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$E=mc^2$

“So, what are you going to do with all the money you earned working this summer?” I mused. My friend shrugged indifferently, “I guess I’ll put it in the bank.” At least he was on the right track. “In a checking account?” I questioned. “I guess.” was his terse reply; the short-sighted answer I dreaded. “But what about putting it in a bank CD?” I continued. Looking dumbfounded, my companion replied, “But what if I lose the CD?”

I recount this personal story to illustrate the lack of financial knowledge teens possess. The CD I was referring to is a bank Certificate of Deposit; a vehicle in which one places his money in for a duration of time and receives a certain amount of interest depending on the time he waits to get back his funds. Yet, the fact is undeniable; most teens are financially illiterate. It is baffling how teenagers will become adults without being equipped with essential financial skills and knowledge. But, do not take me wrong. In no way do I solely blame teens themselves for this problem; instead, part of the blame lies with the media, the education system, and fiscal restraints.

Just why do us teenagers to be financially adept? Well, adolescents, eventually, will be responsible for sustaining their own living. With all those credit prowlers, spurious bank offers, and scavenging con men, one must be able to navigate oneself through a complex financial world.

“Incoming college students can open up checking accounts, for FREE,” claims bank X, yet forgetting to mention that a minimum of one hundred dollars must be maintained in their balances, or else be scourged by hidden fees. “We offer the lowest annual percentage yields for new card users,” claims Credit Card Y, as well as surreptitious interest rates, written in the abstruse terms of agreement. How is a financial novice expected to discern between a good deal and a booby trap?

Although some of us teens will take the initiative to learn shrewd financial behaviors, not all of us will be this motivated. Thus, high schools should require students to take a basic money management course. Some states are moving in the right direction. California, Texas, and New York, for instance, require high school students to complete a course in economics. With rudimentary knowledge in the workings of the economy, we would at least garner an overall perspective of financial quandaries and possible solutions.

Yet, teens must be able to apply their knowledge to form prudent financial habits. For some, financial restraints can restrict the amount one can save, or for others, excess wealth can lead to undesirable, spendthrift habits. In whatever circumstance, we must learn to conserve. Unfortunately, many adults learn this lesson too late, as their nest eggs (retirement funds) are not sufficient to grant them comfortable retirements. It could be one dollar a week, or twenty, but comprehending the principle of saving is a vital skill to possess.

With these thoughts, and experiences, in mind, I ventured to study to reasons behind teenage financial illiteracy and the consequences of this weakness. At first, I looked through various school databases in order to find previous research that may have been done on this topic. The most important part of my paper most likely was the Literature Review. The Literature Review, which is the largest section of the paper, talks about past studies on your topic and how you came to arrive at your own hypotheses. I had found several research papers that involved certain aspects that I aimed to study and thus I combined my findings in order to make some hypotheses of my own. In one case, I sought to examine how a teen's knowledge in financial topics affects his or her financial habits. Prudent financial habits include having the ability to monitor your saving and spending habits so that while you may be able to spend money on items of necessity and some items of luxury, you will have enough money saved up in order to have a comfortable living. Another avenue I wished to research

was where teenagers learn important financial lessons and habits. After reading several sources, I surmised that teens could either learn from school courses, friends, family, educational organizations, work experience, and the media. Targeting the main source where teenagers pick up pertinent fiscal skills, I thought, would be a wise first step in trying to ameliorate the growing problem of teenage financial illiteracy.

In order to test my hypotheses I needed a student population, in this case I had been studying students in high school, which would provide me with information concerning these topics I wished to study. Thus, I decided to create a survey that would not only measure the level of teenage financial literacy of the population I would study but would also give me insight on teen spending and saving habits, the sources of financial information for teens, and other facts of information concerning teenage financial awareness. Making a survey is by no means a simple manner. For instance, you have to take into consideration the level of difficulty you must make each question, you must make sure that each question can be fairly answered by each individual who happens to take your survey, and most importantly, you must make sure that your survey is not too long or difficult so that people will actually want to fill out your survey.

Usually, research surveys start with questions concerning basic information such as one's gender, age, grade, ethnicity, father and mother's level of education, and so on. The next part is the one that you will have to create. Since I was interested in finding out teenage spending and saving habits, for instance, I placed questions in the survey that asked how much money does the respondent save and/or spend in a typical week. Below is an example of one type of these questions.

