9), and 93.8% that they were not foreign students (N = 136).

Partial Least Squares and Structural Equation Modeling Results

This researcher utilized Partial least squares structural equation modeling (PLS-SEM) (Vold, 1966, 1982, 1985), and the Smart partial least squares (SmartPLS.com) program developed by (Ringle, 2005). Partial least squares structural equation modeling (PLS-SEM) allows exploration of a set of interconnected queries in one inclusive analysis by analyzing interactions among dependent constructs (Chin, 1998).

Partial Least Squares (PLS) permits concurrent evaluation of structural and measurement components in one model, while Structural Equation Modeling (SEM) analyzes connections between constructs (Geffen & Straub 2005). While the Partial Least Squares (SmartPLS) software is relatively new, it proves to be a very powerful analytical tool and is effective because of its robust ability in the areas of modeling and predictive capabilities. Research suggests that Partial least squares and structural equation modeling (PLS-SEM) has been verified and widely

accepted as an effective analytical tool (Chin, 1998; Chin & Newsted, 1999; Helland, 1990; Stone & Brooks, 1990).

Partial Least Squares (PLS) is similar to least squares regression and uses structural equations modelling. Partial Least Squares (PLS) finds approximations by concurrently evaluating the structural and measurement paths (Chin, Marcolin & Newsted, 2003; Lohmöller, 1989).

Furthermore, Partial Least Squares (PLS) is valuable because the sample size requirement does not require rigorous adherence to power analysis (Chin, Marcolin, & Newsted, 2003) and it is quite effective when analyzing smaller sample sizes (Wittingslow & Markham, 1999).

Finally, Partial least squares structural equation modeling (PLS-SEM) is effective when forming prediction equations (Garthwaite, 1994) and is capable of clarifying complex models employing a protocol called bootstrapping which gives the researcher the ability to test whether path coefficient are significant (Fornell & Bookstein, 1982).

Based on the analysis conducted, this researcher can conclude economics knowledge does influence students' attitudes towards financial literacy because the results explain 41% of the variance in opinions. This conclusion is supported by the following analysis.

Figure 1 depicts the model used in this research and is a full path model, comprised of, inner and outer models. The inner model has attempts to explain the connection amongst latent variables. For example, K1, K2, and K3, which are the variables for knowledge have now become manifest since we took the means of the constructs. The outer model attempts to explain the connections between each latent variable, which describes a construct explaining the variation in indicators.

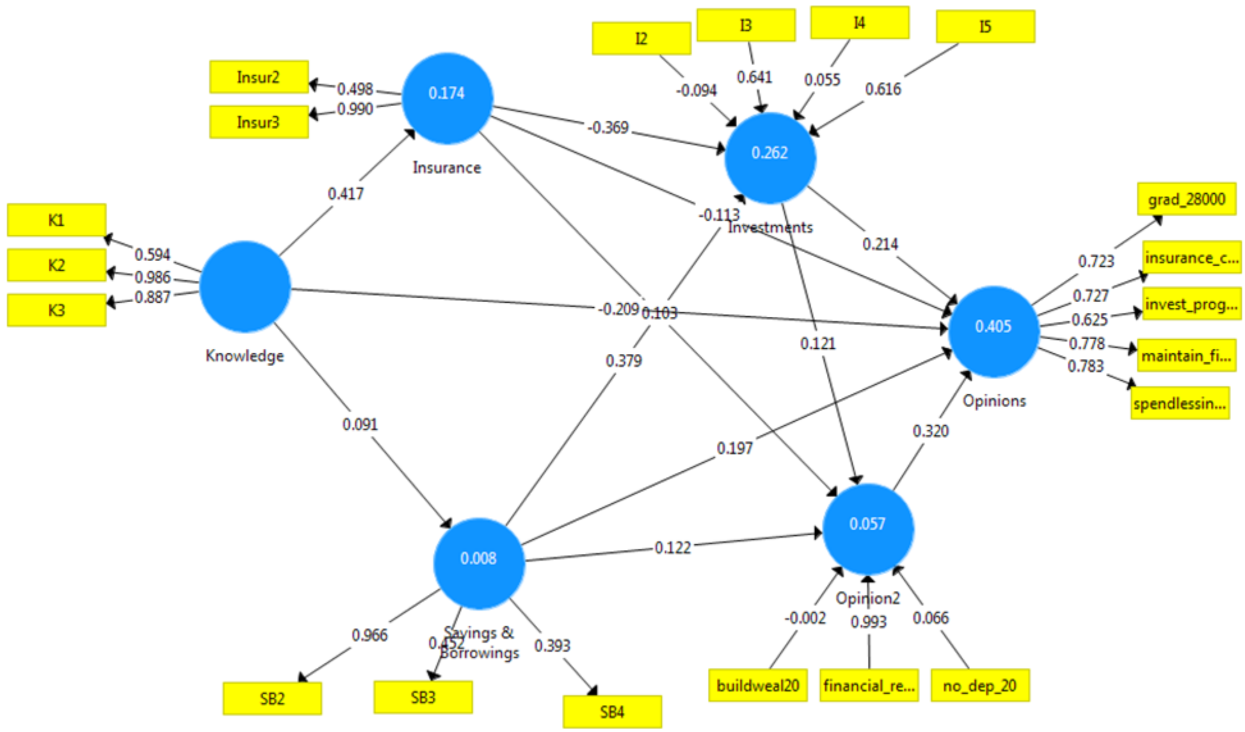

Figure 1 Full Path Model

Based on the analysis conducted, this researcher can conclude economics knowledge does influence students' attitudes towards financial literacy because my results can explain 41% of the variance in opinions. The measurement model for reflective models (Figure 2), which represents the relationships further evidenced this conclusion between constructs and its respective measures (Byrne, 2001). Reflective constructs are depicted with arrows pointing to the manifest (measured) variables as indicated by "Knowledge" in (Figure 2). It implies changing the construct would cause all manifest variables to change. Consequently, these manifest variables must be highly related to other manifest variables on the same construct. The measurement model is depicted with constructs and manifest variables outside the circle.

Validity and reliability could not be established in the first model; as a result, this researcher conducted second order construct analysis.

