Financial Literacy, Personal Financial Attitude, and Forms of Personal Debt among Residents of the UAE

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Abstract

This paper examined financial literacy among a sample of individuals residing in the United Arab Emirates (UAE) and its relation to different forms of personal debt. These forms of personal debt include bank loans, borrowing from friends and/or family members, and borrowing through credit cards. We used a questionnaire distributed to a convenient sample of 412 individuals working for service organizations and residing across the UAE. Usable responses were about 45% of the sample and were subjected to descriptive statistics, reliability analysis, and t-tests. The results indicate that the average level of financial literacy in UAE (0.433) is statistically significantly below the average level reported in the literature (about 0.50). However, there were no significant differences between the mean score of males and females. The results also indicate that individuals with strong financial attitude tend to borrow less from credit cards. UAE nationals are more likely to borrow from banks than using credit cards or borrowing from friends/or family members.

Keywords: financial literacy, financial attitude, personal debt, credit cards, UAE

1. Introduction

A person's ability to manage his personal finance has become an important issue in today's world. People nowadays are looking at different aspects of their financial affairs. They no longer look at only short-term financial affairs (such as money savings and borrowings) but also long-term prospects. For example, people pay attention to their retirement plans, their children education, family future home, and similar items. In addition to investment decisions, individuals also make important decisions regarding their sources of finance. When finance is needed, an individual may seek to borrow from banks and other financial institutes such as credit union, or from friends and/or family members, or through credit cards.

The increased complexity of the economy, financial markets and their regulations, valuation methods, and availability of different financial products (e.g., financial derivatives) have generated a strong move to study and measure financial literacy among high school and university students, as well as investors and professionals. Other factors that have generated interest in financial literacy include low savings rates, growing bankruptcy rates and debt levels, and increased responsibility among individuals for making decisions that affect their economic futures (Servon & Kaestner, 2008). In addition, some of the early studies (e.g., Chen & Volpe, 1998; and Volpe, Chen & Liu 2006) found inadequate levels of knowledge among high school and university students, as well as working employees, about personal finance knowledge and methods.

The literature on personal finance, as reviewed in the next section, indicates that financial knowledge and personal financial attitude can explain different financial decisions. However, there is little attention given to the relationship between financial literacy and different forms of personal debt other than credit cards. This paper attempts to relate financial knowledge and personal financial attitude to the decision to carry personal debt in one of the three forms (bank loans, loans from friends and/or family members, or credit cards) for residents in UAE.

The remainder of the paper is organized as follows. The next section reviews related literature on financial literacy and the use of credit cards. The third section outlines the components of the research method and the research hypotheses. The fourth section reports the results obtained from analyzing the data using different statistical techniques. The final section discusses the results, their implications, and possible future research

avenues.

2. Literature Review

2.1 The Concept of Literacy

The roots of the concept of literacy refer to the human ability to read. Remund (2010) indicated that the concept is basically related to knowledge and skills necessary to meet the demands of living in a democratic society. Thus, literacy comes in many forms such as political, environmental, cultural, and financial. On the financial side, Remund (2010) indicated that the literature on financial literacy since 2000 has focused on five domains. These domains are knowledge and financial concepts, ability to communicate about financial concepts, aptitude in managing personal finances, skill in making appropriate financial decisions, and confidence in planning effectively for future financial needs. Furthermore, the concept of literacy has been extended to study different sets of skills in different fields such as computer literacy (e.g., Wecker, Kohnle, & Fischer, 2007), statistical literacy (e.g., Callingham & Watson, 2005), and health literacy (e.g., Baker 2006). Each of these studies measured how well an individual understands and uses information in a particular field.

Huston (2010) examined previous research on financial literacy to identify obstacles to measuring financial literacy and to propose a standardized measure of it. She selected several studies drawn from fifty-two different databases using USA samples. The primary focus was on the definition of the concept or the construct of financial literacy and the measures proposed for it. The results indicate that only twenty-five percent of the studies used measurement items that relate to one or more of four domains of financial knowledge. These domains are basic financial concepts, borrowing concepts, savings and investment concepts, and protection (insurance) concepts (Huston 2010, p. 308). She concluded that standardized instruments to measure financial literacy do not exist.

