TESTING THE ROLE OF PARENTAL DEBT ATTITUDES, STUDENT INCOME, DEPENDENCY STATUS, AND FINANCIAL KNOWLEDGE HAVE IN SHAPING FINANCIAL SELF-EFFICACY AMONG COLLEGE STUDENTS

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This study was designed to evaluate the determinants of personal finance knowledge among college students and to test how this knowledge affects students' perceived self-efficacy beliefs in dealing with personal financial issues. In this study, a test of parental attitudes towards debt, students' income level, and dependency status related to levels of personal finance knowledge was conducted. The relationship between personal finance knowledge and self-efficacy was then examined. A questionnaire measuring these variables was completed by 80 participants at a Midwestern U.S. university. A significant positive relationship between level of income and personal finance knowledge was found. It was also noted that financial knowledge was significantly positively associated with self-efficacy. Students who were more knowledgeable had higher levels of self-efficacy.

Introduction

During the economic downturn of 2007-2010, the United States lost 8.6 million jobs (Zuckerman, 2010). The economic malaise that resulted in these losses has generally been referred to as a credit crisis because of the massive contraction in lending at the household and corporate levels. Recent figures report that top U.S. and European financial companies wrote-off over one trillion dollars in toxic assets and credit losses during the period (Reuters, 2009). The resulting economic environment has raised concerns about the nation's addiction to debt. Particularly vulnerable to falling into financial indebtedness are young adults and college students (Henry, Weber, & Yarbrough, 2001; Joo, Grable, & Bagwell, 2003). Students' stage in the lifecycle generally puts them into the category of low-income earners. For students, this often makes credit feel like free money that can be used to supplement income.

To make matters worse, many college students do not fully understand the costs of using credit. The impact of this knowledge gap can be disastrous (Henry et al., 2001). The misuse of credit can have negative impacts related to landing a job or pursuing a graduate school education. According to Mannix (1999), employers regularly check credit histories of potential employees. Furthermore, without a good credit history and a high credit score, it can be difficult to obtain low-cost financing for graduate school.

Credit card debt can be the most harmful type of liability for college students due to high interest rates and the ease of use and access. In a study conducted by Nellie Mae (2005), it was reported that 56% of undergraduate students reported getting their first credit card as a freshman in college. Given the importance of personal finance knowledge and behavior, especially with regard to college students, there has been insufficient empirical research to clearly establish the determinants of personal finance knowledge among college-aged adults and how knowledge affects students' ability to cope with overall levels of debt.

This study was concerned with answering questions that have not been adequately addressed in the literature. These include determining if there is relationship among parental attitudes towards debt, income level, and dependency status and students' level of personal finance and credit knowledge. This study was also concerned with determining if personal finance knowledge is related to self-efficacy in dealing with financial issues. To help answer these questions, it is important to examine previous research that has addressed these questions, beginning with the influence parents have in students' financial lives. The following discussion highlights some of this literature.

Literature Review

Parental Attitudes and Financial Knowledge

It is a widely held assumption that parents play an important role in the socialization of their children (Moschis, 1987). This same thought applies in the topic domains of personal finance and credit knowledge. The American Savings Education Council (ASEC, 1999) reported that 94% of students surveyed said they use their parents as a source of personal finance knowledge. These students also cited their parents as the most utilized source for information on personal finance topics (ASEC). Other research has supported the importance of parents as a source of learning; although, it is important to note that parents themselves are often in need of more information or education on personal finance topics (Lachance, Beaudoin, & Robitaille, 2006). Students receive the greater part of their personal finance education, which may or may not be accurate and complete, through their parents. Lachance et al. showed that young adults who reported parents as a primary source of learning scored lower on credit knowledge scales than those who learned in classes or through financial counselors. Although there are other sources of learning, students do not often take full advantage of them.

While many high schools across the country offer personal finance courses as electives, only nine states in the U.S. require students to enroll in some type of personal finance course to obtain their diploma (National Coalition on Economic Education, 2007). This raises the concern that students are attending college or entering the workforce without having requisite knowledge about personal finance and credit card debt to make wise decisions and establish good financial habits. Until more formalized and uniform methods of educating young people in personal finance are implemented, parents will continue to be enormously influential in this area. The following section reviews other variables that affect students' knowledge of personal finance and credit topics.

