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# What Drives Financial Literacy Among the Young?

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# What Drives Financial Literacy Among the Young?

## **Abstract**

Existing studies find that young people have the lowest levels of financial literacy when compared to other ages. I argue that this low financial literacy is driven by a lack of experience with financial decision making. I designed and administered a survey that measures students' financial literacy and financial experience. I find that students know more about the products they use. For example, students with loans know more about loans than students without them. These results suggest that knowledge is driven by need and experience. The implication is to increase financial literacy among students by involving them in financial decisions.

## **Keywords**

Literacy, Youth, College, Experience

## **Cover Page Footnote**

Thank you to my advisor Professor Tomas Dvorak of the economics department at Union College.

## What Drives Financial Literacy Among the Young?

### 1. Introduction

In March of 2010 the Obama administration issued the following statement, "... the lack of financial literacy among America's youth is the next major crisis that will plague the economy in the future if we don't act now as a nation" (Geraciotti) The administration's concern is motivated by the finding that young Americans between the ages of 18 and 29 are particularly undereducated in terms of finances as they tend to have the lowest levels of financial literacy out of all other age groups (National Financial Capability Study, 2009). In 2009 the average college senior graduated with \$23,186 in student loan debt and more than \$4,100 in credit card debt (U.S. Education Department, Sallie Mae). Do students know enough about finances in order to manage their debt? What determines which students have higher financial literacy rates? Financial literacy is extremely important for this age group as they are taking out student loans and getting credit cards for the first time. This age group is also the one opening up new savings accounts and learning to save.

I argue that the most effective way to increase financial literacy among young people is to focus on the relationship between experience with finances and knowledge. Young people who have worked through the process of getting a student loan or applying for a credit card will know more about financial products than those young people who have not. By getting directly involved in the financial market students gain more knowledge about financial products than those students with no experience. I hypothesize that the knowledge that students have about finances is driven by the experiences students have with them.

Currently the most prevalent idea as to how to better educate students in terms of financial literacy is to use classes. For example, the Obama administration, in tandem with the National Youth Financial Educator's Council, intends to disseminate the information to young people "... by financial literacy curriculum, multimedia learning center education, day camps and parent and educator training." While an attempt to increase young peoples' knowledge through more class time is a good idea it may not be the most effective in terms of long term increases in financial literacy. A link between financial experience and financial literacy would open new doors as to how to approach the issue and more efficiently educate young people.

Existing studies on financial literacy focus on measuring financial literacy among the population and how literacy rates vary across socio-demographic characteristics. One study reports that only 27% of young adults have a basic knowledge regarding finances (Lusardi, Mitchell and Curto, 2009). Another found that 84% of undergraduates would like to receive more financial education (Sallie Mae, Credit Cards, 2009). Many studies that focus on the financial literacy of college students deal with the individual characteristics that financially literate students have (Cude 2006, Lusardi 2009, Chen & Volpe 1998). In other words, these studies center on topics such as how males performed in comparison to women and how Caucasians scored in comparison to African Americans. While interesting, these findings do not lend themselves to identifying an effective solution as to how to increase literacy rates. Many researchers make the recommendation of adding finance focused classes to the curriculum. For example studies that make recommendations for the implementation of continuation of financial classes include Cude (2006 pg 108), Lusardi and Mitchell (2009 pg 24), and Lusardi (2004 pg 168). College students' misuse of credit cards is another well documented topic in college specific studies (Windham 2009, Allen & Jover 1997). These studies also do not offer new solutions to the problem but instead just emphasize the low literacy rates. My study contributes

to the existing literature by examining the link between financial literacy and experience in an effort to find a more effective way to educate students.

Financial literacy is a very important issue considering its long term effects. These effects have been illustrated by numerous studies. The benefits of high literacy include incurring less fees and charges on credit cards, having a higher net worth, saving earlier for retirement, and having less debt overall. As Annamaria Lusardi points out, in today's society people are expected to make more financial choices, such as managing their own retirement plans, than ever before (Lusardi and Mitchell, 2007). Previous studies have found that there are real differences between the choices that those who have high financial literacy make and those who are less informed make. For example, a high level of financial literacy increases the likely-hood of someone's participation in the stock market (Lusardi, van Rooij and Alessie, 2009). Also, there was a marked increase in total net worth and financial wealth seen after older people were given financial seminars at work (Lusardi, 2004). Another study finds that the more financially literate a person is the more likely they are to start saving early for retirement (Lusardi and Mitchell, 2007). Prior research into this topic clearly shows that the level of financial literacy that a person has directly affects the choices that they make throughout their life. It is in everyone's best interest to try and increase financial literacy among young people.