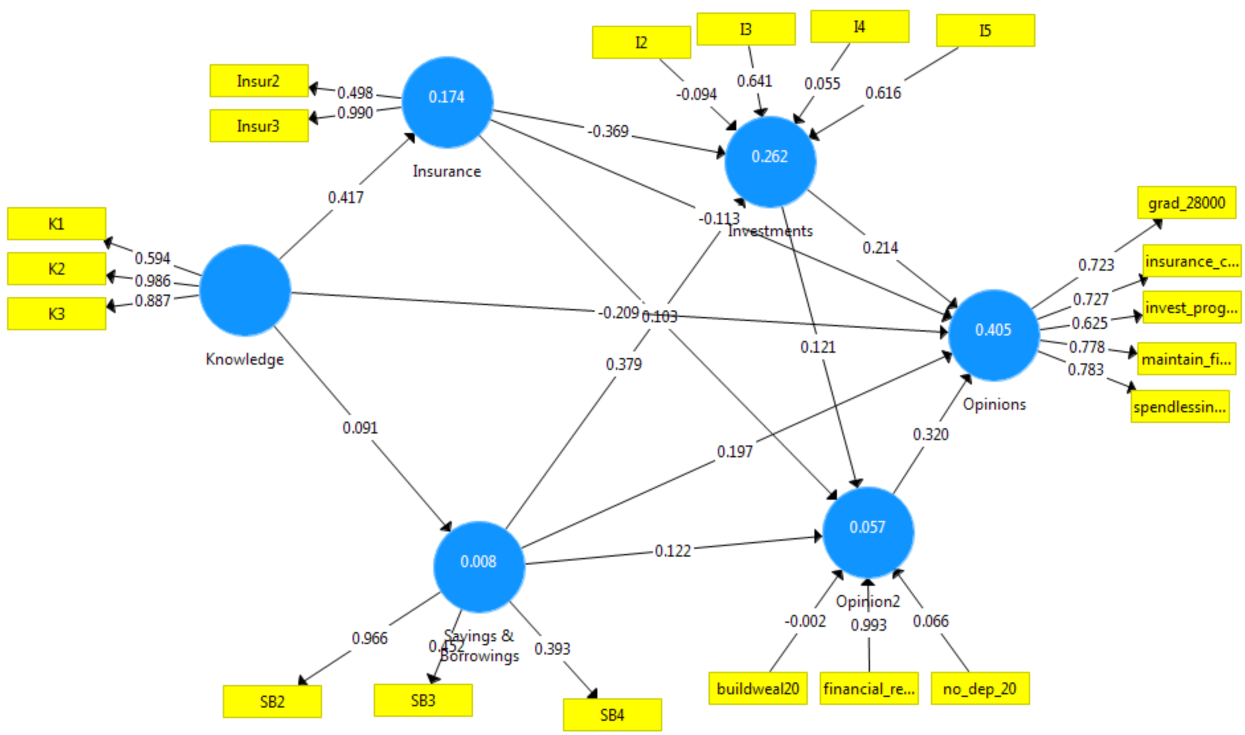

Figure 2 Measurement Model

A construct is a concept describing some theoretical area of importance (Edwards & Bagozzi, 2000). According to Diamantopolous and Winklhofer (2001), constructs are measured using indicators. This researcher established second order constructs for knowledge, insurance, investments, and savings and borrowings. For example, this researcher conducted an analysis of "opinions" using survey questions about insurance, investments, financial health, spending, and financial records. Additionally, this researcher conducted an analysis of "opinions (2)" using survey questions related to: a) building wealth, b) financial responsibility, and c) life insurance. See summary table. To clarify, this researcher abbreviated the relevant questions to fit in the

model, and established second order constructs. The measurement model (see Figure 1) explores the relationships between the conceptual factors and construct measures. For example, this researcher conducted an analysis of “Savings and Borrowings, using questions from the “Savings and Borrowings” category, see (Survey of Personal Financial Literacy**)**. Specifically, “Savings and Borrowings” was measured using three indicators, SB2 - (question #11), SB3 - (question #12), and SB4 - (question #13). (See Appendix #2 for full questions and answers). For example, this researcher conducted an analysis of “Opinions” using questions from the categories below see (Survey of Personal Financial Literacy) about investments, insurance, and personal finance opinions, decisions, and education. Specifically, opinions can be explained using questions #27 and #34 from the “investment category”, question #19 from the “insurance category,” and questions #41 and #42 from the “personal finance opinions, decisions, and education**,”** category (See Appendix #2 for full questions and answers).

Table 8 Latent and Manifest Variables

Latent Variable	**Manifest Variable(s)**
Opinions	Insurance
	Investments
	Financial Health
	Spending
	Financial Wealth
Opinions (2)	Wealth Building
	Financial Responsibility
	Dependents
Savings and Borrowing	SB2
	SB3
	SB4
Knowledge	K1
	K2
	K3
Insurance	Insur 2
	Insur 3
Investments	I2
	I3
	I4
	I5

The Reflective Model Construct

Raykov & Shrout (2002) suggests that studies should focus on Composite Reliability with a threshold of 0.70. This study assessed internal consistency using composite reliability (CR) as shown in (Table 7). Composite reliability (CR) ranks measurements based on reliability through model estimation, making it appropriate for PLS-SEM analysis (Hair et al., 2011). Additionally, Hair et al., (2011) suggests, it might be prudent to preserve measurements with values of less than .70 because they can support content validity.

Table 9 Reliability and Validity

Latent Variable	Composite Reliability (CR)	Average Variance Extracted (AVE)
Insurance	0.804	0.677
Investments	0.705	0.395
Knowledge	0.871	0.7
Opinions	0.85	0.533
Savings & Borrowing	0.721	0.474

To ensure validity, this researcher used two measures recommended by Campbell and Fiske (1959), discriminant validity and convergent validity, additionally, convergent validity measured using averages of average variance extracted (AVE).

The Average Variance Extracted (AVE) statistic is used to assess convergent validity (Fornell & Larcker, 1981). Average Variance Extracted should exceed .50 to fulfill the requirements of convergent validity (Hair et al., 2011). Average Variance Extracted (AVE) demonstrates the extent of change items share with the constructs measured. Furthermore, it is critical for items to have more variance within its own measure than other constructs (Fornell & Larcker, 1981).