Student Income and Financial Knowledge

Level of income has been examined as a variable that can have an effect on students' personal finance knowledge. Multiple studies have drawn differing conclusions after examining student income level and family resources. Lachance et al. (2006) found that there appears to be a positive relationship between level of income and credit knowledge among young adults (not necessarily students) in Canada. Their study suggested that greater income levels may prompt young people to be more concerned with credit issues. Zhan, Anderson, and Scott (2006) noted that low-income persons lack basic financial literacy. While Zhan et al. could not examine the relationship between income and knowledge, due to a very low variance among the income variable, it is important to note that this low-income population was especially susceptible to lacking basic financial knowledge. Moreover, when examining consumers aged 20-40, Perry and Morris (2005) found significant positive relationships between personal income levels and responsible financial management behavior.

Dependency Status and Financial Knowledge

Dependency status is a construct that has received little attention in the literature when it comes to college students and their financial knowledge. However, this is a relevant variable due to the number of studies that have shown that experiential, hands-on learning is a highly effective way for students to engage with learning (Kozar & Marcketti, 2008). Zhan et al. (2006) found that among a low-income population, those that have filed their own taxes and hold a bank account reported increased knowledge about financial topics. These findings can be expanded to help understand the relationship between learning and experience. Students that are more financially independent should be more knowledgeable, given their increased experience with live financial situations. Considering this variable, it is important to note that there should be an inverse relationship between student income and dependency status. That is, as dependency status decreases (i.e., students become less dependent on parents), student income should increase as the student becomes more financially independent.

Financial Knowledge and Financial Behavior

While income is an important factor when explaining personal financial management behavior, it is useful to examine what impact financial knowledge among college students has on their behavior. Perry and Morris (2005) noted that financial knowledge had the largest, most direct, impact on responsible financial behavior when compared to other relevant constructs. Individuals with enhanced levels of financial knowledge were more likely to engage in responsible financial management behavior. This noted improvement in behavior is likely tied to self-efficacy, or a student's confidence in making decisions and engaging in positive financial behavior. This association is described in more detail below.

Financial Knowledge and Self-Efficacy

The general consensus is that young people, in the U.S. and Canada, are not generally knowledgeable about personal finance topics and concepts (Lachance et al., 2006). Knowledge of a specific content area is important in determining one's perceived ability to cope with a situation (Bandura, 1982). If college students are not knowledgeable, they are less likely to be competent when making financial decisions, which can lead to feelings of stress, negative emotions, and even depression (Engelberg, 2007). Competency in judgment and decision making can be conceptualized as self-efficacy. That is, the way a person views their ability to perform daily tasks in an effective manner is known to be related to their self-efficacy. Kitsantas and Kitsantas (2005) found that the knowledge of health enhancing behavior of children and parents was a significant predictor of children's' self-efficacy beliefs. Little empirical research has been conducted to show how these findings relate to daily money management activities and self-efficacy in dealing with financial problems and debt. This study helps fill this void in the literature.

As this brief review of the literature suggests, there are most probably links among parental attitude, income, dependency status, personal finance knowledge, and self-efficacy among college-aged students. While there has been a growing body of literature dedicated to understanding the determinants of college student credit usage, a void exists related to the interrelationships among these important concepts. The remainder of this paper discusses the conceptual framework and methodology used to test, in an exploratory manner, the role income, parental attitude, and student dependency status has on financial knowledge, and the relationship between financial knowledge and self-efficacy.

Conceptual Framework

For the purposes of this study, it is important to point out that debt has been found to be associated with increased levels of psychological distress (Brown, Taylor, & Price, 2005). Causal relationships have not clearly been tested, but higher levels of psychological distress can have serious harmful implications in many areas of life. With such a wide variety of variables as possible determinants of financial behavior, it is useful to have psychosocial theories available that can help explain some of these relationships. Consumer socialization and self-efficacy theories can assist researchers when studying personal finance behavior among college students.

