DOES MONEY CORRELATE WITH HAPPINESS

Honors Thesis

Does Money Correlate With Happiness

Amanda Vincent

Bemidji State University

Advised by Dr. Marsha Driscoll
Introduction

Some people would argue that having a lot of money equals happiness (Does Money, 2009). What I would like to find out is if that is actually true, as it relates to college students.

General quality of life is not something that can be easily measured. How people rate the quality of their life varies from person to person, and each person rates the quality of his or her own life with respect to multiple aspects. One such aspect is financial security and is the basis of this study. In particular, this paper will explore a person’s happiness as it relates to their current income and expected future income.

The aim of this project was to measure the perception of happiness of the subjects with respect to finances and expected future income. I gave the Oxford Happiness Inventory followed by a demographic survey to Bemidji State University students. I then compared results between men and women; there was little need to compare results across varying ages, as subjects in this study were mostly traditional-aged college students. Studies on happiness have been done on the general population, and I was curious about comparing college students to this general population.

Literature Review

Money is a fundamental part of human life that is consistent throughout the world, and wealth is correlated to many positive outcomes in life. It has been observed that, typically, people with higher incomes have better physical and mental health, have greater longevity, and experience fewer stressful life events; the children of the well-to-do are less likely to drop out of school or become pregnant as teens (Diener and Biswas-
Diener, 2001). Also, richer people score higher in characteristics such as interpersonal trust. In addition, financial problems are a strong predictor of DSM (Diagnostic and Statistical Manual) depression (Diener and Biswas-Diener, 2001). Diener points out that correlations, “…of higher incomes are not confined entirely to the benefits of not being poor; the richest group, for example, has better health than the second highest income category. Given the multiplicity of positive variables that covary with income, we should not be surprised if wealthier people are substantially happier than others,” (Diener & Biswas-Diener, 2001).

Diener discusses four replicable findings\(^1\) regarding the correlation between income and subjective well-being (SWB); these correlations suggest that the connection between income and happiness may be more complex than a simple correlation.

1. There are large correlations between the wealth of nations and the mean reports of SWB in them.

2. There are mostly small correlations between income and SWB within nations, although these correlations appear to be larger in poor nations, and the risk of unhappiness is much higher for poor people.

3. Economic growth in the last decades in most economically developed societies has been accompanied by little rise in SWB, and increases in individual income lead to variable outcomes.

4. People who prize material goals more than other values tend to be substantially less happy, unless they are rich. In addition, it appears high SWB might increase people’s chances for high income. (Diener & Biswas-Diener, 2001).

\(^1\)Though replicable, these findings have not yet been replicated.
Moligner makes the point that work [earning money] is necessary; it is needed to pay the bills and it contributes to one’s self-esteem and sense of productivity (Moligner, 2010). In a survey of a sample of 127 American university students, Mogilner found that “happiness” was the most frequently cited emotion regarding their feelings related to money. She comments that this result, “reflects the common assumption that money is critical for pursuit of the American Dream and individuals’ inalienable right to be happy,” (Moligner, 2010). However, author and professor of psychology and management at Claremont Graduate University Mihaly Csikszentmihaly noted:

*About 30 percent of the people surveyed in the United States since 1956 say that their life is very happy...that hasn’t changed at all. Whereas the personal income, on a scale that has been held constant to accommodate for inflation, has more than doubled, almost tripled in that period. But you find essentially the same results, namely, that after a certain basic point—which corresponds more or less to just a few 1,000 dollars above the minimum poverty level-increases in material well-being don’t seem to affect how happy people are. And, in fact, you can find that the lack of basic resources, material resources, contributes to unhappiness, but the increase in material resources do not increase happiness.*

(Csikszentmihaly 2004).

This is in opposition to Moligner’s supported assumption (“...money is critical for pursuit of the American Dream...”). Both positions acknowledge that psychologists have identified a weak correlation between money and happiness. However, these results suggest that happiness and unhappiness are independent constructs rather than two ends
of a continuum, or that money is not on a simple continuum. After research, Moliigner said,

"Implicitly activating the construct of time motivates individuals to spend more time with friends and family and less time working—behaviors that are associated with greater happiness. In contrast, implicitly activating money motivates individuals to work more and socialize less, which (although productive) does not increase happiness," (Moliigner, 2010).

Moliigner makes a case that the amount of time spent doing something is the measure of their preferences, that attaining happiness and attaining money are two very different motivators.