The AVE (Table 7) were insurance (0.677), knowledge (0.7), and opinions (0.533). These values range from 0.533 to 0.7 and adhere to the .50 level requirement. These results prove convergent validity between insurance, knowledge, and opinions.

Discriminant validity implies that manifest variables load more heavily on their assigned constructs than any other. Researchers utilize the Fornell Larcker criterion to assess validity. This researcher tested validity through evaluation of the average variance extracted amongst constructs and its appropriate measures. The Fornell-Larcker criterion suggests the average variance extracted exceed the correlation of any given construct compared to all other constructs (Ringle, Sardtedt, & Straub, 2012). Because Hair and Sarstedt, (2012) suggest the Fornell Larcker criterion are inadequate when detecting validity issues, the (Heterotrait-Monotrait Ratio) HTMT was also employed.

Table 10 Fornell-Larcker

	Insurance	**Investments**	**Knowledge**	**Opinions**	**Savings & Borrowings**
Insurance	0.822				
Investments	-0.33	0.629			
Knowledge	0.479	-0.255	0.836		
Opinions	-0.336	0.451	-0.343	0.73	
Savings & Borrowing	0.182	0.324	0.156	0.247	0.688

As an alternative to the classical Fornell Larcker criterion, Hair, Ringle, & Sarstedt (2013) points out that (Heterotrait-Monotrait Ratio) HTMT estimates the correlation between the stated constructs and typically attains high values specificity when using the measurement model. Furthermore, values less than 1 suggest the actual correlation between the constructs should be different (Hair, Ringle & Sarstedt, 2013). This researcher employed HTMT with a threshold of .85 as outlined by (Hair, Ringle, & Sarstedt 2013). All values were < .85; therefore, validity was established for the constructs.

Table 11 Heterotrait-Monotrait Ratio

	Insurance	Investments	Knowledge	Opinions	Savings & Borrowings
Insurance					
Investments	0.573				
Knowledge	0.655	0.35			
Opinions	0.443	0.572	0.389		
Savings & Borrowing	0.478	0.521	0.314	0.352	

The Formative Measurement Construct

For formative constructs, reliability and validity are established differently from reflective constructs. For formative constructs, arrows go to the constructs. For example, in Figure 2, "Investments," assume the constructs are supported by content justification and represent a regression model. Furthermore, if one variable is removed, this changes the construct.

In general, collinearity refers to the non-independence of predictor variables (Alin, 2010). Collinearity is important because attempts to edit predictor variables can lead to significant changes to the measurement model. These changes are measured by the variance inflation factor (VIF), if VIF > 5, there are collinearity problems; lower values mean no collinearity problems (Hair et al., 2011). In the formative measure construct, collinearity refers to the non-independence of predictor variables, it exists when two or more predictors are correlated (Alin, 2010). Because all values range from 1.034 – 1.0245, there are no collinearity issues (Alin, 2010).

Table 12 Collinearity

	Insurance	Investments	Opinions
Insurance		1.034	1.467
Investments			1.409
Knowledge	1.057		1.372
Opinions (2)			1.098
Savings & Borrowing	1.067	1.034	1.305

This researcher grouped variables together consistent with the groupings in the original survey. Even though the weights for wealth building and I2 were negative, they have not been removed because of content justification. Additional reasons for specific groupings include: (a) Consumers possessing high levels of financial literacy engage in beneficial financial decisions (Van Rooij, Lusardi, & Alessie, 2011); (b) Financial knowledge and financial behaviors are connected (Lusardi & Tufano, 2009); (c) For many students, financial independence is established during the college years (Robb, 2012); (d) Financial illiteracy leads to poor financial decisions ((Lusardi & Mitchell, 2006); and (e) Consumers who possess high levels of financial literacy typically engage in more prudent financial decision-making (Lusardi & Mitchell, 2007). Having established validity for the measurement model, this researcher will now explain the structural model in the next section.

In summary, knowledge can be explained using (3) second order constructs. Insurance can be explained using (2) second orders constructs. Investments can be explained using (2) second order constructs. Savings & Borrowings can be explained using (3) second order constructs. Opinions can be explained using (5) second order constructs. Opinions (2) can be explained using (3) second order constructs. All of these constructs were supported using the PLS model analysis.

The Structural Model

The structural model (Figure 2) demonstrates efficiency when predicting assumed paths while showing the relationship between latent variables (see Figure 2).

