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Does the Life-Cycle Theory Really Matter?

Saving and Spending Habits of College Students

A thesis presented by

Kaitlin Karlson

to the Department of Psychology

in partial fulfillment of the requirements

for the degree of

Bachelor of Arts

Connecticut College

New London, CT

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Abstract

This study looked at the financial behavior of college students and recent alumni as it relates to economic theory and the life-cycle hypothesis. With student loans increasing dramatically and credit card debt becoming more of a reality, it is critical to understand what drives financial stability or instability after graduation. The pool of 230 participants was composed of 174 women and 56 men, representative of eight years of graduating classes, 2009-2016, from Connecticut College. Students comprised 29.1% of the participants and alumni made up the remaining 70.9%. Participants completed a survey including three quantitative measures on credit card use, financial well-being, and attitudes toward debt, as well as an extensive demographic questionnaire regarding spending and saving habits. Results suggested that participants overestimated future salaries, making it difficult for them to smooth current consumption based on future earning as predicted by the life-cycle model. Debit and credit were not the primary methods of payment of the participants who reported a preference for using cash. Students who were confident financially were more responsible with their credit cards and more tolerant of debt. The life-cycle hypothesis, although a theoretically sound model, was not upheld by participants in this study.

Acknowledgements

This thesis represents the capstone of my college career, combining my passions for economics and psychology. Without a few key people, this work would not have been possible. *Thank you...*

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Does the Life-Cycle Theory Really Matter? Saving and Spending Habits of College Students

College students are money-spending machines. In addition to the tens of thousands of dollars students and their families spend on tuition, while on campus students also spend money on alcohol, clothing, food, and other activities. These consumption habits may seem harmless, but when combined with limited income, accumulating credit card debt, and large student loans, the deficit spending becomes detrimental to future financial well-being. According to Thaler and Sunstein (2008), "about two-thirds of four-year college students are in debt when they graduate" (p. 141). How people spend and save their money across their lifetime is supposed to be a rational act according to economic theory. The permanent income hypothesis, or life-cycle theory, assumes that people are able to smooth their consumption in accordance to income over their lifetime (see Figure 1): "According to the life-cycle hypothesis any change in wealth should produce an identical effect on consumption, no matter what is the source of the wealth change" (Wilkinson, 2008, p. 161).

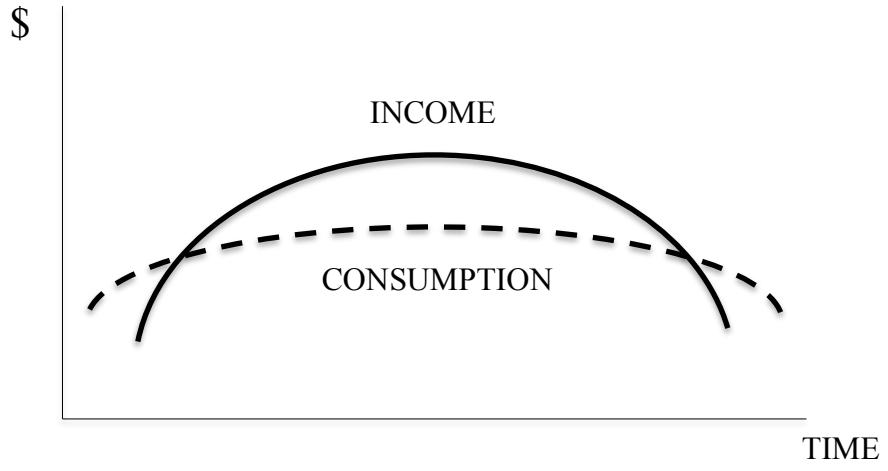

Figure 1. The life-cycle theory, also known as the permanent income hypothesis, shows the levels of income and consumption over time. Rational humans are thought to constantly calculate their level of income in order to smooth consumption.

As seen in the model, there are two periods of time where consumption level is greater than income level. Warneyrd (1999) explains that these periods of deficit spending are calculated, rational decisions, made so that people can smooth their spending habits: "[the life-cycle hypothesis] posits that consumers dissave[1] early in their lives in anticipation of future earnings, save when their earnings are high, and, finally, dissave again when they are older and earnings are lower" (p. 154). In theory, this pattern of consumption smoothing makes sense. During the early and late stages of life, people are typically unemployed or retired, with spending levels over their respective income levels: "People often wish to consume more than their income when they are both young and old, and therefore save most in their middle age" (Wilkinson, 2008, p. 261). The deficit spending in the adolescent and elderly years is balanced by a steady salary and pay increase during one's career. Controlling spending in this manner requires a degree of self-control and planning that is not only difficult for most people to achieve, but requires complex calculation: "these models assume that consumers have separate utilities for consumption in each period and that they use discount factors that weight future consumption less than current consumption" (Wilkinson, 2008, p.145). This means that changes in wealth, whether through increases or decreases in salary, investment gains, or bequests should result in adjusted consumption patterns.

This study explores the student loan and debt crisis through the lens of the life-cycle model. Analysis of the literature begins with putting the life-cycle hypothesis in the context of student loan debt, credit, and education. Aspects of spending on college tuition include financial aid, decisions regarding selecting college majors and future careers, and navigating student

[1] To dissave, according to Warneyrd (1999), is a pattern in which consumers are spending greater amounts of money than they are earning. The points at which consumers are dissaving in the life-cycle hypothesis are at the far left and far right of Figure 1.

loans. In addition to academic behavior while in college, literature on the credit card debt puzzle is included in order to analyze spending behavior with credit cards. As the present study is focused on college students, literature concerning knowledge of personal finance, credit card use and misuse, and debt accumulation were included to increase understanding of the scope of the issue. Finally, studies regarding debt repayment after college attempt to identify predictive factors among recent graduates. These sections provide the groundwork for the hypotheses of the current study as well as policy recommendations in the context of the results.

Debt, Credit, and the Life-Cycle Hypothesis

According to the life-cycle model, it is potentially rational to overspend while in college. The rationality behind deficit spending arises from the ability to calculate future periods of earning and saving in order to compensate for current and future spending. Many college students' deficit spending pattern may be attributed to a lack of education about financial matters or having a lower incentive to follow a budget. Although a pattern of deficit spending is deemed acceptable in accordance with the life-cycle model, as the college years can be considered a time when consumption should be greater than income, it is still possible for consumption to be too great for financial stability to be achieved in the future. In addition, a model of rational overspending assumes that there are calculated plans for the future and does not allow for ignorance of present and future finances. People may often be unrealistic in their perceptions of the job market in terms of hiring frequency and what their salaries will be in the future, and as a result, often fail to make these adjustments. Soman and Cheema (2002) argued that, "consumers are unable to correctly value their future incomes, and that they lack the cognitive capability to solve the intertemporal optimization problem required by the life-cycle hypothesis" (p.32). A

lack of ability to determine future income is a direct contradiction of the assumptions within the life-cycle hypothesis, and is further complicated by the use of credit.

The introduction of credit and debit cards to the consumption market has complicated the way in which people spend money. Vyse (2008) claims that the easier and more efficient it is to spend money, the more difficult it will be to resist spending. Standard economic theory states that wealth and assets are fungible and that people always act in order to maximize their utility (Wilkinson, 2008). Fungibility of assets means that units of money are equivalent to each other, or in other words, a dollar spent in one place is equivalent to a dollar spent somewhere else. This may be the economically rational way to treat money, but people often fail to accept the assumption of fungibility and instead split consumption into different mental accounts: "Mental accounting is the system (sometimes implicit) that households use to evaluate, regulate, and process their home budget. Almost all of us use mental accounts, even if we're not aware that we're doing so" (Thaler & Sunstein, 2008, p. 50). The way in which people use their credit cards is one example that challenges the model of fungibility. Credit and debit transactions should yield the same preferences as cash, but willingness to pay increases significantly when paying with credit (Wilkinson, 2008). When paying with credit or debit, there is less of a physical connection to the amount of money paid, resulting in a lower awareness of the amount of money spent. According to Vyse (2008), it is easy to forget about the past purchases made with a credit card because the money never leaves your hands. This psychological separation from spending creates a high-risk financial situation because if people are not aware of their spending habits, or are less aware due to minimized physical and emotional connection to spending, they may rack up debt that lowers financial stability in the future.

An article published in *Christianity Today* (Blue, Stackhouse, & Hunt, 2011) discussed the recent charge-happy tendencies in the current market. While not a scientific article, popular beliefs surrounding credit cards are expressed through the three authors' past research and experiences. Each author provided his or her own separate commentary about the current tendency to rely on credit when making purchases and what this means for people in the long run. In the article, Blue (2011) claimed that, "some of the more common issues that lead to credit card debt include a lack of contentment, a lack of self-discipline, the search for security, and the search for significance" (p. 64). Stackhouse (2011), on the other hand, acknowledged that, although credit can be beneficial in many situations, accumulating large amounts of debt is detrimental and financially dangerous. He discussed the easy accessibility and detachment people feel from the actual monetary amount, leading to increased spending and lowered awareness. Hunt (2011) mirrored these same sentiments in her column, concluding that spending within ones means on credit is not a bad thing; in fact, it can build the good credit necessary to make a major purchase in the future, but racking up debt creates financial instability.

In college students, the problem is far from limited to the patterns of deficit spending and use of credit cards. Recent headlines in *The Wall Street Journal* and *The New York Times* have announced that student loan debt is higher than it has ever been, the job market is down, unemployment rates are up, the economy is still unstable, and using debt for purchases is becoming more common. According to Indiviglio (2011) student loans had increased by 511% from their levels in 1999: "In the first quarter of 1999, just $90 billion in student loans were outstanding. As of the second quarter of 2011, that balance had ballooned to $550 billion"

(Indiviglio, 2011). In addition, student loan debt has increased at a faster rate than household debt (see Figure 2).

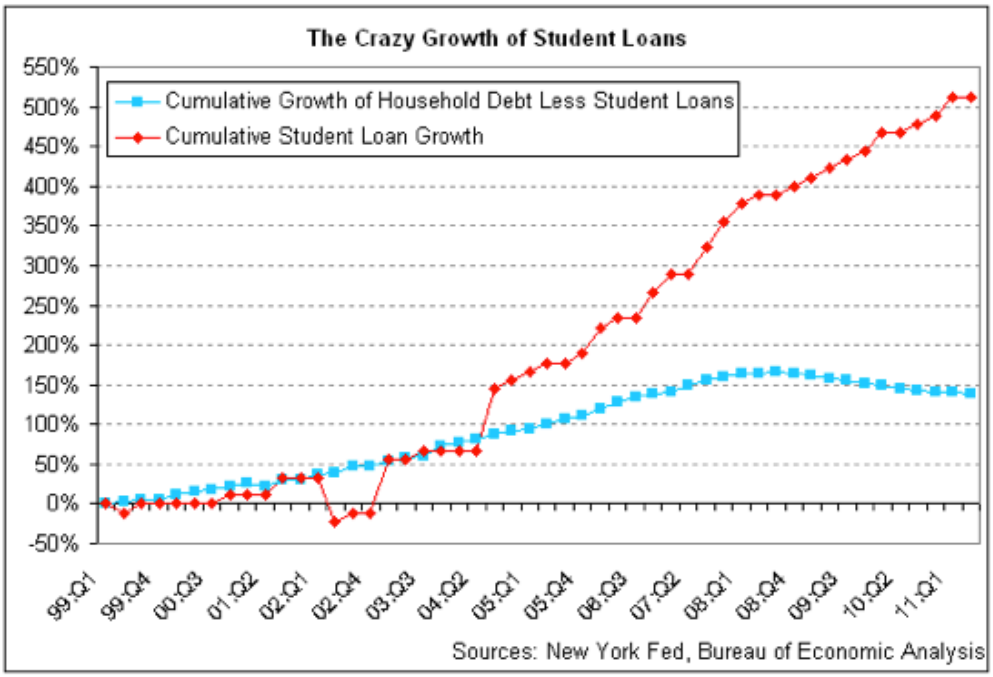

Figure 2. Data from the New York Federal Reserve show that the cumulative student loan growth since the first quarter of 1999 has increased by over 500% from the levels reported in quarter one of 2011. In comparison, cumulative household debt (not including student loans) has increased by less than 150% in the same period. Proportionally, the growth in cumulative student loan debt is greater than the growth in cumulated household debt (Figure is taken from Indiviglio, 2011).

What may be most interesting about this chart is that it is inclusive of the housing bubble that was a consequence of the collapse of the financial sector in 2008. This shows the magnitude of the growth in student loan debt; if a spike of 150% in the debt of the household debt[2] was a precipitating factor in the financial crisis, a spike of 511% in student loans is bound to be

[2] Household debt included mortgages, loans, and consumer debt. In order to provide analysis, the numbers for household debt do not include student loans.

problematic in the future. The combination of credit card debt and student loan debt both play an important role in determining future financial stability.

Education and the Life Cycle Hypothesis

As previously mentioned, the life-cycle model hypothesizes that people will rationally overspend at the beginning and ends of their lives. Students fall into the prior category, generally being unemployed, and therefore, cash outflow is generally greater than cash inflow. Because of this, it is necessary for people's incomes to increase past consumption rates both to repay debt that may have accumulated at the beginning of life and save for the point in the future where consumption will once again overtake income. Warneyrd (1999) defined saving as: "saving, to an individual, is not simply what is left after consumption—consumption postponed so that it can be used at a later date. Rather saving is often a vote of confidence in the future and an activity that involves both the pain for foregoing consumption and the pleasure of an anticipated future" (p. 153). The vote of confidence in the future refers to the saving levels at the midpoint of the life-cycle model, because the increased saving levels indicate that one must expect to be around to spend the savings in the future.

A common saying in businesses is, "you have to spend money to make money," advice that is also applicable when considering higher education. Students currently enrolled in colleges or universities are spending large amounts in tuition costs in the hope that the education they attain will create greater salary opportunities in the future. The life-cycle hypothesis accounts for education spending, with consumption greater than savings for the first stages of life. McMahon and Wagner (1981) investigated the expected returns to investment in higher education in terms of future earnings. The researchers analyzed expected earnings data from 2,766 freshmen from 1971 to 1972, all of whom were financial aid applicants, which included

estimated starting salaries and estimates of real earnings expected in 25 years. The starting salaries were gathered from the College Placement Council, and, when there were data gaps, from organizations directly. By inquiring about future expected earnings, McMahon and Wagner (1981) attempted to capture the ability of college students to assess the financial payoff of investing in a college education.

Those students planning to continue their education past the bachelor's degree level expected a rapid increase in earnings, and that predictions of future earnings varied more than predictions of earnings immediately post-graduation. In an analysis of expected starting salaries across intended occupation, McMahon and Wagner (1981) found that students were reasonably aware of the market in terms of relative differences in earnings and do not seem to be swayed by the salaries of young alumni. Participants who selected into certain majors were realistic about future earning potential: "those anticipating careers in health, business, or engineering and technical fields correctly expect relatively higher salaries than their peers who have selected social science, teaching, and humanities" (p. 279). Analysis on demographic information allowed for insight into differences in gender and race. Men predicted higher future salaries than women, but they also reported going into fields with higher salaries than fields reported by women. In addition, McMahon and Wagner (1981) found that the data showed that race was not a factor in size of future earnings: "after controlling for sex, black students anticipate earning at least as much as white students, both initially and well into their working lives" (p. 278). These findings suggest that, at the time of this study, college students were fairly accurate in their evaluations of the future value of their education.