Socialization theories can be utilized when considering how students acquire personal finance and credit knowledge. Socialization describes how society passes on values, attitudes, and cultural norms from one generation to the next. Socialization is how people learn roles in society. Consumer socialization refers to the process during childhood and adolescence in which young people learn the functional and social aspects of consuming goods while being in interaction with those close to them, such as family and friends (Gronhoj, 2007). Gronhoj found that, in accordance with consumer socialization, young adults often cite guidance from family and friends to be highly significant when making complex consumer decisions related to the establishment of a new household. Socialization theory is an important way to conceptualize the effects of parental attitudes on personal finance knowledge; however, self-efficacy theory can also help explain why this knowledge is so important. Specifically, an association assumption is made that perception of parental attitudes has a direct influence on college students' level of financial knowledge. In terms of financial knowledge, students who perceive that their parents hold positive views about debt, and those who receive the largest portion of their livelihood from their parents/guardians—dependency status—are assumed to have lower levels of financial knowledge. On the other hand, students who report higher income should exhibit greater financial knowledge, in part as an outcome of being required to deal with daily financial decisions.

Self-efficacy has been a topic of much discussion in the psychological community. Engelberg (2007) described self-efficacy as having confidence in one's ability to cope with changing situations. Knowledge and skill are necessary for performing in a certain way, but there are other reasons why individuals behave the way they do (Bandura, 1982). Bandura explained how people, although they may be fully aware of optimal behavior, do not always behave in the best possible way. Perceived self-efficacy can be thought of as the judgment of how effectively one can execute actions as required in different situations. The way in which someone thinks about their ability to perform is important in determining how they use the skills and knowledge they possess. In relation to personal finance skills among college students, this theory can be helpful in explaining what impact knowledge of personal finance has on one's perceived self-efficacy to deal with personal financial issues. Those with more financial knowledge are assumed to have higher self-efficacy in the domain of personal finance decision making.

Overview of the Current Study

The present research examined some of the important variables affecting personal finance knowledge among college students. The research was designed to test what effect this knowledge has on the perceived self-efficacy of students when handling their debt. There are disparities in the literature and important variables that should be taken into consideration, as highlighted in this study. Specifically, this research looked at the following relationships: (a) parental attitudes towards debt and student knowledge of personal finance and credit, (b) student level of income and knowledge of personal finance, (c) student dependency status and knowledge of personal finance, and (d) student knowledge of personal finance and the perceived self-efficacy in handling personal financial issues.

