

Life Satisfaction of Undergraduate Students: Extrinsic and  
Intrinsic Motivators

A Senior Honors Project Presented to the Faculty of the  
Department of Economics, University of Hawai'i at Mānoa

In Partial Fulfillment of the Requirements For Bachelor of Arts  
with Honors

By Landon Kozai  
April 12, 2017

Committee:  
Dr. Inessa Love, Mentor  
Dr. Sang-Hyop Lee

## Acknowledgements

I am truly thankful to all those who have taken part in supporting me throughout this project. You do not realize how extremely grateful I am for your help in my academic endeavors. I consider the completion of this undergraduate thesis to be a major milestone in my academic journey and I hope that I adequately express how appreciative I am for your help.

First and foremost, I would like to extend my greatest thanks to Dr. Inessa Love, my mentor. I was inspired to begin this project after taking her class and it has been an incredible journey. It was a privilege to work with her and investigate a subject of mutual interest. Her expertise was invaluable to my success as an undergraduate student and without her guidance, such a project would not have been possible.

Second, to all my friends who helped with data collection. It was quite a challenge to hand-collect 300 surveys over the course of a few weeks. I am glad to have had your support and am thoroughly grateful for your willingness to help when I needed it. Ian, Zachary, Mckenna, Austin, and Auli'i, I hope that I can one day repay the favor you have done for me.

Third, To Dr. Sang-Hyop Lee. Thank you for agreeing to be my committee member. Your expertise was instrumental to the early stages of the project, especially your knowledge of survey-based research. I appreciate that you shared your wisdom and experience in the field.

Finally, Dr. Loriena Yancura, my Honors 495 instructor. I attribute the birth of this project to your amazing creativity and ingenuity. I hope you realize the tremendous impact you have on all your students. You helped me develop my fledgling ideas into a project worth pursuing and I am evermore appreciative for your guidance.

## **Abstract**

In college, choosing a major involves thinking about its extrinsic and intrinsic attributes, for instance its pecuniary benefits versus the degree to which it is internally rewarding. Some students may choose lucrative majors over those which they believe are internally rewarding and vice versa. Previous research has shown that those who pursue intrinsic goals are happier relative to those who pursue extrinsic ones. However, people tend to overestimate the life satisfaction gained by extrinsic needs while underestimating the satisfaction gained by intrinsic needs. It is possible that students choosing a major for reasons conflicting with their personal goals may suffer from lowered life satisfaction. Nonetheless, the temporary circumstances of college students may create a unique dynamic from what has previously been studied. 270

University of Hawai'i at Mānoa college students were surveyed at random. Constructs such as optimism and feelings of community, among others, were found to be indicators of increased life satisfaction. This research may suggest that factors such as the possibility of employment and financial prospects, in addition to other known correlates are key determinants of life satisfaction in college students.

Keywords: happiness, life satisfaction, college

## Table of Contents

Acknowledgements	i
Abstract	ii
List of Tables	iv
Introduction	1
Literature Review	3
Survey Method	12
Hypotheses	15
Model	16
Results	23
Discussion	28
Conclusion	31
Bibliography	34
Appendix A: Variable Names and Definitions	37
Appendix B: Tabulation of Data	38
Appendix C: Satisfaction with Life Scale Interpretation	41
Appendix D: Survey Consent Form and Questionnaire	45

## **List of Tables**

Table 1: Representation of the Satisfaction with Life Scale	16
Table 2: Variables defining reasons for choosing a major	20
Table 3: Regression results using only intrinsic variables	24
Table 4: Regression results using only extrinsic variables	25
Table 5: Regression results using significant variables from intrinsic and extrinsic regressions	26
Table 6: Regressions using choice of major, intrinsic, extrinsic, and significant variables	28

## **Introduction**

The field of Happiness Economics has grown substantially since its birth in the 20<sup>th</sup> century. It is based on measurements of self-reported happiness that act as a proxy to the standard economic concept of utility. Although far from ideal, these measures have useful applications in economic, social, and political issues. Particularly, measuring life satisfaction allows us to analyze errors in decision making where explanations derived from standard economic theory typically fail. Standard economic theory assumes that rational individuals maximize their utility by knowingly choosing the optimal “consumption bundle.” It suggests that decision-making error occurs randomly and not because of choice. In other words, the utility an individual expects to gain from consuming a good should be equal to the utility the individual gains. However, happiness research has shown that individuals tend to systematically mispredict the utility gained from consumption. Typically, they overestimate the utility gained by consuming extrinsic bundles, such as income, status, and other material goods, and underestimate the utility gained by consuming intrinsic bundles, such as leisure, social relations, and personal development. The resulting consequence is that they find themselves to be less satisfied than optimal, per self-respective evaluations (Frey 2008, ix-x).

In this study, we seek to investigate how the concepts of extrinsic bundles and intrinsic bundles influence the subjective well-being of college students. A student’s choice of major is usually associated with an entry level salary range that depends on the field of study. The return on investment of a college degree can be influential on the decision-making process during which a student will decide what he or she will major in. With annually rising tuition costs and other school-related fees, this aspect of education has become an increasingly prominent consideration. Additionally, conclusions regarding the influence of modern materialism on

aspirations of college students may be drawn. That is, an investigation into the motivations of college students in choosing a major may reveal the implications of a consumeristic culture on a person's aspirations, and in turn, their happiness. The extrinsic qualities of a major will be defined as the typical entry level salary associated with it and relative prestige it earns one at the university in addition to others. The intrinsic qualities of a major, on the other hand, will include factors such as afforded leisure time, amount of time spent studying and degree of interest in the subject, among others.

Substantial research has supported the notion that income is positively correlated with happiness. That is, that a rise in income is answered by a rise in happiness as well. However, the magnitude of the effect that a change in income has on happiness varies based on a person's circumstances. For instance, the relationship between income and happiness is nonlinear, a person will face diminishing returns to happiness as income rises, suggesting that the benefit that increased income affords a poor person is less substantial to a wealthy person (Easterlin 1974, 118). Additionally, a multitude of other variables causes this relationship to be subjective in that each person's experience is different based on his own unique life circumstances. While much support has been drawn for this phenomenon, the possibility that expected future income may influence happiness has yet to be investigated. The contribution that this paper will make to the field of Happiness Economics is that it will explore the relationship of extrinsic and intrinsic motivators on college students' happiness as it relates to their choice of major.

The link between income and happiness therefore sets the foundation for this study. On another note, modern consumeristic culture motivates individuals to strive to attain material wealth. It may contribute to what drives people to set ambitious goals and aspire to fulfill their potential in terms of gaining as much wealth as possible. On the other hand, the uprising of an

opposing mantra inspiring people to “do what you love” has made it ever more difficult for individuals to choose a life path. Millennials, especially college students, are in the middle of a clash between two strong ideologies, forcing to choose between two kinds of happiness engendered by different systems. Although money may afford financial stability and the pleasure of consumption, it may not necessarily be created by means of what we love to do. Perhaps what we love to do is non-lucrative, and a lack of material wealth will result in unhappiness. This is the dilemma that many college students face, and thus it is crucial for us to determine how the process of choosing a major affects their happiness.

For many, choosing a major is interpreted as the beginning of a life of work, which for some, is a substantial contributor to happiness. As stated previously, the process of choosing a major involves weighing extrinsic and intrinsic factors before ultimately making a decision that maximizes perceived benefit. Also, we have included that individuals may mispredict this benefit owing to extrinsic factors being more salient than intrinsic ones. What these individuals experienced versus what they expect may therefore become apparent as we reveal how preference and expectation impact the happiness of college students.

## **Literature Review**

### **What is Subjective Well-being?**

Happiness is a significant goal and one of the most salient needs of human life. Subjective well-being is a multidimensional concept that describes one’s overall happiness, Margitcs and Zsuzsa (2009, 84) provide that subjective well-being can be described with three major factors. The first is a cognitive judgment of one’s own life. In other words, this factor



refers to the evaluation of one's life relative to an ideal version. The second is the occurrence of positive emotions. The third is the scarcity or relative lack of negative emotion.

### **The Relationship Between Income and Happiness**

Previous research has provided substantial evidence to support the notion that life satisfaction, a component of subjective well-being, and income are positively correlated. Frey (2008, 27) asserts that “the relationship between income and happiness [subjective well-being], both in simple regressions and when many other factors are controlled for in multiple regressions, proves to be statistically significant.” Diener and Diener (2009, 123) show that income was consistently found to be positively correlated with happiness in 11 different studies. Other evidence confirms the correlation between income and life satisfaction. Diener et al (1985) found that super-rich individuals living in the same geographical area of a comparison group were on average 1 point higher on a 0-6 life satisfaction scale. The difference, although not vast, is undoubtedly significant (Diener and Diener 2009, 124).

The data from the World Value Survey II shows the percent above neutral in life satisfaction in the wealthiest and poorest income categories of each corresponding nation. Poor people were less likely to be satisfied with their incomes and to report having more positive than negative daily experiences than the rich. The likelihood that a poor person will report he or she is satisfied with life is also less than that of a rich person. Diener and Diener also found that poor people are three times as likely to report low subjective well-being. Diener's (2009) analysis of Bradburn's (1969) data collected in U.S. metropolises leads to similar conclusions, “the poorest group in the U.S. reported negative affect balance 36 percent of the time, while the richest group reported the same condition only 5% of the time. In comparison to the threefold greater risk of a

poor person reporting unhappiness in the World Value Survey II, Bradburn's data reveals that a poor person has a sevenfold increased risk of reporting unhappiness" (Diener and Diener 2009, 126). Thus, income has a significant influence on different aspects of subjective well-being for poor versus rich individuals. The data also suggests that the difference in risk of reporting unhappiness is tremendous between the rich and the poor. More precisely, while being rich significantly improves the likelihood of reporting happiness, it also reduces by a much larger amount the risk of reporting unhappiness.