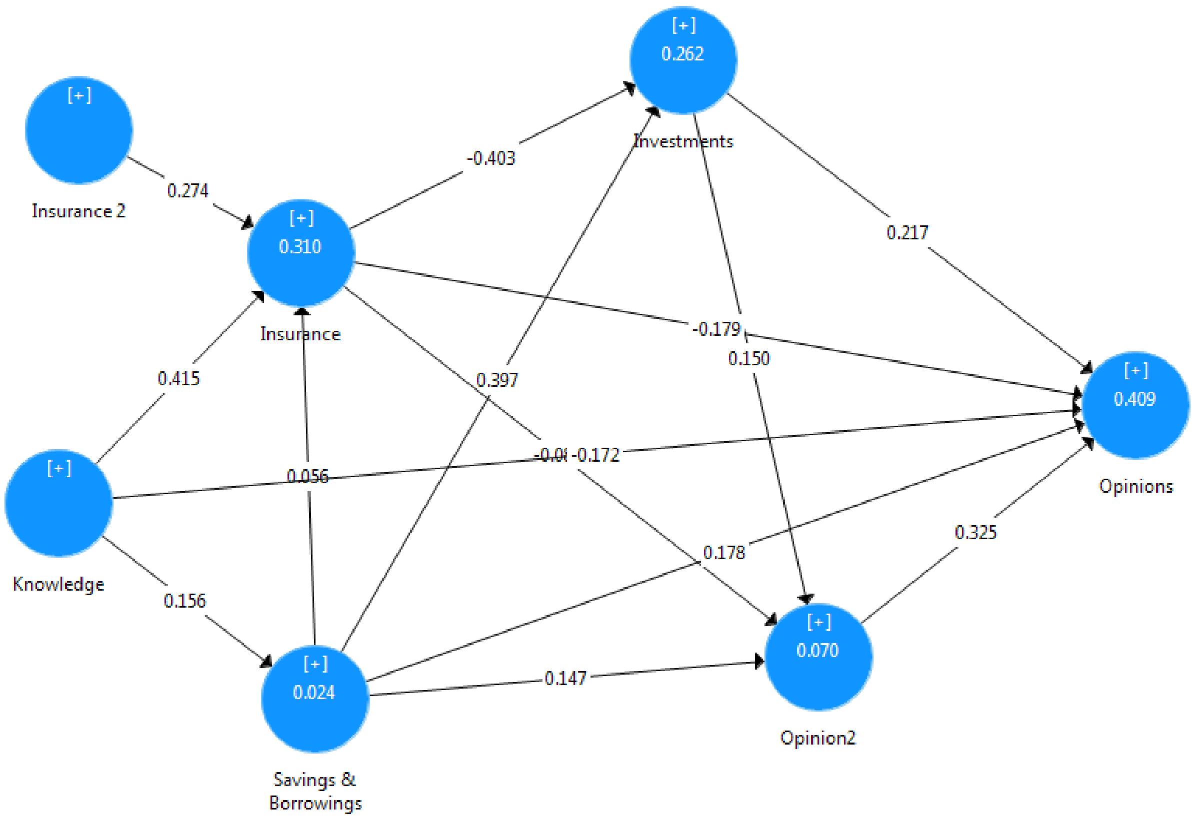

Figure 3 Structural Model

This model indicates the connection among the latent variables, which are grouped together and related to each other consistent with the groupings in the original survey.

As part of the results, Smart Partial Least Squares provides R^2 results that specifies the proportion of a construct's variance, whilst the strengths of relationships between constructs is illustrated by path coefficients. For example, the R^2 coefficient for opinions is .409, which means the five latent variables for opinions, (insurance investments, financial health, spending, and financial wealth) explain 41% of the variance in opinions.

Hair et al., (2011) suggests R^2 values more than .01 is acceptable. Figure 2 shows the outcomes of the PLS model, it shows the variance (R^2) amongst constructs and coefficients.

Additionally, the coefficients indicate the power of the connections amongst the constructs. Coefficients are statistically significant if *p is less than 0.05*. According to (Chin, 1998), bootstrapping was employed to show t-statistics and standard errors, permitting this researcher to quantify statistical significance related path coefficients.

Table 13 R^2

	$\boldsymbol{R^2}$
Insurance	0.31
Investments	0.262
Opinions (2)	0.07
Opinions	0.409
Savings & Borrowing	0.024

Table 14 Total Effects

	Indirect Effects	Direct Effects	Total Effects
	Opinions	Opinions	Opinions
Insurance	-0.135	0.179	-0.314
Insurance (2)	-.0.086	0	-0.086
Investments	0.049	-0.217	0.266
Knowledge	-0.081	0.172	-0.253
Savings & Borrowing	0.136	-0.178	0.314

In the structural model, total effects shows the combination of indirect and direct results (see Table 12). Because of scaling in the manifest variables, a low score on insurance analyzed with investments, opinions (2), and opinions means the most common responses were associated with low values. Because of scaling in the manifest variables, a low score on insurance (2) analyzed with insurance, investments, opinions (2), and opinions means the most common responses were associated with low values. Because of scaling in the manifest variables, a high score on investments analyzed with opinions and opinions (2) means the most common responses were associated with high values. Because of scaling in the manifest variables, a low score on knowledge analyzed with insurance, investments, opinions (2), opinions, and savings and borrowings means the most common responses were associated with low values. Because of scaling in the manifest variables, a high score on savings and borrowing analyzed with insurance, investments, opinions (2), and opinions means higher scores were associated high values.

Based on the analysis conducted, this researcher can conclude economics knowledge does influence students' attitudes towards financial literacy because the results explain 41% of the variance.

CHAPTER 5: CONCLUSIONS

Introduction

This study was conducted in an effort to explore how economics knowledge influences students' attitudes towards financial literacy, specifically, this study assessed economics students' financial knowledge and their opinions towards financial literacy. This researcher focused on undergraduates because financial independence is established during the college years (Robb, 2011), moreover, when most students leave college, they lack rudimentary financial literacy skills which can have negative long-term financial outcomes (Lusardi, 2007). Parents, educators, and private industry must do a better job of educating young adults about personal finances and the deleterious effects of exorbitant debt because financially knowledgeable consumers are more capable of handling difficult financial choices (Jones & Roberts, 2001).

Literature Review Findings

The literature review outlined studies involving various levels of financial knowledge for adults, college students, and high school students. Financial literacy has developed in importance in our society resulting from the growing intricacy of financial markets and the increased responsibility placed on consumers for their own financial security (Braustein & Welch, 2002). Many studies completed early in the last decade focused on college students and their ability to succeed in a world of increasingly complex products and services (Cull & Whitton, 2001).

This literature review was conducted to establish and support this study and there are five segments. The first segment outlined historical financial literacy, including its definition and current knowledge about the financial literacy of young consumers. The second section focuses on the major research in the field. The third segment outlines the working description of financial literacy. The fourth section is a brief conclusion. The fifth section is an exploration of the future of financial literacy.

This review of literature found that students, upon graduating from college, will be exposed to financial market that are continually evolving and financial literacy is necessary for long-term financial security (Lusardi & Mitchell, 2006). Furthermore, students are being thrown into a highly complex financial environment and are not equipped to handle the rigors of complex financial decisions, however, increases in financial literacy and financial education can make a significant difference when making financial decisions (Johnson & Sherraden, 2007). Upon graduation, many students are deficient in basic financial skill and graduates are inept at any meaningful discourse about financial matters (Johnson & Sherraden, 2007).