In a different report on scaling happiness, researchers considered two cases of happiness with their income and found that the result was relative to the environment that each of the subjects was in. One earns $15,000 a year and lives in a place where most others earn only $10,000 a year, while the other subject earns $25,000 a year and lives in a place where most others earn $30,000 a year. When the two were asked to report their happiness with their income on the 7-point scale where 1 is very unhappy and 7 is very happy, the $15,000 earner reported greater happiness than the $25,000 earner. This phenomenon is referred to as an outcome–happiness reversal. (Hsee & Tang, 2007). This phenomenon reflects a specific social comparison, and strongly implies that income is a relative variable.

With a unique perspective, Iris Mauss, author of The Pursuit of Happiness Can Be Lonely, thinks that valuing happiness could have some negative consequences/side effects. She supports,
"Striving for personal gains can damage connections with others and because happiness is usually defined in terms of personal positive feelings (a personal gain) in western contexts, striving for happiness might damage people's connections with others and make them lonely... findings suggest that wanting to be happy can make people lonely," (Mauss, 2011).

Mauss has a clearly different idea of what happiness means than Molignier.

In another article, Mauss stated, “we argue that this [valuing happiness will have beneficial outcomes] may not always be the case. Instead, valuing happiness could be self-defeating, because the more people value happiness, the more likely they will feel disappointed.” She continues with an example, “The person who highly values academic achievement and wants to achieve high grades is bound to be disappointed at times when he falls short of his high standards,” (Mauss, Tamir, Anderson, and Savino, 2011).

There is evidence that happiness and financial security are not consistently correlated in working adult populations. As Csikszentmihaly suggested, poverty may be linked to unhappiness, and adequate financial resources may be linked to happiness; however, more than adequate financial resources do not continue to an indefinite increase in happiness. Unlike the working adult populations, there is little to no research regarding happiness in college students and their financial security now and in the future. This paper sought a correlation between finances and happiness in college students by using a demographic questionnaire as well as a psychologically renowned happiness inventory, and statistically analyzing the results.
Hypotheses:

1) Personal income will not positively correlate with happiness in relation to the OHI score
2) Student loan dependency is negatively correlated with happiness in relation to the OHI score
3) The expectation of future financial security is positively correlated with happiness in relation to the OHI score

Measurements

I used the Oxford Happiness Inventory (OHI) (Appendix E) and the corresponding scoring method. The OHI was developed at Oxford University by Michael Argyle and Peter Hills, devised as a broad measure of personal happiness. It is a 29-item survey, where each item is rated 1-6 where “1” indicated strongly disagree and “6” indicated strongly agree, and the score on the OHI is obtained by calculating an average of these 29 items. In my data analysis, I rounded the scores to three decimal places. The OHI has been used cross-culturally, and its scale has been found to behave consistently, (Hills & Argyle, 2002). I also created a demographic survey (Appendix D) to measure current student age, gender, income, and expected financial security.

Methodology

Participants: Participants were 53 students representative of a convenience sample, who volunteered from 1000-2000 level psychology courses and were offered extra credit from their professors to participate in the survey.

Design: Participants received an informed consent form (Appendix B) to sign, along with a brief explanation of the purpose of the study. Then, participants were given
in alternated order the Oxford Happiness Inventory and a demographical survey. After data was collected, subjects scores on the OHI were calculated and then tested against the variables on the demographic survey. All of the analytic tests were conducted in SPSS (Statistical Package for the Social Sciences).

**Analysis:** The variables had to be changed into single numerical values to be used for analysis. For example in the gender variable: male = “1” and female = “2”. Similarly, for variables that had interval options, such as income, self-supporting, etc., each interval was assigned a number, 1 being the lowest, and increasing as the interval did.

Two-sided independent-samples t-tests were calculated and analyzed for significant differences in gender and tax dependence on the OHI. Two-sided ANOVA (analysis of variance) tests were calculated and analyzed for significant differences in age, student loan dependence, personal income, and family income on the OHI. The reason for using two-sided tests was to make sure I would consider any significant differences, not just ones that I would expect. However, no differences were found based on any these variables, so all of the results were combined for the correlational analysis.

The Pearson product-moment correlation coefficient was calculated with significance for relationships between the two questionnaires between all variables. Interesting significant correlations were noted, especially those that included the dependent variable “inventory score,” because those correlations would support or reject the hypotheses.