### **The Meaning of Money**

Gellerman (1968) describes money as being a source of "producing motivation and reducing dissatisfaction" for individuals. He states, "Whatever symbolism money has for the individual and whatever presumptions and illusions he has about how added income would affect the way he lives, are as much a part of the increment for him as is the money itself." In an earlier book, Gellerman (1963) presents the view that "money is really a summary of his previous life experiences (As cited in Wernimont and Fitzpatrick 1972, 218)." The value one places on money may therefore be an indicator of a likelihood to pursue extrinsic goals over intrinsic ones.

Wernimont and Fitzpatrick (1972) found that money is perceived to be a source of embarrassment. When asked to choose words that reminded them of money, participants were likely to choose negative words rather than positive ones (e.g. successful, advancing, proud, etc). The words most commonly associated with money were "unsuccessful", "retreating", and "embarrassing," suggesting that it is generally viewed negatively and used to gauge failure (Wernimont and Fitzpatrick 1972, 220). Within the sample, college students placed the least value on money as an indicator of social acceptability and as an "incentive to exert effort." The

meaning of money cannot be generalized for the entire population (Wernimont and Fitzpatrick 1972, 226), and we can only speculate as to why money is of least concern to college students when money itself may be the primary reason of their enrollment. According to Diener and Diener (2009, 130), Veenhoven (1995) and Diener and Oishi (2000) both report that income correlates less strongly with SWB for college student samples than for adult samples. This reason for this may be that college students, due to their “life style and elite status, protects them to a degree against the most severe effects of poverty.” Furthermore, poverty during college is often understood as a temporary condition. (Diener and Diener 2009, 130).

### **Materialism, Consumerism, Aspirations**

Aspirations are a significant contributor to differentials in well-being with respect to income. A substantial amount of research shows that individuals who establish goals too difficult to accomplish suffer from lower subjective well-being (Diener and Oishi 2000, 207; Frey 2008, 36; Kasser and Ryan 1993, 420). Diener and Oishi (2000) found that students who placed higher importance on money were less satisfied than those who placed a higher importance on the idea of love. This trend held true when controlling for differences between nations and differences in individual income, supporting the idea by Al (1996) and Kasser (2000) that individuals motivated by money are typically less happy. Frey (2008, 31) postulates that a person’s aspirations are formed through two processes by which they use to gauge their personal well-being.

First, people tend to make *social comparisons*, they consciously compare their own income to those with which they associate (also known as the *reference group*). The “relative income hypothesis” posits that externalities are asymmetrically structured for reference groups

(Duesenberry 1949, As cited in Frey (2008), 31). For example, wealthier people impose negative externalities on poorer people, whose aspirations surpass the level they have personally reached. Well-being is negatively related to the income of the reference group (Neumark and Postlewaite 1988, as cited in Frey 2008, 31). Thus, an individual who associates himself with a reference group of higher socioeconomic status than himself will incur losses in terms of well-being.

Second, higher utility typically diminishes due to *adaptation* (Frey 2008, 32). In adaption-level theory, well-being is defined as the difference between achievement and aspirations. Thus, often being paired with social comparison, adaptation pushes individuals to strive for increasingly higher goals. Easterlin (2004) speculates that “the extent of adaptation is claimed to be more complete for income than for other life events, such as marriage or disability (As cited in Frey 2008, 32).

The extent to which a person’s aspirations revolves around material goods dictates how strongly their perceived inadequacies in such will affect their well-being. Self-comparison to elite social groups or rapid adaptation to material goods, for example, will result in lower subjective well-being. Diener and Diener (2009, 142) hypothesized a few reasons as to having strong materialistic desires correlates inversely with subjective well-being. For one, personal goals that involve the acquisition of material goods does not fulfill intrinsic human desires (Kasser and Ryan 1993, As cited in Diener and Diener 2009, 142). Dissatisfaction can also occur because there are always additional goods that one does not have, especially if adaptation to current possessions occurs or self-comparison to elite groups is made. Those placing high importance on material goods were also found to be less satisfied with their social relationships (Nickerson et al., as cited in Diener and Diener 2009, 144). Kasser and Ryan (1993, 1996)

showed that people whose goals emphasize the attainment of financial success, physical attractiveness, and popularity had lower levels of happiness relative to others (as cited in Schmuck, Kasser, and Ryan 2000, 225). According to Diener and Diener (2009, 144), “Crawford, in an unpublished study, found that after people had listed their inadequacies, they rated money as more important—as though being rich might compensate in part for feelings of low self-esteem.” Srivastava et al. (2001) reported similar results: “motives of seeking power and status, as well as overcoming self-doubt, mediated the inverse relation between materialism and subjective well-being (as cited in Diener and Diener 2009, 144).”

In evaluation theory, “the fulfillment of desires, especially those desires that are adopted as active goals for which the person is working, will be chronically salient standards for most people, and therefore are the most ubiquitous standards influencing subjective well-being. There are both experimental and survey data indicating that the fulfillment or nonfulfillment of material desires is related to people’s level of satisfaction” (Diener and Lucas 2000, as cited in Diener and Diener 2009, 147). A combination of the effects of social comparison, achievement adaptation, and adherence to materialistic endeavors may all therefore contribute to lowered subjective well-being in individuals with high aspirations. Relative to this study, we may see these effects in students that are most extrinsically inclined, specifically those who choose their major primarily based on remuneration.

### **Mispredicting Utility & Intrinsic and Extrinsic needs**

Intrinsic goals are those which provide internal satisfaction when pursued because they lead to the fulfillment of innate psychological needs. The three-primary intrinsic psychological needs are autonomy, relatedness, and competence. Individuals who strive to meet intrinsic goals

tend to also have experiences along the way that satisfy such needs and promote well-being (Deci and Ryan 1985; Maslow 1954; Rogers 1961; Ryan et al., 1996, as cited in Schmuck, Kasser, and Ryan 2000, 226). Extrinsic goals emphasize the acquisition of rewards and objects to become highly regarded by others. They are generally indicative of insecurity about oneself and are likely to motivate one to become involved in activities that do not fulfill one's needs (Kasser and Ryan, 1996; Sheldon and Kasser, 1995, as cited in Schmuck, Kasser, and Ryan, 2000, 226). Furthermore, such individuals that are highly extrinsically oriented are more likely to ignore their needs and instead pursue activities that do not benefit their well-being (Schmuck, Kasser, and Ryan 2000, 226).

Individuals make distorted estimations of utility for consumption aspects with respect to both intrinsic and extrinsic goods. This sometimes results in a level of satisfaction that is less than optimal. One explanation for this behavior is that extrinsic attributes are more salient than intrinsic attributes of different choices. Therefore, intrinsic attributes of a decision are undervalued relative to extrinsic ones (Frey 2009, 129). Another proposition is that extrinsic attributes are easier to rationalize than intrinsic attributes. Referred to as “reason-based choice lay rationalism,” the tendency for people to place higher importance on rationalistic attributes than affective ones lead people to “focus their decisions on absolute economic payoff and play down non-economic concerns (Hsee et al. 2003, as cited in Frey 2009, 129). For example, people typically overestimate the satisfaction acquired by earning a higher income and underestimate the dissatisfaction experienced by the extra effort necessary to obtain a higher income (Frey 2009, 127). The extrinsic monetary characteristics of the choice are more salient while it is difficult to justify why the leisure afforded otherwise is so important as to refuse an increase in income (Frey 132, 2009). A leisure study by Yang et al. (2012) on Taiwanese college students

found leisure involvement to be a strong determinant of and very influential to an individual's well-being. This result was consistent with those gained by previous researchers (Currie 2004; Argyle 1994; Parry and Shaw 1999, as cited in Yang et al. 2012, 1251). Stutzer and Frey (2008, as cited in Frey 2009, 135) showed in an empirical test that individuals suffered from lower utility when they traded goods serving intrinsic wants for extrinsic ones. Extrinsic desires motivate people to pursue the acquisition of material goods so that they may attain a higher level of prestige or status. A higher standard of living is generally reached with higher levels of income (Frey 2009, 129).

Fulfilling the three primary aspects of intrinsic needs leads to "flow," the experience of complete immersion when doing an activity (Csikszentmihalyi 1990, as cited in Frey 129). Margitics and Zsuzsa (2009, 1). In a study of college students' aspirations, found that intrinsic aspirations were favored over extrinsic ones. The most important aspirations rated by the students were health, personal progress, and social connections. In comparison, the lowest-rated aspirations were extrinsic ones: wealth, fame, and image. The results were compliant with those found in a similar Hungarian study by Komlosi et al. (2006, as cited in Margitics and Zsuzsa, 2009,93). Furthermore, Kasser and Ryan (1993, as cited in Margitics and Zsuzsa, 2009, 85) found that individuals giving priority to extrinsic goals demonstrated a generally lower well-being and a worse psychological situation, regardless of their gender, than those for whom intrinsic goals were more important." Research conducted by Kasser and Ryan (1996, 286) suggests an opposite relationship between being driven by centrally extrinsic values and subjective well-being.