Smith and Powell (1990) provide an additional analysis of the expectations of future income among college students. Participants included 388 college seniors from two higher

education institutions in the Midwestern United States, the first a very competitive, large university, and the second a small, less competitive university. Participants were asked to report their expected starting salary and their expected salary in ten years, as well as comparable measures including the estimated average earnings of peers not attending college and estimated average earnings of peers at the same academic institution. Smith and Powell (1990) found that there was a general perception that obtaining higher education increases future salary: "College students clearly perceive there are large income effects associated with a college education, inasmuch as they anticipate that the incomes of their college peers will be approximately 50 percent higher than those of their high school peers" (p. 199). The researchers found a significant difference in expected earnings for men and women, with women predicting lower future salaries than men. This difference can be attributed to gender differences in academic major and future career aspirations. In addition, the characteristics of a college or university can have an effect on students' expected future earning potential, with higher estimations of earnings reported from the larger more competitive university (Smith & Powell, 1990).

Webbink and Hartog (2004) performed a longitudinal study that compared expected salary and realized salaries four years later. The basis of this study was the human capital model[3]: "students, in deciding on the amount of education, compare the outcomes of the different options and choose the option with the highest return" (p. 103). This indicates that future salary is one of the most important decisions for students when determining decisions regarding education and occupation. A longitudinal data set originally including 3,845 students in the Netherlands who were enrolled in higher education and were asked to report their demographic

[3] The human capital model or human capital theory is based on the assumption that investment in the current aspects of human capital (work, labor, skills) will increase productivity and income potential in the future. In this case, the model is being applied to investing in education, increasing knowledge that will pay off down the road (Webbink & Hartog, 2004).

information including current level of education, performance in secondary school, and current academic motivation[4]. Webbink and Hartog (2004) then estimated a regression model predicting starting and realized salaries on the basis of the demographic variables. Significant effects included sex, area of study, and academic performance. Females expected to earn less than males, certain areas of study result in greater income levels than others, and students who performed better academically also received higher incomes on average. These results show that students tend to be realistic about their potential income brackets in the future, particularly in how they relate to education levels.

Although students are shown to be relatively accurate in their expectations of future earnings, how much graduates actually earn tends to be partially determined by the academic credibility of the college or university attended and the quality of their performance within their major field. Thomas (2000) built on previous studies regarding students' expected earnings and education level by examining specific economic returns by college major and quality of performance during the undergraduate years. In his study, Thomas (2000) used data from the Baccalaureate and Beyond Study, the National Postsecondary Student Aid Study, and the Integrated Postsecondary Education Board's Annual Survey of Colleges[5]. The decision to attend college certainly garners a financial payoff, but in addition, "college graduates [are] less likely

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[4] Current academic motivation was measured using reported hours spent studying, attending class, and completing assignments (Webbink & Hartog, 2004).

[5] The data included information on education and work experiences following college graduation, information about applications and enrollments in colleges and universities, and general demographics. Individual variables included gender, race, parents' education, academic performance, transfers between colleges, and academic major. Experiences in the labor market included variables like career potential, whether a degree was required for a job, the relationship between current job and field of study, whether a job was in the public or private sector, the number of offers received, hours worked, and tenure at the position. On the institutional level, variables included the selectivity of the college, student-faculty ratio, full time enrollment, geographical location, and whether the academic institution was public or private (Thomas, 2000).

than high school graduates to experience periods of unemployment, but they also enjoy significant wage premiums over their lifetimes" (Thomas, 2000, p. 282). These returns are desirable in terms of the human capital model explored by Webbink and Hartog (2004); the profits over the course of a lifetime make the initial costs – direct cost and opportunity cost – of an investment worthwhile.

Thomas (2000) found that the average debt accumulated in terms of paying for college or university was relatively similar across academic fields. When looking at the debt-to-earnings ratio[6], however, natural science majors had a much lower debt to earnings ratio than did humanities or social science majors. Although the difference in ratios could theoretically be attributed to differences in either debt or earnings, Thomas (2000) found that debt was relatively similar across all disciplines and it was the difference in the mean earnings that affected the ratios. According to Thomas (2000), "debt ratios are commonly used in reports addressing student indebtedness…surveys of borrowers suggest that those who have debt ratios of 1.0 and greater face a formidable financial burden that often compromises financial well being" (p. 293). Achieving a degree from a college or university is becoming an increasingly expensive process, and students justify spending money on higher education because it will pay off in the long run in terms of employment, salary, and benefits. As debt-to-earnings ratios creep up for certain majors, college graduates are not earning enough money immediately after graduation to support themselves and pay off loans. Thomas (2000) suggests that changes in policy surrounding who pays what for higher education may make it easier for recent graduates to pay off loan debt, and that education for indebted students about the future earnings potential of academic majors may influence the future career choices of indebted students.

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[6] The debt-to-earnings ratio is a numerical value that captures the proportion of average student loan debt at graduation to average annual earnings (Thomas, 2000).

College Tuition and Financial Aid

The price of college tuition is steadily rising to new levels. According to Thaler and Sunstein (2008), "At many private universities, including ours, it costs a student more than fifty thousand dollars a year in tuition, room, and board. Scholarships and part-time jobs typically do not cover the cost of college" (p. 140-141). The total cost of attending Connecticut College was set at $56,790 in 2012, which values a four-year degree at over $200,000 (Connecticut College, 2012). The average financial aid grant for those receiving financial aid was $30,390 per semester, a number that substantially reduces the immediate cost of attending Connecticut College, but—because most financial aid is in the form of loans—leaves graduates with a huge amount of debt. Baum and O'Malley (2003) analyzed Nellie Mae's National Student Loan Survey (NASLS) to study the effect of debt on recent college graduates. Nellie Mae is a subsidiary of Sallie Mae, a corporation operating in the student loan business. The original NASLS conducted in 1988 concluded that, "an overwhelming majority of borrowers believed student loans significantly increased their access to and choice among postsecondary institutions, and most borrowers believed the benefits they received from a college education were worth the costs of student loans" (p. 7). This holds with both the life-cycle model and the human capital model regarding future payoffs from a current investment.

As student loans have skyrocketed since 1988, another NASLS was conducted in 2002, designed to measure the debt burdens on students (Baum & O'Malley, 2003). In their analysis of the 2002 NASLS survey, Baum and O'Malley reported that the sample included students who had begun, but not completed, payments on federal student loans. Participants were asked to complete a survey that included questions about demographics, debt levels, extent of debt burden, attitudes toward debt, and impact on ability to purchase a home or car. Debt levels were

higher at four-year institutions than two-year institutions and participants who completed their degrees owed more than those who did not (Baum & O'Malley, 2003). Debt levels also increased for those who went on to pursue graduate degrees compared to the levels observed among undergraduates. Although participants reported believing student loan debt was an acceptable burden to carry in return for the education received, participants also reported concern over excessive debt. Baum and O'Malley (2003) concluded that graduates perceived that their loans caused, "delays in home purchases, getting married, and having children" (p.17). The average student loan debt increased dramatically from freshman to senior year of college while credit card debt increased at a much lower rate, ultimately representing a relatively small portion of the overall debt (see Figure 3). With analysis showing that debt levels are making it more difficult for recent college graduates to achieve their goals, it is important to determine what is an acceptable level of college debt.

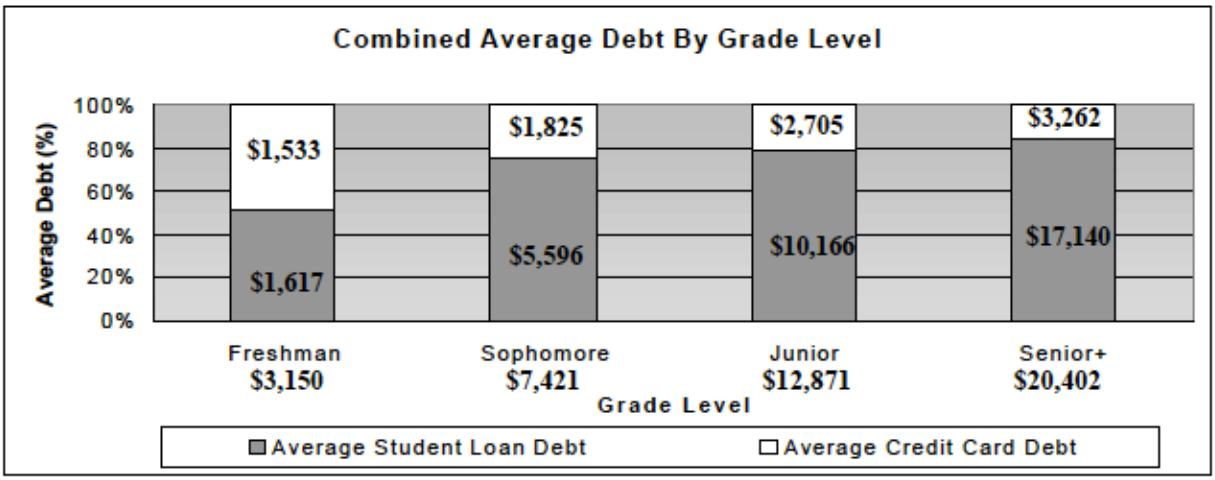

Figure 3. The combined average debt by grade level, as shown in percentage of average student loan debt and average credit card debt, increases throughout the college experience. These values are in nominal dollar amounts in the year 2002. Proportionally, average student loan debt is greater than average credit card debt. Nellie Mae (2002).

Financial aid is designed to allow a student to spend more time preparing for the classroom than working to pay tuition fees. It also allows students who could otherwise not afford the full sticker price of tuition an opportunity to attain higher education. DesJardins, Ahlburg, and McCall (2002) studied financial aid's influence on matriculation decisions as well as on length and persistence of enrollment of 4,800 students at the University of Minnesota. The researchers used a hazard model[7] to analyze how different types of financial aid impact retention and graduation rates, hypothesizing that different financial aid packages would have different effects on student attrition. Types of financial aid included in the packages were grants, scholarships, loans, and work-study.[8] DesJardins et al. (2002) hypothesized that the different types of aid would have different impacts on student retention rate; it was expected that scholarships and grants would have a larger impact on positive retention than other forms of aid.

Controlling for ability using ACT[9] scores in order to determine whether students of a certain academic prowess would be more likely to receive a form of financial aid, DesJardins et al. (2002) found that different types and combinations of aid packages affected the "stopout rate"[10] and the persistence to continue to a degree. Scholarships are the most effective when compared to grants, loans, and work-study, in that students remain in college without a stopout

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[7] Hazard models, specifically proportional hazard models, are statistical models that estimate conditional probabilities over time. The model is a type of regression analysis that in this case attempts to highlight the factors affecting retention and graduation rates (DesJardins et al., 2002).
[8] Grants are need-based awards that do not require repayments. Scholarships encompass a wide variety of merit-based awards that are often dependent on a performance variable, for example, to continue receiving an athletic scholarship, a student must continue to perform well on the team. Loans include both federal and state loans with interest rates that must be repaid in the future. Work-study is a type of aid that permits a student to work at his educational institution in exchange for an hourly wage (DesJardins et al., 2002).
[9] ACT stands for American College Testing and is a standardized test used as a measure to predict future performance in college.
[10] The rate at which students withdraw from an educational institution prior to graduation (DesJardins et al., 2002).

incident for longer. The only form of aid that did not seem to have an effect on stopout behavior was grants: "[G]rants may allow students to attend college, at least at the study institution variations in grants do not have a statistically significant effect on retention" (DesJardins et al., 2002, p. 669). Using these findings, the researchers conducted further policy simulations in order to suggest future potential changes. These simulations were 1) survival rates with no financial aid, 2) a reallocation of loan aid to scholarship aid, and 3) frontloading scholarships to the first two years of study. Survival rates with no financial aid were four percent lower than survival rates with financial aid. When loans are replaced with scholarships there is an increase in retention, a positive difference. Frontloading aid decreases stopout incidents in the first two years of study but results in no significant difference in the second two years when compared to the baseline (DesJardins et al., 2002). The findings of the research concluded that increased financial aid, no matter what the type, led to fewer dropouts, and loans led to a longer persistence in school than did scholarships or grants.

Major and Career Decisions

As discussed in the previous section, college students' are well aware of how education level and career choices may determine the amount of money they will make in the future. Personality factors may be related to how decided one is about his or her future career path, but they also come into play when deciding what major to select in college. Cebula and Lopes (1982) studied the monetary and nonmonetary factors influencing the selection of a major field. They assumed that students were rational in that they understood current labor market conditions as well as the current income levels and fluctuations. The enrollment data from students in 28 areas of study at the Illinois State University was studied in terms of monthly earnings, change in

monthly earnings, current trends, job outlook, and score on the GRE[11]. Comparison salaries were collected from the College Placement Council, which compiled monthly salary offers students received from recruiters (Cebula & Lopes, 1982). Economic analysis of the data showed that all of the aforementioned variables affected the choice of major, but that students were strongly influenced by future salary levels.

Assuming that humans are rational beings and the life-cycle model is valid, the amount of money spent in college will depend on the salary level expected in future years. The life-cycle hypothesis, as thus described, requires that people constantly analyze and discount their spending and earnings. Chambers et al. (1999) studied personality traits on career decidedness and life satisfaction. The "Big Five" personality constructs have been established as neuroticism, extroversion, openness, agreeableness, and conscientiousness. Participants included 249 undergraduates who were asked to fill out a survey for course credit. Measures included the Career-Decidedness Inventory, the NEO Five-Factor Inventory to measure personality traits, and the Personal Style Inventory, which also measure personality characteristics in relation to the "Big Five." Chambers et al. (1999) found that career decidedness was negatively related to neuroticism and positively related to conscientiousness and agreeableness. The negative correlation indicates that high career decidedness is indicative of high levels of neurotic behavior, while the positive correlation means that high career decidedness was indicative of high life satisfaction, conscientiousness, and agreeableness.

A recent study by Rothstein and Rouse (2011) examined the effect of student debt on academic decisions and future employment. Standard economic theory states that, "in a standard

[11] GRE stands for Graduate Record Examinations, which are used by graduate level schools to determine achievement at the undergraduate level.

life-cycle model, student debt has only an income effect[12] on career and other post-college decisions, [but] as debt is unlikely to represent more than one percent of a college graduate's lifetime earnings, we expect any such effects to be small" (Rothstein & Rouse, 2011, p.149). The authors challenge this economic assumption, using a difference-in-differences (DID) method[13] to compare career paths of students on financial aid with those who were not. If there was no significant difference between the major and career decisions of students on financial aid versus those who were not, then the life cycle theory would be upheld: the amount of debt accumulated while in college would have little effect on future career choices. Data for the study were gathered from the 1995-2002 administrative records from a highly selective, expensive, and competitive university. This university was in the process of reforming its financial aid policies, transitioning to a policy where loans were replaced with grants. However, the impact debt has on the early career decisions of college students is so significant that the income effect cannot possibly account for all of it.

