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Samantha Villanueva  
*Skidmore College*

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# **An Analysis of the Factors Affecting the Spending and Saving Habits of College Students**

By

Samantha Villanueva

A Thesis Submitted to

Department of Economics

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In Partial Fulfillment of the Requirement for the B.A Degree

Thesis Advisor: Qi Ge

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**Abstract**

This paper analyzes spending and saving behavior among students of various class years, ethnicities, and gender at Skidmore College using data collected from an original survey. The models incorporate both demographic characteristics as well as pertinent economic theory. Results indicate that Whites and Asians spend significantly more than other ethnicities while Blacks save significantly more. Findings also provide support for the Permanent Income Hypothesis, however, no significance was found regarding Hyperbolic Discounting.

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## I. INTRODUCTION

Managing personal finances has shown to be a growing issue, particularly within American culture. Within the first three months of 1999, consumer spending increased by 6.7% while savings reached an all-time low of -0.5% (Roberts & Jones, 2001). At an early age, individuals are exposed to various methods of handling personal finances, which can often lead to the development of poor habits (Gutter, Garrison & Copur, 2010). It is not until the university level where most consumers begin to experience a large degree of financial independence. Attaining money has become especially important to college students, a generation of individuals raised in a credit card society (Roberts & Jones, 2001). As they grow accustomed to this, students develop their own beliefs regarding spending and saving habits, many of whom have little regard for incurring debt (Pritchard, Myers & Cassidy, 1989). Having easy access to credit allows students to delay paying off purchases, resulting in large debt balances. While the majority of studies have been conducted in the United States, few researchers have expanded the scope of this topic across various cultures including Malaysia (Sabri & McDonald, 2010), Australia (Phau & Woo, 2008), and the United Kingdom (Furnham, 1999). As young adults become enculturated in a credit-heavy culture, findings have shown dependence on this method of payment, resulting in the development of poor habits and personal financial issues (Hayhoe et al., 2000). The further analysis of personal finance among young adults can help identify methods to resolve common issues that may arise as well as develop strategies that promote better financial practices.

This study utilizes an original survey distributed to students at Skidmore College, a private Liberal Arts college located in upstate New York. The survey captures demographic

characteristics and personal attitudes toward spending and saving. Particular attention is drawn towards connecting existing economic theories of consumption to the behaviors of college students, as limited research has been conducted in this realm of personal finance. The data collected includes numerical as well as descriptive statistics that provide insights into certain class years, ethnicities and gender that tend to spend more over others. It was found that overall spending has fluctuated more than savings over the course of one's college career, so the focus of this study is on average monthly spending.

Findings from the study provide strong evidence for ethnic differences in spending habits. There is support for the idea that Whites and Asians spend significantly more than other ethnicities, which is in line with my predictions of this sample population. Furthermore, the results of the analysis on the Permanent Income Hypothesis also provide evidence that this hypothesis can be applied to the sample population of Skidmore College students. About 54.5% of respondents lie on the threshold of support for the Permanent Income Hypothesis, which is the idea that these students are willing to spend more now in anticipation of earning a greater future income. I find that there is very limited evidence of Hyperbolic Discounting, as 74.5% of students reported a preference for receiving a delayed and higher reward rather than one that was more immediate but less in value. There is reason to believe that females employ more savings mechanisms, which supports the findings of Furnham (1999). The utilization of money management techniques is obvious, as women are found to spend less on average by 4.1%.

By carrying out this study within the context of a small, private liberal arts college, this paper contributes to the growing body of literature on the role of personal finance in the context of college students. To my knowledge, there has been no prior research of personal

finance habits conducted on a liberal arts population. Previous studies such as that of Cummins et al. (2009), indicates a geographic factor that may play into the development of financial habits. Certain regions may encourage particular behaviors, resulting in location-specific effects, especially if students selected to participate are mostly from that homogenous population. The implementation of this study specifically using individuals from various ethnicities allows for greater applicability that is representative of colleges with a diversified student body representation. This paper highlights the impact of cultural norms that inevitably impact the establishment of spending behaviors, many of which are all appropriated based on differing social norms across the globe. As this topic is relevant across various continents, there is increasing desire to further the examination of financial habits among college-aged individuals.

A majority of the literature reviewed focuses on demographic factors or socially constructed models of consumption to explain spending behavior. However, there is very limited knowledge on the applicability of existing economic theories that explain consumers' spending habits, particularly within the setting of college students. As such, contributions can be made from this study's attempts to draw connections between college level spending and theories of Hyperbolic Discounting and the Permanent Income Hypothesis.

Subsequent sections of this paper are organized in the following manner: Section II provides a framework of pertinent literature to contextualize the existing findings on college students' spending and saving habits; Section III includes methodology and data, where a description of the survey questionnaire is provide along with data collection methods; Section IV provides results from the regression analysis; Section V is a discussion, which draws

conclusions and relates findings from the study back to existing literature; and Section VI concludes with final remarks and policy implications.