2.2 Financial Literacy of Students

Chen and Volpe (1998) examined the level of financial literacy among college students and why some students are more knowledgeable than others. They used a comprehensive questionnaire containing 44 items. The results showed that business major students are more knowledgeable than non-business major and those with low levels of financial literacy were likely to be young females studying non-business majors. An earlier study by Volpe, Chen, and Pavlicko (1996) had similar conclusions with the additional indication that finance business majors outperformed non-finance business majors. The results also indicate that the overall mean of financial literacy was about fifty-three percent.

Samy, Tawfik, Huang, and Nagar (2008) explored the potential use of Neural Network as a sensitivity modeling tool for the determinants of financial literacy of credit card loans and superannuation (pension scheme) among Australian youth. To relate the model's inputs (a total of seventeen) to its outputs (credit card loans and superannuation), each of the 17 inputs were removed from the model one at time to judge the different results before and after the removal. Several iterations were performed. The results indicated that the determinants of credit card knowledge relate to the student's year of study and credit card status (whether a student has a card or not). The results also pointed to the significance of demographic variables such as work status, age, gender, and marital status. The study, however, did not measure the level of financial literacy. The reported results may not be robust as the model gives different results when the sequence of the input removed changes.

Nidar and Bestari (2012) examined the level of financial literacy among students. They used a stratified random sampling technique and a logistic regression model. They found that the level of personal financial literacy among university students to be low. They indicated the need to improve students' knowledge especially in the areas of investment, credit, and insurance.

Robb and Sharpe (2009) examined the role of financial knowledge in students' credit card decisions using a an Internet-based survey sent electronically to a large sample of undergraduate and graduate students. The results showed that financial knowledge is a significant factor in the credit card decisions but not entirely in the expected directions. The results of a double hurdle analysis indicated that students with relatively high levels of financial knowledge were not significantly different from students with relatively low levels in terms of the probability of having a credit card balance. However, contrary to expectations, those with higher levels of financial knowledge had significantly higher credit card balances. These results highlight the complex nature of the relationship between personal financial knowledge and credit card behavior.

Ludlum et al. (2012) examined the financial literacy of students across several universities in relation to the use of credit cards. They used a convenient sample of 725 students in business majors at five universities that represent private and public schools in the U.S. The results indicate that less than 10% of the sample knew their

interest rate, late payment charges, and the penalty for being over the balance of the credit card they use. In addition, the results showed that students who studied business law, business ethics, accounting, and finance have higher level of financial literacy in relation to the use of credit cards. Furthermore, the results showed no effect of gender on the financial literacy in relation to credit card use.

2.3 Financial Literacy of Non-Student Subjects

Al-Tamimi and Bin Kalli (2009) assessed the financial literacy of a convenient sample of 290 UAE individual investors participating in the local financial markets. They also examined the relationship between financial literacy and a set of factors believed to affect the investment decisions. Financial literacy was measured by 18 exam-type questions of true or false. The results indicate that the average level of financial literacy was about 41%. This result is somewhat troubling given that 90 percent of the subjects used for the study were actual investors and more than 56 percent work in the field of finance and banking. The results also indicate that females had lower levels of financial literacy than males. Furthermore, financial literacy had significant effects on the factors influencing investment decisions.

Young, See, and Baronovich (2012) examined the relationship between financial literacy and retirement planning in Malaysia and whether retirees' were able to achieve a better retirement financial planning through improved educational level. The results indicate significant relation between financial learning and financial literacy. In addition, both financial learning and financial literacy contribute significantly to subjective perceptions and behavioral assessment of personal finance. Furthermore, financial literacy mediates the relationship between financial learning and satisfaction with financial situation.

3. Research Method

3.1 Sample Frame and Sampling Procedures

We used a convenient sample of individual employees residing in the UAE. These individuals include both citizens of UAE and foreign employees (expatriates) working for service organizations in UAE. The inclusion of both citizens and non-citizens of UAE in the sample was motivated by the move of the central bank of UAE to set maximum limits on borrowing from banks and credit cards that differ between the two categories of individuals (citizens and non-citizens of UAE).

The use of a convenient sample was dictated by the fact that there is no formal or informal sampling frame from which one can select all subjects using a random sampling technique. This type of a sample usually suffers from the problem of non-representation which may limit the degree of generalizing the findings beyond the sample.