In order to establish a link between financial literacy and experience I designed and administered a financial literacy test to the campus community of Union College in Schenectady, NY. The concepts that were tested focused on student loans and credit cards as well as basic financial literacy. The questions themselves were based on what students need to know when taking out a loan or credit card and in order to minimize their costs over the long term. The results of the survey showed that students who had experience with financial products, such as having a student loan, had higher financial literacy rates than those students who had never taken out a student loan or checked their credit score. This result is consistent with the hypothesis that knowledge is driven by necessity as opposed to the other way around. In essence, there is a link between students' experience and their financial knowledge. This link lends itself to a new way to improve financial literacy among young people.

## **2. Data**

### **2.1 Survey**

Considering the large amount of debt and high number of students taking out loans in order to pay for college one would think that students would be very financially literate. The survey created in order to test financial literacy focused on several specific financial concepts. To test their knowledge about student loans students were asked to perform two compound interest calculations, explain the benefits of a Federal loan versus a private loan, identify when they had to start repaying both a Federal loan and a private loan, and describe the difference between a subsidized and an unsubsidized loan. To gauge how much students understand about credit cards they were asked the difference between an APR and an interest rate as well as what their rights are in terms of checking their credit scores. Some of these questions can also be used to measure basic financial literacy.

### **2.2 Sample Construction: Mechanics of the survey**

The final survey was emailed to 1,294 Union College students on January 8<sup>th</sup> 2011. This date was chosen due to the fact that it was a Saturday. This tends to be a day in which students have free time. Also, it was the first full weekend of the term and so most students were not yet

assigned or working on large projects or papers for their classes. The timing was intended to maximize the level of participation of students. The survey itself was implemented through the online survey specialist company Zarca Interactive. The email list used was a compilation of class lists from numerous undergraduate classes being offered at Union in the winter of 2011. The classes were chosen, for the most part, due to their large sizes and variety of class years represented within them. There was also a wide variety of academic departments that the classes were chosen from. Three days after the original survey participation invitation was issued a reminder email was dispensed to those students who had not yet responded.

**Table 1: Sample Characteristics: Basic Demographics of Respondents**

Characteristic	Sample	Population
Male	38.93%	51%
Freshman	27.87%	26.25%
Sophomore	24.18%	24.61%
Junior	18.85%	27.23%
Senior	28.69%	26.44%
Social Sciences	26.64%	30%
Humanities	16.80%	29.93%
Engineering	16.39%	7.9%
Science	39.34%	31.97%

Out of nearly 1,300 surveys sent out 244 surveys were completed by students. This is a participation rate of nearly 19%. The total number of undergraduate students that attends Union College is 2,133 (union.com). My sample is over 11% of the student body. As Table One illustrates, there was a relatively even distribution of participants across class years. About a quarter of all participants came from each class year, the highest rate coming from the senior class with 28.69%. The lowest participation came from the junior class with only 18.85%. This is surprising considering that the junior class makes up the greatest proportion of the student body out of all of the class years. The student body, according to Union College's official website, is composed of 49% women and 51% men. My sample is heavily biased towards females as participants in the survey were about 39% men and 61% women. It is not clear what the cause of this bias is but women seem to be more willing to give up their time in order to take a survey. Perhaps they were even more inclined to assist me as I am a fellow female and my name appeared on the invitation to take the survey. Intended science majors composed nearly 40% of respondents. This is consistent with the overall student body as the sciences have the greatest number of intended majors out of any other field. Social science majors also had a high participation rate. This matches closely with the total number of students on campus who are social science majors. The high level of participation may also result from the fact that economics majors are considered to be social science majors. It is likely that economic majors were more interested in the topic of financial literacy and its close relationship to their field than those students in other fields. The rest of the participants were split evenly between the humanities and engineering departments. Humanities majors were under represented in the sample when comparing it to the overall makeup of the student body. In contrast, engineering majors were over represented. Perhaps engineers were more willing to take part as they were more comfortable with the math component of the survey. Two participants did not answer,

indicating that they may have been double or interdepartmental majors. Overall, females and engineers were over represented in the sample while the junior class and humanities majors were under represented.