Financial illiteracy precludes informed decision-making and leads to important societal concerns that calls for additional research (Johnson & Sherraden, 2007). There is agreement among researchers that the general public lacks proficiency in the financial arena, and the need for education in this subject area is sorely in need of improvement (Lusardi & Panos, 2013). Previous research was done in the financial sector and focused on managing portfolios (NEFE, 1993-1996), and found American consumers lacking the financial information necessary when making financial decisions and the necessity for increased financial literacy skills (Nicolini, Cude, & Chatterjee, 2013). The current level of financial illiteracy is crucial because this

illiteracy will profoundly affect future generations (Jones & Roberts, 2001). Furthermore, consumers' poor financial decision-making will negatively impact the entire economy (Mandell & Klein, 2009). Financial attitudes are constantly evolving and we now live in a culture content with high debt, moreover, avoiding debt is not widely practiced and living debt free is non-existent (Diamond & O'Curry, 2003). Financial literacy is designed to increase the comprehension of and the efficient use of financial information (Huston, 2009). However, a lack of financial literacy can be costly and cannot be ignored any longer; it ultimately leads to lower standards of living for many consumers (Hall, 2008).

Financial illiteracy affects individuals and families alike, and have micro and macro effects (Lusardi & Panos, 2013). Individuals who possess diminished financial literacy lack the ability to accumulate financial capital which can negatively affect their lives (Demyanyk & Van Hemert, 2011). Financial literacy is beneficial since it fosters economic growth and reduces poverty, furthermore, financial literacy encourages prudent financial decision-making which leads to long-term financial security (Grinstein-Weiss, Spader, Yeo, Key & Freeze, 2012). High levels of financial literacy supports sound financial behavior which provides the basis for prudent financial decision-making and long-term financial security (Chen & Volpe, 1998).

Summary of Findings

Based on the analysis conducted, this researcher concluded economics knowledge does influence students' attitudes towards financial literacy because the results explain 41% of the variance in opinions. This conclusion is supported by the following analysis.

Two models were used in this analysis, the first is the measurement model for reflective models which represents the relationships between constructs and its respective measures (Byrne, 2001). Reflective constructs are depicted with arrows pointing to the manifest (measured) variables as indicated by "Knowledge" in (Figure 2). It implies changing constructs would cause all manifest variables to change. Consequently, these manifest variables must be highly related to other manifest variables on the same construct. The measurement model is depicted with constructs and manifest variables outside the circle. Validity and reliability could not be established in the first model; as a result, this researcher conducted second order construct analysis.

This researcher established second order constructs for knowledge, insurance, investments, and savings and borrowings. For example, this researcher conducted an analysis of "opinions" using survey questions about insurance, investments, financial health, spending, and financial records. Additionally, this researcher conducted an analysis of "opinions (2)" using survey questions related to: a) building wealth, b) financial responsibility, and c) life insurance. See summary table. To clarify, this researcher abbreviated the relevant questions to fit in the model, and established second order constructs. The measurement model (see Figure 1) explores the relationships between the conceptual factors and construct measures. For example, this researcher conducted an analysis of "Savings and Borrowings, using questions from the "Savings and Borrowings" category, see (Survey of Personal Financial Literacy**)**. Specifically, "Savings and Borrowings" was measured using three indicators, SB2 - (question #11), SB3 - (question #12), and SB4 - (question #13). (See Appendix #2 for full questions and answers). For example, this researcher conducted an analysis of "Opinions" using questions from the categories below

see (Survey of Personal Financial Literacy) about investments, insurance, and personal finance opinions, decisions, and education. Specifically, opinions can be explained using questions #27 and #34 from the “investment category”, question #19 from the “insurance category,” and questions #41 and #42 from the “personal finance opinions, decisions, and education**,”** category (See Appendix #2 for full questions and answers).

This study assessed internal consistency using composite reliability (CR) which ranks measurements on reliability, making it appropriate for PLS-SEM analysis (Hair et al., 2011). To ensure validity, this researcher used two measures recommended by Campbell and Fiske (1959), discriminant validity and convergent validity. The Average Variance Extracted (AVE) statistic assessing convergent validity was first derived by (Fornell & Larcker, 1981). Average Variance Extracted should exceed .50 (Hair et al., 2011). The Average Variance Extracted (AVE) demonstrates the extent of variance items share with respective constructs. Furthermore, it is critical for items to have more variance within its own measure than other constructs (Fornell & Larcker, 1981).

The AVE (Table 7) were insurance (0.677), knowledge (0.7), and opinions (0.533). These values range from 0.533 to 0.7 and adhere to the .50 level requirement. These results prove convergent validity between insurance, knowledge, and opinions. Discriminant validity implies that manifest variables load more heavily on their assigned constructs than any other. Researchers utilize the Fornell Larcker criterion to assess validity. This researcher tested validity through evaluation of the average variance extracted amongst constructs and its appropriate measures. Because Hair and Sarstedt, (2012) suggest the Fornell Larcker criterion are

inadequate when detecting validity issues, the (Heterotrait-Monotrait Ratio) HTMT was also employed.

As an alternative to the classical Fornell Larcker criterion, Hair, Ringle, & Sarstedt (2013) points out that (Heterotrait-Monotrait Ratio) HTMT estimates the correlation between the stated constructs and typically attains high values specificity when using the measurement model.   Furthermore, values less than 1 suggest the actual correlation between the constructs should be different (Hair, Ringle & Sarstedt, 2013). This researcher employed HTMT with a threshold of .85 as outlined by (Hair, Ringle, & Sarstedt 2013). All values were < .85; therefore, validity was established for the constructs.

For formative constructs, reliability and validity are established differently from reflective constructs. For formative constructs, arrows go to the constructs. For example, in Figure 2, “Investments,” assume the constructs are supported by content justification and represent a regression model. Furthermore, if one variable is removed, this changes the construct.

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literacy typically engage in more prudent financial decision-making (Lusardi & Mitchell, 2007). Having established validity for the measurement model, we now proceed to the explanation of the structural model in the next section.

In summary, knowledge can be explained using (3) second order constructs. Insurance can be explained using (2) second orders constructs. Investments can be explained using (2) second order constructs. Savings & Borrowings can be explained using (3) second order constructs. Opinions can be explained using (5) second order constructs. Opinions (2) can be explained using (3) second order constructs. All of these constructs were supported using the PLS model analysis.

The second model used in this analysis is the structural model (Figure 2) which demonstrates efficiency when predicting assumed paths while showing the relationship between latent variables. This model indicates the connection among the latent variables, which are grouped together and related to each other consistent with the groupings in the original survey.