Post hoc analysis was conducted as seemed appropriate. These analyses are included in the results section.
Results

Recall the Hypotheses:

1) Personal income will not positively correlate with happiness in relation to the OHI score
2) Student loan dependency is negatively correlated with happiness in relation to the OHI score
3) The expectation of future financial security is positively correlated with happiness in relation to the OHI score

Demographical differences were analyzed first in order to determine how the hypotheses would be tested. Variables tested included gender, tax dependence, student loan dependence, personal income, and family income all against the inventory score, (Table 1). There was also an independent samples t-test on age, and no matter how the cutoff for age group was chosen, there were no significant differences. Since none of the demographic variables yielded significant differences ($p < 0.05$, two-tailed), the hypotheses were able to be tested on the sample as a whole.

<table>
<thead>
<tr>
<th>Table 1</th>
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<tbody>
<tr>
<td>Results for test of demographic differences</td>
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<tr>
<td>Independent Variable Tested</td>
</tr>
<tr>
<td>Gender$^1$</td>
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<tr>
<td>Tax Dependent$^1$</td>
</tr>
<tr>
<td>Student Loan Dependence$^2$</td>
</tr>
<tr>
<td>Personal Income$^2$</td>
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<td>Family Income$^2$</td>
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</table>

$^1$ Used independent samples t-test

$^2$ Used One-Way ANOVA test
Correlations between OHI scores and income related variables produced mixed results. The only variable that significantly correlated with inventory score was expected financial security, \((r = 0.384, p < 0.01)\). The other significant results are as follows:

I) Positive correlation between age and personal income \((r = 0.553, p < 0.01,\) two-tailed)

II) Positive correlation between age and percent self supporting \((r = 0.297, p < 0.05,\) two-tailed)

III) A significant gender difference \((p < 0.05,\) two-tailed) in the variables of

a. family income

b. personal income

c. student loan dependency

Again, these significant correlations and significant differences\(^2\) were tested as two-sided because the null hypotheses was that there was no correlation/difference, and the alternative hypothesis was that there was a correlation/difference, but it did not indicate in which direction this significance would be.

Discussion

Conclusions

As previously stated, the only variable that significantly correlated with inventory score was expected financial security. This statistic indicates that if a person expects to make more money (be more financially secure) in the future, they are happier now, and supports the third hypothesis which states, “The expectation of future financial security is positively correlated with happiness in relation to the OHI score.”

\(^{2}\) Correlations were calculated on age, and independent samples t-tests were calculated on gender.
The first hypothesis was also supported by the data, as there was not a significant correlation of any direction between personal income and happiness, "1) Personal income will not positively correlate with happiness in relation to the OHI score." This statistic fails to reject the null hypothesis, and thus indicates that college students pay no mind to their personal income when considering their happiness.

The second hypothesized correlation was not supported by the data:

2) Student loan dependency is negatively correlated with happiness in relation to the OHI score ($r = -0.037$). Although this is a negative value, $r$ is so small that it is not significant, and could be due to randomness and chance.

There is a positive correlation between age and personal income. This indicates that as a person’s age increases, so does their personal income. There is a positive correlation between age and percent self supporting, which indicates that as a person’s age increases, they become more self supporting. These age results are expected because typically, as people get older, their income increases, and they also become more self supporting.

The significant gender differences differed between variables, but ultimately, implied the same thing. The gender difference in personal income seems to verify a gender bias that males in fact have a greater personal income than females. There was a similar relationship between gender and family income, where female participants reported a lower family income than males. Additionally, there was a significant gender difference between student loan dependency and gender, which indicates that female participants are more dependent on student loans. These gender differences are more
difficult to explain, but they are all saying similar things—that females have lower incomes (personal and family) and they are more dependent on student loans.

**Implications**

The correlation between the inventory score and expected financial security implies that college students who have a brighter outlook on their future financial situation are happier now than those who have a bleaker outlook on their expected financial security. This also suggests that even though students may be indebted with loans, they are optimistic about their future finances and thus are happy now. On the other side, students who do not expect to have high future financial security and are unhappy now are perhaps more of “realists,” and realize that in ten years they may very well still be in debt from their student loans, and this is displeasing to them. I would not say that they are generally pessimistic in nature, but they are realistic and trying to expect reality, instead of ideality. Perhaps another explanation for this correlation is those who are on the more positive end are more excited about their future career, and happy with their choice of major, whereas those on the negative side could be unhappy about their future job outlook, or even undecided in their major which could be stressful and therefore contribute to their unhappiness.

The correlation between age and income, as well as the correlation between age and self-sufficiency both arise from a single explanation: as someone gets older, they move out of their parents’ house, get a career job, and start making more money and supporting themselves. Similarly, as people move out of their parents’ houses and
become independent and self-supporting, they are no longer listed as a dependent on their parents' taxes.