## **Choosing a Major**

In an examination of switching majors in college and the resulting labor market outcomes, Atsushi and Lee (2015, 40) cite numerous studies on the correlation between a student's choice of major and post-graduation salary. These studies have shown that there are "large earning differentials and ability across majors" due to comparative advantage in endowment, most notably mathematical ability. Mathematical ability was found to be influential in students' major choice. Additionally, students take into account the risks and rewards of choosing a lucrative, but risky major (Paglin and Rufolo, 1990; Turner and Bowen, 1999; Bamberger 1987; Montmarquette et al. 2002, as cited in Atsushi and Lee 2015, 44). This study also included a discussion of a survey by Arcidiacono et al. (2012) that investigated students' expectations of earnings with the majors they have chosen. Expected earnings and academic ability was found to be the most important determinants of college major choice. Furthermore, students reported the willingness to change to a more intrinsically rewarding major if it was tied to the same expected future income and they had comparative advantage in the major (Atsushi and Lee 2015, 45). In contrast, Zafar (2012) finds that enjoying the coursework and gaining the approval of parents are most influential in choosing a major. Atsushi and Lee (2015) note that family income may also be an important determinant of major choice due to the freedom it affords. More precisely, students from poorer families may feel compelled to pursue a more lucrative major, even though it is not intrinsically rewarding. If family income is higher, the student may feel less constrained in choosing a major (Atsushi and Lee 2015, 59).



## Survey Method

The university's institutional review board approved the study prior to data collection. Survey participants were recruited via face-to-face inquiry during their lunch breaks in the on-campus cafeteria. They had the choice of completing the survey electronically, to which a web link was provided, or on a hard-copy. For either option, a preamble letter was used to waive documentation of informed consent. All participants were compensated equally with a can of juice. This method of data collection was chosen over others to avoid selection bias amongst participants, dealing with a potentially low response rate, and having to pay for fees. The original strategy entailed setting up a table at campus center (the central building on campus for various student affairs, food vendors, and where the cafeteria is located) during lunch hours and attempting to attract participants with signs and a juice display. However, this strategy was deemed ineffective due to its passive approach and the expensive table reservation fees that would mount. Using the more direct strategy, participants were approached while they were eating lunch and asked if they would like to participate in a survey in exchange for a can of juice. The idea was to target people who are willing to trade time for a consumption item, especially if the item would provide a substantial amount of satisfaction. Seeing that many people refrain from purchasing beverages in the cafeteria, perhaps due to personal budgeting, high prices, etc. this condition was taken advantage of. This strategy was very successful, we experienced an extremely high response rate—out of all the participants that were approached, only a handful chose to refrain from taking the survey.

This study examines students of the University of Hawai'i at Mānoa using data collected from the surveys. The Satisfaction with Life Scale (Diener et. al 1985), which is a 35-point summation of five seven-point individual questions will be the dependent variable as a proxy to

measure life satisfaction. Several explanatory variables will be considered, including those of both extrinsic and intrinsic nature, and reasons for choosing one's major. The data were collected during the months of November and December in 2016, utilizing high-traffic periods of time in the on-campus cafeteria to collect as large and diverse of a random sample as possible. All students available were approached and asked to complete a short survey. We specifically recruited participants completing an undergraduate degree and pooled the data into a single sample. Three-hundred surveys were collected, but 30 of those were found to contain incomplete responses and were voided. The sample included 55 freshmen, 52 sophomores, 73 juniors, and 90 seniors. Of those, 145 were female and 125 were male.

The data collected is comprised of responses that are entirely subjective. In contrast to standard economic theory, which takes an objective perspective on the real world, happiness research takes a subjective stance that "recognizes that everyone has his or her own ideas about happiness...and that observed behavior is an incomplete indicator of individual well-being. People are reckoned to be the best judges of the overall quality of their lives, and it is a straightforward strategy to ask them about their well-being (Frey 2008, 17)." Empirical tests have shown that different measures of subjective well-being correlate well with one another (Fordyce 1988, as cited in Frey 2009, 19). Additionally, factor analyses, reliability studies, and consistency tests have confirmed that self-reported subjective well-being is both valid and reliable in measurement (Frey 2009, 19). The factors that contribute to an individual's overall subjective well-being will hold different weight from person to person. For example, some people may be more effective at managing stress, more reactive to positive social experiences, or even more sensitive to their perceived worth in terms of money. Therefore, the compilation of

events that a person experiences will determine his or her reaction to notions of stress, self-expectations, and money.

### **The Satisfaction with Life Scale**

Life satisfaction refers to the cognitive appraisal of one's own quality of life based on his personal and unique set of criteria. In other words, life satisfaction is judged based on one's perceived life circumstances, a self-determined set of standards, and the extent to which perceived life circumstances deviate from those standards. These "standards" are entirely up to the individual, a person may distribute more weight to areas of life he deems to be most salient. For example, health, status, a good marriage, friendship, etc. These unique sets of standards comprise an individual's idea of "the good life," the state in which the most valued conditions are fulfilled. Because individuals will have their own perceived set of standards, the concept of life satisfaction is global, or encompassing the individual's life entirely and not focused on said domains which are most important. Thus, the Satisfaction with Life Scale (SWLS; Diener et al., 1985) aims to capture a global measure of self-evaluation (Diener and Pavot 1993, 164).

This SWLS allows respondents to "weight domains of their lives in terms of their own values, in arriving at a global judgment of life satisfaction (Diener and Pavot 1993, 165). More precisely, the individual is able to evaluate his or her life up until that point using the domains he or she finds relevant (Diener and Pavot 1993, 169). This contrasts with measures of affective well-being. Affective well-being refers to the emotions or feelings one experiences in response to a stimulus. Although both factors contribute to subjective well-being, there are advantages to measuring life satisfaction over affective well-being. First, affective well-being may be a reaction to the appraisal of immediate circumstances, whereas life satisfaction reflects a broader,

over-arching evaluation of one's life in a long-term perspective. Also, "affective well-being may reflect unconscious motives and the influences of bodily states to a greater extent than do life satisfaction ratings (Diener and Pavot 1993, 165)." Therefore, to best capture how a college student may view his or her circumstances, using the SWLS to measure life satisfaction rather than affective well-being is most appropriate.

Diener and Pavot (1993) state that scores on the SWLS can be interpreted in terms of absolute as well as relative life satisfaction. A score of 20 represents a neutral point at which an individual is equally satisfied as he is dissatisfied. A score slightly above 20 indicates the person is slightly satisfied, while a score slightly below 20 indicates slight dissatisfaction.

### **Hypotheses**

Hypothesis 1: Extrinsic reasons for major choice will correlate higher with life satisfaction than intrinsic reasons

The primary goal of this research is to determine if students who choose their major for extrinsic reasons have higher life satisfaction relative to those who choose their majors for intrinsic reasons. The literature suggests that there are a few interesting points to consider. The first is that individuals who pursue extrinsic goals tend to have lower life satisfaction relative to those who pursue intrinsic goals. However, this relationship may not pervade the confined lifestyle and circumstances of college students. Diener and Diener (2009, 130) posits that college students understand their situation as temporary. The college environment is often characterized by an academic hierarchy. Students self-rank what they think are the most and least revered majors on campus. Ideas of prestige, remunerability, and difficulty may influence this ranking. Campus-wide extrinsic perceptions of a college major may therefore have a large

impact on one’s own psychological evaluation of one’s major. Furthermore, a major is not always a determinant of what life will be like after graduation, as it is merely associated with prospects such as employment and salary. The possibility to earn a higher income relative to others may provide more immediate life satisfaction than the pleasure of a college major that is intrinsically rewarding but nonetheless non-lucrative. Therefore, we hypothesize that such extrinsic attributes of a major could hold more weight in influencing life satisfaction.

Hypothesis 2: Students who expect higher expected income relative to others will have higher life satisfaction

This is related to the first hypothesis, although it specifically considered expected earnings. Students, no matter what they study, have no true way of knowing if their future careers will provide them with immense satisfaction or dissatisfaction. Therefore, future income will be a salient proxy to evaluate such prospects. We believe expected earnings will be a strong determinant of a college student’s life satisfaction.

### **Model**

The dependent variable for this project is the score determined by the Satisfaction with Life Scale. Below is a representation of the scale.

Table 1: Representation of the Satisfaction with Life Scale

The Statements	Level of Agreement	Satisfaction Rating
1. In most ways my life is close to ideal	7: Strongly agree	31-35: Extremely satisfied
2. The conditions of my life are excellent	6: Agree	26-30: Satisfied
3. I am satisfied with my life	5: Slightly agree	21-25: Slightly satisfied
4. So far I have gotten the important things I want in life	4: Neither agree nor disagree	20: Neutral
	3: Slightly disagree	15-19: Slightly dissatisfied

5. If I could live my life over, I would change almost nothing	2: Disagree 1: Strongly disagree	10-14: Dissatisfied 5-9: Extremely dissatisfied
--	-------------------------------------	--

The Satisfaction With Life Scale (Diener et al. 1985)

The model also considers multiple explanatory variables that we believe may have significant influences on life satisfaction. These variables were taken into great consideration and represent what we believe to be the most salient factors that affect life satisfaction in college students. Below we classify the variables as either extrinsic or intrinsic and explain their relevance to the study.

### **Extrinsic Variables**

Employment: Students were asked the amount of time spent per week in paid employment.

Although more time spent in paid employment results in having more money to spend, the individual must necessarily consider a trade-off in which time that could be otherwise be used for leisure or focusing on school work. Paid employment may therefore be something that exacerbates stress brought on by academic work. We expect this to be negatively correlated with life satisfaction.

Prestige (of major relative to others): We expect that this variable may be correlated with life satisfaction. Majors that are perceived to be more difficult or academically demanding receive higher respect among students, which may positively influence life satisfaction. Having a major perceived to be low-prestige may result in decreased well-being for reasons regarding comparing oneself to a more prestigious reference group.