How much money on average do you save in a typical week?

\$0 \_\_\_\_\_ \$1-20 \_\_\_\_\_ \$21-40 \_\_\_\_\_ \$ 41-60 \_\_\_\_\_ \$61-80 \_\_\_\_\_  
\$81-100 \_\_\_\_\_ more than \$100 \_\_\_\_\_

For this type of question, survey takers would check off their answer on the paper next to their desired response. However, all of my responses had been received via the computer and the internet since we used a survey taking program that was accessible online.

Another hurdle besides creating the questions for the survey is getting a large sample size of the population you wish to study. However first, in order to see if our surveys had credibility, we used a “test group” consisting of the younger research classes in our school to take the survey. If the survey returned with no flaws, it was ready to be administered to the largest population base you could find. Since I had the advantage of having my survey online, I posted the link and website of my survey on my online profile and I also distributed the survey to everyone I could possibly think of. I even posted the survey link on any teenage message board I could find, whether it be through Facebook, Myspace, Teen Chat, Teen Link, you name it. The point is to be creative and branch out in order to get the most diverse sample size you possibly can.

And now here’s the fun part. After your research is compiled, you are ready to see if any of your hypotheses were correct, and if not, what went wrong. In order to test your hypotheses, you must group together the questions in your survey that relate to your topic. In my case, a few variables were studied to determine the overall financial competence of a high school student. A chart on financial habits was used to study the financial behaviors and practices of teenagers. This chart included a 5 point Likert scale of the regularity of practicing prudent financial habits: “1” signifying not at all, “2” signifying occasionally, “3” signifying many times, “4” signifying most of the time, and “5” signifying always. By summing the 12 financial behaviors responses, a total financial behavior sub score was calculated. Further, questions dealing with topics such as saving habits, financial planning, and fiscal responsibilities were included to measure adolescents’ economic practices and aspirations. Some questions were included from the 2006 Jump\$tart questionnaire, the Money Power practice

certification test and some questions were created with the help of a high school business teacher.

Summing the total number of questions answered correctly provided a financial knowledge sub score.

To study the spending and saving behaviors of teenagers, questions concerning a weekly numerical range of spending and saving amounts were inserted. In addition, questions concerning weekly allowance and/or work money received were inserted in order to discern if the amount of money one receives from either an allowance, or a paid job, can have a possible affect on teenage spending and saving behaviors. With the use of these questions, along with the financial habits and aspirations of teenagers revealed through the financial behavior chart and the measure of financial knowledge through the total number of financial questions answered correctly, certain factors affecting expenditure and saving skills of teenagers could be accurately accessed.

In order to determine the affect of parental advice on teenage financial practices and behavior, a few questions concerning the influence of parental advice were inserted. Respondents were asked the frequency of which they received financial advice from parents: “3” signifying often, “2” signifying sometimes, “1” signifying rarely, “0” signifying never. Then respondents were asked to rate their parent’s advice: “2” signifying very good, “1” signifying satisfactory, “0” signifying not good. Lastly, respondents noted if they follow their parent’s advice. These responses were summed to create a total score of parental advice.

Here’s is where the math kicks in. Although I did not have to personally compute the correlations between the variables I wished to study, I had to learn to understand the graphs filled with several important statistics. I only used two different tests to support my findings. One test I used is called the correlation test. This test is used to show if there is a relationship between two variables I studied, and if so, is it a positive or a negative relationship. Below is an example of a correlation graph that I used to study the relationship between teenage financial literacy and teenage financial behavior.

**Correlations**

|                     | V53      | V66      |
|---------------------|----------|----------|
| Pearson Correlation | 1        | .999(**) |
| Sig. (2-tailed)     |          | .000     |
| N                   | 160      | 157      |
| Pearson Correlation | .999(**) | 1        |
| Sig. (2-tailed)     | .000     |          |
| N                   | 157      | 161      |

\*\* Correlation is significant at the 0.01 level (2-tailed).