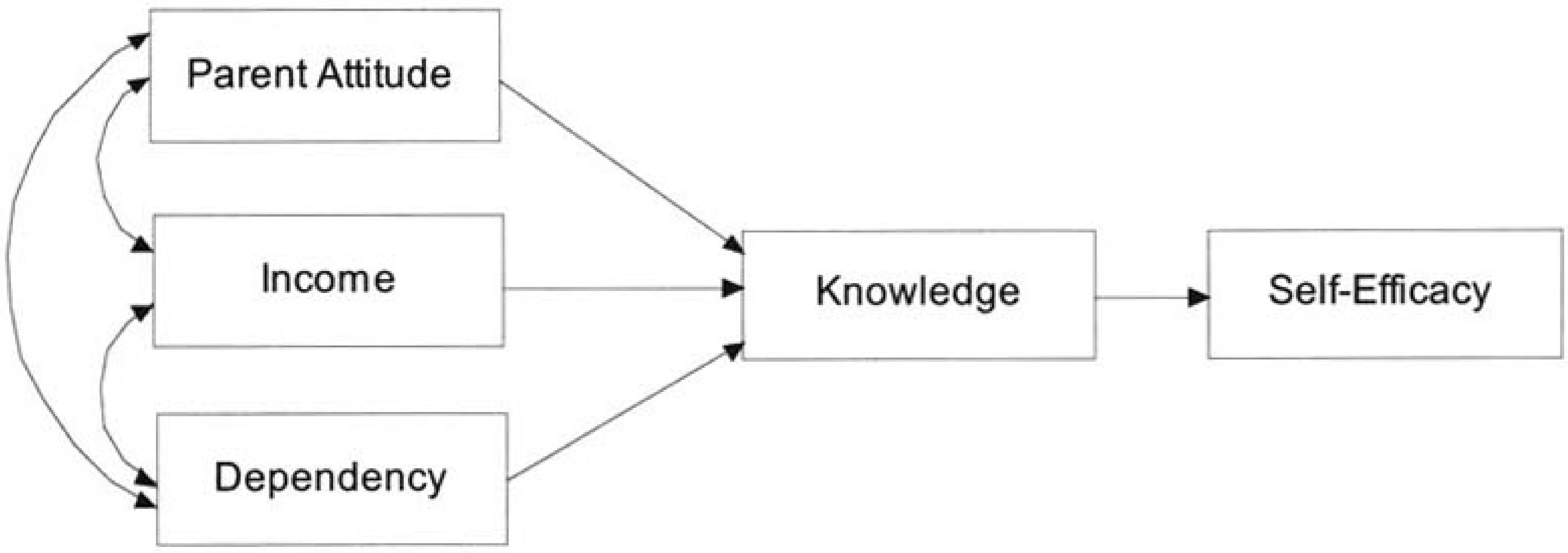

Figure 1. Conceptualized Variable Associations

Figure 1 illustrates how these relationships were conceptualized for this study. Perceived parental attitudes (parent attitude), student income (income), and financial dependency status (dependency) are shown to have a direct association with financial knowledge. These relationships are proxied by the arrows from these exogenous variables to the knowledge variable. The curved dual-arrow lines linking parent attitude, income, and dependency are used to account for possible covariance among these variables. Financial knowledge (knowledge) is hypothesized in the model to have a direct association with self-efficacy. The use of this type of model provides an opportunity to measure not only the direct statistical effect of each variable but also the indirect effect parent attitude, income, and dependency each have on shaping a college student's personal finance self-efficacy.

Research Question 1

Past research has suggested that examining the relationship between parental attitudes and student's personal finance knowledge (Lachance et al., 2006) might add significantly to the current body of literature. This study focused first on parental attitudes as they relate specifically to financial knowledge. The consumer socialization literature shows the importance of family as values are passed to the next generation. Given this theory, and the important role parents play in teaching personal finance topics and concepts and credit information to their children, it was predicted that strong negative parental attitudes towards debt would be positively related with student personal finance knowledge (i.e., a direct effect) and self-efficacy (i.e., an indirect effect).

RQ1: Is there a relationship between parental attitudes towards debt and knowledge of personal finance topics and self-efficacy among college students?

RH1: Students reporting parents with lower scores on the parental attitudes scale, indicating more negative attitudes towards debt, will score higher on a basic personal finance quiz and exhibit higher self-efficacy.

Research Question 2

The literature reporting on the relationship between level of income and personal finance knowledge has shown that greater levels of income is associated with increased personal finance knowledge and more responsible financial management behavior (Lachance et al., 2006; Perry & Morris, 2005). However, previous studies have tended to look at young adults and not college students specifically when arriving at these associations. The present study was concerned with the income levels of college students. The following question was used to guide the analysis:

RQ2: Is a college student's level of income related to their knowledge of personal finance topics and level of self-efficacy?

RH2: Students reporting higher levels of income will score higher on a basic personal finance quiz and exhibit increased self-efficacy.

Research Question 3

There is a paucity of literature devoted to examining the dependency status of college students in relationship to personal finance knowledge or self-efficacy. This study operationally defined dependency status as the extent to which a student relies on financial support from parents. It was predicted that as students become more financially independent vis-à-vis their parents, and receive more independent sources of income, they will have more concern for personal finance topics and concepts, resulting in increased financial knowledge.

RQ3: Is a college student's dependency status related to their knowledge of personal finance and level of self-efficacy?

RH3: Students reporting greater levels of financial independence from parents (i.e., an inverse dependency score) will score higher on a basic personal finance quiz and in terms of self-efficacy.