Table 2 compares financial experience as represented in my sample to available population data. Out of both the population and the sample about 50% of Union students have student loans. Nearly a quarter of participants had both private and Federal loans. The data for the amount of the population that had both Federal and private loans was unavailable. There were a surprisingly low number of respondents who had credit cards. Less than 50% of participants reported having a credit card whereas on the national level 91% of college students are reported as having one or more credit cards. The percent of the student body at Union who have credit cards was not readily available to compare the sample to. Regardless, it would seem that Union students are a lot less likely to have a credit card than students across the rest of the nation. Students may have under reported the number of credit cards that they have if they did not consider a credit card under their parents name to be their own card. Students may have interpreted the question to be asking if they had a card in their own name.

**Table 2: Student's financial experience**

Characteristic	Sample	Population
Students with Federal loans	27.87%	53%*
Students with Federal and private loans	23.77%	
Students with credit cards	47.54%	91%**
Students with credit card balances	17.21%	82%**

**\*These figures based on statistics reported by Union College**  
**\*\*These figures are from on a national study by Sallie Mae**

Table 2 also shows that the percentage of students who have credit card balances, out of everyone who participated, is just 17.2%. The number of students that have balances out of those students that actually have credit cards is 36.20%. This is much lower than the 82% of students nationally who carry balances. This could mean that Union students are being assisted financially much more by their parents. In other words, Union students' parents could be the ones ensuring that their balances are paid off each month. The average Union student's background appears to be much more affluent than the national average as they can pay off their credit card balances consistently.

### 3. Empirical Results

#### 3.1 How much do students know?

The basic financial literacy of students was measured by four questions regarding general market knowledge. These questions are listed under the heading of basic financial knowledge in Table 4. These questions have been created bearing in mind other surveys that were used to measure financial literacy. One point was awarded to a student for every correct answer that they

had in response to these questions. These points were then added up in order to compare students to one another. Out of the 246 students that took the survey 30% did not get any of the correct answers for those questions regarding basic financial literacy. The largest number of participants, or 37%, answered only one of the questions correctly. Another 24% correctly identified the appropriate answers for two of the basic financial questions. Only 7.3% of students could answer three out of the four questions correctly. Finally, there were just two students out of the 246 that responded that got all of the basic financial literacy questions correct. That is just 0.8% of respondents. The average score in the basic financial literacy portion of the survey was 28%. The overall result of the financial literacy test was that, using a normal grading scale, 91% of Union College students who participated received a failing grade.

**Table 3: Overview of Results**

Type of Literacy	Average Score	Median	Minimum	Maximum
Basic Financial Literacy (Q 7,8,9,14)	28.0%	12.5%	0%	100%
Student Loan Knowledge (Q 8,10,11,12, 13, 14)	24.7%	16.7%	0%	83%
Credit Card Knowledge (Q 7,8,9)	28.7%	33.3%	0%	100%

As Table 3 illustrates the results for the student loan knowledge portion of the survey were even worse. The average score on this section was only 24.7% with a maximum of only 83%. In other words, no student managed to answer all six of the student loans questions correctly. The reason no one got a perfect score on this section could be accounted for by the fact that it is composed of two more questions than the basic financial literacy portion and three more than the credit card portion. The larger number makes it more difficult for students to get all of them correct. Almost 32% of students did not get any questions regarding student loan knowledge correct. Participants did slightly better, but still poorly, on the credit card knowledge portion of the test as the average score was a little more than 28%. Almost 42% of participants did not answer any of the credit card knowledge questions correctly. The average score was driven up by 15 students who answered all three of the credit card questions correctly. Overall, the average scores for all categories of knowledge were very low with the majority of participants receiving failing grades.

**Table 4: What do students know?**

<b>Question</b>	<b>Correct</b>	<b>Do Not Know</b>
<b>Basic Financial Literacy</b>		
7. Suppose you owe \$1,000 on your credit card and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double?	40.57%	25.82%
8. What is the difference between an APR and an interest rate?	15.98%	73.77%
9. Which of the following best describes your right to check your credit history?	29.51%	61.48%
14. If you defer a loan of \$50,000 with an interest rate of 10% for 2 years, while you obtain your graduate degree, what will the balance of the loan be upon your graduation?	26.23%	39.34%
<b>Student Loan Knowledge</b>		
10. What is the benefit, if any, of taking out a federal student loan as opposed to a private one?	35.25%	47.13%
11. What is the difference between a subsidized Stafford loan and an unsubsidized Stafford loan?	10.25%	57.79%
12. If you take out a FEDERAL student loan for your undergraduate education and then decide to go to graduate school when do you have to start paying off the loan?	31.56%	34.84%
13. If you take out a PRIVATE student loan for your undergraduate education and then decide to go to graduate school when do you have to start paying off the loan?	29.10%	44.26%
Questions regarding credit card knowledge specifically overlapped with questions in other categories and are therefore not repeated.		