In this case the variable V53 was the financial behavior sub score and V66 was the financial knowledge sub score. The higher the sub score for both totals, the better a teen’s financial knowledge and behavior were. On the top right corner of the graph there is a decimal, .999, with asterisks next to it. This number is our correlation coefficient. In other words, this means the 99.9% of the high scores on the financial behavior sub scores can be attributed to high scores on the financial behavior sub scores. Even simpler, the findings reveals that there is a strong relationship between students who have strong financial knowledge skills and students who use these skills to have effective financial behaviors. All of these tests are computed at a .01 significance level and thus the .000 right below the correlation coefficient demonstrates that this correlation is nearly perfect. To note, the “N” symbol signifies the amount of respondents to this particular question.

Another main find of my study was that I found out that the main source of teenage financial knowledge was in fact through the family. I had formulated a “parental advice” sub score in order to measure the influence of parents on their child’s money matter skills and habits. By performing correlations between this sub score and the financial behavior and financial knowledge sub scores I was able to find that parental advice had a perfect positive correlation with teenage financial behavior-

meaning that the more a child learns from his or her parents the better his or her financial practices will be- and an almost perfect correlation between parental advice and teenage financial knowledge- meaning that the more a child learns from his or her parents the better his or her financial knowledge will be. I also confirmed this finding by inserting a “check all the apply question” that asked where teenagers accessed financial information from: the media, friends, family, educational organizations, work experience and school. 178 respondents (76%) listed “Family”, 83 respondents (35%) listed “Media”, 79 respondents (34%) listed “School”, 69 respondents (29%) listed “Work Experience”, 58 respondents (25%) listed “Friends”, and 34 respondents (14%) listed “Educational Organizations”. These results emphasize the importance of parental advice on teenage financial knowledge and practice while it is evident that educational organizations have insignificantly impacted the instruction of young adults on financial matters.

The other test I used is called a Paired Sample T-Test. A paired sample t-test is used to analyze two different subject groups with the same variable. For example, if I wished to study the differences in financial knowledge of boys and girls, I would use this test. Although I did many of these tests, some of which were successful and some which were not, one important test was to compare the financial knowledge and behavior of teens that have done paid worked vs. those who didn't do paid work. Although I originally predicted that working teens will have greater financial knowledge and better financial skills, the paired sample t-test revealed the opposite results.

The research that I had pursued for over a year and half combined both the skills of social sciences and mathematics. In order for my scientific research to be considered valid, I needed statistical proof that would back up my predictions. Thus, the responses I received from the survey I created served as the data I needed in order to provide statistical support. Indeed I made many interesting findings- such as parental advice is the most influential factor in teenage financial

knowledge- and I reinforced some already held assumptions; however, I was not always successful in computing all of the desired outcomes I wished to study. Mainly, this was due to a small sample size I received for the surveys, survey apathy- in other words, some people either didn't want to take the survey or didn't finish the survey- and a lack of cultural diversity. In order for correlation and paired sample t-tests to be accurate, a certain sample size must be obtained to find statistical significance. That being said, I can now reiterate that although I didn't get to study all of the factors I desired, the research that I did conduct was rewarding, challenging, and informative. Not only did I learn valuable lessons on completing lengthy research papers, but I explored a topic that intrigued me.

Although I surely am no expert in predicting the future, I can tell you this; learning wise financial skills is not only smart, but necessary. Indeed, as I have found from my research, parents can be a major influence in a teenager's financial life, influencing and teaching his or her decisions concerning money matters. However, even though parents have a large part in this process, self motivation is the most important aspect of all. I embarked on this research project not only because I found a flaw in today's society, but because I found a topic that interested me. And, if you will only take one piece of advice from this paper into consideration then it should be this: choose a research topic that interests YOU. Think about it. Why research a topic that doesn't spark your intellectual curiosity. Sure, I had many people and mentors that preached to me the importance of choosing a topic that can shed light on a problematic situation, to choose a groundbreaking study. Yet, I knew that I couldn't find a cure for AIDS, or that I wouldn't be intrigued by studying the effects of taking the SATS and the level of stress students feel. Instead, I simply chose a topic that related to my passions and current interests. Do not worry about trying to impress someone with the complexity of your research since as long as you divulge your passion and find pleasure in your research you will be successful no matter what the outcome.