We contacted several service organizations operating in the fields of education, health, communication, and transportation to judge their willingness to have their employees participate in the study. Where it was possible to get a list of employees of an organization and their mailing addresses, a random sample was selected and the questionnaires were distributed accordingly. In most of the cases, the questionnaires were left with the human resources department of the contacted organization for distribution. The total number of distributed questionnaires to employees of service organizations reached 412.

3.2 Development of the Questionnaire

The literature on financial literacy indicates that different questionnaires have been designed and used in prior studies. Huston (2010), for example, reviewed more than 50 questionnaires that were cited and used in prior studies. Most of these questionnaires focused on personal financial knowledge and financial applications. The questionnaires also used different formats of questions (e.g., true and false statements, multiple choice questions, agree or disagree with particular statements, etc.) to solicit responses from different groups of individuals (e.g., college students, professional groups, etc.). However, Remund (2010) and Huston (2010) indicated that most prior research focused on subtopics of financial literacy but not all dimensions of the concept. They suggested the inclusion of knowledge, skills, protection, and confidence. To overcome this criticism; we incorporated a number of measures from different prior research with a minimum of three items for each measure as suggested by Huston (2010).

The questionnaire used in this study contained demographic items such as gender, age, and nationality, among others. It also contained 28 items measuring financial literacy, and five items measuring personal financial attitude. A copy of the questionnaire is included in the Appendix.

We pilot-tested the questionnaire before its final distribution to the subjects selected. We asked four financial analysts and two academics to review the questionnaire and provide feedback. We also used 25 subjects from service organizations as the pre-test sample. However, we did not include the data from the pre-test sample in the

analysis.

3.3 Research Variables and Their Measurement

This paper used eight variables. The first variable, forms of personal debt, represented the dependent variable while the other seven variables represented the independent variables. A brief description of each of these variables and its measurement follows.

3.3.1 Forms of Personal Debt

This variable refers to the personal decision to get involved in debt transactions and carry personal debt in one or a combination of three forms: (1) a loan from a bank, (2) a loan from a friend or a family member, and (3) use of credit cards. Each respondent was asked to indicate whether or not he has personal debt in each of the three forms. For statistical analysis, each form of a personal debt was coded one for a yes answer and a zero for a no answer. Thus, the personal debt variable (the dependent variable) represents three variables in the regression equation. Although it is possible for a respondent to have one or any combination of the three forms of personal debt, the authors assumed that each form is independent from the other forms to make the interpretation of the results easier. However, in real life, an individual may be motivated to carry debt in one form because the other forms are not available.

3.3.2 Financial Literacy

This variable is defined as the ability of a person to make informed judgment and to take effective decisions regarding the use and management of money. This variable was measured by the average percentage of correct responses to the 28 items on the questionnaire covering five dimensions: investment, inflation and interest, protection, pension, and savings and borrowings. As indicated in the next section, the average percentage of correct responses over the five dimensions reached 43.3%. These 28 items were adopted from different sources. Nine items were adopted from Chen and Volpe (1998), six items from Van Rooij, Lusardi and Alessi (2011), three items from Lusardi, Mitchell, and Curto (2010), six items from Tennysen (2011), and four items from Njuguna and Otsola (2011). These items are shown in the Appendix under numbers11 to 21.

3.3.3 Personal Financial Attitude

This variable refers to the personal disposition toward financial matters. It is measured by respondents' scores on five items, which were adopted from Chen and Volpe (1998). Each respondent was asked to rank his attitude regarding each of the items using a likert-type scale ranging from one (not important at all) to five (extremely important). These items are shown in the Appendix as the first five items under number 10.

3.3.4 Gender

This variable refers to a respondent's classification as male or female. Each respondent was asked to indicate his gender. For statistical analysis, a response for being a male was coded one while a response for being a female was coded zero.

3.3.5 Age

This variable refers to the approximate period of time a respondent has been alive since he was born. It was stated in a form of three categories: under 20 years of age, 20 years to less than 40 years, and 40 years and above. Each respondent was asked to indicate on the questionnaire the age category that he belongs to. For statistical purposes, each age category was coded as one when the respondent belongs to the age category and zero if he does not belong to that age category. This means that the age variable was represented by three variables in the regression equation.

3.3.6 Nationality

This variable refers to the home country where the respondent has his permanent residence. Each respondent was asked to indicate on the questionnaire whether he is a UAE national or non-UAE national. For statistical purposes, a national of UAE was coded one and non-UAE national was coded zero.