Likelihood of finding a job you love: A college degree is commonly understood as a necessary achievement to having a high-paying job. Many students choose a major that they believe will be most helpful in obtaining their preferred jobs. We expect students with majors that they

believe will allow them to find a job that aligns with their preferences to have higher life satisfaction relative to others.

Entry level salary: This variable refers to the entry level salary an individual expects to make with his or her major i.e. expected income after graduation. Students with higher expectations about their entry level salary may have higher life satisfaction relative to others. Although the prospect of earning a higher salary post-graduation should intuitively promote life satisfaction, higher aspirations and comparing oneself to reference groups of higher socioeconomic status may ultimately work against the individual.

Minimum salary at which one is willing to work: We expect this variable to be positively correlated with life satisfaction. Our reasoning is that students who have higher standards regarding their minimum salary have higher expectations of future income in general. These individuals may also value themselves more highly relative to others

Household income: We expect individuals living in households with higher income relative to others to have higher life satisfaction. College students are often dependent on their families for financial support, and we predict that students with wealthier parents will have more financial freedom in college life.

The importance of making money: We expect this variable to be negatively correlated with life satisfaction. Based on the literature, we can reason that students who place high importance on making money to be extrinsically oriented, and thus suffer from lowered life satisfaction.

### **Intrinsic Variables**

Stress: We predict that students who are under high stress to suffer from lowered life satisfaction

Interest in one's major: We predict that students who show more interest in their subject of choice will have higher life satisfaction. An individual that is interested in his work may have positive experiences that eventually lead to the sensation of flow, which has been linked with higher life satisfaction (Csikszentmihalyi 1990, as cited in Frey 129).

Amount of time spent socializing with friends: We predict that the amount of time a student spends socializing each day will be positively correlated with life satisfaction. Socializing with friends is something that people tend to enjoy and is an intrinsically rewarding activity. Socializing may provide students with a sense of community and also a distraction from stressful school work or paid employment.

Amount of time spent studying: We predict that the amount of time a student spends studying will be negatively correlated with life satisfaction. Studying is often associated with work and is an unfavorable activity to partake in. However, some individuals may view studying as a pleasurable experience and thus benefit from spending time in this activity.

Amount of time spent in leisure: We predict that leisure will be positively correlated with life satisfaction, as it is intrinsically rewarding to have time off from work and school to pursue personal hobbies and interests.

Amount of time spent using social media: We predict that higher social media usage will be linked to lowered life satisfaction. Social media is often associated with the comparison of one's own life circumstances to that of those who we may understand to be more well-off. This can result in having reference group of a higher socioeconomic class and therefore lowered life satisfaction (Schurgin et al. 2011, 802)



Shown below is a table defining variables related to major choice

**Table 2: Variables defining reasons for choosing the major**

Variable	Reason for Choosing the Major
Extrinsic Variable 1 (EXTR1)	I expect higher salary earned by graduates with this major relative to other majors
Extrinsic Variable 2 (EXTR2)	Because of the status associated with my major
Extrinsic Variable 3 (EXTR3)	I think this major will be most helpful in finding a job
Intrinsic Variable 1 (INTR1)	I find my major to be very interesting
Intrinsic Variable 2 (INTR2)	I am passionate about the subject
Intrinsic Variable 3 (INTR3)	This major is a good fit with my skills and talents
Intrinsic Variable 4 (INTR4)	A lot of people I know are the same major
Neutral Variable 1 (NEUT1)	I intend on using my major as a stepping stone to get into graduate school
Neutral Variable 2 (NEUT2)	It seemed cool, so I picked it

A multiple ordinary least squares (OLS) regression was used to model the relationship between life satisfaction (LS) and the abovementioned explanatory variables. OLS regression analysis is useful in determining if the explanatory variables in the model are significantly correlated with LS. This is pertinent in gathering evidence for the multiple hypotheses that we have proposed.

Using the data analysis add-on in Microsoft Excel, we ran several OLS regressions to analyze the explanatory variables, grouping them by classification of extrinsic or intrinsic. In other words, one OLS regression model was comprised entirely of extrinsic variables, and another entirely of intrinsic variables. Then, we pooled only the significant variables from each and did another OLS regression with those to create an OLS regression model with both extrinsic and intrinsic variables. Afterwards, the variables associated with reasons for choosing a major were added in to the model to test for robustness. We also did an OLS regression only including the reasons for choosing a major.

A dummy variable was used for each explanatory variable in the regression model. The data collected for these variables were measured on a continuum, so dummy variables allowed us to distinguish between responders who scored high or low in each respective variable. This method was understood to be more effective in analyzing data of this type. With dummy variables, each explanatory variable had a “switch” effect on the dependent variable. In other words, the variable itself could only take on either a 0 or a 1 in the model, and thus it would act as an indicator for the explanatory variable. Refer to the Appendix B to see the tabulations for the individual variables and how we determined the threshold for being high or low in each of them. This threshold was based on response percentages and cumulative frequencies in order to make similarly sized categories for dummy variables.

A college student’s life is influenced by a multitude of factors that could potentially cause variation in LS. Although Regression Models 1 and 2 exclusively account for intrinsic and extrinsic variables, respectively, Regression Model 3 is a combination of the two that may help to address omitted variable bias. By using only the most significant variables from each of the

first two models, we are including the factors we believe to be most influential in determining LS. Refer to Appendix A for a description of the variables used in the regression models.

#### Regression Model 1

$$LS = \beta_0 + \beta_1 Stress + \beta_2 Interest + \beta_3 Socfriends + \beta_4 Study + \beta_5 Leisure \\ + \beta_6 Socmedia + u$$

In this model, we control for time students spend socializing, studying, in leisure, and using social media. Additionally, we control for students highly stressed and highly interested in their major. A limitation of this model is that it does not account for the influence of extrinsic variables on LS.

#### Regression Model 2

$$LS = \beta_0 + \beta_1 Employment + \beta_2 Prestige + \beta_3 Findjob + \beta_4 Entry + \beta_5 Minsal \\ + \beta_6 Household + \beta_7 Moneyimp + u$$

In this model, we address factors in students' lives that involve money and the prospects of employment post-graduation. Also, we control for the individual's evaluation of his major's prestige relative to others on campus. The limitation to this model is that it does not account for intrinsic variables.

#### Regression Model 3

$$LS = \beta_0 + \beta_1 Stress + \beta_2 Leisure + \beta_3 Interest + \beta_4 Findjob + \beta_5 Entry + \beta_6 Minsal \\ + \beta_7 Household + u$$

This model incorporates the significant variables from the previous two models. This model provides the best estimate of the correlations between extrinsic and intrinsic variables that are strong indicators of life satisfaction in college students.

#### Regression Model 4

$$LS = \beta_0 + \beta_1 EXTR1 + \beta_2 EXTR2 + \beta_3 EXTR3 + \beta_4 INTR1 + \beta_5 INTR2 + \beta_6 INTR3 \\ + \beta_7 INTR4 + \beta_8 NEUT1 + \beta_9 NEUT2 + u$$

In this model, we are controlling only for the reasons for choosing a major. The reasons are associated with extrinsic, intrinsic, and neutral factors that may influence LS.

#### Results

Table 3 depicts the results of the first regression model. The results show that stress is has a negative coefficient and statistically significant, with a t-statistic of -2.555 when controlling for all other variables. This indicates that stress has a strong negative impact on LS of college students with a coefficient of -1.664. Additionally, when controlling for stress only, the  $R^2$  of the model was 0.157, which accounts for most of the variation when including other variables (the  $R^2$  of the entire model was 0.227). The interest variable was significant and strongly positively correlated with LS, with a coefficient of 1.531 and a t-statistic of 2.004. Other variables such as Socfriends, Study, Leisure, and Socmedia were not found to be significantly correlated with LS. The decrease in adjusted  $R^2$  when adding the variables Study and Socmedia indicates that they are not useful in improving the model. This tells us that time spent socializing with friends, studying, in leisure, and on social media are non-significant indicators of life satisfaction in college students.

Table 3: Regression results using only intrinsic variables

<b>Intrinsic Variables OLS Regression</b>						
<b>Variable</b>	<b>1 (LS)</b>	<b>2 (LS)</b>	<b>3 (LS)</b>	<b>4 (LS)</b>	<b>5 (LS)</b>	<b>6 (LS)</b>
<b>Stress</b>	<b>-1.642***</b>	<b>-1.667***</b>	<b>-1.567**</b>	<b>-1.627**</b>	<b>-1.611**</b>	<b>-1.664**</b>
	(-2.609)	(-2.664)	(-2.482)	(-2.526)	(-2.502)	(-2.555)
<b>Interest</b>		<b>1.537**</b>	<b>1.543**</b>	<b>1.491**</b>	<b>1.539**</b>	<b>1.531**</b>
		(2.037)	(2.047)	(1.955)	(2.017)	(2.004)
<b>Socfriends</b>			<b>0.739</b>	<b>0.721</b>	<b>0.585</b>	<b>0.535</b>
			(1.181)	(1.148)	(0.916)	(0.830)
<b>Study</b>				<b>0.311</b>	<b>0.361</b>	<b>0.420</b>
				(0.485)	(0.561)	(0.644)
<b>Leisure</b>					<b>0.714</b>	<b>0.726</b>
					(1.132)	(0.996)
<b>Socmedia</b>						<b>0.381</b>
						(0.585)
<b>N</b>	270	270	270	270	270	270
<b>R<sup>2</sup></b>	0.157	0.199	0.211	0.213	0.224	0.227
<b>Adjusted R<sup>2</sup></b>	0.0211	0.0325	0.0339	0.0311	0.0322	0.0297

Note: \*\*\*=significant at the 1% level; \*\*=significant at the 5% level; \*=significant at the 10% level; numbers in parentheses are t-statistics.