## **II. LITERATURE REVIEW**

Current literature explores the impacts of demographic factors that influence the financial habits of college students. Some researchers have also extended the literature outside the U.S., finding cultural aspects that may influence participants' responses. However, there has also been very limited research on the relationship between financial behaviors of college students while also account for existing economic theories of spending, which this study aims to address. The literature reviewed provides theoretical framework on the permanent income hypothesis and hyperbolic discounting as well as sufficient background on the financial habits of college students.

### *Theoretical Framework I: Hyperbolic Discounting*

The model of hyperbolic discounting accounts for a time-inconsistent mechanism of choices. Given two options, humans tend to show a preference for a more immediate, smaller value reward rather than waiting for a later, higher value reward. These individuals are often described as being present-oriented, with more regard for current or immediate satisfaction rather than delayed satisfaction. As a result, people end up delaying certain decisions, such as saving mechanisms. This conflict of time preferences results in hyperbolic discounting, or intertemporal preferences (Angeletos et al., 2001). A study by Angeletos, Laibson, Repetto, Tobacman, and Weinberg (2001) analyzes the theory of hyperbolic discounting in the context of



consumer behavior. They apply this model towards different households and assume that economic life begins at age 20 and retirement starts at age 63 (Angeletos et al., 2001). The findings of their simulation study conclude that at an earlier stage of life, consumers tend to exhibit hyperbolic discounting mannerisms (Angeletos et al., 2001). There is a preference for instant gratification and participants were found to put off saving, assuming they would eventually be able to start budgeting more efficiently at a later date (Angeletos et al., 2001). Younger consumers in particular are linked to high volumes of consumption financed by credit cards (Angeletos et al., 2001). The study can be critiqued in terms of its approach. Angeletos et al. (2001) employ a simulation mechanism which lays out a generic profile of a consumer and a typical spending pattern. However, this may be too generalized and too simplistic of a model. Consumer behaviors change and adapt over time, and this model does not reflect for any sorts of income shocks or savings mechanisms.

Similarly to Angeleto's (2001) findings, Laibson (1998) establishes a model of an individual consumer who is an autonomous, temporal being. He uses his model to study how one would act through various periods of control over a consumption decision (Laibson, 1998). Age, income and wealth are all found to be highly correlated with measures of patience (Laibson, 1998). More specifically, the expectation that one will be earning more in the near future drives more willingness to spend. Young consumers who expect rising income paths and consumers with low levels of cash on hand are more likely to have a higher Marginal Propensity to Consume (Laibson, 1998). Though able to account for certain behavioral mannerisms in consumers, the model of hyperbolic discounting fails to consider some important factors. For instance, bounded rationality and impulsive buying are two concepts that may influence

consumer spending, but are not accounted for in the idea behind hyperbolic discounting.

Bounded rationality is the idea that when faced with a decision, consumers are weighing their options under certain constraints including limited information about alternative options and certain consequences that may come with their chosen decision. On the other hand, impulsive buying explains the instinctual behavior of a consumer, which may probe him or her to make a spur of the moment decision. The model of hyperbolic discounting may fall short in that it does not encompass other factors that lie behind consumption behavior.

#### *Theoretical Framework II: Permanent Income Hypothesis*

Another theory that also explains consumer behavior is the Permanent Income Hypothesis. The idea behind this hypothesis is that people spend their money in a way that is consistent with their expected long-term income. Over time, consumption is said to be smoothed by changes in income. The Permanent Income Hypothesis emphasizes that consumers will spend money based on lifetime income, not just current income. Hayashi (1985) conducts a study where Japanese families are questioned about their spending habits, revisiting the participants every three months for an entire year. Findings from the study conclude that the Permanent Income Hypothesis applied to about 85% of the sample population (Hayashi, 1985). Wage earners are found to exhibit consumption smoothing mechanisms (Hayashi, 1985). Further review shows that changes in income explained only a small portion of expenditure differences, warranting support for the Permanent Income Hypothesis (Hayashi, 1985). However, the theory has been criticized for being limited in the type of goods consumers purchased. Much of the previous literature focused on changes in consumption of perishable

goods. This gives rise to the speculation that the Permanent Income Hypothesis may not be applicable towards non-perishable items. Perhaps consumption habits change when it comes to more durable goods, thus the need for further research. Within the context of my study, the Permanent Income Hypothesis is tested in a manner that investigates the willingness of individuals to spend more given current income, in anticipation of earning a higher, more stable income in the future. There is regard for both durable and non-durable goods to account for different types of goods that are purchased over a consumption period.