3.3.7 Education

This variable refers to the respondent's highest level of education. Each respondent was asked to indicate on the questionnaire his highest level of education. Level of education was presented on the questionnaire as four categories: below bachelor's degree, bachelor's degree, postgraduate Diploma, and advanced graduate degree (Master or Doctoral degrees). For statistical purpose, each category was coded as one when the respondent belongs to that category and zero if he does not belong to that category. This means that the education variable was represented by four variables in the regression equation.

3.3.8 Marital Status

This variable refers to the legal status of the respondent. It was stated on the questionnaire in three categories: single, married, and others. Each respondent was asked to indicate on the questionnaire his marital status. For statistical analysis, each category was coded as one when the respondent belongs to that category and zero if he does not belong to that category.

3.4 Research Hypotheses

This paper tested the following hypotheses which are stated in the null form:

H_{01}: The average level of financial literacy of residents of UAE is not significantly different from the average 50% reported in other prior studies.

H_{02}: The average level of financial literacy among male residents of UAE is not significantly different from that of female residents of UAE.

H_{03}: There is no relationship between the average score of financial literacy and the decision to carry debt in a particular form.

H_{04}: There is no significant relationship between the average score of personal financial attitude and the decision to carry debt in a particular form.

H_{05}: There is no significant relationship between nationality and the decision to carry debt in a particular form.

3.5 Data Analysis

We used descriptive statistics, reliability analysis, and multiple regression analysis. Reliability analysis (alpha analysis) was used to judge the internal consistency of each of the two measurement scales used, that is financial literacy and personal financial attitude. The multiple regression technique was used for the task of statistically controlling the effect of interrelated variables and revealing the partial contribution of each independent variable to the explanatory power of the model.

The regression model was developed using the variables described in the previous section. The individual's decision to get involved in one of the three specified forms of personal debt represented the dependent variable. Thus, the dependent relationship to be explained by the regression model is a trichotomous condition where multiple dependent variables are associated with multiple independent variables. Accordingly, the regression model appears as a multivariate model of the following form:

$$Y_B, Y_F, \text{ and } Y_C = \alpha + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + B_8 X_9 + B_{10} X_{10} + B_{11} X_{11} + B_{12} X_{12} + B_{13} X_{13} + B_{14} X_{14} + \varepsilon \quad (1)$$

Where,

Y_B = the condition of carrying a personal debt in the form of a bank loan.

Y_F = the condition of carrying a personal debt in the form of a loan from a family or a friend.

Y_C = the condition of carrying a personal debt through the use of credit cards.

X_1 = represents the gender classification of the respondents.

X_2 = represents respondents' age in the category of under 20 years.

X_3 = represents respondents' age in the category of 20 years to under 40 years.

X_4 = represent respondents' age in the category of 40 years and above.

X_5 = represents the nationality classification of the respondents.

X_6 = represents respondents' educational level in the category of below bachelor's degree.

X_7 = represents respondents' educational level in the category of bachelor's degree.

X_8 = represents respondents' educational level in the category of postgraduate diploma.

X_9 = represents respondents' educational level in the category of advanced graduate degree.

X_{10} = represents respondents' marital status in the category of single person.

X_{11} = represents respondents' marital status in the category of married person.

X_{12} = represents respondents' marital status in the category of other.

X_{13} = represents respondents' average score of the financial literacy.

X_{14} = represents respondents' average score of personal financial attitude.

e = the randomly distributed residual error or variance in Y not explained by the independent variables in the regression model.

The above multivariable model was treated as three multiple regression models and are referred to as the first regression (for Y_B), the second regression (for Y_F) and the third regression (for Y_C). For each of these three regression models, we tested for the existence of multicollinearity especially between age and marital status through the use of correlation. Cooper and Schindler (2011) indicated that a correlation coefficient between two independent variables at 0.80 or greater represents a serious problem for the data analysis and one can deal with the situation in one of two ways: (i) keep one of the two variables and delete the other, or (ii) build a new variable that is a composite of the two highly inter-correlated variables and use this new variable rather than its components. The correlation coefficient between age and marital status was measured at about 0.40 which is not high enough to cause a serious problem for the data analysis.

4. Results

4.1 Sample Responses

Out of the 412 questionnaires distributed to a convenient sample of residents of the UAE, we received back a total of 207 completed questionnaires. However, we excluded 22 questionnaires of respondents who did not carry debt in any form. Thus the final sample used in the analysis was 185 subjects. This represents a response rate of about 45 percent.