In the DID analysis, Rothstein and Rouse (2011) found that increased debt aversion resulted in students opting toward high-salary jobs, even those with fewer benefits and amenities. Within the same analysis, the researchers found that whether or not a student was on financial aid affected outcomes in terms of post-graduate careers: "Aid recipients shifted out of industries with high average salaries and into lower-salary industries, while there was little change in the industry composition of jobs taken by students not on aid" (p. 156). Although this seems contradictory as students on financial aid will likely have loans to pay after graduation and

[12] The income effect in this case is a proportion of debt to the present discounted value of total lifetime earnings (Rothstein & Rouse, 2011).
[13] Difference-in-differences is an econometric technique that measures the affect of a treatment at specific points in time and allows for before and after comparisons (Rothstein & Rouse, 2011).

therefore may be driven to high salary positions, because financial aid reduced the overall cost of attending college aid recipients had the financial flexibility to not follow this route.

Additional analyses showed that debt levels had no effect on students' decisions to pursue graduate degrees. The authors suggest that in the standard economic view, "there is no reason to think that high levels of student debt represent a market failure that warrants intervention" (Rothstein & Rouse, 2011, p.162). This conclusion assumed that students were smoothing their consumption and were entering into larger amounts of debt because they expect larger earnings and savings in the future. However, Rothstein and Rouse (2011) found college students' post-graduate decisions are affected by the amount of debt with which they graduate: "College debt affects post-graduation employment decisions: students with more debt are less likely to accept jobs in low-paying industries and accept higher-paying jobs more generally" (p.162). Students' debt not only can affect major decisions and career path, but it could also influence how easily they will be able to take out loans in the future if the debt has not been repaid.

Loans, Loans, and More Loans

As higher education expenses rise, students and their families must find alternative ways of affording higher education. Although the increase in tuition is a large part of the current student loan crisis, Burdman (2005) argues that the escalation of debt is also due to a shift in the financial aid system. Students often take out loans to attend college because, as previously discussed, they expect the return on their education to be greater than what they are spending. Loans have given many people, who otherwise would not be able to afford it, the chance to achieve an advanced degree, therefore opening doors to new opportunities. However, according to Burdman (2005), the number of loans and the amount borrowed within the financial aid

system has increased: "Since the early 1980s, student financial aid has quietly been transformed from a system relying primarily on need-based grants to one dominated by loans" (p. 2). This shift has resulted in larger student loan debt after graduation, and, in many cases, has limited the options of attending college for many students from low-income families. These students opting to not take out significant loans in order to attend college are referred to as loan-averse. Through her analysis, Burdman (2005) explores loan aversion's role in the financial aid market and suggests specific policy changes to increase the tolerance of future debt.

Loan aversion, a subset of debt aversion in general, is the avoidance of taking out loans because of the burden that it would put on the borrower. For some people, loans are a disincentive to attend college because they may increase future financial burdens. Bridget Burns, a graduate student and member of the higher education board at Oregon State University claimed, " 'Grants actually give people an incentive to go to school, and loans are a disincentive. That's a problem when you're trying to promote access. Loans alone just don't do the job'" (Burdman, 2005, p. 6). The decision to take out a loan, especially for low-income families, is not an easy one, and many students choose to forgo higher education because they are unwilling to borrow. According to the American Council on Education, many students who would qualify for loans and federal aid do not even apply for it when exploring how to pay for college (Burdman, 2005). This failure to apply is often due to the unnecessarily complicated applications (Thaler & Sunstein, 2008). When these low-income students do apply and receive loans, they sometimes do not take full advantage of the loans and aid awarded. Loan aversion reflects the doubt in the market in terms of making a sufficient income in order to repay loans in the future. Regarding future policy changes, Burdman (2005) recommends that there be 1) more financial aid options

for low-income students, 2) more efficient loan repayment programs, 3) more education about financial aid, and 4) more options for part-time higher education.

Credit Card Debt Puzzle

In order to balance consumption and income, many people revolve debt on their credit cards in order to smooth consumption. Revolving debt refers to the tendency for people to maintain a balance on their credit card in order to avoid periods of high spending and periods of no spending. According to Bertaut, Haliassos, and Reiter (2008), "the life-cycle stage of young households would seem to favor the use of a credit card, given that it offers the possibility for consumption smoothing through revolving debt" (p. 679). The credit card debt puzzle is the inclination for people to keep high, unpaid balances on their credit cards at a high interest rate while still holding liquid assets. Economically it makes more sense to pay off credit card debt with current liquid assets because the interest rate on credit card debt is significantly higher than the level of interest that one would accumulate with liquid savings in a bank: "Using the money from the savings account to pay off the credit card debt amounts to what economists call an arbitrage opportunity – buying low and selling high – but the vast majority of households fail to take advantage" (Thaler & Sunstein, 2008, p. 51).

Bertaut et al. (2008) looked at the self-control aspect of holding a balance on one's credit card. Although it may not seem logical, credit card holders may fail to pay off their balances in full in order to prevent themselves from running up the balance month after month: "In deciding how much credit card debt to revolve, the accountant takes into consideration all standard factors (e.g., life-cycle, precautionary, borrowing constraints, etc.) but also that a higher unpaid balance leaves less room to the shopper for charging on the credit card" (Bertaut et al., 2008, p. 659). In other words, people believe that holding debt at a high interest rate will cause them to spend less

than they would if they had access to their full credit card limit every month. In addition, people may keep credit debt instead of paying it off with liquid assets because they may need their savings if credit is no longer available (Telyukova & Wright, 2008). People see liquidity as an asset to be used in the case of unexpected expenses; in other words, liquidity provides a sense of security.

Banks make money by charging their customers interest on unpaid debt. They issue credit cards with limits partially determined by current income and savings, and apply fees and interest charges for late payments. As debt carries over month-to-month, interest stacks up as interest owed becomes part of the balance accrued and the credit card holder ends up paying interest on interest. Vyse (2008) reports that, "interest, late fees, and annual fees are a major source of income for the credit card companies, so the banks have an incentive to encourage customers to maintain high balances without defaulting" (p. 100-101). Bertaut et al. (2008) found that, "although revolving of high-interest credit card debt could simply reflect a need to borrow due to limited finances, almost a third of credit card debt revolvers also have liquid assets that exceed their card balance" (p. 661). Because of this, it would be feasible for people who revolve their debt to pay it off monthly. Instead it seems that people are reluctant to lower the levels of their liquid assets, and are willing to tolerate accumulated interest in order to hold on to liquidity: "Households who revolve credit card debt appear to have target utilization rates of their credit card limits rather than a specific amount of debt necessary to finance consumption needs" (Bertaut et al., p. 688-689). This tolerance for debt is concerning, especially among college students and recent graduates who may not realize the extent of debt they have accumulated, the difficulty of paying off credit card debt, and the potential damage to their credit score.

Knowledge of Personal Finance

College students are generally inexperienced at managing their money. Whether due to lack of education about money management practices or little capability of estimating future expenditures and income, college students often find themselves accumulating huge amounts of credit card debt before graduation. Henry, Weber, and Yarbrough (2005) distributed a 13-item questionnaire to students taking education courses at the University of Louisiana at Lafayette. The only questions directly relating to budgeting and money management were employment status, number of jobs, estimated yearly income, and an open response describing budgeting practices. The researchers found that students either did not understand how to manage their money or had little desire to make the effort to do so. Although few students kept to a written budget, Henry, Weber, and Yarbrough (2005) did find that women were more likely than men to have a budget and that keeping and following a budget becomes more of a habit with age. This pattern is concerning because maintaining a budget is an important skill to have when living independently post-graduation, and a lack of money management skills could lead to financial crisis.

Chan, Chau, and Chan (2012) looked at the relationship between financial management and financial well being in college students at Hong Kong universities. Because freshmen, especially in Hong Kong, are prime new clients for many credit card companies, spending often gets out of control. Students' new financial independence can lead either to improved financial responsibility in terms of saving, paying bills, and following a budget, or it could lead to the start of a long run of debt. One answer has been to educate college students about financial responsibility, and Chan et al. (2012) wanted to determine whether financial education was actually related to the behavior of college students in Hong Kong. In a survey of 821

participants, the researchers posed questions about personality, attitude toward money, tolerance of debt, and perceived financial knowledge. A combination of open response and index questions provided a qualitative and quantitative approach to the analysis. Chan et al. (2012) found that although students did not seem to be struggling with financial difficulties in terms of accumulating debt, they did report a significant amount of financial stress and reported spending a great deal of time working outside of school to make money. This pattern is applicable to the population in the current study because with tuition increases and uncertain economic environment, there may be greater pressure to find a job while still attending Connecticut College in order to achieve financial stability.

In a study of college students in the United States, Robb and Sharpe (2009) looked at levels of financial knowledge and how they affected credit card behavior. Acknowledging that credit card companies target college students as new clients is again an important factor in determining accessibility and salience. For credit card companies, college students are a young and potentially profitable sector of clients because they are likely to start accumulating debt and paying fees. According to Vyse (2008), "my students, most of whom are still a few years away from full-time work, are flooded with credit card offers" (p. 12). It is not a bad idea for college students to maintain a credit card in order to establish good credit, but there is no need to possess multiple cards in order to do so. Vyse (2008) claims that credit card companies use aggressive strategies and incentives in order to attract a younger consumer base: "[B]illions of credit card applications are mailed out each year offering introductory 0 percent APR[14] and other inducements to attract customers. College students fresh out of high school, many of whom have little or no income are aggressively solicited" (p. 100).

[14] APR stands for Annual Percentage Rate and refers to the interest rate on a card for the entire year rather than from month to month.

Robb and Sharpe (2009) wanted to determine what factors might predict responsible or irresponsible credit card use, honing in on financial knowledge as a key variable. In order to achieve a wide sample, the researcher sent an online survey to three sectors of the student population: undergraduate, graduate, and professional. The dependent variable was the decision to hold, or revolve, a balance on one's credit card from month to month. Independent variables included multiple measures of financial knowledge and attitudinal variables. Robb and Sharpe (2009) found that approximately a third of their sample kept a revolving balance, therefore paying interest on the value held on the account. Key findings included that the level of financial knowledge did not predict carrying a balance, and "being financially independent was positively related to carrying a revolving balance, and was associated with higher log balances" (Robb & Sharpe, 2009, p. 32). This outcome is interesting because although being financially independent requires greater responsibility, the pressure and stress of doing so seemed to lead to an increased need to rely on credit.

One of the challenges that college freshmen face is the financial separation from parents. Developing responsibility for and an understanding of personal finances can be intimidating and challenging when added to the social demands of freshman year. Kidwell, Brinberg, and Turrisi (2003) looked at attitude, affect, past behavior, and perceived ability in relation to students' budgeting. Using a sample of university students, all taking introductory psychology, the participants were given questionnaires measuring a range of behavior from maintaining a financial budget to level of impulsivity to normative influences pertaining to finances. The study found that money management attitudes were correlated with one's cognition, affect, employment status, and financial situation. Cognition referred to thoughts regarding budgeting behavior while affect refers to the emotions participants attached to finances and budgeting.

Kidwell et al. (2003) found that personality variables like having an internal locus of control or impulsiveness can have strong relationships with the way one spends money. The researchers also found that monetary parental support and students' expectation of parental support affected how careful students were in budgeting.

Credit Card Use and Misuse

The introduction of credit cards into the global economy has drastically reduced our ability to control spending. Credit card companies market to college students in order to take advantage of young spenders and develop a consumer base for future years. Hayhoe, Leach, and Turner (1999) examined the relationship between money attitudes and the number of credit cards held by college students. The scales in the questionnaire included the Money Beliefs and Behavior Scale measuring money attitudes, a scale measuring perceived economic well-being, as well as questions regarding credit card use. The fewer credit cards students reported holding was related to higher obsession with and retention of money, as well as a lower affective credit attitude[15] (Hayhoe et al., 1999). A significant number of credit cards, in this study more than four, were correlated with high affective attitude toward credit card use.

In a continuation of the 1999 study, Hayhoe, Leach, Turner, Bruin, and Lawrence (2000) examined the effect of gender on credit card attitudes and use. A sample of 480 students filled out surveys containing the Affective Credit Attitude Index, questions about the variety of purchases, financial practices, and financial stress. Using seven regression analyses, the researchers controlled for age, income, residence, marital status, gender, affective credit attitude, number of credit cards with a balance, number of credit cards with a maximum balance, number

[15] Affective credit attitude is a subset of the credit attitudes survey and measures the emotional connection to credit. High affective credit attitude is a positive emotional attachment to using credit while a low affective credit attitude signifies low attachment (Hayhoe et al., 1999).

of credit cards in total, and financial stressors. Hayhoe et al. (2000) found that students with higher affective credit scores spent more, with women spending primarily on appearance items and men spending primarily on leisure items. This gender difference suggests that men and women, although they do not differ significantly in debt levels or quantity of credit cards held, gain utility from different areas of spending.

Moore and Carpenter (2009) focused on how the money attitudes of college students affected their behavior in terms of credit card use. This study furthered Roberts and Jones' (2001) study on money attitudes, where they used a scale measuring the anxiety, power and prestige, and distrust surrounding college students' expenditure. Moore and Carpenter (2009) sought out participants from upperclassmen majoring in a business-related field. Measures included a money attitude scale, a financial practices scale adapted from Hayhoe et al. (2000) and used in this study, and a credit card usage scale adapted from Roberts and Jones (2001), also used in the present study. The researchers found that students' attitudes toward money were directly related to their credit card use. Higher scores on the subscales of power and prestige, as well as anxiety, increased the likelihood of negative credit card use, meaning overspending and delinquency in paying bills, among students.

As the number of college students owning credit cards has increased, so has the amount of credit card debt among students. These changes have spurred research into both the spending habits of college students as well as the levels of credit card debt that students incur. Holub (2002) compiled a summary of studies by Nellie Mae, the U.S. General Accounting Office, The Education Resources Institute (TERI), and The Institute for Higher Education Policy (IHEP). The Nellie Mae study in 2000 looked at credit card ownership among students applying for loans through Nellie Mae (Holub, 2002). This study showed that the just over 50% of undergraduate

students held a credit card, whereas, 95% of graduate students owned a credit card. Most students, as reported in the U.S. General Accounting Office's 2001 study, reaped positive benefits from their credit card use (Holub, 2002). These benefits included flexibility in spending, building good credit, and establishing financial responsibility. However, Holub (2002) found that the TERI/IHEP surveys revealed far more disadvantages than advantages for college students owning credit cards. Students who relied on credit to help balance school spending with respect to tuition and textbooks were far more likely to get stuck revolving balances than were students who did not rely on credit. The TERI/IHEP survey done in 1998 found that recipients of student loans were more likely to revolve their credit card balance than were undergraduates with no loans (Holub, 2002).