As Table 4 illustrates, the basic financial literacy question that was answered correctly by the most people was regarding how long it would take for a credit card balance to double considering a certain interest rate. This is essentially a simple compound interest calculation. This level of math is taught as part of the high school math curriculum which explains why so many students could answer it correctly. The basic financial literacy question that students found the most difficult was the difference between an APR and an interest rate. Only around 16% correctly identified the answer. Most students probably have not had to learn what an APR is unless they were taking out student loans or taking out a credit card. Interestingly, most students did not even attempt to answer this question as nearly 74% responded that they did not know. A larger number of students were able to identify their rights regarding accessing their credit history. Surprisingly, only 26% students were able to calculate the other basic financial question

which asked what the balance of a \$50,000 student loan would be at an interest rate of 10% after a 2 year deferment. This question is very similar to the earlier one regarding interest on a credit card and so theoretically the same number of students that were able to correctly answer the first question should have been able to answer the second. There was a difference of 35 students who were able to answer the first question but not the second. When comparing those students who answered the first credit card interest question correctly and those who answered the second loan interest question correctly only 48 of total students answered both correctly. It would seem that either the fact that there was an added factor of a deferment period or that the interest was now on a student loan, as opposed to credit card debt, confused or discouraged students from answering. Nearly 15% more students responded that they did not know the answer to the student loan interest question than the credit card interest question. Another factor that may have confused respondents was the size of the principal that was being used in the calculations.

There were six questions included in the survey that were used to measure students' understanding of student loan concepts. Questions number 8 and 14 were also used to measure basic financial knowledge and so they were not repeated under the heading of student loan knowledge in Table 4. The question regarding student loans that the most number of students got correct was regarding the benefit of taking out a Federal loan versus a private loan. Still, only 35% of participants could identify the advantages of Federal loans. This is not surprising that this was the question that was answered correctly the most considering the large number of students at Union who have Federal loans. Only 10% of students knew what it meant for a loan to be subsidized by the government. This was an unexpected finding considering, once again, the fact that nearly 28% of respondents had some type of Federal loan. Many more students attempted to answer the question regarding Federal loan repayment as only about 35% of them responded that they did not know. Nearly 10% more of respondents responded that they did not know when repayment on private loans had to begin.

### **3.2 Which students knew what?**

Having established that students were not knowledgeable in any of the topics tested I wanted to test the characteristics of students against literacy rates in order to determine what characteristics play a role in students' literacy rates. I estimated five different regressions. In each regression in Table 5 the dependent variable is the overall percentage financial literacy score of Union students. These numbers were obtained by awarding students a point every time they answered one of the questions listed in Table 4 correctly and dividing that by the number of questions. Even though some questions are considered to be measures of more than one type of knowledge questions were not double counted for the measurement of overall literacy. I use two sets of independent variables. The first set includes basic demographic characteristics such as gender, class, and field of study. I break down field of study into four categories, humanities, social sciences, engineering, and science. The second set of independent variables captures financial experiences. These variables are budget, credit card, student loan, and credit score. All of these variables are dummy variables. The senior variable isolates those students in the senior class from those in lower classes. The budget variable represents students who responded that they were on a budget or consistently aware of their financial situation. The credit card variable represents students who responded that they had a credit card that they used with some regularity. The student loan variable represents those students who have a Federal or private

student loan. The final independent variable included in these regressions is credit score. This variable represents those students who have checked their credit scores at least once.