As part of the results, Smart Partial Least Squares provides R^2 results that specifies the proportion of a construct's variance, whilst the strengths of relationships between constructs is illustrated by path coefficients. For example, the R^2 coefficient for opinions is .409, which means the five latent variables for opinions, (insurance investments, financial health, spending, and financial wealth) explain 41% of the variance in opinions. Because of scaling in the manifest variables, a low score on insurance analyzed with investments, opinions (2), and opinions means the most common responses were associated with low values. Because of scaling in the manifest variables, a low score on insurance (2) analyzed with insurance, investments, opinions (2), and opinions means the most common responses were associated with

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Based on the analysis conducted, this researcher can conclude economics knowledge does influence students' attitudes towards financial literacy because the results explain 41% of the variance.

Limitations

This researcher wants to acknowledge some limitations of this study. Participants in this study may possess prior financial knowledge from different sources beyond an economics class. Financial literacy is important, but difficult to measure, additionally, it is always challenging to measure how people use economic information when make informed financial decisions (Lusardi & Mitchell, 2007).

The data collected for this study measured knowledge and opinions of students in Florida colleges and universities and may not be generalizable to a larger student population. Furthermore, because the data collected for this study measured knowledge and opinions of students in Florida colleges and universities, it is not nationally representative, consequently, replication with a much larger sample may very well yield different results. Considering this

limitation, future researchers might find it beneficial to replicate this study on a national level. The sample size for this study was small and future studies should analyze larger sample sizes with different size higher education institutions. Another drawback is during the college years, students have not reached their highest earning years and have not yet developed responsible financial behavior (Bernheim, Garrett, & Maki, 2001).

This quantitative study used a self-reporting survey and quantitative research design precludes strong conclusions (Gall, Gall, & Borg, 2003). Moreover, self-reporting surveys inherently include errors in measurement, sampling, and coverage (Dillman et al., 2009), moreover, measurement error is inherent in any financial literacy study (Lusardi & Mitchell, 2009). Finally, Klein (2007) suggests more insight does not always translate into improved financial behavior, moreover, financial education, when related to behavior, does not account for the reasons motivating individual choices.

Implications

The financial crisis of 2008 highlights persistent financial illiteracy including the necessity to protect consumers from the effects of financial illiteracy (Deevy, Lucich, & Beals, 2012). There is no denying the significance of financial literacy and studies are reaching the similar conclusion that consumer’s cannot make prudent financial decisions (Chen & Volpe, 1998: Letkeiwicz & Fox, 2014; Volpe, Chen, & Liu, 2006)). Additionally, most Americans are not confident about their ability to be effective when making financial decisions (Lusardi, 2003). Overall, this study outlined a couple of essential implications for financial literacy and security.

First, young people are faced with increasingly complex decisions that required extensive financial literacy skills (Lusardi & Mitchell, 2006). Consumers are assuming more financial responsibility before, during, and after college, and financial illiteracy increases the odds of risky financial behavior (Xiao et al., 2014). Moreover, the financially illiterate are more likely to experience negative economic consequences (De Bruin et al. 2010).

The second important implication is addressing the need for increased financial literacy education as there is agreement that the public lacks proficiency in the financial arena ((Perry 2008).

To appropriately address the issues in financial literacy, educational leaders must begin with the exploration of more appropriate financial literacy education and development of more financial education programs (Lusardi & Mitchell, 2011). Colleges and universities may benefit from having an awareness of the benefits of financial literacy curriculum for students because financial literacy leads to prudent financial behavior (Robb & Woodyard, 2011)

The findings of this study may also help financial literacy educators to improve their financial literacy curriculum and professional development for financial literacy teachers who need help with the usage of financial literacy instruction. Teachers, administrators, and professors can use the results of this study to understand the important role of financial literacy curriculum improvement for students in developing financial literacy skills. Students should participate in mandatory financial literacy courses for an appropriate length of time in order to become knowledgeable and functional in fundamental areas of basic finance.

Conclusion

As financial markets become more intricate, consumers must make sophisticated financial decisions and financial literacy leads to beneficial financial behavior (Hilgerth et al., 2003). Financially informed consumers are expected to succeed when investing for their futures (Yoong, 2005), and, financial knowledge is associated with advantageous financial decisions (Hilgert, Hogarth, & Beverly, 2003). However, financial illiteracy remains widespread, and many consumers need assistance in understanding how early financial mistakes can have negative effects which can last for a long time. Finally, young adults who rare exposed to financial information from college courses make improved financial choices suggesting that institutions of higher learning should require financial literacy (Mimura, et al., 2015).

APPENDIX A: DEFINITIONS OF FINANCIAL LITERACY

1. Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money (Noctor, Stoney, and Stradling 1992, definition used by Beal and Delpachitra 2003 and ANZ 2008).
2. Personal financial literacy is the ability to read, analyze, manage and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without discomfort, plan for the future and respond competently to life events that affect every day financial decisions, including events in the general economy (Vitt et al. 2000; Cude et al. 2006).
3. Financial literacy is a basic knowledge that people need in order to survive in a modern society (Kim 2001).
4. Financial literacy refers to a person's ability to understand and make use of financial concepts (Servon & Kaestner 2008).
5. Financial literacy is the ability to use knowledge and skills to manage financial resources effectively for lifetime financial security (Jumpstart Coalition 2007).
6. Financial literacy is the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being (U.S. Financial Literacy and Education Commission 2007).
7. Financial knowledge is defined as understanding key financial terms and concepts needed to function daily in American society (Bowen 2002).
8. Consumer literacy, defined as self-assessed financial knowledge or objective knowledge (Courchane and Zorn 2005)

APPENDIX B: SURVEY OF FINANCIAL LITERACY

Thank you for participating in our survey. This survey is intended to measure college students' knowledge and attitudes towards financial literacy.

DIRECTIONS: Please select only ONE most appropriate answer for each question.

I. GENERAL PERSONAL FINANCE KNOWLEDGE

1. Personal finance literacy can help you:
A. Avoid being victimized by financial scams.
B. Buy the right kind of insurance to protect you from catastrophic risk.
C. Learn the right approach to invest for your future needs.
D. Lead a financially secure life through forming healthy spending habits.
E. Do all of the above.