A 2002 study by Nellie Mae analyzing credit card usage rates and trends provided a further snapshot of credit card use among college students (Nellie Mae, 2002). The survey found that the percentage of undergraduates who held credit cards increased significantly after freshmen year, supporting the suggestion that credit card companies target college freshmen. Although the average credit card balance declined from 2000 to 2002, there was still a cause for concern because the level of debt, from both education loan and credit card balance, for graduating students was still significant (Nellie Mae, 2002). As students progressed through school, both their average credit card debt and average student loan debt increased (see Figure 2). According to Nellie Mae's 2002 study, "[s]tudent loans are designed for student borrowers, providing payment deferral during college while most students have little to no income" while "[c]redit cards are designed for people with income…[who can] make payments every month" (p. 5). This pattern suggests the danger in racking up credit card debt while still in college, when students often do not have the means to pay balances in full at the end of each month.

Factors Contributing to Debt Accumulation

Norvilitis, et al. (2006) looked at the effect of personality factors, attitudes toward money, and overall financial knowledge on the quantity and frequency with which college students hold credit card debt. Participants included 448 college and university students from across the continental United States. The majority of participants were sophomores, juniors, and seniors because the researchers wanted students who had accumulated debt. Surveys consisted of measures of financial status and credit card use, attitudes toward debt, financial knowledge, and stress. Norvilitis et al. (2006) found that only a third of students with credit cards pay off the balance in full monthly, meaning that two thirds are revolving debt. Financial knowledge was also pinpointed as an important factor in predicting future issues with debt: "It is one of the strongest predictors of debt and is also one of the most amenable to change" (Norvilitis et al., 2006, p. 1407). Increasing the amount of financial knowledge and financial information available to college students could reduce risk of accumulating credit card debt significantly. Other predictors of debt included number of credit cards, age, and attitudes toward spending. Most demographic variables like gender, grade point average, and hours spent working were not correlated with debt (Norvilitis et al., 2006).

In an earlier study, Norvilitis, Szablick, and Wilson (2003) looked at factors that affected how much debt college students accumulated. Knowing that college students were likely to hold credit cards, the researchers were hoping to isolate specific predictor variables of small and large amounts of credit card debt. All 227 participants were from SUNY Buffalo and were relatively evenly split across class years. Participants were given questionnaires asking about basic demographic information, the number of credit cards held, financial well-being, attitudes toward money, impulsivity, satisfaction, and locus of control (Norvilitis et al., 2003). One of the key

findings of the study was that, "students who request and receive credit cards from on-campus sources are in greater relative debt than are students who get their credit cards from other places" (p. 943). This finding implies that college and university administrators could be more active on campus in regard to credit card solicitors and their access to enrolled students. By increasing the number of hurdles between students and credit card companies, college administrators could discourage students from opening new credit accounts. One way to do this is to prevent banks from signing students up for cards immediately and instead require the students to contact the bank again at a later date. According to Vyse (2008) by creating this cooling-off period, it may cause students to re-evaluate their needs: "Cooling-off periods are another kind of asymmetrical program designed to help people do what is in their long-term interests" (p. 296). Students who possessed a large amount of debt were stressed about paying off the debt in the future, but other personality and attitudes toward money factors did not seem to be related to levels of credit card debt.

Although there is a trend of debt accumulation among college students, not all students fall into a debt trap. Leclerc (2012) explored the factors contributing to spending habits and credit card debt in college students, attempting to isolate specific risk factors. Among the elements surveyed were availability of credit, financial knowledge, social pressures, academic performance, financial aid, and family income. Not only are credit cards easily obtained, but they also function as a way to develop financial independence, whether or not an individual is prepared to take on the responsibility. Owning a credit card increases the psychological ease of spending, and "[s]tudents feel better about themselves and their social well being if they can purchase items like electronics and designer clothing that raise their social status" (Leclerc, 2012, p. 150). Family structure surrounding spending, debt, and financial knowledge is also a

key factor in predicting future behavior. Students who are exposed to a culture where it is acceptable to overspend and carry large amounts of debt may be at greater risk for following similar patterns themselves. Parental involvement in financial education in terms of credit cards and debt is crucial: "Students who had a lower credit card balance were more likely to be educated by their parents about proper spending and credit debt" (Leclerc, 2012, p. 152-153). Interestingly, academic performance was also correlated with the level of credit card debt, with high academic performers carrying lower levels of credit card debt than lower academic performers (Leclerc, 2012). Although the relationship between academic performance and credit card debt is strong, in order to strengthen the causal chain one must look at the relationship between academic performance and personality, as well as the tendency to accumulate credit card debt. There are likely other factors contributing to this relationship including self-control.

Predicting Debt Repayment After College

Ho Ha and Krishnan (2012) looked at factors predicting repayment of credit card debt, using survival analysis to look at who succeeds in recovering from credit card debt and who does not. The researchers attempted to predict credit delinquency in retail stores. Credit delinquency, or making late payments resulting in accumulated debt, was measured using factors like how often a customer makes delinquent payments, how long debt is outstanding, the level of unpaid debt, and the frequency of eventual repayment. Ho Ha and Krishnan (2012) found that in terms of debt recovery, "the number of purchasing months and the average frequency of repayments were the most predictive variables" (p. 773). Although this study was focused on minimizing risk for retail stores in terms of dealing with delinquent credit card users, the strong predictor variables identified by the authors could shed light on important strategies recent graduates could employ to recover from potential credit card debt.

This analysis of the literature summarizes how financial aid and loans, future career choices, money management skills, and credit card use have affected students economically and socially. Building on the previous literature, the present study surveyed college students and alumni in an attempt to draw a connection between financial independence while in college and future debt and debt repayment, in addition to measuring adherence to the life-cycle hypothesis. If students and recent alumni were currently employing a pattern of deficit spending, their actions would be considered rational as long as they expected to make enough money to pay off that debt in the future. Through surveying both current students and recently graduated alumni, the present study captured two comparison demographics. This allowed for greater analysis of the life cycle hypothesis, focusing on the transition from a lack of steady income to the start of greater financial independence. Hypotheses are grounded in the theoretical framework of the life cycle hypothesis and the credit card debt puzzle, and consider additional factors that affect how and why people do not always adhere to predictions. By combining quantitative scales, current spending habits, and expectations in the future, the present study adds a new dimension to previous research.

Hypothesis 1. College students will overestimate the median starting salary and mid-career salary as predicted by the 2012-2013 PayScale College Salary Report (Appendix A). *Hypothesis 2*. College students will use credit or debit cards more frequently than they will use cash. *Hypothesis 3*. Students who have lower financial confidence will have greater irresponsible credit card use than those with higher financial confidence. *Hypothesis 4*. Students who report greater confidence in their expected starting and mid-career salary will have a higher debt tolerance while in college than will those who are less confident.

Method

Participants

This study included 230 participants obtained from the Connecticut College student body and recent alumni. The student sample consisted of 13 men and 53 women, 88% who identified as Caucasian. Eighty-four students opted to take the survey, but only 78.5% of these responses are included in the analysis due to response error and incompleteness. The useable data included 66 students: 17 freshmen (class of 2016), 17 sophomores (2015), 8 juniors (2014), and 24 seniors (2013). Current Connecticut College students were self-selected from the Psychology 101 and 102 research pool during fall and spring semesters. Students enrolled in these courses received 30 minutes of research credit for participation in the study. The introductory psychology subject pool consisted primarily of freshman and sophomores who have an interest in psychology, so the sample may not be representative of the college as a whole. Some current students opted to take the survey in the library during finals week in exchange for a small incentive, i.e. a piece of candy, in return for their participation.

Alumni participation was obtained by sending an email through the Office of Alumni Relations at Connecticut College. This office does not distribute alumni emails to avoid solicitation, but was willing to have its own staff send out the survey via email. Alumni from the classes of 2012, 2011, 2010, and 2009 were sent a message asking them to participate in the survey (see Appendix B). The response rate for alumni was 10.1%, but only 81.2% of these responses were included in the study due to response error and incompleteness. The useable alumni responses consisted of 43 men and 121 women, 89% of who identified as Caucasian. Of the 164 alumni who responded, 40 graduated in 2012, 34 graduated in 2011, 52 graduated in 2010, and 36 graduated in 2009. Alumni self-selected into the study by clicking on the link

provided and completing the survey. Upon completion of the survey, alumni were entered in a raffle to receive a $30 gift card. All participants filled out and signed an informed consent document (see Appendix C) prior to participating in the study. Upon completion, they received a debriefing form (see Appendix D).

Materials

The survey consisted of three scales measuring attitudes toward credit cards and budgeting. Each scale was randomized within the survey to account for potential framing effects and other biases. After participants completed the survey, they filled out a demographic form.

Credit Card Use Scale (CCUS). This scale (Roberts, 2001) was a 12-item measure designed to assess the typical credit card use of a participant. Statements such as, "My credit cards are usually at their maximum limit" and "I worry how I will pay off my credit card debt" were scored on a five-point Likert-type scale ranging from strongly agree (1) to strongly disagree (5). Statements such as, "I always pay off my credit cards at the end of each month" and "I rarely go over my available credit limit" were reverse scored. Scores could range from 12-60 with higher scores representative of less responsible credit card use. Roberts (2001) reported a Cronbach's alpha of .81, and the obtained alpha in this study was .80 indicating high reliability.

Student Financial Well-Being Scale (SFWB). Lea, Webley, and Walker (1995) designed an eight-item scale to measure student perceptions of their own financial well-being. Rather than measuring attitudes toward spending, this scale focused on feelings of financial security. Statements like, "I worry about repaying my student loans" and "I think a lot about the debt I am in" were scored on a five-point Likert scale ranging from strongly agree (1) to strongly disagree (5). Statements like, "I think I am in good financial shape" and "One year from now I will not be in credit card debt" were reverse scored. Scores ranged from 8 to 40 with higher

scores indicative of lower financial confidence. Lea et al. (1995) reported a Cronbach's alpha for the Student Financial Well-Being Scale of .74 signifying good reliability. The present study obtained an alpha value of .82 indicating high reliability.

Student Attitudes Toward Debt Scale (SATD). This scale was adapted from that used by Lea, Webley, and Walker, (1995) and is designed to measure debt tolerance in college students. Originally a 17-item scale, 2 items deemed not applicable to college students were removed for the present study. Typical statements include: "Taking out a loan is a good thing because it allows you to enjoy life" and "Credit is an essential part of today's lifestyle." Questions were measured using a seven-point Likert-type scale ranging from strongly agree (1) to strongly disagree (7). Scores ranged from 15-75 with high scores suggestive of high debt tolerance in college students. Lea et al. (1995) reported a Cronbach's alpha of .79 showing good reliability while the present study obtained an alpha of .66 indicating moderate reliability.

Student/Alumni Demographics. Participants completed a demographic questionnaire at the end of the survey. Which demographic questionnaire participants received depended on whether they were current students at Connecticut College or alumni. Included in the demographic questionnaire were questions about race, gender, and class year in order to gather background information about the participant. Questions regarding major and minor, GPA, plans to attend graduate school, and estimates about future earnings were intended to show student perceptions of future lifetime income. Financial aid status was to be measured along with parental contribution to measure student contribution to college spending. Finally, questions regarding the level of spending and the means of payment gave another means of measuring budgeting and spending habits.

Procedure

Participants signed up for the survey either in Frederick Bill Hall, the Psychology department building, or through email. Psychology 101 or 102 students who wanted to receive course credit reported to the auditorium in Frederick Bill Hall or to the student center on the designated date and time to take the survey. Once each student arrived, participants were sent an email containing the link to the survey and were given as much time as they needed to complete it. After signing the consent form, six forms of the survey, systematically randomizing the order of the scales, were presented to the participants via Survey Monkey. The four measures included in the survey were the Credit Card Use Scale (see Appendix E), the Student Financial Well-Being Scale (see Appendix F), and the Student Attitudes Toward Debt Scale (see Appendix G). The demographic form (see Appendix H, see Appendix I) was always the last questionnaire in the survey. Participants were instructed to fill out the survey to the best of their ability. When participants completed the survey they were given the debriefing form.

Results

In order to test the hypothesis that college students would overestimate the median starting salary as predicted by the 2012-2013 PayScale College Salary Report (see Appendix I), two mixed design analysis of variances were conducted (see Figure 5). The first ANOVA was a 2 (group: students vs. alumni) x 2 (salary: predicted vs. actual starting) mixed design analysis of variance. There was a significant difference in the main effect of group, $F(1,154)=9.03$, $p=.003$. There was no significant difference for the main effect of predicted vs. actual starting salary as reported in the PayScale 2012-2013 report. The group by salary interaction effect was significant, $F(1,154)=9.97$, $p=.002$. Simple effects tests for predicted versus actual starting salaries were calculated separately for students and alumni. Although the simple effects test for

alumni approached significance with a tendency to underestimate starting salary, neither simple effects test was significant. In addition, simple effects tests were completed between alumni and students for predicted verses actual starting salaries. The simple effects test on predicted salary was significant, $F(1,308)=25.96$, $p<.001$, such that current students predicted their starting salaries to be significantly higher than alumni. There was no significant difference between the reported actual starting salaries for students and alumni.

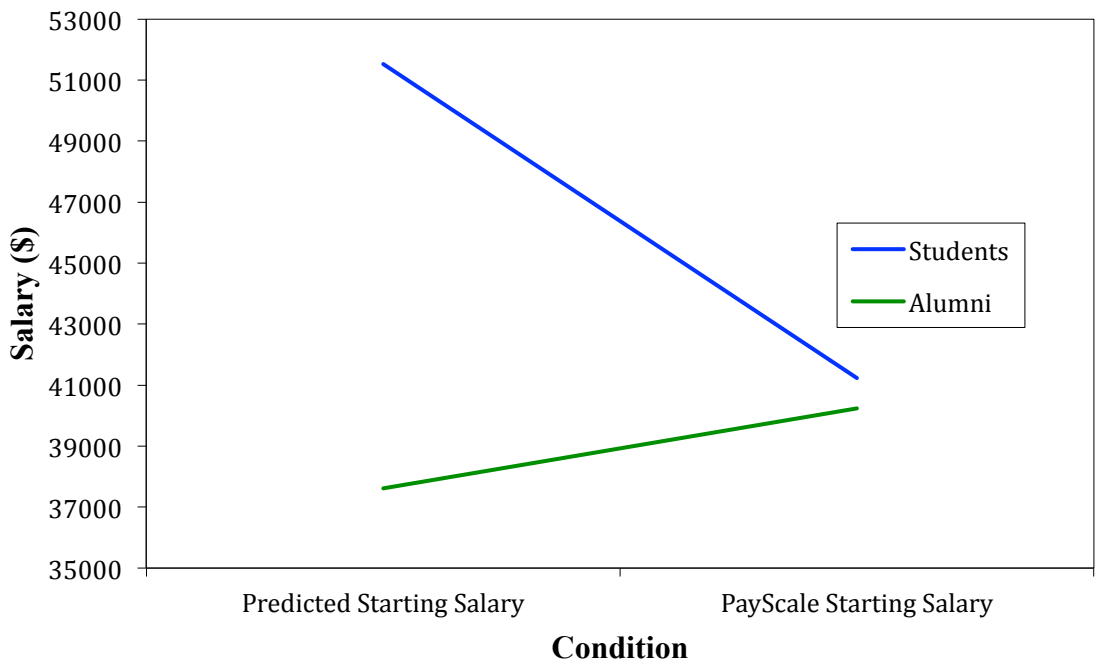

Figure 4. Results of a 2(group: students vs. alumni) x 2(salary: predicted vs. actual starting) mixed design analysis of variance show a significant difference between the predicted starting salaries of students and alumni as well as a significant interaction effect.