Table 4 is shows the relationship between extrinsic variables and LS. The results show that the variables Findjob, Entry, Minsal and Household are significantly correlated with LS. Variables such as Employment, Prestige, and Moneyimp were not found to be significantly correlated with LS. When only controlling for Employment and Prestige, the adjusted R<sup>2</sup> of the regressions were negative, signifying that these are poor predictors of LS in college students. The overall R<sup>2</sup> for this model is higher than that of the intrinsic variable model by 0.083, showing that more variation is explained when only controlling for extrinsic variables than for intrinsic variables. Interestingly, the Entry variable was found to be non-significant when adding it to the model initially, but later became significant when controlling for Minsal. This is also evident by the decrease in adjusted R<sup>2</sup> when adding Entry to the model. Also, the results show that Entry is negatively correlated with LS, while Minsal is positively correlated with LS. An

interpretation of this result is that students who expect a higher entry level salary post-graduation are expected to have lower levels of LS compared to those who expect lower entry level salaries. However, students who are willing to work for a minimum salary that is higher relative to others are expected to have higher LS. Most of the variation is explained by the variables Findjob, Minsal, and Household.

Table 4: Regression results using only extrinsic variables

Extrinsic Variables OLS Regression								
Variable	1 (LS)	2 (LS)	3 (LS)	4 (LS)	5 (LS)	6 (LS)	7 (LS)	8 (LS)
<b>Employment</b>	<b>0.438</b>	<b>0.496</b>	<b>0.777</b>	<b>0.239</b>	<b>0.243</b>	<b>0.213</b>	<b>0.405</b>	<b>0.360</b>
	<i>0.560</i>	<i>0.632</i>	<i>0.320</i>	<i>0.308</i>	<i>0.313</i>	<i>0.277</i>	<i>0.537</i>	<i>0.478</i>
<b>Prestige</b>		<b>0.715</b>	<b>0.624</b>	<b>0.219</b>	<b>0.688</b>	<b>0.367</b>	<b>0.304</b>	<b>0.342</b>
		<i>1.132</i>	<i>0.899</i>	<i>0.334</i>	<i>1.060</i>	<i>0.501</i>	<i>0.476</i>	<i>0.535</i>
<b>Findjob</b>			<b>2.110*</b>	<b>2.128*</b>	<b>2.094*</b>	<b>2.090*</b>	<b>2.018*</b>	<b>1.947*</b>
			**	**	**	**	**	**
			<i>2.993</i>	<i>3.029</i>	<i>2.965</i>	<i>2.988</i>	<i>2.958</i>	<i>2.845</i>
<b>Entry</b>					<b>-0.484</b>	<b>1.554*</b>	<b>1.893*</b>	<b>-</b>
					<i>-0.726</i>	<i>-1.976</i>	<i>-2.450</i>	<i>-2.355</i>
<b>Minsal</b>				<b>1.179*</b>		<b>2.064*</b>	<b>1.842*</b>	<b>1.928*</b>
				<i>1.693</i>		<i>2.503</i>	<i>2.283</i>	<i>2.382</i>
<b>Houshold</b>							<b>2.151*</b>	<b>2.173*</b>
							**	**
							<i>2.89</i>	<i>2.922</i>
<b>Moneyimp</b>								<b>-0.775</b>
								<i>-1.191</i>
<b>N</b>	270	270	270	270	270	270	270	270
<b>R<sup>2</sup></b>	0.034	0.077	0.196	0.220	0.200	0.250	0.302	0.310
<b>Adjusted R<sup>2</sup></b>	<i>-</i> 0.002 6	<i>-</i> 0.001 5	0.0274	0.0343	0.0257	0.0447	0.0706	0.0720

Note: \*\*\*=significant at the 1% level; \*\*=significant at the 5% level; \*=significant at the 10% level; numbers in parentheses are t-statistics.

Taking the significant variables from the two previous models, we incorporated them into a third model to test robustness. A second goal was to attempt to explain more of the variation in

LS, using the variables that we know are strong indicators. A combination of variables taken from the intrinsic and extrinsic variable regression are included in Table 5, which shows the results of the third regression model. Most notably, the Interest variable was only significant when first included in the model, but becomes non-significant when controlling for other variables. Additionally, the Leisure variable is not found to be significant at all. The Entry variable, which in the extrinsic variable regression model was only found to be significant after controlling for Minsal, was significant only when controlling for Household in this model. The variables Findjob, Minsal, and Household were all positive and very strongly correlated with LS.

Table 5: Regression results using significant variables from intrinsic and extrinsic regressions

<b>Significant Variables OLS Regression</b>							
<b>Variables</b>	<b>1 (LS)</b>	<b>2 (LS)</b>	<b>3 (LS)</b>	<b>4 (LS)</b>	<b>5 (LS)</b>	<b>6 (LS)</b>	<b>7 (LS)</b>
<b>Stress</b>	- <b>1.642***</b>	<b>-1.597**</b>	<b>-1.618**</b>	<b>-1.585**</b>	<b>-1.578**</b>	<b>-1.529**</b>	<b>-1.368**</b>
	-2.609	-2.535	-2.585	-2.559	-2.522	-2.475	-2.249
<b>Leisure</b>		<b>0.808</b>	<b>0.907</b>	<b>1.052</b>	<b>1.051</b>	<b>1.174</b>	<b>0.978</b>
		1.151	1.297	1.516	1.511	1.707	1.445
<b>Interest</b>			<b>1.602**</b>	<b>0.720</b>	<b>0.718</b>	<b>0.895</b>	<b>0.406</b>
			2.122	0.880	0.875	1.102	0.501
<b>Findjob</b>				<b>1.999***</b>	<b>1.999***</b>	<b>1.905**</b>	<b>2.021***</b>
				2.635	2.630	2.537	2.741
<b>Entry</b>					<b>-0.055</b>	<b>-1.319</b>	<b>-1.643*</b>
					-0.086	-1.704	-2.146
<b>Minsal</b>						<b>2.251***</b>	<b>1.995***</b>
						2.816	2.531
<b>Household</b>							<b>1.862**</b>
							2.494
<b>N</b>	270	270	270	270	270	270	270
<b>R<sup>2</sup></b>	0.157	0.172	0.214	0.265	0.265	0.312	0.340
<b>Adjusted R<sup>2</sup></b>	0.0211	0.0223	0.0349	0.0560	0.0525	0.0768	0.0947

Note: \*\*\*=significant at the 1% level; \*\*=significant at the 5% level; \*=significant at the 10% level; numbers in parentheses are t-statistics.

Table 6 shows the results of the fourth regression model, which includes only the reasons for choosing a major. These variables were also added to the previous models and regressed on LS again to test for robustness when including the reasons for choosing a major. INTR 4 was found to be significant across all models. However, in the model of only reasons for choosing a major, INTR 4 was significant at the 95% level, but was only significant at the 90% level in other models when other variables were added. INTR 2 was only significant in the model that only includes reasons for choosing a major. When controlling for intrinsic variables, EXTR 3 and NEUT 2 were also found to be significant at the 90% confidence level. When variables from regression models one through three were added to the model, the same variables that were significant in those respective models remained significant, indicating robustness in the variable. Interestingly, when controlling for reasons for choosing a major, the Leisure variable became significant at the 90% confidence level in the significant variables model. Multiple  $R^2$  was highest in this regression model with a value of 0.389.

Other variables such as gender, class standing, time spent studying with others (rather than alone), and the degree to which an individual enjoys studying were tested but the results did not indicate they were of any significance to the study. Thus, they were excluded from the models.



Table 6: Regressions using choice of major, intrinsic, extrinsic, and significant variables.

Variables	Reasons only		Extrinsic Variables		Intrinsic Variables		Significant Variables	
	Coefficient	t stat	Coefficient	t stat	Coefficient	t stat	Coefficient	t stat
EXTR 1	0.739	1.014	0.430	0.578	0.815	1.138	0.421	0.589
EXTR 2	0.031	0.025	0.010	0.008	0.498	0.398	0.236	0.194
EXTR 3	0.927	1.311	0.777	1.113	1.211*	1.705	0.988	1.416
INTR 1	0.323	0.407	-0.546	-0.678	-0.383	-0.461	-0.934	-1.131
INTR 2	1.259*	1.735	1.077	1.487	1.072	1.439	1.147	1.576
INTR 3	0.304	0.457	-0.253	-0.376	-0.184	-0.273	-0.393	-0.589
INTR 4	3.100**	2.345	2.318*	1.768	3.193*	2.441	2.474*	1.927
NEUT 1	0.368	0.466	-0.134	-0.168	0.358	0.447	0.073	0.092
NEUT 2	-1.302	-1.496	-0.809	-0.943	-1.444*	-1.670	-0.914	-1.084
Employment			0.233	0.300				
Prestige			0.256	0.385				
Findjob			1.945**	2.573			1.901**	2.480
Entry			-1.336*	-1.664			-1.201	-1.532
Minsal			1.790**	2.142			1.833**	2.252
Household			2.084***	2.648			1.708**	2.187
Moneyimp			-0.847	-1.263				
Stress					-1.857***	-2.806	-1.640***	-2.610
Interest					1.764*	1.923	1.002	1.072
Socfriends					0.521	0.805		
Study					0.384	0.576		
Leisure					0.962	1.302	1.204*	1.714
Socmed					0.479	0.736		
Observations	270		270		270		270	
Multiple R <sup>2</sup>	0.215		0.347		0.320		0.389	
Adjusted R <sup>2</sup>	0.013		0.065		0.049		0.097	

Note: \*\*\*=significant at the 1% level; \*\*=significant at the 5% level; \*=significant at the 10% level; numbers in parentheses are t-statistics.