2. Personal financial planning involves:
A. Establishing an adequate financial record keeping system.
B. Developing a sound yearly budget of expenses and income.
C. Minimizing taxes and insurance expenses.
D. Preparing plans for future financial needs and goals.
E. Examining your investment portfolios to maximize returns.

3. The most liquid asset is:
A. Money in a certificate of deposit account.
B. Money in a checking account.
C. A car.
D. A computer.
E. A house.

4. Your net worth is:
A. The difference between your expenditures and income.
B. The difference between your liabilities and assets.
C. The difference between your cash inflow and outflow.
D. The difference between your bank borrowings and savings.
E. None of the above.

5. Assume you have dependent children, is a $500 tax credit per child or a $500 tax deduction per child more valuable to you?
A. A $500 tax credit.

B. A $500 tax deduction.
C. They are the same.
D. Depends on your tax bracket.
E. Depends on the number of children you have.

6. You are not overspending if:
A. You write checks for more than what you have in your checking account.
B. Your monthly wages are $500 and credit charges $1,000.
C. You frequently receive calls from col- lection agencies.
D. Your monthly debt payment is 30% of your take-home pay.
E. You meet your minimum monthly credit card payments.

7. Which of the following is not a cost of leasing an apartment?
A. Security deposit.
B. Monthly rental payment.
C. Expenses incurred for non-compliance of lease terms.
D. Medical expenses of your friend who fell and broke his arm on the icy pavement.
E. Security deposit retained by the land- lord for damages to property beyond normal wear and tear.

8. If you signed a twelve month lease for $300/ month but never occupied the apartment, you legally owe the landlord:
A. Your security deposit.
B. Your first month's rent of $300.
C. Your twelve month's rent of $3,600.
D. Nothing.
E. Whatever the landlord requires.

9. Checking account reconciliation involves:
A. Balancing bank statement with your checkbook records to determine if there are errors.
B. Reconciling current bank statement with the previous month's statement to determine if there are errors.
C. Subtracting outstanding checks to your checkbook balance to determine if your checks have been properly processed.
D. Adding outstanding checks to your checkbook balance to improve your credit standing.
E. None of the above.

II. YOUR SAVINGS AND BORROWING

10. Your savings accounts in a federally insured commercial bank are insured by:
A. SIPC to the maximum amount of $10,000 per account.
B. FDIC to the maximum amount of $100,000.
C. FDIC to the maximum amount of $50,000 per account.
D. SLIC to the maximum amount of $100,000.
E. FNMA to the maximum amount of $100,000 per account.

11. If you invest $1,000 today at 4% for a year, your balance in a year will be:
A. Higher if the interest is compounded daily rather than monthly.
B. Higher if the interest is compounded quarterly rather than weekly.
C. Higher if the interest is compounded yearly rather than quarterly.
D. $1,040 no matter how the interest is computed.
E. $1,000 no matter how the interest is computed.

12. Which of the following investments requires that you keep your money invested for a specified period or face an early withdrawal penalty?
A. Certificate of deposit.
B. Checking account that pays interest.
C. Government savings bond.
D. Money market mutual fund.
E. Passbook savings account.

13. Which of the following statements is TRUE about the annual percentage rate (APR)?
A. APR is the actual rate of interest paid over the life of the loan.
B. APR is expressed as a percentage on an annual basis.
C. APR is a good measure of comparing loan costs.
D. APR takes into account all loan fees.
E. All of the above.

14. You can receive your credit report from:
A. A credit union.
B. A commercial bank.
C. The Better Business Bureau.
D. A credit bureau,
E. A professor.

15. Which is FALSE concerning credit cards?
A. You can use your credit card to receive a cash advance.
B. If your credit card balance is $1,000 and you pay $300, interest is charged on the unpaid balance of $700.
C. The rate of interest on your credit card is normally higher than you can earn on a certificate of deposit.
D. A credit card company will not charge you interest if you pay off the entire balance by the due date.
E. You cannot spend more than your line of credit.

16. An overdraft:
A. Occurs when you write a $1,000 dollar check when you have $500 in your account.
B. Is a stop-payment order written by the payee.
C. Will result in fines.
D. All of the above.
E. Both A and C.

17. You will improve your creditworthiness by:
A. Visiting your local commercial bank.
B. Showing no record of personal bankruptcies in recent years.
C. Paying cash for all goods and services.
D. Borrowing large amounts of money from your friends.
E. Donating money to charity.

18. If you co-sign a loan for a friend, then:
A. You become responsible for the loan payments if your friend defaults.
B. It means that your friend cannot receive the loan by himself.
C. You are entitled to receive part of the loan.
D. Both A and B.
E. Both A and C.

III. **YOUR INSURANCE**

19. Auto insurance companies determine your premium based on:
A. Age of insured.
B. Record of accidents.
C. Type and age of vehicle.
D. Completion of a driver education course.
E. All of the above.

20. The main reason to purchase insurance is to:

A. Protect you from a loss recently incurred.

B. Provide you with excellent investment returns.

C. Protect you from sustaining a catastrophic loss.

D. Protect you from small incidental losses.

E. Improve your standard of living by filing fraudulent claims.

21. Regarding purchasing insurance:

A. After buying health insurance, you are normally covered for pre-existing conditions.

B. You have a better chance to choose doctors with a health maintenance organization rather than with a traditional health care insurance company.

C. Most policies contain deductible and coinsurance clauses.

D. A policy purchased by the individual is cheaper than one purchased through a group.

E. None of the above.

22. Which of the following would not ordinarily be covered under a homeowner's policy.

A. War.

B. Earthquake.

C. Flood.

D. You're being sued by someone for slander.

E. All of the above.

23. Which of the following statements is FALSE?

A. Term insurance is an excellent investment vehicle.

B. You receive no benefits when your term- insurance policy expires.

C. A term insurance policy is the least expensive form of life insurance.

D. A decreasing-term policy reduces cover- age over time.

E. A level-term policy guarantees a fixed- premium over the life of the contract.

24. You have a better chance or resolving a complaint against an insurance company by bringing the issue to a government agency at the:

A. Federal level.

B. State level.

C. County level.

D. Township level.

E. None of the above.

IV: YOUR INVESTMENTS

25. If interest rates rise, the price of a Treasury bond will:

A. Increase.

B. Decrease.

C. Remain the same.

D. Trade at a premium.

E. Be impossible to predict.

26. A dollar-cost-averaging approach to investing involves:

A. Buying low and selling high.
B. Complex calculations of risk and return.
C. Selling securities to minimize capital.
D. None of the above.