The second ANOVA tested the hypothesis that college students would overestimate their median mid-career salaries as predicted by the 2012-2013 PayScale College Salary Report was

tested with a 2 (group: students vs. alumni) x 2 (salary: predicted vs. actual median) mixed design analysis of variance (see Figure 6). There was a significant main effect of salary, $F(1,154)=7.27$, $p=.008$, indicating that both students and alumni overestimated their mid-career salaries. Neither the main effect of group (students vs. alumni) nor the interaction of group and salary was significant. Hypothesis 1 was partially supported: students and alumni over predicted mid-career salaries in comparison to the PayScale 2012-2013 reported salaries.

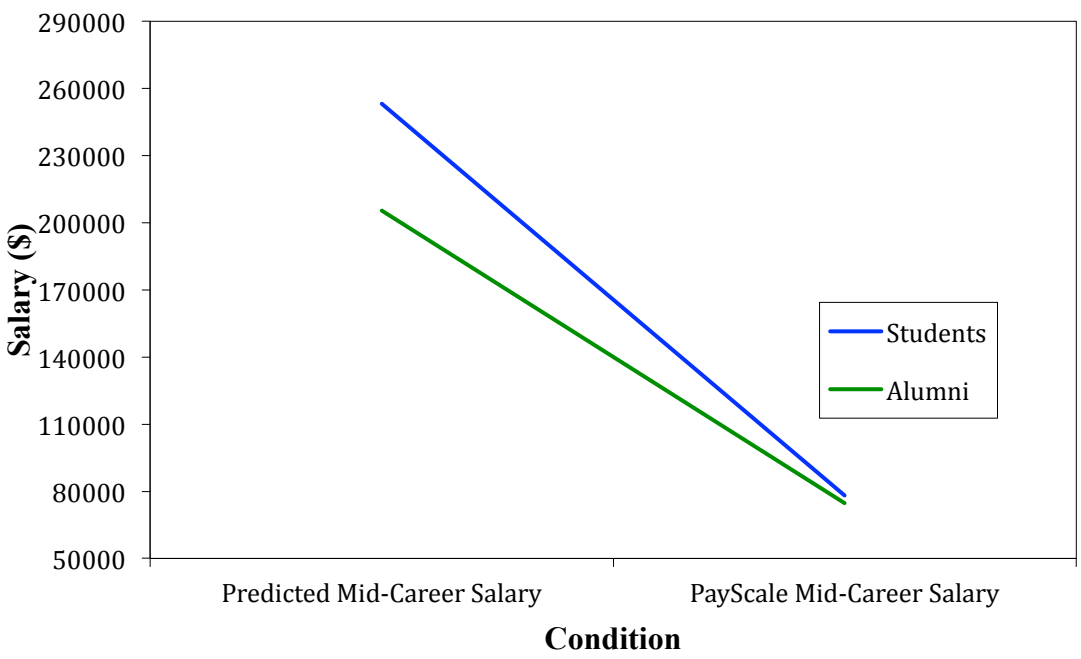

Figure 5. Results of a 2(group: students vs. alumni) x 2(salary: predicted vs. actual median) mixed design analysis of variance show a significant difference between the predicted starting salaries of students and alumni as well as a significant interaction effect.

To test Hypothesis 2, that participants would be more likely to use credit or debit cards than cash, Friedman tests on the preferred methods of payment of college students and alumni were calculated. The test for the entire data set was significant, with cash being used the most

frequently, then debit, then credit, and finally checks least frequently (see Table 1). There was a significant difference in the method of payment with participants using cash most frequently, then debit, then credit, and checks were the least frequently used, χ^2 (3, N = 229) = 183.38, p < .001. Friedman tests were also performed on the individual differences between payment types. Participants reported using cash significantly more often than credit, χ^2 (1, N = 229) = 4.76, p = .029, cash significantly more often than checks, χ^2 (1, N = 229) = 136.81, p < .001, credit significantly more often than checks, χ^2 (1, N = 229) = 79.59, p < .001, and debit more often than checks χ^2 (1, N = 229) = 84.37, p < .001. Participants reported no significant difference in use of cash versus debit or credit versus debit.

Table 1

Mean Rank of Preferred Methods of Payment

Rank	Payment Type	All *M (SD)*	Students *M (SD)*	Alumni *M (SD)*
1	Cash	2.02 (0.75)	1.72 (0.17)	2.15 (0.72)
2	Debit	2.18 (1.14)	2.15 (0.96)	2.20 (1.21)
3	Credit	2.31 (1.07)	2.34 (0.88)	2.30 (1.14)
4	Check	3.48 (0.84)	3.79 (0.64)	3.36 (0.88)

A test of the student group showed significant differences in the mean rank of preferred methods of payment with students using cash most frequently, then debit, then credit, and checks least frequently, χ^2 (3, N = 67) = 97.62, p < .001 (see Table 1). Individual Friedman tests were also performed on the differences between payment types. Students reported using cash significantly more often than credit, χ^2 (1, N = 67) = 10.88, p = .001, cash significantly more

often than debit, χ^2 (1, N = 67) = 4.31, p = .038, debit significantly more often than checks, χ^2 (1, N = 67) = 45.15, p < .001, credit significantly more often than checks, χ^2 (1, N = 67) = 48.49, p < .001, and cash more often than checks, χ^2 (1, N = 67) = 55.54, p < .001. Finally, students reported no significant difference between debit and credit card use.

Finally, among alumni there was a significant difference in the method of payment with cash, once again the most frequently used, then debit, then credit, and checks which were least frequently used, χ^2 (3, N = 67) = 96.52, p < .001 (see Table 1). Friedman tests were also performed for alumni on the differences between pairs of payment types. Alumni reported using cash to pay for purchases significantly more often than checks, χ^2 (1, N = 162) = 83.06, p < .001, credit significantly more often than checks, χ^2 (1, N = 162) = 37.56, p < .001, and debit significantly more often than checks, χ^2 (1, N = 162) = 43.56, p < .001. There was no significant difference between alumni use of cash versus credit, cash versus debit, or credit versus debit. In sum, these tests indicate that Hypothesis 2 was not supported: students and alumni both use cash more frequently than either debit or credit.

To test Hypothesis 3 that students with lower financial confidence would have higher irresponsible credit card use than students with higher financial confidence, Pearson's correlations were performed on the CCUS, the SFWB scale, and the SATD scale. Financial confidence was measured using the SFWB scale with higher scores indicative of higher financial uneasiness and lower confidence. Higher scores on the SATD were indicative of a higher debt tolerance. Responsible credit card use was measured using the CCUS, with higher scores indicative of irresponsible credit card use. In analysis of the overall data set inclusive of both students and alumni, significant positive correlations existed between the total SFWB, total CCUS, and total SATD (see Table 2). These relationships indicate that as participants were

more financially uneasy, they also reported more irresponsible credit card use and had higher tolerance of debt. The relationship also worked in the opposite direction – participants who reported being confident financially had lower tolerance of debt and more responsible credit card use.

Significant positive correlations were also found when separately analyzing the student and alumni data. For both student and alumni participants, a significant positive correlation existed between total SFWB, CCUS, and SATD (see Table 2). The same relationships described previously for the overall data set also held true for the student population and alumni population separately. Those reporting financial uneasiness had high tolerance of debt and greater irresponsible credit card use, and those reporting financial confidence had a low tolerance of debt and reported more responsible credit card use. There were no significant differences between the correlations of students and alumni as tested using the Fisher method (Howell, 2002). Hypothesis 3 was supported: low financial confidence is related to irresponsible credit card use.

Table 2

Correlation Matrix of Credit Card Use, Financial Well-being, and Attitudes Toward Debt

	Overall			Students			Alumni		
	CCUS	SFWB	SATD	CCUS	SFWB	SATD	CCUS	SFWB	SATD
CCUS	-	.46**	.24**	-	.38**	.26*	-	.53**	.26**
SFWB		-	.31**		-	.34**		-	.30**
SATD			-			-			-

* $p < .05$ ** $p < .01$

In order to test Hypothesis 4, that participants who were more confident in expected starting and mid-career salaries would have a higher debt tolerance while in college than those who were less confident, Pearson's correlations were performed. Analysis of the data, inclusive of both students and alumni, correlated the total SATD, expected starting salary, and the confidence in this expectation (see Table 3). There was a significant negative relationship between scores on the total SATD and expected salary, indicating that SATD scores decreased as expected salary increased and vice versa. In other words, as participants were less tolerant of debt, they predicted higher starting salaries. No other significant correlations were found. Pearson's correlations were also calculated for the total SATD, expected mid-career salary, and the confidence in this expectation (see Table 4). No significant relationships were found.

Table 3

Correlation Matrix of Attitudes Toward Debt, Expected Starting Salary, and Confidence in Estimation

	Overall			Students			Alumni		
	SATD	Expected Starting Salary	Confidence	SATD	Expected Starting Salary	Confidence	SATD	Expected Starting Salary	Confidence
SATD	-	-.16*	-.12	-	-.23	-.08	-	-.13	-.13
Expected Starting Salary		-	0.132		-	.30*		-	.11
Confidence			-			-			-

* $p < .05$ ** $p < .01$

Correlations of total SATD, expected starting salary, and the confidence in this expectation were also performed separately for student and alumni groups. Analysis of the student data showed a significant relationship between expected starting salary and confidence.

The positive correlation indicated that student confidence increased as predicted starting salary increased. No other significant correlations were found. Second Pearson's correlations were calculated for the total SATD, expected mid-career salary, and the confidence in this expectation was also performed. No significant relationships were found. Analysis of the alumni data correlated the total SATD, expected starting salary, and the confidence in this expectation. Second sets of Pearson's correlations were calculated for the total SATD, expected mid-career salary, and the confidence in this expectation was also performed. No significant relationships were found in either of these sets of correlations. As a result, Hypothesis 4 was not supported: there was no apparent relationship between confidence in future salaries and debt tolerance.

Table 4

Correlation Matrix of Attitudes Toward Debt, Expected Mid-Career Salary, and Confidence in Estimation

	Overall			Students			Alumni		
	SATD	Expected Mid-Career Salary	Confidence	SATD	Expected Mid-Career Salary	Confidence	SATD	Expected Mid-Career Salary	Confidence
SATD	-	-.07	-.12	-	-.20	-.25	-	-.13	-.05
Expected Mid-Career Salary		-	0.14		-	0.15		-	.15
Confidence			-			-			-

* $p < .05$ ** $p < .01$

Additional Analyses

Additional analyses performed on the data included Pearson's correlations of perceived financial well being, as reported on the SFWB, and level of debt at graduation. Analysis of the combined student and alumni data set showed a significant positive relationship between the

SFWB scale and debt at graduation (see Table 5). The positive correlation indicated that as the amount of debt owed at graduation increased, so did financial uneasiness. When the data set was split into students and alumni, similar positive correlations were found. Separate analysis of the student and alumni data also showed significant positive correlations between the SFWB scale and level of debt at graduation.

Table 5

Correlations Between Financial Well-Being and Debt at Graduation

	Overall	Students	Alumni
SFWB	.49**	.58**	.45**

* $p < .05$ ** $p < .01$

Further analysis of alumni data showed a significant positive correlation between the SFWB scale and the amount of debt alumni report being in currently (see Table 6). This positive relationship indicates that as current debt levels of alumni increased, so did their financial uneasiness. The data also showed a significant negative relationship between the SFWB scale and the current salary of alumni, $r(139) = -.24$, $p = .005$. This negative relationship means that as current salary levels increased, financial uneasiness decreased.

A Friedman test was performed in order to rank the items on which current students reported spending their money (see Table 6). There was a significant difference in the rank order of items with the most money spent on food, then clothes, then alcohol, then education supplies, then travel expenses, then entertainment, then car expenses, and finally electronics, χ^2 (7, N = 67)

= 72.16, $p < .001$. This ranking indicates a significant difference in the ordering of the aforementioned items, but does not mean that there are significant differences between reported amounts spent between each item.

Table 6

Mean Rank of Popular Items Purchased by Students

Rank	Item	*M (SD)*
1	Food	2.81 (1.79)
2	Clothing	3.78 (1.86)
3	Alcohol	4.42 (2.43)
4	Education Supplies	4.51 (2.25)
5	Travel Expenses	4.54 (2.17)
6	Entertainment	4.72 (1.85)
7	Car Expenses	5.13 (2.83)
8	Electronics	6.12 (1.51)

In order to analyze how participants were paying for or had paid for their college education, frequencies were calculated for source of support (parents or relatives, financial aid, personal savings, and loans) as well as type of financial aid received (Connecticut College grants, scholarships, federal grants, student loans, parent loans, and work study). In the combined data set, the majority of participants reported that parents or relatives were paying for their education followed by financial aid, loans, and personal savings respectively (see Table 7). Within financial aid, the majority of participants reported taking out student loans followed by work-study, Connecticut College grants, federal grants, scholarships, and parent loans (see Table 8). These results show the variety of sources of support in which participants relied on.

Table 7

Percentages of Students Reporting Various College Payment Methods

Method:	*N*	Parents/Relatives	Financial Aid	Personal Savings	Loans
Students	84	72.60	27.40	10.70	22.60
Alumni	202	71.80	43.10	22.30	40.10
Combined	286	72.00	38.50	18.90	35.00

When the student and alumni data was analyzed separately, very similar frequencies were found. Students reported receiving the most financial support from parents or relatives followed by financial aid, loans, and personal savings respectively. Alumni also reported receiving the most financial support from parents or alumni followed by financial aid, loans, and personal savings (see Table 7). Analysis of types of financial aid received, students reported receiving student loans with the most frequency followed by work study, Connecticut College grants and federal grants, parent loans, and scholarships least frequently. Alumni participants reported taking out student loans most often followed by work-study, Connecticut College grants, federal grants, scholarships, and parent loans (see Table 8).

Table 8

Percentages of Students Reporting Various Types of Financial Aid Received

Type	*N*	Connecticut College Grant	Scholarships	Federal Grant	Student Loan	Parent Loan	Work Study
Students	84	16.7	7.1	16.7	23.8	10.7	19.0
Alumni	202	33.7	18.3	32.7	39.6	12.4	38.6
Combined	286	28.7	15.0	28.0	35.0	11.9	32.9

In order to measure dependency on parents, students were asked whether they earned an allowance and about their credit card payments. Of the student participants, 23.8% reported receiving an allowance, reporting a range of $50 to $1000 (see Table 9). Every participant in the study was required to have access to a credit card, but it was not assumed that participants paid credit card bills with their own savings. Analysis of who was responsible for paying credit card bills found that 60% of student participants reported that a parent or relative paid their credit card bills while only 38.5% reported beings solely responsible. Alumni were asked if they still received financial help from their parents in order to determine alumni financial dependence or independence. In addition, 27.6% of alumni participants who were between one and four years out from graduation reported that their parents still supported them financially.