**Table 5: Regression Results, Overall**

<b>Dependent Variable: overall financial literacy</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
Constant	25.59 (13.8)	25.73 (13.54)	20.99 (5.85)	11.58 (2.09)	3.62 (0.56)
Male	4.54 (1.54)	4.23 (1.39)	3.94 (1.29)		4.95* (1.68)
Senior		0.38 (0.096)	-1.83 (-0.42)		-5.59 (-1.34)
Social Science			4.49 (0.99)		3.47 (0.79)
Science/Engineering			7.12* (1.69)		7.44* (1.84)
Budget				10.96* (1.97)	12.34** (2.21)
Credit Card				1.33 (0.45)	2.21 (0.73)
Student Loan				6.77** (2.34)	7.39** (2.53)
Credit Score				12.89** (2.66)	13.47** (2.73)
R-squared	0.0097	0.0087	0.0208	0.0912	0.1216
Adjusted R-squared	0.0056	0.0004	0.0042	0.0754	0.0901
Number of Observations	243	241	241	235	232

**T-ratios are in parentheses.**

**\*statistically significant, two sided 10 percent  
critical value**

**\*\* statistically significant, two sided 5 percent  
critical value**

The first specification shows that men did not do any better than women on the overall financial literacy questions. The coefficient on male is positive but statistically insignificant. In the next specification I asked if knowledge varied by class year. I hypothesized that seniors should be able to correctly answer more questions about finances as they have gained more experience than the other classes. The results showed that seniors did not in fact do any better than the other classes in terms of overall financial literacy. In the third regression run in Table 5 I wanted to test if students who had different fields of study, specifically in the social sciences and science/engineering, had higher literacy rates than those students who were humanities majors. I hypothesized that majors in the humanities department would be less literate as it is the department with the least math oriented curriculum. The department of social sciences includes

economics majors and so we would expect that they would be more aware of financial concepts. The specification showed that while social science majors showed no difference in overall financial literacy rates than humanities majors, science/engineering majors scored 7.12 percentage points higher than humanities majors.

In the fourth regression I explore the relationship between the financial experiences of students and their overall financial literacy. In contrast to basic demographics, it appears that financial experience has a strong effect on financial literacy scores. Students that responded that they had a budget or kept close track of their monthly spending had scores that were 10.96 percentage points higher than those students who did not keep track of their money. This effect is statistically significant. Considering the fact that the average score that students had for overall financial knowledge was 28% those students who had a budget did significantly better than those who did not. Another interesting result of this specification was that those students that had student loans did 6.77 percentage points better than those students without loans. This result was also statistically significant. Those students who checked their credit scores scored 12.89 percentage points higher on the overall financial literacy portion of the survey than those students who never checked their scores. This result was statistically significant. These results are all consistent with the initial hypothesis that students with greater financial experience and awareness would have higher financial literacy scores. Overall, financial experiences explain 12% of the variation in scores.

In the final regression in Table 5 I included demographics together with financial experiences as the independent variables. The effect of financial experience remains statistically significant even after I controlled for demographic variables with little change in the magnitudes of the coefficients. Many of the resulting coefficients from this regression are statistically significant and it has the highest adjusted R squared out of all the five regressions run. Once I controlled for financial experiences, the coefficient on the male variables became higher in magnitude and statistically significant. Men scored 4.9 percentage points higher than women on overall financial literacy questions. The final regression appears to explain the largest amount of the differing levels of financial literacy that students have out of all the regressions run regarding overall financial literacy. This regression also has the highest number of statistically significant variables. It would seem that just the basic demographics of students explain very little about their financial literacy.

### **3.3 Is Knowledge Shaped by Experience?**

The set of regressions run in Table 6 are intended to discover if there is a link between students' specific experiences and their financial knowledge. For example, does a student having student loans result in them scoring higher on the student loans specific questions in the survey? To this end the questions on the survey were broken down into three categories, basic financial literacy, credit card knowledge, and student loan knowledge. These three subsets were then regressed against the same variables as overall financial knowledge was in Table 5. These variables can be broken down into two types, basic characteristics of students and their financial experiences. In the first regression I try to explain students' basic financial literacy by looking at their financial experiences. The results showed that students who have checked their credit score did 24.5 percentage points better on the basic financial literacy section of the survey than those students who have never checked their score. This was a statistically significant result which persists even when controlling for demographics. Considering that the average score for the basic

financial literacy section was only 28% this is a very significant difference in scores. In the second regression I included students' demographics alongside financial experience. The results showed that males scored 9 percentage points higher than females when answering basic financial questions. This result was statistically significant. Science/engineering and social science majors all scored 12 percentage points higher than humanities majors. This was also statistically significant. Apparently, humanities majors are less literate when it comes to basic finances as compared to other majors. This is consistent with my original hypothesis.