27. What is the main advantage of a dollar-cost- averaging approach to investing?

A. Buying low and selling high.
B. Complex calculations of risk and return.
C. Selling securities to minimize capital.
D. None of the above

28. High risk means:

A. Buying low and selling high.
B. Complex calculations of risk and return.
C. Selling securities to minimize capital.
D. None of the above

29. A high-risk and high-return investment strategy would be most suitable for:

A. An elderly retired couple living on a fixed income.
B. A middle-aged couple needing funds for their children's education in two years.
C. A young married couple without children.
D. All of the above because they all need high return.
E. None of the above because they are equally risk averse.

30. Which of the following is FALSE?

A. As shareholders of a mutual fund, you have a right to tell fund managers what securities to buy.
B. A mutual fund is a diversified collection of securities used as an investment vehicle.
C. A mutual fund is an investment corporation that raises funds from investors and purchases securities.
D. Your ownership in a mutual fund is proportional to the number of shares you own in the fund.
E. None of the above.

31. The returns from a balanced mutual fund include:
A. Interest earned on cash in the fund.
B. Dividends from common stock in the fund.
C. Interest earned on bonds in the fund.
D. Capital gains from stocks and bonds in the fund.
E. All of the above.

32. No-load mutual funds are recommended over load funds because investors:
A. Do not pay fees.
B. Can reduce their tax liability.
C. Are not charged with sales commissions.
D. Can avoid the funds' administrative expenses.
E. Believe that the funds have no management charges.

33. All other factors remain the same, U.S. dollar value of a Japan fund will be:
A. Higher if the dollar's value rises against that of the Japanese Yen.
B. You would buy a cash value insurance policy.
C. You probably do not need to buy any life insurance policy.
D. You would buy flight insurance each time you travel by air.

34. You have just graduated from college and found a job earning $28,000 per year. You will pay $600 per month for five years for student loans. You have a monthly balance on each of your three credit cards. What should you do to improve your financial health?
A. Cut expenses and use your savings to pay down debt.
B. Keep the same spending pattern as in the past.
C. Apply for a consumer loan for a new car.
D. Eliminate debt by filing personal bankruptcy.
E. Use your credit card to pay for a vacation in the Bahamas.

35. Which of the following is true regarding Japanese Yen?
A. Lower if the dollar's value rises against that of the Yen.
B Higher if the dollar's value rises against that of the Yen.
C. Unchanged if the Yen's value rises against that of dollar.
D. Lower if the Japanese Yen's value rises against that of dollar.
E. Impossible to determine if exchange rate changes between Yen and dollar.

36. Which of the following is true regarding the U.S. dollar?
A. Lower if the dollar's value rises against that of the Yen.
B Higher if the dollar's value rises against that of the Yen.
C. Unchanged if the Yen's value rises against that of dollar.
D. Lower if the Japanese Yen's value rises against that of dollar.
E. Impossible to determine if exchange rate changes between Yen and dollar.

V: **YOUR PERSONAL FINANCE OPINIONS. DECISIONS AND EDUCATION**

37. Assume you're in your early twenties and you would like to build up your nest egg for a secure retirement in 30 years. Which of the following approaches would best meet your needs?
A. Start to build up your savings account at a federally insured bank.
B. Save money in certificate of deposit accounts.
C. Put monthly savings in a diversified growth mutual fund.
D. Invest in long-term Treasury bonds.
E. Accumulate money in a safe-box rented from a local bank.

38. Assuming you are in your early twenties without any dependents, which of the following would you do regarding your life insurance?
A. You would buy a life insurance policy from an insurance agent.
B. You would buy a term insurance policy.
C. You would buy both.
D. None of the above are correct.

39. In your opinion, low risk means:
A. An elderly retired couple living on a fixed income.
B. A middle-aged couple needing funds for their children's education in two years.
C. A young married couple without children.
D. All of the above because they all need high return.
E. None of the above because they are equally risk averse.

40. Do you maintain financial records?
A. Maintain very detailed records.
B. Maintain minimal records.
C. Maintain no records.
D. Maintain some records.

Using the scale given below please rank the importance of items numbered from 41 to 44.

A - Very Important
B – Somewhat Important
C – Not Sure
D – Somewhat Unimportant
E - Very Unimportant

41. Maintaining adequate financial records.

42. Spending less than your income.

43. Maintaining adequate insurance coverage.

44. Planning and implementing a regular investment program.

VI. **ABOUT YOURSELF**

45. What is your class rank?
A. Freshman D. Senior
B. Sophomore E. Graduate
c. Junior

46. What is your age?
A. 18-22 D. 40-59
B. 23-29 E. 60 or older C. 30-39

47. What is your sex?
A. Male B. Female

48. What is your race or ethnic background?
A. White C. Hispanic
African- D. American Indian American E. Asian

49. Which best describes your or your family's personal income last year?
A. No income B. Under $10,000
C. $10,000 - $29,999 D. $30,000-$49,999. E. $50,000 or more

50. How many years of working experience do you have? Include full or part-time experience, internship, co-op, summer jobs, etc.

A. None
B. Less than 2 years
C. Two to less than 4 years
D. Four to less than 6 years
E. Six years or more

51. What is your major field of study?
A. Business
B. Education
C. Liberal Arts
D. Sciences or Engineering
E. Others

52. Are you a foreign student?
A. Yes
B. No

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX C: INSTITUTIONAL REVIEW BOARD APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Lloyd Beckles**

Date: **March 07, 2016**

Dear Researcher:

On 03/07/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	The influence of economics knowledge on students' attitudes toward financial literacy.
Investigator:	Lloyd Beckles
IRB Number:	SBE-16-12037
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Joanne Muratori

Signature applied by Joanne Muratori on 03/07/2016 11:00:59 AM EST

IRB Manager

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