Table 9

Reported Allowance per Month Received by Students

Percent of Students Receiving Allowance	*N*	Minimum	Maximum	Median	*M*	*SD*
23.80%	67	$50.00	$1,000.00	$200	$257.18	245.65

Participants were also asked about the number of credit cards and debit cards they held. Frequencies were calculated for the overall data set as well as the student and alumni data sets separately (see Table 10). The majority of participants in the combined data set reported having one credit card and one debit card. This held true for the student and alumni participants when analyzed separately as well. Alumni reported holding more credit cards than students, indicating that they accumulated more credit cards in the years following graduation.

Table 10

Percentage of Participants who Hold Credit and Debit Cards

Type	*N*	Type of Card	0	1	2	3	4	5
Students	66	Credit	1.5	84.8	10.6	3	0	0
	67	Debit	6	77.6	14.9	0	1.5	0
Alumni	162	Credit	0.6	50.6	35.2	8.6	3.1	1.9
	159	Debit	3.8	71.7	21.4	3.1	0	0
Combined	228	Credit	0.9	60.5	28.1	7	2.2	1.3
	226	Debit	4.4	73.5	19.5	2.2	0.4	0

In order to analyze budgeting habits of students and alumni, percentages were calculated. The majority of alumni reported having and sticking to a budget, while students were split between holding to a budget and not having one at all. Over ten percent of both students and alumni reported having a budget, but not following it (see Table 11).

Table 11

Percentage of Students and Alumni Having and Following a Budget

Type	*N*	Yes	No	Yes; Not followed
Students	66	45.5	40.9	13.6
Alumni	162	53.1	32.7	14.2

Discussion

Hypothesis 1 stating that college students will be overconfident in terms of predicting future salaries was based in the literature and theory behind the life-cycle hypothesis. A key component of the life-cycle model is the assumption that people are able to smooth their consumption levels based on current and future earnings (Wilkinson, 2008). By measuring the difference between salary expectations and the median actual salaries realized by people currently in the workplace, it was possible to assess levels of overconfidence and the ability to determine future rates of income in order to plan current consumption patterns. Although the literature showed that students are generally good at predicting their future salaries, this study hypothesized the opposite in part because of the current economic market and level of uncertainty. As mentioned in the results, there was a significant difference in the level of

predicting starting salary between students and alumni, with students predicting higher starting salaries than alumni. However, the PayScale 2012-2013 starting salaries did not differ greatly between students and alumni, indicating that actual earning levels were not that different.

Students tended to over predict their starting salary while alumni tended to recall under predicted starting salaries. Although neither of these differences was statistically significant, the results suggest a difference in how the student and alumni participant population view or viewed their chances following graduation. The alumni included in this study graduated from Connecticut College between 2009 and 2012. Alumni were entering the workforce at a time when the economy was at its most unstable after the 2008 crisis and when unemployment was the highest it has ever been. The instability of the market could explain why alumni tended to under predict their salaries, but this finding could also be attributed to the hindsight bias[16]. Alumni were asked to retrospectively report what they thought their starting salaries would be at graduation in addition to their realized starting salaries. Recalling an expectation in hindsight may have caused alumni respondents to remember expecting a lower amount due to their current earning level.

Current students, in contrast, may be predicting a more positive atmosphere for job potential after graduation. As the economy recovers and the stock market keeps seeing record highs, people may be becoming more confident in terms of finding and holding on to a job and a consistent salary. In terms of the life-cycle hypothesis, it is concerning that current students are overestimating their starting salaries to such a degree. Without a realistic expectation of the job market and what they may be making immediately following graduation, students may be stuck

[16] Also referred to as the "I knew it all along" bias, the hindsight bias refers to the tendency to see past events as obvious. The hindsight bias can also refer to learning that causes one to recall an idea differently than they would have without the learned information (Wilkinson, 2008).

with loans and bills that they are unable to pay. Although this result supports the hypothesis, it contradicts previous research. McMahon and Wagner (1981) found that students were fairly realistic of the job market and starting salaries, predicting salary levels close to realized starting salaries. One explanation for student participants' overestimation of starting salary is the tendency to pursue graduate degrees prior instead of immediately entering the workforce, therefore increasing salary potential.

Both students and alumni significantly overestimated their mid-career salaries in comparison with the PayScale 2012-2013 report. PayScale's methodology consists of surveying a variety of companies and employers to get accurate starting and mid-career salaries for people with bachelor's degrees. Many students attending and graduating from liberal arts institutions expect or plan to go on to attend graduate school in the future, whether for a masters, doctorate, or professional degree. For some current students at Connecticut College, a job is not the first thing they seek to do post-graduation. Many plan to go to grad school prior to starting their first job, and therefore may be predicting an accurate starting salary, but one that is higher than what PayScale surveys have found. In addition, the median mid-career salaries reported by PayScale are for those who have attained bachelor's degrees only. McMahon and Wagner (1981) found that students planning on attaining a professional degree expected significantly greater salaries than students who were not planning on continuing their education. This limitation to bachelor's degrees is a caveat for the data found in this study because we are comparing mid-career salary predictions from students and alumni, many of whom plan to receive a higher degree.

In addition, the student and alumni data used to measure predicted starting salary were gathered using slightly different questions. While students were asked to predict their starting salary at graduation, alumni were asked two questions: (1) to recall what they had predicted their

starting salary to be at the time of graduation and (2) what their actual starting salary was. All three of these measures were slightly problematic. First, many current students who completed the survey were underclassmen and did not know what they wanted to major in or what they wanted their career to be, and, as a result, left this survey question blank. Secondly, alum's recollections may have been influenced or anchored by the other questions regarding salary and their current salary. In order to improve this measure, a longitudinally designed study would have to determine predicted salary while the participants were still in college, and then follow up years later.

Hypothesis 2 looked at how people typically made purchases. As described through the review of the literature, spending with credit and debit cards has become more common. Vyse (2008) noted that although credit has benefitted many people and allowed them to afford things that otherwise they could not, credit has also created more problems: "When you can have anything, not going into debt requires greater self-control than when transactions required cash" (p. 94). This possibility is concerning because people feel less of a connection with money when they are swiping a plastic card than when they are paying with tangible money. The easy accessibility of credit and debit as well as the detachment from the amount of money spent can result in overspending (Blue, Stackhouse, & Hunt, 2011). Although this study predicted that participants would report using credit or debit more frequently than cash, this was not the case. This result may be the byproduct of asking about the frequency of use rather than the percent of total expenditures. Students may be involved in cash transactions most frequently, saving credit or debit for larger or more important purchases.

In the overall participant data as well as in the separate student and alumni data, cash was used most frequently while checks were used least frequently. The difference between the

ranking of cash, debit, and credit was not significant when compared directly, so it can be concluded that that rarity in which participants use checks as a method of payment caused the significant difference. Checkbooks have become less common as debit cards have increased in popularity among college students who prefer using electronic methods of payment (Cude et al., 2006). The overall ranking showed that using credit and debit may be a popular option for both students and alumni, but cash is still the most popular method of payment. The preference for cash over credit or debit bodes well for students currently attending and recent graduates of Connecticut College, because if cash is truly a more popular method of payment than credit or debit, then the population is more likely to be aware of the amount they are spending. Hypothesis 2 was not supported: participants did not report using debit or credit with significantly more frequency than they did cash. Furthermore, cash was the most popular method of payment for the sample of Connecticut College students and alumni, a surprising result considering the increased salience of credit cards in the college environment (Vyse, 2008).

Hypothesis 3 stated that participants low in financial confidence would be more irresponsible with their credit cards than those with high financial confidence. This hypothesis was strongly supported across the combined, student, and alumni data. Correlations of the three measures included in the survey found significant relationships across the samples in the overall participant data and the data separated into student and alumni participants. The positive correlation between the Credit Card Use Scale and the Student Financial Well Being scale indicated that when participants are less responsible in terms of credit card use, they are also uneasy when it in terms of their finances. Norvilitis et al. (2006) used the CCUS and the SFWB scale in their study, but these measures were used for different regression analyses and not correlated with one another directly. However, Norvilitis et al. (2006) did find that the CCUS

was predictive of future debt while the SFWB scale predicted the effects of debt. The positive relationship between the CCUS and the SFWB could be driven in both directions; people who are not comfortable financially may rely on credit cards to help make purchases to a subjectively irresponsible level and people who use credit cards irresponsibly could become financially uneasy due increased monthly bills or interest levels. The direction of causality could differ between the student and alumni population. Current students may relate more to the latter, spending without thinking using credit cards and resulting in financial uneasiness, whereas alumni might find themselves struggling to afford life after college and begin to rely on credit cards to accommodate for a lack of liquidity and allow for a better standard of living.

In addition to the two scales referenced in the general hypothesis, the Student Attitudes Toward Debt scale was also included in the analyses. The positive relationship between the CCUS and SATD scale is a common sense result; participants who were irresponsible with their credit cards reported being more tolerant of debt. This result is logical because if people use their credit cards frequently, they will tend to be more psychologically comfortable with using debt as a means to make purchases regardless of how this behavior affects their financial well-being. There was also a positive relationship between the SATD and the SFWB. This relationship showed that when participants reported a higher tolerance toward debt, they were also financially uneasy. Norvilitis et al. (2006) looked at attitudes toward debt, finding that the majority of participants could not correctly estimate their debt levels in comparison to their peers: "Of those students with debt, 73% believed that it would take them less time than the average student to get out of debt...[and] only 6% thought it would take them longer than the average student to get out of debt" (p.1405). However, Norvilitis et al. (2006) did not put credit card use and financial well-being directly in the context of attitudes toward debt. Nevertheless,

the significant correlations in the present study are consistent with the previous findings because having a higher tolerance toward debt likely means that one has higher credit card bills, which will in turn make the future more uncertain.

These relationships strengthen findings from the previous literature, as they are hinted at across many psychological and economic journals, but they are also a reminder that educating people about fiscal responsibility, especially college students, is important. Understanding that college students experience financial uneasiness and have access to and use credit cards is critical both to college administrators and policy makers. Creating a campus tolerant of credit cards may be unwise because it may increase risky credit card behavior among students. King (1997) commented on the trend of increasing credit card debt: "Given the very high interest rates on most credit cards, this is a disturbing trend that could have more serious implications for graduates' financial well-being than student loan debt" (p. 4). It is also important to note that financial uneasiness and tolerance toward debt can stem from the need to take out loans, either college or federal, to pay for higher education. When students know that they will have a large amount of debt at graduation and that they will be responsible for making monthly loan payments with interest, they may report higher levels of financial uneasiness. Loan aversion may also contribute to financial uneasiness, stemming from paying off student loan debt (Burdman, 2005). Providing support and education about managing finances and bills during and after college could reduce the amount of financial stress experienced.

The life-cycle model was further examined in analysis of Hypothesis 4 looking at the relationship between predicted future salaries, confidence in these predictions, and tolerance toward debt. Although Hypothesis 4 was not strongly supported with the correlations, there were a few noteworthy aspects within the analyses. Analysis of the overall data showed a significant

negative relationship between how participants scored on the Student Attitudes Toward Debt scale and expected starting salary. This finding means that as the level of salary expected increased, participants were less tolerant of debt. This relationship violates the life cycle hypothesis, which assumes that people will be more tolerant of debt in the present if they expect higher returns in the future. When the data was analyzed for students and alumni separately, different significant relationships were found. For the students there was a significant positive correlation between expected starting salary and confidence, meaning that students who predicted higher starting salaries were also more confident about their predictions. This relationship between confidence and salary prediction hints at an overconfidence bias on behalf of the student participants, but there are also alternate explanations for this higher confidence. Perhaps the students who were more confident knew the starting salary of someone in the field they were planning to enter or had received job offers already. In comparison to jobs outsides of the financial sector, jobs in finance, economics, and marketing tend to have higher starting salaries and hiring practices that are fairly transparent, which could lead to greater confidence in students planning to enter these fields. There were no significant correlations between predicted salary and confidence among the alumni participant data.

The extensive nature of the demographic section of the survey permitted a number of additional analyses. Student loan debt levels have increased by a large margin over the past decade (Appendix J). With the burden of paying back student loans being an increased addition to the challenge of being financially independent post college, the level of debt at graduation may be a factor in feelings of financial stability. To determine the relationship between financial well-being and student loan debt, the Student Financial Well Being scale was correlated with debt at graduation and the current student loan debt reported by alumni. The SFWB scale was

significantly positively correlated with amount of debt at graduation for the overall data set as well as the student and alumni data. This relationship indicated that increased levels of debt owed at the time of graduation were directly related to increased levels of financial uneasiness. Although causality cannot be assumed, as this is a correlational relationship, it is important to note that these two variables are related to each other. The direction of causality is most likely to go from the amount of debt to levels of financial well-being. Reported feelings of well-being are related to both credit card use and student loan debt.

As a matter of interest, a rank order of items on which students most frequently spend money was determined. This question was asked only in the student demographic survey and consisted of eight items. Students reported spending the most money on food followed by clothes, alcohol, education supplies, travel expenses, entertainment, car expenses, and electronics. Although there was no expectation or hypothesis posed about this question, the ordering creates a fairly typical picture of a college student. This result also shows that college students do spend money on items other than those required for a college education. Boddington and Kemp (1999) found that college students became increasingly tolerant of debt over four years of college. Debt tolerance was positively correlated to cores on the impulse buying scale (Boddington & Kemp, 1999). Although no direct connection can be drawn to the present study, the relationship between high debt tolerance and impulsive spending indicates a consumption pattern outside of educational spending. This element of consumption, potentially without income, is predicted by the deficit spending section of the life cycle model. Part of the deficit certainly comes from spending on college tuition, but there is also spending on every day items.

College tuition prices for private non-profit four-year colleges have increased by 60% in the last ten years (see Figure 6). Hacker and Dreifus (2011) compare this increase to the

subprime mortgage crisis of 2008: "The next subprime crisis will come from defaults on student debts, starting with for-profit colleges and rising to the Ivy League." In one bubble the value was housing prices and in the other the value is future salary level (Hacker & Dreifus, 2011). The data regarding the various payment methods used to pay tuition, specifically the types of financial aid received, was analyzed to determine the effect of increased costs. Participants were asked to indicate how they were paying for college, and many participants reported a combination of payment methods. Over 70% of alumni and students reported that parents or relatives are helped to pay for their college education. Having the financial means to provide this assistance takes some of the burden off the student in terms of future loan debt, but typically shifts this burden to parents or relatives instead. More alumni reported using personal savings, taking out loans, or relying on financial aid to pay for college than did current students, suggesting that their future financial burden may be greater than what will be the experience by the current students in this study. The finding that fewer current students report receiving financial aid may be due to sampling bias as the Connecticut College financial aid office does not report offering less financial aid to current students. However, the result could also indicate in a change in the culture of paying for education, with more current students relying on their parents than did alumni who graduated in the past four years.