**Table 6: Regression Results, Subsets**

Dependent Variable:	Basic Financial Literacy		Credit Card Knowledge		Student Loan Knowledge	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	18.29 (2.56)	2.33 (0.28)	17.81 (2.40)	4.43 (0.51)	6.55 (1.15)	1.49 (0.22)
Male		9.18* (2.43)		7.94* (2.02)		2.76 (0.91)
Senior		-2.45 (-0.46)		-1.29 (-0.23)		-6.27 (-1.45)
Social Science		11.74* (2.10)		12.03* (2.07)		0.66 (0.15)
Science/Engineering		11.75* (2.28)		7.88 (1.44)		6.58 (1.58)
Budget	6.49 (0.90)	8.72 (1.22)	8.91 (1.19)	11.06 (1.49)	12.72* (2.22)	13.58* (2.36)
Credit Card	1.01 (0.26)	2.41 (0.63)	-0.06 (-0.02)	1.039 (0.26)	1.77 (0.58)	2.41 (0.78)
Student Loan	1.49 (0.40)	2.57 (0.69)	-1.04 (-0.27)	-0.035 (-0.01)	9.54* (3.20)	10.06* (3.35)
Credit Score	24.54* (3.91)	23.81* (3.78)	30.61* (4.71)	29.06* (4.43)	4.41 (0.88)	5.47 (1.08)
R-squared	0.0774	0.1303	0.1019	0.1403	0.0862	0.1127
Adjusted R-squared	0.0614	0.0990	0.0863	0.1095	0.0703	0.0808
Number of Observations	235	232	235	232	235	232

**T-ratios are in parentheses.**

**\* statistically significant, two sided 5 percent**

In the third and fourth regressions in Table 6 I asked if credit card knowledge had any relationship with students' demographics or financial experiences. It appears that students who had checked their credit scores did dramatically better than students who didn't. The effect is large, statistically significant, and persists even after controlling for demographics. This is a reasonable result considering that only students who understand how credit cards work or who have a credit card would probably bother to check their credit score. An awareness of the importance of a credit score appears to indicate an awareness of other aspects of credit cards such as the definition of an APR.

In the fifth and sixth regressions I ran the same regressions as mentioned above in order to understand Union students' student loan knowledge. The results show that those students with a budget scored around 13 percentage points higher than those students without a budget or an awareness of their financial situation. This makes logical sense considering that students who take out student loans have less money to spend on college and so they must keep track of their money while in college. In other words, students who keep track of their money know more about student loans because they probably had to take them out or research them at some point. Students with no financial concerns would probably have no reason to be dealing with student loans to begin with, explaining why they don't seem to know very much about them. This result was statistically significant and remained so even after controlling for demographics. Similarly, those students who took out student loans scored almost 10 percentage points higher on the questions regarding student loans than those students who never took out a loan. This was also statistically significant and remained so after controlling for demographics. The credit score variable was not surprisingly statistically insignificant because credit score knowledge does not appear to have any relationship with knowledge about student loans.

#### **4. Conclusion**

Through my regressions I find that there is a link between a student's experience and their knowledge about finances. This link is clearly evident in regards to students' experience with credit cards and their knowledge about them. Those students who had at some point checked their credit score consistently scored higher on all financial literacy questions, except for student loan knowledge. The topic that these students excelled the most on was credit card knowledge as they scored around 30 percentage points higher than those students who never checked their scores. Students with credit cards should have also scored higher than those without credit cards on this portion of the test but they did not. This result could be explained if students do not in fact handle their own finances and so their cards were taken out and paid off by their parents. This appears to be the case for most students as they did not appear to gain any experience that would benefit them in terms of knowledge by having a credit card.

The relationship between experience and knowledge is further demonstrated by the fact that those students with student loans scored 10 percentage points higher on the questions regarding student loans specifically. This is also a significant difference in scores as the average score on this portion of the survey was just 24.7%. Students who had to take out student loans were probably heavily involved in the process considering their evident knowledge about the topic. Parents most likely felt that their children should understand the loan process considering the large amounts of money involved and the long term nature of student loans.