About two-thirds of the respondents were non-UAE nationals (expatriates) and in the age category of 20 to less than 40 years old. The sample was almost a balanced one in terms of gender (48% females). In addition, the majority of respondents were married and hold bachelor degrees or higher.

Table 1 shows some descriptive statistics about the two-multi item variables (financial literacy and personal financial attitude). The average score for financial literacy represents the percentage of correct answers that was calculated across the 28 items representing this variable. On the other hand, the average for personal financial attitude was calculated across scores of the five items representing this variable.

The table shows that the average financial literacy score of 0.433 is lower than the average score (about 0.5) reported in the reviewed literature. Chen and Volpe (1998) reported an average score for financial literacy of about 53 percent while Lusardi, Mitchell, and Curto (2010) reported an average score of 0.37. Mandell (2004) reported an average score of about 0.52. Jones (2005) reported an average score for financial literacy of about 56 percent. This finding leads us to strongly support the conclusion of Chen and Volpe (1998 and 2002), among others, that knowledge on personal finance is inadequate and there is a need to have some modifications to the educational curriculum. The table also shows that the average score for personal financial attitude is above average (about 70%).

Table 1. Descriptive statistics for financial literacy and personal financial attitude

Variable	Minimum	Maximum	Mean	St. Deviation
Financial Literacy	0.00	0.79	0.433	0.16721
Personal Financial Attitude	1.00	5.00	3.509	0.79672

4.2 Reliability Analysis

The authors performed reliability analysis to collected data for the two-multi item variables (financial literacy and personal financial attitude). Table 2 reports the alpha reliability coefficient obtained from this analysis.

Table 2. Cronbach's alpha reliability coefficients

Variable	Items	Alpha
Financial Literacy	28	0.751
Personal Financial Attitude	5	0.783

Table 2 shows that the Cronbach's alpha reliability coefficients are higher than the minimum acceptable level of 0.70 as indicated by Price (1972). This means that collected data can be analyzed further using the regression analysis.

4.3 Regression Analysis Results

4.3.1 Loans from Banks

Table 3 shows the results of this first regression model. The table shows that the regression model is significant (F = 3.585, p ≤ 0.0001). However, its explanatory power is limited to about 14.4 percent (adjusted R square). It is somewhat low. This indicates that the model may not be well-specified as 85.6 percent of the variance in the decision to borrow from banks is not explained.

Table 3. Regression results for bank loans

Variable	Beta	t-value	Level of Significance
Gender	.049	.627	.531
Age2	.073	1.001	.318
Age3	.129	1.678	.095
Nationality	.189	2.370	.019
Education1	-.183	-1.530	.047
Education2	-.095	-.954	.342
Education4	-.113	-1.260	.209
MaritalStatus1	-.269	-1.279	.203
MaritalStatus2	.018	.085	.933
MaritalStatus3	.079	1.058	.292
Financial Literacy	.160	1.161	.247
Financial Attitude	-.063	-.417	.677

Notes: R^2 = 0.20, Adjusted R^2 = 0.144, F = 3.585, P = 0.0001, n = 185.

Table 3 also shows that only two of the independent variables (nationality and education at the level of high school) are statistically significant (t ≤ 2, P ≤ 0.05). These results indicate that UAE nationals are more likely to borrow from banks than non-UAE nationals. In addition, those with educational level below bachelor's degree are less likely to borrow from banks as compared with others. Thus, the hypothesized no relationship between nationality and individuals' decisions to borrow from banks (H_{05}) is rejected.

4.3.2 Borrowing from Friends and/or Family Members

Table 4 shows the results of the second regression model. The table shows that the regression model is significant (F = 2.486, p ≤ 0.005). However, its explanatory power is limited to about 9 percent (adjusted R square). This indicates that the model may not be well-specified as about 91 percent of the variance in the decision to borrow from friends and family members is not explained.

Table 4. Regression results for loans from friends or family members

Variables	Beta	t-value	Level of Significance
Gender	.136	1.687	.093
Age2	.036	.479	.632
Age3	.076	.959	.339
Nationality	.151	1.831	.069
Education1	.117	1.245	.215
Education2	.153	1.490	.138
Education4	-.092	-1.001	.318
MaritalStatus1	.273	1.258	.210
MaritalStatus2	.479	2.217	.028
MaritalStatus3	-.047	-.614	.540
Financial Literacy	-.004	-.059	.953
Financial Attitude	-.048	-.630	.530

Notes: R^2 = 0.148, Adjusted R^2 = 0.088, F = 2.486, P = 0.005, n = 185.