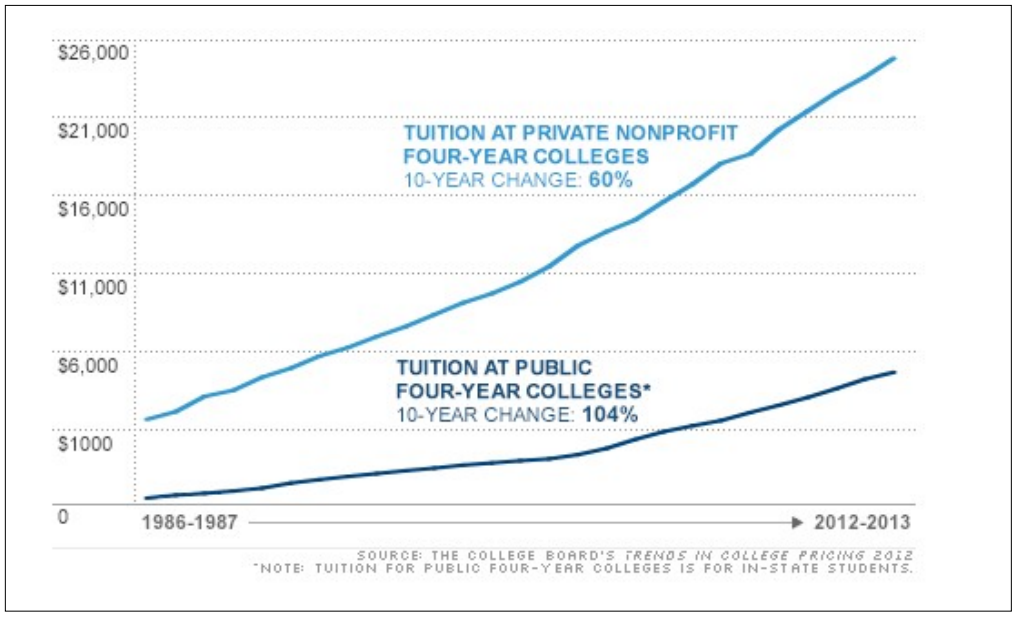

Figure 6. Data gathered from The College Board shows substantial increases in tuition have occurred in both private nonprofit four-year colleges and public four-year colleges. Currently the growth rate of tuition is greater than the inflation rate (Clark, 2012).

Connecticut College is committed to providing grants instead of loans, allocating 85% of all financial aid awarded to grants, which students and their families do not have to pay back (Connecticut College, 2012). Both students and alumni reported receiving grants as a major form of financial aid from the college; 28.7% of participants reported receiving Connecticut College grants including 16.7% of the student participants and 33.7% of the alumni participants. Once again, the financial aid office does not report any difference in grant funding from 2009-2016. A larger percentage of alumni than current students reported receiving financial aid across the board for Connecticut College grants, scholarships, federal grants, student loans, and eligibility for work-study, but just over 10% of both students and alumni reported relying on parent loans. This pattern suggests a limitation in the sampling for this study, as well as a potential selection bias for alumni due to the differences in reported types of financial aid

received. Connecticut College is a need-based[17] not a need-blind[18] school, and although these two practices are not mutually exclusive, it could have consequences in terms of the demographic accepted to the college (Connecticut College, 2012). The shift in reported financial aid may be due to a sampling error, but could also be attributed to changes in admissions policies.

The transition to dependency on parents whether it was a factor of the sample or a true difference between populations, was further analyzed by looking at whether students earned an allowance, who was responsible for paying the credit card bill, and whether alumni still were financial reliant on their parents. Over 20% of current students received a monthly allowance from their parents. This calculation excluded those who said that they had unlimited access to their parent's money. In addition, 60% of students reported that their parents paid their credit card bill. Norvilitis & MacLean (2010) found that when parents were willing to bail out their children, responsible credit card use increased: "Parental bailout had a negative direct effect on problematic credit card use...[and] students who report that their parents would be willing to bail them out financially reported lower levels of debt" (p. 62). Current Connecticut College students rely heavily on their parents for spending money, with many not having to figure out how to spend and save on their own. In addition, just fewer than 30% of alumni participants reported that they still relied on their parent's assistance for financial support. This result shows that up to four years out of graduation, many Connecticut College students are still not financially independent. There are many reasons for continued dependency, but it is also important that the

[17] Eligibility based on need defined as "the amount remaining after subtracting the expected family contribution and outside resources from the cost of education" (Connecticut College, 2012).
[18] Need-blind refers to the practice of making admissions decisions without prior consideration of the financial aid needs of a student (Connecticut College, 2012).

college provide enough financial education and resources that students do not have to rely on their parents post-graduation.

Participants were asked to self-report the number of credit and debit cards that they possessed. As expected, the majority of participants only had one credit card and one debit card. However, alumni reported having up to five credit cards and four debit cards and students reported having up to three credit cards and three debit cards. Palmer, Pinto, and Parente (2001) attributed the tendency to have multiple cards to the success of credit card companies in the college market: "Credit card marketing at the college level is one of first-mover advantage, and banks' primary goal is to be the first to put an application in the hands of a student" (p. 111). Questions were not asked about the frequency of use of the cards, and it remains unknown whether these cards are store cards or general use cards from different banks. This result is concerning because, as stated by Majid (2010), "many consumers, even those who can accurately anticipate their future borrowing, do not truly understand how quickly their debt can grow as a result of compounding interest" (p. 172). Finally, both student and alumni participants were asked about their budgeting habits. Specifically, they were asked whether they had a budget, did not have a budget, or had a budget but did not follow it. The third option was included because although people often intend to do something they may not follow through. More alumni had and followed a budget than did students and the two groups reported similar percentages of participants defecting on the planned budget.

This study looked at the saving and spending behavior of college students in relation to the life-cycle model (Wilkinson, 2008). Analysis of the data found that students and alumni spend both in terms of student loans and credit cards. From the data, it is apparent that a large proportion of the population surveyed was in the left hand section of the life-cycle model (see

Figure 1). According to the economic model, this outcome means that it is permissible and even encouraged for people to engage in deficit spending as long as they are accurately calculating their future earnings. However, results of the first hypothesis determined that both students and alumni were not proficient at correctly estimating either their starting or mid-career salary. In addition, expected mid-career salaries were so much greater than the PayScale 2012-2013 report that if participants were basing their current spending on those expectations, they would be in financial difficulty if they did not achieve the predicted salary level.

The life-cycle hypothesis does not take into account the difficulties people have with mental accounting and continuously adjusting their behavior. The theory may make sense theoretically and provides a good model off of which to base financial behavior, but because people are not always economically rational actors, it is not upheld in every day life. This study found that students do not necessarily consider current debt acceptable, even when they are expecting higher salaries in the future. Increased debt levels, especially when related to student loans, hang over the heads of current students as well as recent graduates, and are likely not going to be paid off quickly. The reliance of recent alumni on their parents for financial assistance even after graduating from college and starting their own life may lead to increased risk for low credit scores, difficulty obtaining mortgages, and long-term financial insecurity. Kidwell, and Turrisi (2004) elaborated on these concerns: “High levels of debt have been related to a variety of negative consequences, such as damaged credit ratings, stress-induced health problems, and decreased academic performance (p. 1244). If this financial dependence is due to the struggle to pay off accumulated debt, then the students and alumni are not abiding by the life-cycle hypothesis because they are spending to a point of indebtedness from which they cannot recover.

Liberal arts colleges like Connecticut College may be able to prevent future financial difficulties for its alumni by making an effort to engage students in conversations regarding financial well-being. Important tasks for current students to be able to do by graduation includes the ability to balance a checkbook, work a budget, file their taxes, and understand credit card statements and interest. These may seem like basic skills, but if education systems fail to focus on these skills, students may not have the opportunity to learn them. Connecticut College's financial aid office has made great strides in focusing on offering grants to students who need help affording a Connecticut College education. The college itself does not have the same issues regarding stop out and failure to graduate that the larger, public universities discussed in the literature do. In terms of credit card use, Connecticut College has partnered with a local bank to provide a no fees credit card for students. Representatives of this bank come on to campus every fall to sign students up for checking and savings accounts, but there is no additional financial education or support for those who do sign up. By offering opportunities to learn about spending and saving habits, colleges like Connecticut College could substantially improve their students' well being – especially in the future.

Although this study provided insight into the financial behavior of participants, there are a number of limitations and improvements that could be made in future studies. Because the survey was only administered to current Connecticut College students and recent alumni, the population was limited and not very diverse. The demographics of the participants were skewed heavily toward white women, and although that is the tendency of the Connecticut College student body and American colleges nationwide, the study was not representative. There was potential for response bias in both the alumni and student participants, if those who took the survey may have had an initial interest in the subject. Economics and psychology were the most

heavily represented majors among the alumni data, indicating that the information provided in the email solicitation and the title of the study may have attracted certain types of participants.

The survey was created and completed on Survey Monkey, making it easy to distribute they questionnaires and collect responses. Some participants were excluded from the study immediately because they did not agree to the informed consent or they did not report having a credit card. Additional participants reported having difficulty with the technology on questions that asked about ranking or frequency of use due to unfamiliarity with the software. In the demographic section, participants were not asked to report their age, which limited analyses that could be done, however, life experience could be determined through class year. Questions regarding the banks participants used were viewed as inappropriate by some participants and ended up not being necessary for analysis.

This study merely begins to explore what there is to learn about student knowledge of and behavior around student loan and credit card debt. Future research could gather a more extensive amount of data about students and alumni and run regression analyses in order to attempt to find what factors may predict whether someone is at risk of getting into severe debt. In addition, it would be helpful to hold focus groups to get a sense of current students' financial concerns. These focus groups would help to determine causal chains in financial distress as well as help to determine where further financial education is necessary. Finally, a longitudinal study of student loan debt, credit card debt, consumption, income, and financial knowledge would provide more insight into whether people abide by the life-cycle hypothesis and whether learning through experience is possible.

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Appendix A

2012-2013 PayScale Salary Report by College Major

RANK	MAJOR	STARTING SALARY ($)	MID-CAREER SALARY ($)
1	Petroleum Engineering	98,000	163,000
2	Aerospace Engineering	62,500	118,000
3	Actuarial Mathematics	56,100	112,000
4	Chemical Engineering	67,500	111,000
5	Nuclear Engineering	66,800	107,000
6	Electrical Engineering	63,400	106,000
7	Computer Engineering	62,700	105,000
8	Applied Mathematics	50,800	102,000
9	Computer Science	58,400	100,000
10	Statistics	49,300	99,500
11	Physics	51,200	99,100
12	Mechanical Engineering	60,100	98,400
13	Biomedical Engineering	54,900	98,200
14	Government	42,000	95,600
15	Economics	48,500	94,900
16	International Relations	40,600	93,000
17	Materials Science & Engineering	60,100	91,900
18	Industrial Engineering	59,900	91,200
19	Software Engineering	59,100	90,700
20	Environmental Engineering	47,900	89,700
21	Geology	45,000	89,400
22	Civil Engineering	53,800	88,800
23	Management Information Systems	51,600	88,600
24	Biochemistry	43,200	88,500
25	Chemistry	44,700	87,500
26	Electrical Engineering Technology	58,400	86,900
27	Information Systems	50,900	86,700
28	Construction Management	49,500	86,100
29	Mathematics	48,500	85,800
30	Finance	47,700	85,400

31	Molecular Biology	40,100	84,900
32	Computer Information Systems	49,000	84,800
33	Mechanical Engineering Technology	52,900	83,400
34	Biotechnology	41,400	82,800
35	Information Technology	48,900	81,700
36	Industrial Technology	49,700	81,300
37	Food Science	44,000	81,100
38	Civil Engineering Technology	49,500	80,500
39	Industrial Design	43,600	80,300
40	Urban Planning	39,000	79,900
41	Advertising	37,800	77,100
42	Film Production	37,500	76,700
42	Supply Chain Management	50,500	76,700
44	Marketing Management	40,700	76,600
44	Telecommunications	41,600	76,600
44	International Business	42,500	76,600
47	Global & International Studies	40,200	76,500
48	Microbiology	39,700	76,200
49	Occupational Health and Safety	49,600	76,000
50	Classics	35,300	75,900
51	Architecture	41,900	75,200
52	Linguistics	38,300	74,900
53	Political Science	40,300	74,700
54	Accounting	44,300	74,500
55	Marketing and Communications	39,100	73,900
56	Environmental Science	39,800	73,600
57	American Studies	40,900	72,800
58	Philosophy	38,300	72,600
59	Biology	39,100	72,200
60	Literature	39,200	72,000
61	History	39,000	70,200
61	Nursing	54,100	70,200
63	Business	41,400	70,000
64	Zoology	36,500	69,700
65	Agriculture	38,000	69,300

66	Health Sciences	39,000	68,700
67	German	41,400	68,500
68	Communications	38,900	68,400
69	Geography	39,800	67,400
70	Landscape Architecture	40,600	66,300
71	Spanish	35,900	65,900
72	Hotel Management	40,400	65,800
73	English	38,100	65,500
73	Forestry	42,000	65,500
75	French	39,500	65,100
76	Public Relations	36,500	65,000
77	Multimedia and Web Design	40,500	64,900
78	Journalism	36,800	64,700
79	Speech Communication	38,700	64,400
79	Radio and Television	35900	64,400
81	Fashion Design	36,300	63,900
82	Liberal Arts	35,300	62,500
83	Hospitality and Tourism	36,400	62,300
84	Anthropology	36,000	61,400
85	Human Resources	39,200	61,200
86	Medical Technology	49,600	60,200
86	Psychology	35,200	60,200
88	Humanities	35,600	60,100
89	Public Administartion	41,500	59,700
90	Drama	39,300	58,900
91	Visual Communication	36,700	58,700
92	Religious Studies	34,900	58,400
93	Organizational Management	40,700	58,400
94	Broadcasting	31,800	58,300
95	Fashion Merchandising	37,600	58,100
96	Nutrition	40,600	57,900
97	Health Care Administration	39,600	57,800
98	Sports Management	35,300	57,600
99	Interior Design	35,300	57,500
100	Art	34,400	56,700
100	Criminal Justice	35,200	56,700

100	Sociology	36,000	56,700
103	Social Science	37,600	56,300
104	Kinesiology	34,100	56,000
105	Photography	35,700	55,600
105	Theater	33,200	55,600
107	Graphic Design	35,500	55,500
108	Recreation and Leisure Studies	34,900	55,300
109	Horticulture	36,800	55,100
110	Education	37,200	55,000
111	Exercise Science	31,300	54,400
112	Dietetics	44,100	54,300
113	Art History	36,400	54,000
114	Physical Education	33,400	53,900
115	Fine Arts	31,800	53,700
116	Animal Science	33,300	53,200
117	Paralegal/Law	36,500	52,100
118	Public Health	35,000	51,300
119	Music	34,600	51,100
120	Biblical Studies	32,500	51,000
120	Interdisciplinary Studies	37,500	51,000
122	Theology	32,400	50,700
123	Sports Medicine	35,700	50,300
124	Athletic Training	34,400	49,800
125	Culinary Arts	31,000	49,700
126	Special Education	33,900	48,900
127	Human Development	33,100	47,800
128	Elementary Education	31,400	46,000
129	SocialWork	33,100	45,300
130	Child and Family Studies	29,300	37,700

Appendix B

Alumni Solicitation

To Whom It May Concern:

As a senior Economics and Psychology major at Connecticut College, I am conducting an honors thesis is the Psychology department. My thesis focuses on credit card behavior and spending habits.