Research Question 4

Finally, the existing literature does not adequately explain the extent to which personal finance knowledge affects a student's perceived self-efficacy in dealing with daily money matters, specifically debt issues. This study was designed to address this issue. Past research has shown evidence for an association between knowledge and self-efficacy beliefs (Kitsantas & Kitsantas, 2005). Since knowledge is a necessary part of self-efficacy theory (Bandura, 1982), it was predicted that the greater the level of knowledge a student has in the domain of personal finance and debt, the greater will be their perceived self-efficacy in dealing with financial issues.

RQ4: Is a college student's personal finance knowledge related to their perceived self-efficacy in dealing with financial issues?

RH4: Students scoring higher on a basic personal finance quiz (i.e., exhibiting increased knowledge) will score higher in terms of perceived self-efficacy in dealing with financial issues.

Method

Participants

The current study was conducted using participants from a convenience sample of college students enrolled at a Midwestern U.S. university. A pre-test of the variables and methods was conducted as part of a psychology class. The data used in this paper were collected during the spring 2009 semester. Of the 80 respondents, 28% were male and 72% were female. The average age of respondents was 21.27 years (SD = 1.79 years) and nearly all were enrolled full-time in college. Nearly 5% were freshmen, 18% were sophomores, 33% were juniors, 32% were seniors, and 12% were other, including first year graduate students. More than two-thirds of the sample held a job, with respondents reporting a median work week of four hours. Annual reported income ranged from a low of zero to a high of \$43,000 (M = \$6,562; SD = \$7,228). For the purposes of the multivariate analyses, the lognormal distribution (i.e., base 10) of reported income was used. Students were almost evenly represented across the multiple colleges at the university (e.g., business, human ecology, animal sciences, arts and sciences, education, etc.). Respondents indicated that they held approximately two credit cards (SD = 4.94) in their own name.

Materials

Questionnaires were distributed via a university-sponsored online survey system. Basic demographic information was collected. Data included age, sex, income level, full or part time student status, number of hours worked, and year in school. Participants responded to three measures: (a) a parental attitudes scale, (b) a financial independence measure, and (c) a self-efficacy measure. Participants also completed a personal finance quiz to assess their financial knowledge. These assessment tools are described below.

Parental attitudes scale. Parents are an important source of financial information for college students. For this study, a parental attitudes scale was created to measure how students perceived their parents' attitudes towards debt. The scale was modified from an attitude towards credit scale created by Joo, Grable, and Bagwell (2003) by asking participants to respond to each item from their parents' point of view. Participants responded to the nine items on a scale of 1 to 5, where 1 was strongly disagree and 5 was strongly agree. An example of a scale item includes the following: "The cost of using credit cards is too high." Summated scores ranged from a low of 12 to a high of 33. The mean and standard deviation scores on the scale were 21.58 and 4.62, respectively. High scores on this measure indicated that the student perceived his or her parents or guardians to have positive attitudes towards credit card debt, while low scores indicated more negative attitudes towards credit card debt. The Cronbach's alpha for the scale was .79.

Financial independence measure. An important variable of interest in this study was the level of financial support students receive from parents. To measure this variable, a financial independence question was developed. This question asked, "What percentage of your monthly expenses are paid for, either directly or indirectly, by your parents/guardians?" Students reported actual percentages. Responses ranged from a low of 0% to a high of 100%. The mean and standard deviation percentages on the item were 38.73% and 34.73%, respectively. Higher percentages indicated increased levels of financial dependence on parents/guardians, while lower percentages indicated lower levels of financial dependence (i.e., relative independence).

Self-efficacy measure. A self-efficacy item was adapted from a study by Danes and Haberman (2007) to measure students' perceived self-efficacy in dealing with financial issues. The question asked, "I feel confident about making decisions that deal with money." Participants responded to the item on a Likert-type scale, where 1 was strongly disagree and 5 was strongly agree. Responses ranged from a low of 1 to a high of 5. The mean and standard deviation for the item was 3.81 and .96, respectively. Higher scores on the item indicated increased levels of self-efficacy, while lower scores indicated reduced levels of self-efficacy.