Table 4 shows that only one variable is significant (t ≥ 2, P ≤ 0.03). It is the case of an individual being married. The significant relationship is positive. This result indicates that married individuals are more likely to take loans from friend and/or family member as compared to others.

4.3.3 Borrowing through Credit Cards

Table 5 shows the results of the third regression model. The table shows that the regression model is significant (F = 2.163, p. ≤ 0.003). However, its explanatory power is limited to about 10 percent (adjusted R square). This indicates that the model may not be well-specified as 90 percent of the variance in the decision to borrow through credit cards is unexplained.

Table 5. Regression results for borrowing through credit cards

Variables	Beta	t-value	Level of Significance
Gender	.020	.246	.806
Age2	-.106	-1.421	.157
Age3	.041	.521	.603
Nationality	-.001	-.010	.992
Education1	.127	1.359	.176
Education2	.260	2.540	.012
Education4	.143	1.558	.121
MaritalStatus1	.645	2.980	.003
MaritalStatus2	.668	3.106	.002
MaritalStatus3	-.076	-.993	.322
Financial Literacy	-.051	-.708	.480
Financial Attitude	-.258	-3.376	.001

Notes: R^2 = 0.154, Adjusted R^2 = 0.095, F = 2.613, P = 0.003, n = 185.

The table shows that four variables are significant (t ≥ 2, P ≤ 0.05). They are marital status of being not married (single or others), educational level at the bachelor's degree, and personal financial attitude. The significant relationship for the marital status and educational level variables is positive. This means that being a single or not married increases the chance of borrowing through credit cards as compared to being married. Similarly, holders of bachelor degrees are more likely to borrow from credit cards than other individuals with educational levels higher or lower than a bachelor degree. This indicates that specific segments of individuals are likely to borrow through credit cards than others. However, the relationship for the personal financial attitude variable is negative. This means that an improvement in an individual's personal financial attitude tends to decrease the individual's preference to borrow through credit cards. Of particular importance here is that financial literacy is statistically insignificant. This result supports the findings of Jones (2005) of no significant relationship between financial knowledge and individual's credit debt behavior.

5. Discussion

The average score of financial literacy reported in this paper was about 0.433 while the average score of financial literacy reported in the literature was about 0.50. An independent two-sample t-test indicates that the difference between the two means is statistically significant (t ≥ 2, p. ≤ 0.05). This result could be attributable to the difference in time that personal finance and related items have been taught for some time in Western countries while educational development in the financial areas is of recent history in UAE. Although too many universities do exist now in UAE, their existence dates back to only the last 15 years with the exception of one national university. This result indicates that financial knowledge and awareness among UAE population need some actions by the educational authorities to improve financial literacy. However, there were no significant differences between average scores of males and females. This result is contrary to the reported significant difference by Al-Tamimi and Kalli (2009). To guard against possible overstatement (understatement) of the differences between the average scores of males and females, we also tested for possible gender differences within each of the two groups (UAE and non-UAE nationals). The results yielded no significant differences. We argue that one of the possible explanations for the significant gender difference reported by Al-Tamimi and Kalli (2009) could be attributable to the gender ratios in their study. While our gender ratios for UAE nationals (49% females) were similar to that of non-UAE nationals (47% females), their study did not distinguish between UAE nationals and non-UAE nationals and the gender ratio was about 42% for females. We conclude that our results fail to reject the first two null hypotheses.

On the relationship between the average score of financial literacy, personal financial attitude and the decision to carry debt in a particular form, the results reported in Tables 3 and 5 indicate that there is no significant relationship between the average of financial literacy, as well as personal financial attitude and the decision to

carry debt from bank loans or borrow from a friend/or a family member. However, there is a strong negative statistical relationship between personal financial attitude and borrowing through a credit card. These results lead us to conclude that improving personal financial attitude through education and practice reduces dependence on credit cards. Thus, we indicate that the results fail to reject the third null hypothesis as well as the fourth null hypothesis except for borrowing through credit cards.