I have attached the link to the survey. In return for completing the survey, you will be entered in a raffle to receive a $30 gift card. Thank you in advance for your time.

Best,

Kaitlin Karlson
Connecticut College ‘13

Appendix C

Informed Consent Document

I hereby consent to participate in Kaitlin Karlson's research about college students' and recent alumni's budgeting decisions. I understand that this research will involve answering questions about my spending and saving habits. While I understand that the direct benefits of this research to society are not known, I have been told that I may learn more about where I choose to spend my money and how my budgeting decisions are influenced. I understand that this research will take about 30 minutes. I have been told that there are no known risks or discomforts related to participating in this research. I have been told that Kaitlin Karlson can be contacted by email at kkarlson@conncoll.edu.

I understand that I may decline to answer any questions as I see fit, and that I may withdraw from the study without penalty at any time. I understand that all information will be identified with a code number and NOT my name. I have been advised that I may contact the researcher who will answer any questions that I may have about the purposes and procedures of this study. I understand that this study is not meant to gather information about specific individuals and that my responses will be combined with other participants' data for the purpose of statistical analyses. I consent to publication of the study results as long as the identity of all participants is protected.

I understand that this research has been approved by the Connecticut College Human Subjects Institutional Review Board (IRB). Concerns about any aspect of this study may be addressed to Professor Jason Nier, Chairperson of the Connecticut College IRB (janie@conncoll.edu).

I am at least 18 years of age, and I have read these explanations and assurances and voluntarily consent to participate in this research about students' budgeting decisions.

Name (printed) _____

Signature _____

Date _____

Appendix D

Debriefing Statement

First of all, thank you for participating in this exploratory study of college students' and recent alumni's ability to budget their own funds. With rising financial aid costs and increasing parental support, college students are becoming less aware of how uncontrolled spending can impact their futures. In this research, I am examining the data to see if there is a relationship between financial aid packages, attitudes toward credit cards, and and money management.

The standard economic model assumes that humans are rational actors and can smooth their consumption, dependent on income, throughout their lives. However, previous research has shown that college students receive little education about money management practices and show little capability of estimating future expenditures and income. Because of this, college students find themselves with huge amounts of credit card debt before graduation. This has not been helped by the increase in marketing to college student by credit card companies.

Please do not reveal the logistics of this study to your friends and classmates until the end of the semester. It is important for accurate statistical analyses for the details of the study to remain confidential.

If you are interested in this topic and want to read the literature in this area, please contact Kaitlin Karlson at kkarlson@conncoll.edu.

If you have any concerns about your spending habits or financial situation, contact Student Health Services at 860-439-2275 or the Financial Aid office at 860-439-2058.). Concerns about any aspect of this study may be addressed to Professor Jason Nier, Chairperson of the Connecticut College IRB (janie@conncoll.edu).

Listed below are two sources you may want to consult to learn more about this topic:

Henry, R. A., Weber, J. G., & Yarbrough, D. (2005). Money Management Practices of College Students. *College Student Journal*, 244-249.

Roberts, J. A. & Jones, E. (2001). Money Attitudes, Credit Card Use, and Compulsive Buying among American College Students. *Journal of Consumer Affairs, 35*(21), 213-240.

Appendix E

Credit Card Use Scale

General Instructions: Circle the number that indicates the extent to which you agree or disagree with each of the following statements about your views or perspectives in general. There is neither a right nor wrong answer to any question.

1	**2**	**3**	**4**	**5**
Strongly Disagree				**Strongly Agree**

1. My credit cards are usually at their maximum credit limit.	1	2	3	4	5
2. I frequently use available credit on one credit card to make a payment on another credit card.	1	2	3	4	5
3. I always pay off my credit cards at the end of each month.	1	2	3	4	5
4. I worry about how I will pay off my credit card debt.	1	2	3	4	5
5. I often make only the minimum payment on my credit card bills.	1	2	3	4	5
6. I am less concerned with the price of a product when I use a credit card.	1	2	3	4	5
7. I am more impulsive when I shop with credit cards.	1	2	3	4	5
8. I spend more when I use a credit card.	1	2	3	4	5
9. I am seldom delinquent in making payments on my credit card(s).	1	2	3	4	5
10. I rarely go over my available credit limit.	1	2	3	4	5
11. I seldom take cash advances on my credit card(s).	1	2	3	4	5
12. I have too many credit cards.	1	2	3	4	5

Appendix F

Student Financial Well-Being Scale

General Instructions: Circle the number that indicates the extent to which you agree or disagree with each of the following statements about your views or perspectives in general. There is neither a right nor wrong answer to any question.

1	**2**	**3**	**4**	**5**
Strongly Disagree				**Strongly Agree**

1. I am uncomfortable with the amount of debt I am in.	1	2	3	4	5
2. I worry about repaying my student loans.	1	2	3	4	5
3. I worry about repaying my credit cards.	1	2	3	4	5
4. I think I am in good financial shape.	1	2	3	4	5
5. I think a lot about the debt I am in.	1	2	3	4	5
6. I have had arguments with others (parents, friends, significant others) about my level of spending.	1	2	3	4	5
7. Five years from now, I will not be in credit card debt.	1	2	3	4	5
8. One year from now, I will not be in credit card debt.	1	2	3	4	5

Appendix G

Student Attitudes Toward Debt Scale

General Instructions: Circle the number that indicates the extent to which you agree or disagree with each of the following statements about your views or perspectives in general. There is neither a right nor wrong answer to any question.

	1	2	3	4	5	6	7
	Strongly Disagree						**Strongly Agree**
1. Taking out a loan is a good thing because it allows you to enjoy life.	1	2	3	4	5	6	7
2. It is a good idea to have something now and pay for it later.	1	2	3	4	5	6	7
3. Using credit is basically wrong.	1	2	3	4	5	6	7
4. I would rather go hungry than purchase food on credit.	1	2	3	4	5	6	7
5. I plan ahead for larger purchases.	1	2	3	4	5	6	7
6. Being in debt is never a good thing.	1	2	3	4	5	6	7
7. Credit is an essential part of today's lifestyle.	1	2	3	4	5	6	7
8. It is important to live within one's means.	1	2	3	4	5	6	7
9. Even on a low income, one should save a little regularly.	1	2	3	4	5	6	7
10. Borrowed money should be repaid as soon as possible.	1	2	3	4	5	6	7
11. Most people run up too much debt.	1	2	3	4	5	6	7
12. It is too easy for people to get credit cards.	1	2	3	4	5	6	7
13. I do not like borrowing money.	1	2	3	4	5	6	7
14. Borrowing money is sometimes a good thing.	1	2	3	4	5	6	7
15. I am rather adventurous with my money.	1	2	3	4	5	6	7

Appendix H

Student Demographics

Sex (circle): Male Female

Gender: _____

Race (circle): Asian/ Pacific Islander
Black
Hispanic
Native American
Caucasian (White)
Other: _____

Class Year (circle): Freshman
Sophomore
Junior
Senior
Grad Student

Major(s): _____ **Minor(s):** _____

College GPA: _____

Do you plan to go to graduate school? (Circle one). Yes No

What is your intended career path? _____

What do you estimate your starting salary to be after graduation? _____

How confident are you in this estimate? 1 2 3 4 5
Not confident Very Confident

What do you estimate will be your mid-career salary? _____

How confident are you in this estimate? 1 2 3 4 5
Not confident Very Confident

How are you paying for college? (Check all that apply).

- ☐ Parents or Relatives
- ☐ Financial Aid
- ☐ Personal Savings
- ☐ Student Loans
- ☐ Other: _____

If you are receiving financial aid, what types of aid do you receive? (Check all that apply).

- ☐ Connecticut College Grant/Scholarship
- ☐ Outside/Private Scholarships
- ☐ Federal/State Grants
- ☐ Student Loans
- ☐ Payment Plans and Parent Loans
- ☐ Work Study
- ☐ Other: _____

How much student loan debt do you expect to owe at graduation? _____

Do your parents help you pay for miscellaneous college fees? (Circle one). Yes No

Do you get an allowance? (Circle one). Yes No

If so, how much? _____/month

How many credit cards do you have? _____

What bank is it associated with? _____

Who pays your credit card bill? _____

How many debit cards do you have? _____

What bank is it associated with? _____

What do you spend YOUR money on at Connecticut College?
Please number with 1 being the most money spent.

___ Alcohol

___ Clothes

___ Education Expenses (not including tuition)

___ Electronics

___ Entertainment

___ Food

___ Gas and Auto Maintenance

___ Travel

In the past two weeks, which payment methods did you use most frequently?
Please number with 1 being the most money spent.

___ Cash

___ Checks

___ Credit

___ Debit

How often do you use credit to pay for purchases? _____

How often do you use debit to pay for purchases? _____

How much money did you spend last week? _____

What did you spend it on? _____

Appendix I

Alumni Demographics

Sex (circle): Male Female

Gender: _____

Race (circle): Asian/ Pacific Islander
Black
Hispanic
Native American
Caucasian (White)
Other: _____

Class Year: _____

Major(s): _____ **Minor(s):** _____

College GPA: _____

Current Industry: _____ **Current Salary:** _____

What did you estimate your starting salary to be after graduation? _____

Do you plan to go to graduate school? (Circle one). Yes No Already Attended

If you received a graduate degree, what is it in? _____

What do you estimate will be your mid-career salary? _____

How confident are you in this estimate? 1 2 3 4 5
Not confident Very Confident

How are you paying/did you pay for college? (Check all that apply).

- ☐ Parents or Relatives
- ☐ Financial Aid
- ☐ Personal Savings
- ☐ Student Loans
- ☐ Other: _____

If you received financial aid, what types of aid did you receive? (Check all that apply).

- ☐ Connecticut College Grant/Scholarship
- ☐ Outside/Private Scholarships
- ☐ Federal/State Grants
- ☐ Student Loans
- ☐ Payment Plans and Parent Loans
- ☐ Work Study
- ☐ Other: _____

How much student loan debt did you owe at graduation? _____

How much student loan debt do you still owe? _____

Did your parents help you pay for miscellaneous college fees? (Circle one). Yes No

Are your parents still supporting you financially? (Circle one). Yes No

How many credit cards do you have? _____

What bank is it associated with? _____

How many debit cards do you have? _____

What bank is it associated with? _____

In the past two weeks, which payment methods did you use most frequently?
Please number with 1 being the most money spent.

___ Cash

___ Checks

___ Credit

___ Debit

How often do you use credit to pay for purchases? _____

How often do you use debit to pay for purchases? _____

Do you have a budget that you stick to? (Circle one). Yes No

Do you work with a financial advisor? (Circle one). Yes No

Appendix J

Chart of Federal Student Financial Assistance from 1995 to 2011

Table 291. Federal Student Financial Assistance: 1995 to 2011

[For award years July 1 of year shown to the following June 30 (35,477 represents $35,477,000,000). Funds utilized exclude operating costs, etc., and represent funds given to students]

Type of assistance	1995	2000	2005	2008	2009	2010, est.	2011, est.
FUNDS UTILIZED (mil. dol.)							
Total	**35,477**	**44,007**	**72,634**	**97,478**	**130,549**	**144,977**	**155,102**
Federal Pell Grants	5,472	7,956	12,693	18,291	29,992	36,515	35,773
Academic Competitiveness Grants	(X)	(X)	(X)	340	479	548	(X)
SMART [1] Grants	(X)	(X)	(X)	200	359	384	(X)
TEACH Grants [2]	(X)	(X)	(X)	25	72	109	131
Federal Supplemental Educational Opportunity Grant	764	907	1,084	1,039	1,066	959	959
Federal Work-Study	764	939	1,050	1,113	1,246	1,171	1,171
Federal Perkins Loan	1,029	1,144	1,593	961	818	971	971
Federal Direct Student Loan (FDSL)	8,296	10,348	12,930	18,213	29,738	84,704	116,098
Federal Family Education Loans (FFEL)	19,152	22,712	43,284	57,296	66,778	19,618	(X)
NUMBER OF AWARDS (1,000)							
Total	**13,667**	**15,043**	**21,317**	**25,713**	**32,188**	**34,257**	**35,730**
Federal Pell Grants	3,612	3,899	5,167	6,157	8,094	8,873	9,413
Academic Competitiveness Grants	(X)	(X)	(X)	438	613	786	(X)
SMART [1] Grants	(X)	(X)	(X)	64	115	150	(X)
TEACH Grants [2]	(X)	(X)	(X)	8	31	36	44
Federal Supplemental Educational Opportunity Grant	1,083	1,175	1,419	1,451	1,593	1,339	1,339
Federal Work-Study	702	713	710	678	733	713	713
Federal Perkins Loan	688	639	727	488	441	493	493
Federal Direct Student Loan (FDSL)	2,339	2,739	2,971	3,730	6,109	16,647	23,728
Federal Family Education Loans (FFEL)	5,243	5,878	10,323	12,698	14,459	5,220	(X)
AVERAGE AWARD (dol.)							
Total	**2,596**	**2,925**	**3,407**	**3,791**	**4,056**	**4,232**	**4,341**
Federal Pell Grants	1,515	2,041	2,456	2,971	3,706	4,115	3,800
Academic Competitiveness Grants/SMART [1] Grants	(X)	(X)	(X)	774	760	697	(X)
SMART [1] Grants	(X)	(X)	(X)	3,107	3,125	2,560	(X)
TEACH Grants [2]	(X)	(X)	(X)	3,125	2,369	2,966	2,966
Federal Supplemental Educational Opportunity Grant	705	772	764	716	669	716	716
Federal Work-Study	1,088	1,318	1,478	1,642	1,700	1,642	1,642
Federal Perkins Loan	1,496	1,790	2,190	1,968	1,852	1,968	1,968
Federal Direct Student Loan (FDSL)	3,547	3,778	4,352	4,882	4,867	5,088	4,893
Federal Family Education Loans (FFEL)	3,653	3,864	4,193	4,512	4,618	3,758	(X)
COHORT DEFAULT RATE [3]							
Federal Perkins Loan	12.6	9.9	8.1	10.4	10.1	(NA)	(NA)

NA Not available. X Not applicable. [1] National Science and Mathematics Access to Retain Talent. Funding for Academic Competitiveness Grants and SMART Grants was terminated in 2011. [2] Teacher Education Assistance for College and Higher Education (TEACH) Grant Program. [3] As of June 30. Represents the percent of borrowers entering repayment status in year shown who defaulted in the following year.

Source: U.S. Department of Education, Office of Postsecondary Education, unpublished data.

Note. The levels of federal funding for student loans and grants has increased in the overall funds utilized, the number of awards granted, and the average size of the aid from 1995 to 2011. This chart includes numbers for federal grants, loans, and work-study financial aid packages.