As I previously stated, the gender differences were not so logically explained. The feminist approach states men unfairly make more money than women, and this conclusion seems to be strongly supported by the statistics. However, this result was surprising to me, as I was not anticipating this gender bias being readily apparent in college students. A common explanation for why women make less than men is because women stay at home and raise their kids for a few years, and then when they get back into the workplace, their male counterparts have already had those years to earn a raise. This explanation does not seem like it would explain the college females having lower personal incomes than college males. The other gender difference noted was that females are more dependent on student loans. This relationship could be related to the previous statistic about personal incomes, that if males have higher personal incomes, then they do not have to take out as many loans as a female with lower personal income does.

**Limitations**

There are some assumptions and limitations associated with this research. It is assumed that people have the capability to feel happiness, and that happiness lies on a continuum. This includes the assumption that happiness is not independent from unhappiness. In addition, it has been demonstrated that there are many factors of happiness. This project looked at happiness as a whole entity, and not those separate factors. Additional limitations of this research have to do with the methodology. One crucial limitation was the selection process. Subjects were a convenience sample of those
Bemidji State University students who chose to participate. Another limitation is that assessment was done subjectively through self-report. Again, the entire concept of happiness is a limitation, as it is not an easy definition to operationalize.

**Future Research**

Future study would include research based on the gender differences, with particular regard to the significantly correlated variables. Is lower personal income in females related by causation to higher student loan dependency in females? Another further research possibility is to redesign the analytic process of definition of family income so it is on a continuum or scale, as opposed to in unordered groups as it is now. Doing so will give a more accurate interpretation of what it says about people who define family income in different ways.

**Bibliography**


Appendix A

Glossary of Terms

DSM: Diagnostic and Statistical Manual [of Mental Disorders]

Happiness, an operational definition: Score on the Oxford Happiness Inventory (OHI).
   The OHI was devised as a broad measure of personal happiness, based on the
   Beck Depression Inventory and scored reversey.

Subjective Well-Being (SWB): Subjective Well-Being: refers to a combination of a
   cognitive judgment of satisfaction with life, the frequent experiencing of
   positive moods and emotions, and the relatively infrequent experiencing of
   unpleasant moods and emotions.
Appendix B

Informed Consent

You are invited to participate in an experiment titled “Does Money Correlate With Happiness” conducted by Amanda Vincent of the Honors and Psychology Departments at Bemidji State University and under the supervision of Dr. Marsha Driscoll. You will be asked to complete a 9-item demographic questionnaire as well as a 29-item inventory about happiness.

The information obtained through this study should help indicate what, if any, the correlation between a student’s finances and happiness level is. The benefits you may expect to receive from participating in this study are a better understanding of your personal happiness and the value that money weighs on your happiness.

All data obtained will remain confidential. Your name will not appear on any of the test materials or be associated with individual data—all results will be reported in group format only. If one of your instructors has agreed to provide extra credit for participating in this study, only your name will be provided to the instructor to verify participation.

You are free to decline to participate or to withdraw your consent and discontinue participation at any time. There are no penalties for withdrawing, however if you are receiving extra credit, your instructor may require an alternate activity before granting credit.

If you have any questions about this study, you may ask them before, during, or after participation.

You will be offered a copy of this form to keep.

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time without prejudice after signing this form should you choose to discontinue participation in this study.

____________________________________  ______________________
Signature                                      Date
Bemidji State University
Human Subjects Committee

DEBRIEFING

Debriefing Statement

The purpose of this study was to see whether there is a correlation between a person's financial state (current and future/expected) and their happiness. Based on the results of previous research, my hypotheses are: 1) Having more money does not have a positive correlation with happiness in college students; 2) Having less money does have a negative correlation with happiness; 3) the expectation of future financial security does have a positive correlation with happiness; 4) the expectation of future financial insecurity will have a negative correlation with happiness.

The results of this study will be presented at the Student Scholarship and Creative Achievement Day on 10 April 2013. If you have any questions or you would like more information about this study, please contact either myself, Amanda Vincent, or Dr. Marsha Driscoll in the Psychology Department (contact information below). It is not expected that you will suffer any adverse effects from this study. If that should happen, please contact the Health and Counseling Center.

Thank you for participating in the study.