The fifth research hypothesis stated no significant relationship between nationality and the decision to carry debt in a particular form. The regression results reported in Tables 4 and 5 indicate that there is no significant relationship between nationality and the decision to borrow from friends/family members or through credit cards. However, the results reported in Table 3 indicate significant relationship between nationality and borrowing from banks. One possible explanation for the significance of nationality is that existing policies of UAE banks make it easier for a UAE national to borrow from banks than non-UAE national in terms of the limits on borrowed amounts and collaterals for the loans. Such policies encourage many national individuals to borrow from banks. Thus, the results fail to reject the fifth null hypothesis for two forms of debt but they fail to reject the same hypothesis for borrowing from banks.

The reported results are subject to some limitations. First, the use of a convenient sample tends to limit the degree of generalizing the results beyond the study's sample. A second limitation deals with possible non-response bias. There is always a chance that non-respondents might hold different attitude than those who responded. However, splitting the sample between early respondents and late respondents and testing for differences in scores of selected items did not yield any significant differences. A third limitation deals with the form and specifications of the regression model used. Ghauri et al. (1995) pointed out that the use of dummy variables as independent variables violates the assumption of linearity. One useful alternative to overcome this problem is the use of logistic regression analysis, which produces ß values in the form of probabilities. However, since the dependent variable of this research is also a dummy variable, the use of ordinary regression analysis will also produce ß values in the form of probabilities. A fourth limitation deal with the regression model. We used a linear additive model with specified variables. However, there is a chance that other forms of the model (non-linear or multiplicative) may give different results from the ones obtained from the linear additive models. A fifth limitation deals with the industry category from which the sample was drawn. Although our sample was drawn from four types of service organizations, there is the possibility that a sample from other industry (e.g., manufacturing or financial institutions) might give different results.

We conclude our paper by making two recommendations. First, we recommend the educational authorities of UAE to review the financial component of the current educational programs to ensure its effectiveness for increasing financial awareness and financial knowledge. Second, we recommend replication of this study using other samples from different industries to judge the robustness of our reported results.

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Appendix

Dear Participant

This questionnaire is used to collect information to complete a research report about individuals' personal debt in the United Arab Emirates. The questionnaire is anonymous and no individual person will be identified or connected with a particular set of information or research findings. Your cooperation in completing this questionnaire is greatly appreciated.

Please respond to each of the following items:

1. Your gender _____ Male _____ Female

2. Your age _____ Under 20 _____ 20 to less than 40 _____ 40 and above

3. Your nationality   _____ UAE national   _____ Non-UAE national

4. Your highest educational level:

     _____ Below bachelor's degree

     _____ Bachelor's degree

     _____ Postgraduate Diploma

     _____ Advanced graduate degree (Master/Doctorate)

5. Your marital status   _____ Single   _____ Married   _____ Other

6. Do you currently owe money to a bank (loans)? _____ Yes   _____ No

7. Do you currently owe money to a friend or a family member (loans)? _____ Yes_____ No

8. Do you currently owe money on your credit card?_____ Yes_____ No

9. Do you currently own shares of one or more companies?   ____ Yes _____ No

10. Please insert a check mark (√) in the appropriate column to indicate your ranking of the importance of each of the following items using the following five-point scale:

NOT IMPORTANT AT ALL	SOMEWHAT IMPORTANT	NEUTRAL	VERY IMPORTANT	EXTREMELY IMPORTANT
1	2	3	4	5

Item	1	2	3	4	5
Maintaining adequate financial records					
Spending less than income regularly					
Maintaining adequate insurance coverage					
Marinating diversified investment portfolio regularly					
Avoid borrowing to balance personal budget					
Using multiple sources for financial information					
Confidence in financial decision making					

11. Alia works for the Government of Dubai. She has saved AED 80,000 for her university education. Her plan is to start university next year and needs all the money she saved. Which of the following is the safest place for her university money?

☐   Locked in her closet at home.

☐   Stocks.

☐   Corporate bonds.

☐   A bank savings account.

12. Which of the following types of investment would best protect the purchasing power of a family's in the event of a sudden increase in inflation?

☐   A 10-year bond issued by a corporation.

☐   A certificate of deposit at a bank.

☐   A twenty-five year corporate bond.

☐   A house financed with a fixed –rate mortgage.

13. Many people put aside money to take care of unexpected expenses. If Jamal and his wife Eva have money put aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?

☐   Invested in a down payment on a house.