Personal finance quiz. A 20-item personal finance quiz adapted from Avard, Manton, English, and Walker (2005) was used to measure personal financial knowledge. This measure contained 20 items designed to assess a student's personal finance knowledge. Each question had four choices, with the last option being "I don't know." One item from the quiz stated, "You start to measure your financial condition by: (a) preparing a list of all sources of income, (b) creating a list of all assets and liabilities, (c) determining how much you owe on credit cards, (d) I don't know. Questions were scored and all true answers were summed to create a knowledge score. Scores ranged from a low of 2 to a high of 20. The mean and standard deviation index scores were 11.56 and 3.76, respectively. High scores on this quiz indicated higher levels of personal finance knowledge, while low scores indicated lower levels of knowledge.

Procedures

A path modeling technique was used to address the research questions. Path modeling is a procedure that can be used to test relationships to identify direct and indirect linkages between and among variables. The approach was appropriate because the parent attitude, income, and dependency variables were hypothesized to have a direct relationship with financial knowledge and an indirect association with self-efficacy. For the purposes of this study, a maximum likelihood estimation procedure was used as a way to express parameter estimates.

Four measures of model fit were examined: chi-square, the comparative fit index

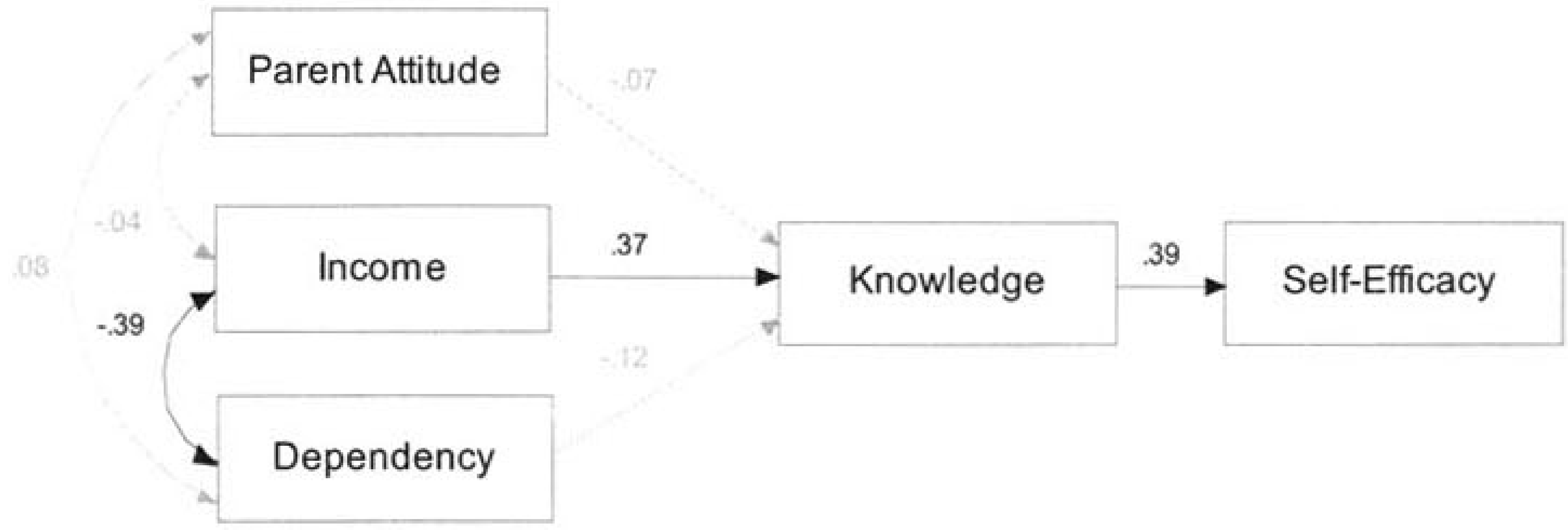

Figure 2. Tested Path Model Showing Positive Association Between Income and Knowledge and Knowledge and Self-Efficacy and a Negative Co-Variance Between Income and Dependency Status