Amanda Vincent
amanda.vincent@live.bemidjistate.edu

Marsha Driscoll
mdriscoll@bemidjistate.edu
218-755 2848
Hagg-Sauer 211
Appendix D

Demographic Survey

Age: ________

Gender: (Circle One)  Male  Female

What is your current personal income? (Circle One)
Under $15,000  $15,000-$24,999  $25,000-$49,999  $50,000-$74,999
$75,000-$99,999  $100,000 and over  Don't know

What is your current family income? (Circle One)
Under $15,000  $15,000-$24,999  $25,000-$49,999  $50,000-$74,999
$75,000-$99,999  $100,000 and over  Don't know

I define family income as: (Circle One)
Personal Income + Parent Income
Personal Income + Spouse/Partner Income
Personal Income ONLY
Other (please specify) ____________________________________________

Are you currently listed as a dependent on your parent's income tax forms? (Circle One)
Yes  No  Don't know
### How much are you currently self-supporting? (Circle One)

<table>
<thead>
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<th>Not at all</th>
<th>Less than half</th>
<th>Over Half</th>
<th>Very</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%-25%</td>
<td>25%-50%</td>
<td>50%-75%</td>
<td>75%-100%</td>
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### How dependent are you on student loans? (Circle One)

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<th>Over Half</th>
<th>Very</th>
<th>Don't know</th>
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<tr>
<td>0%-25%</td>
<td>25%-50%</td>
<td>50%-75%</td>
<td>75%-100%</td>
<td>Not Sure</td>
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</tbody>
</table>

### What is your expected financial security, 10 years out? (Circle One)

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<th>Upper Middle Class</th>
<th>Affluent</th>
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</table>
The Oxford Happiness Inventory was developed by psychologists Michael Argyle and Peter Hills at Oxford University. Take a few moments to take the survey. This is a good way to get a snapshot of your current level of happiness. You can even use your score to compare to your happiness level at some point in the future by taking the survey again. If you are using some of the interventions presented on this site to raise your happiness level, you can see whether your score on the Oxford Happiness Inventory goes up as a result.

**Instructions**
Below are a number of statements about happiness. Please indicate how much you agree or disagree with each by entering a number in the blank after each statement, according to the following scale:

1 = strongly disagree  
2 = moderately disagree  
3 = slightly disagree  
4 = slightly agree  
5 = moderately agree  
6 = strongly agree

Please read the statements carefully, because some are phrased positively and others negatively. Don't take too long over individual questions; there are no "right" or "wrong" answers (and no trick questions). The first answer that comes into your head is probably the right one for you. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time. Those statements marked with an 'R' will be scored in reverse.

**The Inventory**
1. I don't feel particularly pleased with the way I am. (R) ____
2. I am intensely interested in other people. ____
3. I feel that life is very rewarding. ____
4. I have very warm feelings towards almost everyone. ____
5. I rarely wake up feeling rested. (R) ____
6. I am not particularly optimistic about the future. (R) ____
7. I find most things amusing. ____
8. I am always committed and involved. ____
9. Life is good. ____
10. I do not think that the world is a good place. (R) ____
11. I laugh a lot. ____
12. I am well satisfied about everything in my life. ____
13. I don't think I look attractive. (R) ____
14. There is a gap between what I would like to do and what I have done. (R) ____
15. I am very happy. ____
16. I find beauty in some things. ____
17. I always have a cheerful effect on others. ____
18. I can fit in (find time for) everything I want to. ____
19. I feel that I am not especially in control of my life. (R) ___
20. I feel able to take anything on. ___
21. I feel fully mentally alert. ___
22. I often experience joy and elation. ___
23. I don't find it easy to make decisions. (R) ___
24. I don't have a particular sense of meaning and purpose in my life. (R) ___
25. I feel I have a great deal of energy. ___
26. I usually have a good influence on events. ___
27. I don't have fun with other people. (R) ___
28. I don't feel particularly healthy. (R) ___
29. I don't have particularly happy memories of the past. (R) ___

**Calculate your score**

**Step 1:** Items marked (R) should be scored in reverse:
If you gave yourself a "1," cross it out and change it to a "6."
Change "2" to a "5"
Change "3" to a "4"
Change "4" to a "3"
Change "5" to a "2"
Change "6" to a "1"

**Step 2:** Add the numbers for all 29 questions. (Use the converted numbers for the 12 items that are reverse scored.)

**Step 3:** Divide by 29. So your happiness score = the total (from step 2) divided by 29.
We recommend you record your score and the date. Then you'll have the option to compare your score now with your score at a later date. This can be especially helpful if you are trying some of the exercises, and actively working on increasing your happiness.

**Scoring**
The lowest possible score is 1 and the highest possible score is 6. (The average is around 4.30).

**Reference**

*Taken Directly from*
<http://www.doctoroz.com/videos/oxford-happiness-questionnaire>,
*PDF available at:*