☐   Stocks.

☐   Saving account.

☐   Checking account.

14. Dalia just found a job with a take-home pay of AED 8,000 per month. She must pay AED 4,000 for rent and

AED 1,500 for groceries each month. She also spends AED 250 per month on transportation. If she budgets AED350 each month for clothing and AED 600 for everything else, how long will it take her to accumulate savings of AED 2,400?

- ☐   One month
- ☐   Two months
- ☐   Three months
- ☐   Four months

15. Ahmed and Ali are of the same age. At age 25, Ahmed began saving AED 20,000 a year while Ali saved nothing. At age 50, Ali realized that he needed money for retirement and started saving AED 40,000 per year while Ahmed kept saving his AED 20,000. Now they are both 75 years old. Who has the most money in his retirement account?

- ☐   They would each have the same amount because they contributed exactly the same.
- ☐   Ali, because he saved more each year.
- ☐   Ahmed, because he has saved each year
- ☐   Ahmed, because his money has grown for a longer time at compound interest.

16. Nagy and Bilal work together in the finance department of the same company and earn the same pay. Bilal spends his free time taking work-related classes to improve his computer skills; while Nagy spends his free time socializing with friends and working out a fitness center. After five years, what is likely to be true?

- ☐   Nagy will make more because he is more social.
- ☐   Nagy will make more because Bilal is likely to be laid off.
- ☐   Bilal will make more money because he is more valuable to his company.
- ☐   Nagy and Bilal will continue to make the same money.

17. Sara and Mustafa had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following tends to have the highest growth over 18 years?

- ☐   Stocks.
- ☐   A government savings bond.
- ☐   A savings account.
- ☐   Checking account.

18. Suppose you had AED 1,000 in a savings account and the interest rate was 2% per year. After five years, how much would you have in the account if you left the money to grow?

- ☐   More than AED 1,020.
- ☐   Exactly AED 1020.
- ☐   Less than AED 1,020.
- ☐   Do not know

19. Imagine that the interest rate on your savings account was 2% per year and inflation was 4% per year. After one year, how much goods and services would you be able to buy with the money in this account?

- ☐   More than today.
- ☐   Exactly the same.
- ☐   Less than today.
- ☐   Do not know.

20. A refrigerator has a list price of AED 4,200. You can buy it for AED 3,600 cash now or through three equal monthly payments. Assume the annual interest rate on bank loans is 8%. Which payment option do you think is preferable?

- ☐   Three equal payments.
- ☐   Cash.

☐   There is no difference between the two options.

☐   Do not know.

21. Please insert a check mark (√) in the appropriate column to indicate whether you agree or disagree with each of the following statements:

	Statement	Agree	Disagree	Do not know
A	Buying a single company stock usually provides a safer return than a stock mutual fund.			
B	Health Insurance policies usually contain maximum annual amounts to be paid to medical doctors and hospitals			
C	A homeowner's insurance policy will often pay the medical expenses of a guest who is injured on your property.			
D	Members of a pension scheme are not allowed to borrow from the scheme			
E	It's a good idea to buy less insurance for an old car than for a new car			
F	If your pension scheme invested AED 100,000 in shares of a company, it would be possible to have the shares valued at more or less than AED 100,000 after one year			
G	Life insurance has more value for a couple with young children than for a couple whose children are grown.			
H	To earn the highest expected long term growth, a pension scheme should invest in Treasury bills			
I	In periods of economic growth, financial leverage does not work well for the company			
J	I can withdraw 50% of my pension before retirement to attend an emergency			
K	The main purpose of insurance is to reduce the financial risk faced by a consumer			
L	Holding diversified stock portfolio reduces financial risk inherent in stock market			
M	A return on capital is the relationship between income and total assets			
N	A larger deductible on an insurance policy is always a bad deal for the consumer because the insurer pays less of the consumer's losses.			
O	A high-risk high return investment strategy is suitable for an elderly retired couple living on fixed income			
P	An overdraft occurs when you write a check of AED 1,000 when you have AED 700 in your account			
Q	Your ownership in a mutual fund is proportionate to the number of shares you own in the fund			
R	The rate of interest on your credit card is usually higher than what you can earn on a certificate of deposit			

Thank you for your cooperation

If you would like to receive a copy of the results, please provide your Name: ------------------------------------ and mailing address or (e-mail):------------------------

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