(CFI), the normed-fit index (NFI), and root mean square error of approximation (RMSEA). A non-significant chi-square was a hoped-for outcome—this indicates a statistical fit measurement between the observed data and the population represented by the data (Huck, 2004). Both the CFI and NFI represent rescaled chi-square statistics, where the scale begins at zero and ends at 1.0. Values greater than .90 are generally assumed to indicate a model that fits the data appropriately. Finally, RMSEA is a measure that accounts for error of approximation in the data population. Lower RMSEA numbers—i.e., less than .05—are preferable.

Results

Figure 2 shows the results from the path analysis. The dark lines denote statistically significant direct effects or significant co-variation between two variables. The light grey path lines signify non-significant relationships. Rather than remove these path associations from the model, the relationships were retained in order to provide a visual representation of the direct and indirect effects each variable had in influencing self-efficacy. The coefficients shown above each path line represent standardized regression coefficients. Note that student income had the largest direct effect on financial knowledge. Also note that in the specified final analysis only student income and dependency status were found to be statistically associated. The negative coefficient (-.39) suggests that as support from family decreased student income increased. The effect from financial knowledge to self-efficacy was found to be significant and positive. Each of the fit indexes was found to meet expected standards: $X^2 = 3.88, p = .57$; CFI = 1.00; NFI = .92; RMSEA = .00. Table 1 summarizes the direct, indirect, and total effects of each variable resulting from the analysis.

Table 1
Direct, Indirect, and Total Effects of Parent Attitude, Income, Dependency, and Knowledge on Self-Efficacy

Measure	Standardized Effect on Self-Efficacy		
	Direct	**Indirect**	**Total**
Parent Attitude	0.00	-0.03	-0.03
Income	0.00	0.14	0.14
Dependency	0.00	-0.05	-0.05
Knowledge	0.39	0.00	0.39

Data from Table 1 were used to address the four research questions and associated hypotheses. The first hypothesis stated that students scoring lower on the parental attitudes scale, which indicated more negative attitudes towards debt, would score higher on the personal finance quiz and exhibit higher self-efficacy (i.e., an inverse relationship). Empirically, the direction of the coefficient was as expected. That is, students who perceived their parents to have negative views about debt reported higher knowledge and they exhibited greater self-efficacy; however, the significance of the total effect of dependency status on self-efficacy was weak and not meaningful. As such, the hypothesis was not supported.

The second hypothesis stated that students reporting higher levels of income would score higher on the personal finance quiz and exhibit increased self-efficacy. The hypothesis was confirmed. The direct effect from income to knowledge was positive and large, whereas the indirect effect from income to self-efficacy was also positive and relatively strong. The hypothesis was confirmed.

The third hypothesis stated that greater levels of financial independence, as measured by the financial independence item, would be negatively associated with financial knowledge and self-efficacy. A negative association was anticipated—i.e., students who relied on parents for their livelihood would have less knowledge and lower self-efficacy. As was the case with the parent attitude variable, the path analysis results were as expected; however, the indirect effect of dependency on self-efficacy was weak and not meaningful.

The fourth hypothesis stated that students scoring higher on the personal finance quiz would score higher on the self-efficacy scale. The research hypothesis was confirmed. Those with higher levels of financial knowledge exhibited greater self-efficacy. The relationship was positive and significant.

Discussion

As the results from this study have shown, full support was found for the second and fourth hypotheses. Students with higher reported levels of income scored higher on the knowledge quiz; they also exhibited increased self-efficacy. Also, financial knowledge was found to be both positively and significantly related to self-efficacy. Support for the first and third hypotheses was weak. Specifically, students who believed that their parents held favorable attitudes towards debt and those whose livelihood was heavily based on parental/guardian support reported lower financial knowledge and self-efficacy; however, the size of the coefficients was low and not meaningful, even if the direction of the findings were as expected.