## Discussion

Our first hypothesis, which was that students who choose their major primarily for extrinsic reasons rather than intrinsic ones will have higher life satisfaction is not well-supported by the results. Out of the nine reasons for choosing a major that were tested, only INTR 4 remained significant in all regression models. Although others such as EXTR 3 and NEUT 2

were found to be significant in the regression which included the reasons for choosing a major and the intrinsic variables, they failed to demonstrate robustness in other models. INTR 4 refers to having a sense of community, which is related to the primary intrinsic need of relatedness (Deci and Ryan 2000 Frey 2009, 129). This indicates that students who consider choosing a major because they believe they will have others for support along the way have higher life satisfaction relative to those who do not. Other intrinsic reasons for choosing a major that were related to the intrinsic needs for competency and autonomy were not found to be significant in the model. Therefore, these findings are only partially consistent with the literature.

We expected the extrinsic reasons to be more influential in a college student's life satisfaction. Choosing a major based on its prestige, earning capability, or prospect of finding a job were not found to be consistently significant in all regressions. This may be explained by what was discussed in Schmuck, Kasser, and Ryan's (2000) research. Individuals who strive to fulfill extrinsic goals over intrinsic ones tend to suffer from lowered well-being because the pursuit of extrinsic goals does not fulfill one's inherent psychological needs. It may also result in setting goals too difficult to accomplish and the eventual disappointment experienced when one realizes he or she may not be able to attain said goals.

Although our results do not support the first hypothesis in regard to the reasons for choosing a major, the data did reveal that there were a few strong extrinsic indicators of life satisfaction. Among these were expectation of entry level salary, the minimum salary at which one is willing to work, the belief the major will be helpful in finding a job one loves, and household income. Household income may be a strong predictor of life satisfaction in college students because the wealth of a student's parents is often associated with the financial freedom that the student is afforded. In other words, students with wealthy parents may feel less

restricted to buy items such as food, clothing, or vacation trips. The larger budget afforded to these students allows them to purchase items that promote well-being in college and have more experiences that may fulfill intrinsic needs.

Aside from household income, the other significant extrinsic variables are related to future prospects post-graduation. One of the strongest indicators of life satisfaction was the belief that one's major would allow him to find an enjoyable job. More precisely, the major itself is perceived to be a ticket to finding a job that would provide satisfaction. Having a job that one can love and be passionate about is now a popular aspiration among millennials, which we believe explains the high correlation and significance in this variable.

The most interesting result we find is that the Entry and Minsal variables are of opposite signs. That is, that expected entry level salary is negatively correlated with life satisfaction while the minimum salary at which one is willing to work is positively correlated with life satisfaction. It is possible that this conflicting relationship may be related to having high aspirations that are difficult to attain, or being referencing oneself to others who are of a higher socioeconomic class or intelligence level. However, those who are willing to work for higher minimum salaries on the other hand may experience higher life satisfaction relative to those who are willing to work for less because they have higher self-esteem and are confident that their capabilities will meet the requirements to make high minimum starting salaries. Additionally, minimum salary may be associated with the amount an individual believes he deserves to make, rather than how much he expects. The difference between the two is that one is based off one's own self-standards while the other can be inferred from peers or a reference group. This result provides conflicting support to our second hypothesis, that individuals who expect to make more money post-

graduation will have higher life satisfaction. The relationship between entry level salary and minimum salary should be examined further, in subsequent research

Intrinsic variables such as stress and interest were found to be strong indicators of life satisfaction as well. These are factors in life that are related to fulfilling intrinsic desires such as having the opportunity to spend time working on something that produces the experience of flow and experiencing positive feelings. Leisure, which in the literature was found to be a strong predictor of well-being, was only found to be significant in one of the models when controlling for reasons for choosing a major. This was a variable that we expected to have a strong influence on life satisfaction in college students, because having more leisure time allows one to pursue hobbies and activities unrelated to school work. It should be noted that higher amounts of leisure time could also be an indicator of a lack of interest or effect in one's studying, which would negate the positive effects of leisure itself.

### **Conclusion**

In this research, we find that intrinsic variables such as stress and interest for one's major are strong indicators of life satisfaction. Some extrinsic variables that are also strong indicators of life satisfaction are entry level salary, the minimum salary at which one is willing to work, finding a job that one loves, and household income. Students who experience high amounts of stress and expect high entry level salaries suffer from lowered life satisfaction, while those who are interested in their major, are willing to work for higher minimum salaries, are optimistic about finding an enjoyable job, and come from relatively wealthy families have higher life satisfaction.

The results are somewhat contradictory to what we learned from the literature, which implies that those who pursue extrinsic goals over intrinsic ones are predicted to suffer from lower life satisfaction. However, in this study of college students at University of Hawai'i Manoa, the opposite occurred. It seems that extrinsic variables, perhaps due to their salience, appeals to the life satisfaction of students more than intrinsic variables. It could also be due to the understanding that college is a temporary condition, according to Diener and Diener (2009, 130). Furthermore, college is also an isolating circumstance. Undergraduate students have yet to start their careers and have only a sense of optimism to rely on when it comes to evaluating their life satisfaction with respect to their choice of major. The main implications of the results are that students may want to choose a major that will promote optimism about future life prospects, especially those related to work, in the sense that it will be lucrative and lovable.

Future research should attempt to test other factors, while eliminating those found to be insignificant, and further examine the relationship between the variables in this study. Sub-setting the data may reveal interesting correlations that could improve the results found in the present research. Sample size may also be increased to find more accurate relationships in the data. Additionally, there may a non-linear relationship within the data. Specifically, as income and happiness may be related up to a certain point, it is uncertain as to how this relationship persists at a high-income level. Students who expect very high incomes may therefore be under very different circumstances as opposed to those who expect lower incomes. Furthermore, college students are very young and their future is unpredictable for the most part. Future work will need to address this issue.

Happiness is a significant pursuit for everyone in life, and in college it is strongly associated with the career that one makes from the outcome a college experience. As millennials

make their way into and out of college, they should keep in mind that the popular saying, “Do what you love, and you’ll never work a day in your life,” which is although an aspiration worth pursuing, should be taken with a grain of salt. It implies a life of satisfaction should be enjoyed if one works in a subject intrinsically rewarding. However, in the college environment it seems that chasing after what one loves if it holds no lucrative prospect or leads to little chance of employment is a pursuit made in vain.

## Bibliography

Deutsches Institut für Wirtschaftsforschung (DIW). German Socio-Economic Panel (GSOEP).

1992, 1997. European University Institute. As cited in Frey, Bruno S. *Happiness: A Revolution in Economics*. Cambridge, MA: MIT Press, 2008.

Diener, Ed, and Robert Biswas-Diener. "Will Money Increase Subjective Well-Being?: A Literature Review and Guide to Needed Research." *Social Indicators Research Series The Science of Well-Being* 7, no. 2 (2009): 119-69. doi:10.1007/978-90-481-2350-6\_6.

Diener, Ed, Jeff Horwitz, and Robert A. Emmons. "Happiness of the Very Wealthy." *Social Indicators Research* 16, no. 3 (1985): 263-74. doi:10.1007/bf00415126.

Diener, E., & Oishi, S. (in press). Money and happiness: Income and subjective well-being across nations. In Diener, Ed, and Eunkook M. Suh. *Culture and Subjective Well-being*. Cambridge, MA: MIT Press, 2000.

Diener, Ed, Marissa Diener, and Carol Diener. "Factors Predicting the Subjective Well-Being of Nations." *Social Indicators Research Series Culture and Well-Being*, 2009, 43-70. doi:10.1007/978-90-481-2352-0\_3.

Diener, Ed, Robert A. Emmons, Randy J. Larsen, and Sharon Griffin. "The Satisfaction With Life Scale." *Journal of Personality Assessment* 49, no. 1 (1985): 71-75. doi:10.1207/s15327752jpa4901\_13.

Easterlin, Richard A. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence." *Nations and Households in Economic Growth*, 1974, 89-125. doi:10.1016/b978-0-12-205050-3.50008-7.

Frey, Bruno S. *Happiness: A Revolution in Economics*. Cambridge, MA: MIT Press, 2008.

- Gellerman, Saul W. *Management by Motivation*. New York: American Management Association, 1968.
- Kasser, Tim, and Richard M. Ryan. "A dark side of the American dream: Correlates of financial success as a central life aspiration." *Journal of Personality and Social Psychology* 65, no. 2 (1993): 410-22. doi:10.1037//0022-3514.65.2.410.
- Kasser, Tim, and Richard M. Ryan. "Further Examining the American Dream: Differential Correlates of Intrinsic and Extrinsic Goals." *Personality and Social Psychology Bulletin* 22, no. 3 (1996): 280-87. doi:10.1177/0146167296223006.
- Komlosi, V., S. Rozsa, M. Berdi, E. Moricz, and D. Horvath. "Az Aspiracios Index Hazai Alkalmazasaval Szerzett Tapasztalatok [Experiences Obtained with the Domestic Application of the Aspiration Index.]" *Magyar Pszichologiai Szemle* 61 (2006): 237-50.
- Margitics, Ferenc and Zsuzsa Pauwlik. *Depression, Subjective Well-Being, and Individual Aspirations of College Students*. New York: Nova Science Publishers, 2009.
- Pavot, William, and Ed Diener. "Review of the Satisfaction With Life Scale." *Psychological Assessment* 5, no. 2 (1993): 164-72. doi:10.1037//1040-3590.5.2.164.
- Pavot, William, Ed Diener, C. Randall Colvin, and Ed Sandvik. "Further Validation of the Satisfaction With Life Scale: Evidence for the Cross-Method Convergence of Well-Being Measures." *Journal of Personality Assessment* 57, no. 1 (1991): 149-61. doi:10.1207/s15327752jpa5701\_17.
- Schmuck, Peter, Tim Kasser, and Richard M. Ryan. "Intrinsic and extrinsic goals: Their structure and relationship to well-being in German and US college students." *Social Indicators Research* 50, no. 2 (2000): 225-241.