Students who reported being on some type of budget scored around 11 percentage points higher than students not on a budget in terms of overall financial literacy. Those same students also scored around 13 percentage points higher on questions specifically regarding student loans. The fact that students on budgets seemed to have more financial knowledge further demonstrates the link between experience and knowledge. Those students who had to compose budgets for themselves are more aware of their financial situations due to the experience. Also, it is likely that those students who had to take out student loans are less affluent than those who did not. As a result, these students had to also create budgets for themselves. Overall, students with experience with budgets tend to have more experience with things like student loans and so they have higher financial literacy.

While some might argue that knowledge could drive experience this does not appear to be the case. Students who know about student loans would not go out and apply for one just as a result of their knowledge. These students need loans and gain knowledge about the products as they work through the application process. Students also do not go out and get credit cards just because they know about them. In many cases students do not have enough cash on hand to pay for their day to day expenses and so they find credit cards to be a good solution. The necessity of these products to students makes it clear that it is in fact experience which drives knowledge and not the other way around.

When comparing my survey results to those national studies done regarding financial literacy it would appear that students at Union College are less financially literate than other individuals in their age group. According to the National Financial Capability Study 2009 the average score that individuals in the 18-29 year old age group received on basic financial literacy questions was 43%. In comparison, Union students' average score on the same topic was just 28%. This means that participants in the national study did more than a third better than Union students. This is an unexpected result considering the national survey was random and many of those included in the 18-29 age group had not attended college.

There are also major differences between the credit card usage of students at Union and those in their age group nationally. The National Financial Capability Study found that only 48% of people in the 18-29 age group have credit cards but Sallie Mae found that the average number of credit cards that a college student has is 4.6. In other words, Union students are atypical when compared to other college students due to the high average number of credit cards that students have nationally, but they are consistent with those in their age group on a national basis as less than 50% has a credit card. The discrepancies between the credit card usage of Union College students and other college students could result from Union students coming from a more affluent background than their peers. The high tuition at Union probably deters those students who are not wealthy or willing to become deep in student loan debt from attending. If the family of a Union student is wealthy then they probably do not pay their own credit card bills, resulting in low or nonexistent balances. Overall, Union students appear to be much more sheltered in terms of finances than their national peer group and so they have much less financial knowledge. This further supports my hypothesis that financial experience and knowledge are linked.

My findings show that the financial knowledge of Union College students is low. Students' feedback requested at the end of the survey offered several opinions about this issue. Many of the comments received indicated a desire for Union to offer more information for students about how to manage their finances. One student suggested creating a class meant for

both non-economics majors and economics majors with the intention of educating students about basic financial concepts. Another student wrote that, "I say all the time that although being a very math/science minded person, I do not understand finances in the least bit. I can figure out an equation or do a proof but finances are another language." It is important to try and dispel the idea that finances are an incomprehensible topic. Other students feel concern about facing a future of financial decisions without having a solid basis of knowledge. The response that sums up the situation at Union College best is, "I can't believe how much I don't know about a topic that will be so influential in my future."

One might be inclined to conclude that students who need to know about finances at Union College are already educated about them to an adequate level. Had I not asked students for feedback about financial education at Union I might have agreed based on the data that I collected. As I already mentioned, many students responded that, among other concerns, they felt they were not prepared to handle their finances. These students' perceived need of further financial education, whether warranted or not, means that further action needs to be taken. It is debatable if a lecture series or a general education class specifically focused on basic finances should be begun at Union. On one hand, the benefit of more financial education is that students would make better financial choices. On the other hand, financial education requires resources. Whether the benefit exceeds the costs, or vice versa, is not clear.

My finding of the link between experience and knowledge implies that the real solution to the low financial literacy among students is to ask their parents to allow students to be more involved in the financial decisions that concern them. For example, parents could have their students perform some research about student loans while trying to find a lender. Parents could also show their children how to take out a credit card in their own name. Through the process of actually doing something finance related that is directly applicable to them students will probably gain greater knowledge. A greater involvement of students in their finances will produce more financially literate adults.

Future research into this topic should be directed toward measuring the financial literacy of students in relation to the level of involvement that their parents allow them to have in financial decisions that concern them. If students whose parents involved them have higher financial literacy than those students with parents who didn't then my solution to low financial literacy would be supported. Also, research should be done to see if education through parental involvement is more effective than classroom instruction. If students that have parents who assisted them in working through loan applications or creating budgets are more financially literate than those students only exposed to finances through lectures then there would be further support for my solution to the low literacy rates.

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