Overall, results from this study are of value and add to the personal finance and college education literature. First, students in this study exhibited modest financial knowledge quiz scores, although compared with previous findings these students were relatively more knowledgeable (Lachance et al., 2006). On the personal finance quiz, the average score out of 20 questions was 11.56 correct answers or 58%. Avard et al. (2005) found an average score of 34.8%.

Previous findings reported in the literature suggest that parents are an important source of financial information for students (e.g., Lachance et al.). Although this study did find such a relationship, the strength of the association was, in fact, quite weak. It is possible that the scale used was not an effective measure of actual parental attitudes. The scale relied upon each student's perception of their parents' attitudes towards debt, which may or may not have been accurate. Consumer socialization theory emphasizes the important role parents/guardians play in shaping attitudes. While it is possible that parental attitudes were not measured accurately, it is also possible that parental attitudes assessed after a student has enrolled in college are not that important in shaping current student knowledge.

The associations among income, dependency status, knowledge, and self-efficacy are noteworthy. It appears that college student income is associated with personal financial knowledge and self-efficacy. This finding may suggest that students with lower incomes believe that personal financial education is irrelevant to them at their stage of life. This misconception may be an assumption held by college students. It is also an assumption that educators and parents can address through direct educational activities. Proper financial management is important regardless of income, and this needs to be made clear to students as they become more financially independent. The covariance between income and dependency status highlights this issue. In this study, students who relied on their parents/guardian for financial support were less knowledgeable and reported lower self-efficacy, although the effect was not large. At some point in their life, most of the students fitting this profile will be forced to increase their own income and decrease their financial dependency on parents/guardians. Without prior education about personal financial topics, these students/young adults may find that their ability to manage daily financial behaviors is less than optimal.

Finally, the fourth hypothesis was fully supported. The association between financial knowledge and self-efficacy was both positive and strong. This finding fits with the literature, which has shown that knowledge is an important predictor of self-efficacy (Kitsantas & Kitsantas, 2005). This study showed that knowledge is an important determinant of financial self-efficacy, which leads to the conclusion that personal finance, as an academic content area, can be taught to students as a means of increasing self-competence. More knowledgeable students ought to be more effective and confident students.

Limitations

Findings from this study are important and contribute to the literature, despite several limitations associated with the research design. Participants in this sample self-selected themselves to participate in the study. Also, this study included students within the same college that requires some students to take a personal finance class. This may explain the higher level of knowledge found in this study compared to previous reports. Questions regarding the reliability and validity of the parental attitudes scale have been discussed and could certainly be a limitation of the findings. Despite these limitations, this study can be used to further research in the field of personal finance and college student education.

In order to validate findings, the research should be repeated with a few changes to determine whether the observed findings are generalizable. Although parental attitudes were difficult to measure in the present study, the concept should still be considered as a potentially important factor in determining students' financial knowledge. It may be interesting to examine whether students agree or disagree with their parents' attitudes towards debt. It is possible that students are reluctant to believe that their parents have differing opinions. For this study, the self-efficacy scale came before the personal finance quiz in all questionnaires. Future research should vary the order of the questions in the survey; some containing the quiz then the self-efficacy item, and some containing the self-efficacy item and then the quiz. Differences between the two groups could be examined to see what effect question ordering has on self-efficacy beliefs. Knowledge awareness also may be an important factor related to self-efficacy attitudes. Measuring how knowledgeable students perceive themselves to be in the personal finance domain could lead to some interesting discoveries. A student's perception of their knowledge may have more bearing than their actual knowledge on their self-efficacy in personal finance. Further investigation should be conducted to examine this effect. These studies would greatly build upon the findings and implications of this research.

Results from this research project are particularly important for parents and educators. Research continues to show that students and young people are not as knowledgeable about basic personal finance topics as they could be. Young people may be entering the workforce ill-equipped to handle daily financial decisions. This poor preparation may lead to the establishment of a career path and household that is less than optimal, in terms of being able to manage daily financial behavior effectively, either by being crushed by a mountain of debt or constrained by the inability to use financial resources efficiently. It is critical that students leave the U.S. education system properly prepared to function in an increasingly complex financial world.

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