- Schurgin O'Keeffe, Gwenn, Kathleen Clarke-Pearson, and COUNCIL ON COMMUNICATIONS AND MEDIA. "Clinical Report--The Impact of Social Media on Children, Adolescents, and Families." *Pediatrics*, March 28, 2011, 800-03. doi:10.1542/peds.2011-0054.
- Shibata, Atsushi, and Sang-Hyop Lee. *Essays on Youths' Behavior and Economic Outcomes*. PhD diss., University of Hawai'i at Manoa, 2014. Honolulu, Hawaii : University of Hawai'i at Manoa, 2015. 40-59.
- Stutzer, Alois, and Bruno S. Frey. "Stress that Doesn't Pay: The Commuting Paradox\*." *Scandinavian Journal of Economics* 110, no. 2 (2008): 339-66. doi:10.1111/j.1467-9442.2008.00542.x.
- Wernimont, Paul F., and Susan Fitzpatrick. "The Meaning of Money." *Journal of Applied Psychology* 56, no. 3 (1972): 218-26. doi:10.1037/h0033107.
- Yang, Wan-Chi, Ko-Chia Chen, Yao-Shun Hsueh, Chao-Ping Tan, and Chia-Ming Chang. "The Relationship Between Leisure and Well-Being in Taiwanese College Students." *Social Behavior and Personality: an international journal* 40, no. 8 (September 1, 2012): 1245–54. doi:10.2224/sbp.2012.40.8.1245.

## Appendix A

### Extrinsic Variables: Names and Definitions

Extrinsic Variable names	Variable Definition
Employment	Time spent in paid employment
Prestige	Prestige of your major relative to others
Findjob	Likelihood that your major will allow you to find a job that you love
Entry	Typical entry level salary of a job related to your major
Minsal	The minimum salary at which you would work
Household	Household income (separated by quintiles, i.e. bottom 20%, second 20%, middle 20%, etc.)
Moneyimp	The degree of importance the individual places on making a lot of money

### Intrinsic Variables: Names and Definitions

Intrinsic Variable names	Variable Definition
Stress	An ordinal measurement of stress
Interest	An ordinal measurement of interest in a current major
Socfriends	The amount of time spent socializing with others daily
Study	The amount of time spent studying daily
Leisure	The amount of time spent in leisurely activities daily
Socmedia	The amount of time spent on social media daily

## Appendix B

### Tabulation of Data

This table shows the tabulation of variables and how they were defined in categorizing the dummies.

Intrinsic Variables							
Stress	count	freq	cumfreq	Leisure	count	freq	cumfreq
<b>1</b>	5	2%	2%	<b>0</b>	85	31%	31%
<b>2</b>	26	10%	11%	<b>1</b>	71	26%	58%
<b>3</b>	85	31%	43%	<b>2</b>	41	15%	73%
<b>4</b>	106	39%	82%	<b>3</b>	34	13%	86%
<b>5</b>	48	18%	100%	<b>4</b>	13	5%	90%
	270			<b>5</b>	26	10%	100%
<b>high stress &gt;= 4</b>					270		
Socfriends	count	freq	cumfreq	high leisure >= 3	count	freq	cumfreq
<b>0</b>	16	6%	6%	<b>0</b>	18	7%	7%
<b>1</b>	58	21%	27%	<b>1</b>	112	41%	48%
<b>2</b>	68	25%	53%	<b>2</b>	80	30%	78%
<b>3</b>	44	16%	69%	<b>3</b>	31	11%	89%
<b>4</b>	31	11%	80%	<b>4</b>	29	11%	100%
<b>5</b>	53	20%	100%	<b>5</b>	270		
	270			<b>5</b>	270		
<b>high socfriends &gt;= 3</b>				<b>high socmed &gt;=2</b>			
Study	count	freq	cumfreq	Interest	count	freq	cumfreq
<b>0</b>	17	6%	6%	<b>1</b>	3	1%	1%
<b>1</b>	70	26%	32%	<b>2</b>	10	4%	5%

	<b>2</b>	63	23 %	56%		<b>3</b>	45	17 %	21%
	<b>3</b>	49	18 %	74%		<b>4</b>	119	44 %	66%
	<b>4</b>	37	14 %	87%		<b>5</b>	93	34 %	100%
	<b>5</b>	34	13 %	100%			270		
		270			<b>high interest &gt;=4</b>				
<b>high study &gt;= 3</b>									

Extrinsic Variables								
Prestige	coun t	freq	cumfre q	Minsal	coun t	freq	cumfre q	
<b>1</b>	8	3%	3%		<b>0</b>	48	18 %	18%
<b>2</b>	20	7%	10%		<b>1</b>	75	28 %	46%
<b>3</b>	107	40 %	50%		<b>2</b>	60	22 %	68%
<b>4</b>	110	41 %	91%		<b>3</b>	57	21 %	89%
<b>5</b>	25	9%	100%		<b>4</b>	21	8%	97%
	270				<b>5</b>	9	3%	100%
<b>high prestige &gt;= 4</b>						270		
Employment	coun t	freq	cumfre q	high minsal >= 3				
<b>1</b>	86	32 %	32%	<b>Household</b>	coun t	freq	cumfre q	
<b>2</b>	37	14 %	46%		<b>1</b>	16	6%	6%
<b>3</b>	92	34 %	80%		<b>2</b>	42	16 %	21%
<b>4</b>	45	17 %	96%		<b>3</b>	168	62 %	84%
<b>5</b>	10	4%	100%		<b>4</b>	32	12 %	96%
	270				<b>5</b>	12	4%	100%
<b>high employment &gt;= 3</b>						270		
Findjob	coun t	freq	cumfre q	high household >=3				
<b>1</b>	4	1%	1%	<b>Moneyimp</b>	coun t	freq	cumfre q	

2	5	2%	3%	1	11	4%	4%
3	63	23%	27%	2	17	7%	11%
4	103	38%	65%	3	61	23%	34%
5	94	35%	100%	4	113	43%	77%
	269			5	59	23%	100%
<b>high findjob &gt;= 4</b>					261		
<b>Entry</b>	coun t	freq	cumfre q	<b>high moneyimp &gt;=4</b>			
0	19	7%	7%				
1	44	16%	23%				
2	47	17%	41%				
3	59	22%	63%				
4	60	22%	85%				
5	20	7%	92%				
6	21	8%	100%				
	270						
<b>high entry &gt;= 4</b>							

## Appendix C

### **Satisfaction With Life Scale (SWLS) Score Interpretations**

#### 30-35 Very High Score; Highly satisfied

Scores in this range indicates the respondent loves his life and although circumstances are not perfect, he feels that “things are as good as lives get” (Diener 2006, 1). This is not to be associated with complacency because the prospect of growth or challenge might be a contributing factor as to why the respondent is highly satisfied. People scoring in this range feel that life is going well and the major domains of life are fulfilled. This includes, but is not limited to: work or school, family, friends, leisure, and personal development (Diener 2006)

#### 25-29 High Score

These individuals like their lives and overall they are doing well. They feel that things are “mostly good” (Diener 2006, 1). These people are satisfied but not necessarily complacent. Growth and challenge might be a reason why this person feels satisfied. For them, the major domains of life are going well—work or school, family, friends, leisure, and personal development are areas which they feel are fulfilled. (Diener 2006)

#### 20-24 Average Score

People falling within this range are “generally satisfied, but have some areas where they very much would like some improvement” (Diener 2006, 1). They may also be in this range because although they are mostly satisfied, they see room for some improvement in each major domain of life and a couple of domains that require large improvements. These individuals are likely to move to a higher level of life satisfaction upon making necessary life changes (Diener 2006)

#### 15-19 Slightly Below Average

Diener (2006) describes respondents scoring in this range as “usually having small but significant problems in several areas of their lives, or have many areas that are doing fine but one area that represents a substantial problem for them.” People can be temporarily moved to this level of life satisfaction due to recent, negative event. However, they are expected to move back up to the higher ranges over time. Those chronically within this range may necessarily need to make life changes or lower their aspirations. While some people can actually draw motivation from dissatisfaction in some areas of life, others who experience rampant dissatisfaction across a number of life domains suffer (Diener 2006)

#### 10-14 Dissatisfied

A score within this range indicates significant dissatisfaction with life. Those who are in this range may be suffering from a multitude of domains not going well, or one or two that are going very badly. They may, however, be doing fine in all other domains. If a person becomes dissatisfied in response to a catastrophic life event, such as divorce, bereavement, or unemployment, he or she will likely return to the former level of life satisfaction. However, if life dissatisfaction is constant, the person ought to make changes in attitudes, patterns of thinking, and life activities. Chronic low levels of life satisfaction may be an indicator of things going badly in life. Low life satisfaction may also be attributed to lower functioning due to the distraction of unhappiness (Diener 2006)

#### 5-9 Extremely Dissatisfied

Individuals who score in this range are very discontent with their current circumstances. In some cases this is in reaction to a catastrophic event such as widowhood or unemployment. It may also be due to a chronic problem such as alcoholism or addiction. This extreme dissatisfaction may also be a reaction to losing a loved one. However, it is typical that

dissatisfaction at this level is due to things going bad in multiple domains of life. Diener (2006) recommends that for whatever reason one may exist at this level of dissatisfaction, help should be sought and change is in order.

Diener (2006) presents three major factors that contribute to an individual's overall life satisfaction. Social relationships are one the most influential components to one's happiness. It is not uncommon for people who score high on life satisfaction to have a strong network of close family and friends. Oppositely, those who do not have strong relationships with family and friends tend to be dissatisfied with life. Another major component is work, school, or competency in a work-related role. Meaningful and enjoyable work is typically associated with higher life satisfaction because the person doing it feels it is suitable for him or herself. In contrast, poor performance in such a role will result in dissatisfaction. If a person establishes a goal, but fails to progress towards achieving it, it is likely this will also lead to dissatisfaction. The last major factor is a person's satisfaction with the self, personal growth, and leisure. In other words, it refers to a person's self-worth. Discontentment with progress in these areas can lead to substantially lowered life satisfaction. Certainly there are other sources of satisfaction and dissatisfaction unique to each individual—an inconsistency that the SWLS is useful in dealing with (Diener 2006).

Diener and Pavot (1993, 165) state that the SWLS has been examined for both reliability and sensitivity. It has shown strong internal reliability and moderate temporal stability. In other words, the measure has shown capability in measuring life satisfaction beyond temporary affective states in order for researchers draw conclusions about life satisfaction in the long term. It has also demonstrated the ability to detect changes in life satisfaction in response to major life events (Diener and Pavot 1993, 165; Pavot et al. 1991, 158).



Although the SWLS has advantages in measuring life satisfaction, there are several limitations to its use. First, respondents can consciously distort their response. Also, the SWLS fails to capture subjective well-being in its entirety. Because its purpose is to assess the cognitive rather than the affective component of subjective well-being, it cannot be used to judge overall subjective well-being. It is true that cognitive and affective components are related, but nonetheless an instrument emphasizing the emotional aspects of well-being should be included for broader measures (Diener and Pavot 1993, 170).

## Appendix D

### Survey Consent form and Questionnaire (continue to the next page)

My name is Landon Kozai. I am an undergraduate student at the University of Hawaii (UH). As part of the honors program, I am conducting a research project. The purpose of my project is to collect subjective measures of well-being from students of different college majors. I am asking you to participate in this project because you are at least 18 years old and you are enrolled as a student at UH Manoa.

**Project Description – Activities and Time Commitment:** If you decide to take part in this project, you will be asked to fill out a survey. The survey questions are mainly multiple choice. However, there will be a few questions where you may add an open-ended response. The survey is accessed on a website which I will provide you with a link to. Completing the survey will take approximately 3-4 minutes. I expect around 250 people will take part in this project.

**Benefits and Risks:** A benefit is that the survey may encourage more thorough self-reflection. The findings from this project may help create a better understanding of well-being in students who choose their college major for varying reasons. There is little risk to you in participating in this project.

**Confidentiality and Privacy:** I will not ask you for any personal information, such as your name or address. Please do not include any personal information in your survey responses. Participants of the survey will remain anonymous.

**Voluntary Participation:** You can freely choose to take part or to not take part in this survey. There will be no penalty or loss of benefits for either decision. If you do agree to participate, you can stop at any time.

**Questions:** If you have any questions about this study, please email me at [lkozai@hawaii.edu](mailto:lkozai@hawaii.edu). You may also contact my adviser, Dr. Inessa Love, at [ilove@hawaii.edu](mailto:ilove@hawaii.edu). If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at 808.956.5007 or [uhirb@hawaii.edu](mailto:uhirb@hawaii.edu).

**To Access the Survey:** Please go to the following web page: <http://bit.ly/2e1ZobW>. You should find a link to the survey and instructions for completing it. Completing the survey will be considered as your consent to participate in this study.

Going to the survey implies your consent to participate in this project

Please print a copy of this page for your reference.



5 If I could live my life over, I would change almost nothing \*

Mark only one oval. 1 2 3 4 5 6 7

Strongly Disagree        Strongly Agree

## Cantril Ladder Scale

---

Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top.

The top of the ladder represents the best possible life for you

The bottom of the ladder represents the worst possible life for you.

6. On which step of the ladder would you say you personally feel you stand at this time? \*

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Worst possible life           Best possible life

## Year of Study

---

7. What year are you? \*

Mark only one oval.

- Freshman
- Sophomore
- Junior
- Senior

## Gender

---

8. Please indicate your gender \*

Mark only one oval.

- Male
- Female

## Stress

---

9. In an average week, how stressed are you? \*

Mark only one oval.

	1	2	3	4	5	
No stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely stressed

## Employment

---

10. How many hours a week do you work in paid employment? (on average) \*

Mark only one oval.

- 0 (i.e. no paid employment)
- 1-9
- 10-19
- 20-29
- over 30

## Social Life and School

---

11. How much time per day on average, do you spend socializing with friends in person? \*

Mark only one oval.

- 0-1 hours
- 1-2 hours
- 2-3 hours
- 3-4 hours
- 4-5 hours
- 5+ hours

12. How much time per day, on average, do you spend doing homework or studying alone? \*

Mark only one oval.

- 0-1 hours
- 1-2 hours
- 2-3 hours
- 3-4 hours
- 4-5 hours
- 5+ hours

13 **How much time per day, on average, do you spend doing homework or studying with others?**

\*

*Mark only one oval.*

- 0-1 hours
- 1-2 hours
- 2-3 hours
- 3-4 hours
- 4-5 hours
- 5+ hours

14. **How much free time do you spend on leisure every day, on average? \***

*Mark only one oval.*

- 0-2 hours
- 2-3 hours
- 3-4 hours
- 4-5 hours
- 5-6 hours
- 6+ hours

## **Social Media**

---

15. **How many hours per week, on average, do you spend using social media \***

*Mark only one oval.*

- none
- 1-3 hours
- 3-7 hours
- 7-10 hours
- over 10 hours

## **Major/Area of Study**

---

**16 What college does your major fall under? \***

*Mark only one oval.*

- College of Arts & Sciences
- College of Natural Sciences
- School of Architecture
- College of Languages, Linguistics, and Literature
- College of Social Sciences
- Shidler College of Business
- College of Education
- College of Engineering
- Hawai'iuniakea School of Hawaiian Knowledge
- John A. Burns School of Medicine
- School of Ocean, Earth, Science, and Technology
- School of Pacific and Asian Studies
- Myron B. Thompson School of Social Work
- School of Travel Industry Management
- College of Tropical Agriculture and Human Resources
- Office of Undergraduate Education
- School of Nursing and Dental Hygiene

**17. What is your current major?**

Please enter your current major

---

**18. How many times have you switched your major since you started college? \***

*Mark only one oval.*

- none
- once
- twice
- three times
- four times
- five or more times

**19. If so, what was your previous major? If not applicable, enter N/A \***

---

20. If applicable, Why did you switch from your previous major?

Mark only one oval.

- It was too competitive
- I didn't like it
- I like my current major better
- I switched to a more lucrative major

21. For what reason did you choose your current major? \*

CHOOSE TOP THREE REASONS

Check all that apply.

- I find my major to be very interesting
- I am passionate about the subject
- I expect higher salary earned by graduates with this major relative to other majors
- Because of the status associated with my major
- A lot of people I know are the same major
- I intend on using my major as a stepping stone to get into graduate school
- It seemed cool, so I picked it
- I think this major will be most helpful in finding a job
- This major is a good fit with my skills and talents

22. On a scale from 1-5, how interested are you in your major? (not interested = 1, a little interested = 2, etc. extremely interested = 5) \*

Mark only one oval.

- 1
- 2
- 3
- 4
- 5

23. What is your opinion on the relative prestige/status of your major relative to others? \*

Mark only one oval.

	1	2	3	4	5	
Least prestigious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most prestigious

24. How much do you like studying and learning in your major-related classes?

Mark only one oval.

	1	2	3	4	5	
Don't like it at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Like it a lot



25 **How likely is it that your major will allow you to have a job that you love?**

*Mark only one oval.*

1      2      3      4      5

---

Very unlikely                  Very likely

26. **How likely are you to change your major in the future? \***

*Mark only one oval.*

- 1 = very unlikely to change
- 2 = a little unlikely to change
- 3 = not completely sure
- 4 = a little likely to change
- 5 = very likely to change

27. **Making a lot of money is important**

*Mark only one oval.*

1      2      3      4      5

---

Strongly disagree                  Strongly agree

28. **What would be an entry level salary range for someone with your major? \***

*Mark only one oval.*

- \$20,000 - \$30,000
- \$30,000 - \$40,000
- \$40,000 - \$50,000
- \$50,000 - \$60,000
- \$60,000 - \$80,000
- \$80,000 - \$100,000
- over \$100,000

29. **What would be the minimum wage at which you'd be willing to work at your first job?**

*Mark only one oval.*

- \$20,000-\$30,000
- \$30,000-\$40,000
- \$40,000-\$50,000
- \$50,000-\$60,000
- \$60,000-\$70,000
- \$80,000+

**After you have graduated from college, indicate what you consider to be an appropriate amount for each of the following**

---

please answer in increments of \$10,000. e.g. \$10K, \$20K, \$30K, etc.

30. **A very low salary if it equals to:**

---

31. **A low salary if it equals to:**

---

32. **A just sufficient salary if it equals to:**

---

33. **A good salary if it equals to:**

---

34. **A very good salary if it equals to:**

---

35. **Household income \***

What is your best estimate of your family household income? (relative to the state/country you grew up in)

*Mark only one oval.*

- Bottom 20%
- Second 20%
- Middle 20%
- Fourth 20%
- Richest 20%