#### *Factors Influencing Financial Behaviors I: The Role of Ethnicity*

Much of the existing body of literature on the financial habits and attitudes of college students focuses on the increasing importance of this topic and its implications on the consumer culture. A study by Chen and Volpe (1998) is conducted with three main purposes in mind: to provide evidence of personal financial literacy among college students, examine why some students may be more knowledgeable than others, and explain how a student's knowledge influences his or her opinions and decisions on financial matters. The researchers utilize a survey questionnaire that asks participants about their knowledge of personal finance, opinions and decisions about financial matters and demographic data (Chen & Volpe, 1998). The survey was sent to students from 14 different colleges, both public and private schools across the United States. Chen and Volpe (1998) incorporate a multivariate model with independent variables being academic discipline, class rank, gender, race, nationality, work experience, age, income and type of major. Results from the survey reveal much about the population of college students. At a young age, most of the money source available to college

students is used for consumption rather than savings (Chen & Volpe, 1998). This may include personal allowances to cover the costs of food, school supplies, and other miscellaneous items. Ethnicity also plays a significant role, as African-Americans were less knowledgeable on financial matters across the board, and foreign students in general performed worse than American students (Chen & Volpe, 1998). Researchers conclude that students with less knowledge on finance tend to have wrong opinions and make incorrect decisions (Chen & Volpe, 1998). The survey questionnaire was designed to test financial literacy as well as opinions towards financial decisions. However, this may pose as a cultural bias, as the survey was only conducted across the United States, drawing conclusions from an American cultural perspective. It is highly possible that international students, being enculturated under different standards, hold very different opinions and make opposing decisions when dealing with finances compared to American students. The survey design may have been biased toward a typical American's mindset on spending and saving.

To better understand factors that influence basic adolescent spending and saving, Pritchard, Myers and Cassidy (1989) gather data from high school students from private and public schools across the nation. An administered questionnaire determines whether students are savers, necessity spenders and discretionary spenders (Pritchard et al., 1989). Findings from the study report specifics on ethnic and gender differences. Students who tend to predominantly save are female and white (Pritchard et al., 1989). This category of participants performs better on standardized tests, receives better grades, are rated as hard workers and plan to enroll in further education (Pritchard et al., 1989). These kinds of individuals are said to be more future-oriented, with a regard for higher savings and delayed gratification (Pritchard et

al., 1989). For students who are primarily necessity spenders, most of the population are females and black (Pritchard et al., 1989). Overall, they have poorer performance on tests, receive lower grades and do not feel that saving is as important given their lower socioeconomic status (Pritchard et al., 1989). There is a lower drive for future goals in the workplace, as most of the students seem to be present-oriented individuals. This preference for immediate gratification is associated with the theory of hyperbolic discounting, where necessity spenders prefer to receive a sooner, instant reward. With discretionary spenders, the majority of this population are males and whites, which researchers attributed to car ownership (Pritchard et al., 1989). Discretionary spenders feel that having a lot of money is important (Pritchard et al., 1989). Generally, there is more interest in attaining success in the workplace, accounting for poor educational performance (Pritchard et al., 1989). However, the sample population taken for this study only utilized employed high school seniors. While this sheds light on the habits of students entering college, it is not very representative of high school students overall. Seniors may employ different financial mechanisms, thus the results would not be very generalizable to a larger population.

### *Factors Influencing Financial Behaviors II: A Growing Credit-Dependent Culture*

Much of the literature that covers credit card usage draws similar conclusions in that the presence of credit makes students highly dependent on this payment method. In a study by Roberts and Jones (2001), the primary focus revolves around the role of money attitudes and credit card use on compulsive buying among U.S. college students. They emphasize that the desire to be part of the consumer culture is constantly increasing, especially as American

students are raised in a society where credit card usage is at an all-time high (Roberts & Jones, 2001). They utilize a money attitudes dimension scale to further understand the factors which most commonly lead to compulsive buying habits (Roberts & Jones, 2001). The researchers employ a model developed by Yamauchi and Tessler to demonstrate the most powerful factors behind money attitudes (Roberts & Jones, 2001). The Money Attitude scale (MAS) consists of three dimensions: power, distrust, and anxiety (Roberts & Jones, 2001). The dimension, power, was defined as individuals who use money as a tool of influence and as a means of impressing others to exhibit success (Roberts & Jones, 2001). Distrust is linked to price sensitivity, with individuals who are hesitant, suspicious and doubtful in situations regarding money (Roberts & Jones, 2001). The last factor, anxiety, is used to identify people who view money as a source of stress or use it to cope with anxiety (Roberts & Jones, 2001).

With the use of a survey and the Money Attitudes Scale, Roberts and Jones (2001) find that many college students use credit cards irresponsibly and in the future, tend to suffer both financially and even psychologically. These types of attitudes seem to carry on after college and can often worsen. The model that the researchers employ in this study seems limited in its scope of attitudes towards money. It only considers three dimensions that were tested in the survey, leaving out many other factors that could very well influence a participant's financial attitudes, such as early exposure to financial management and formal financial education. Furthermore, the present study's sample population appears homogenous, utilizing students all from one college at a given point in time. To better assess the relationship between the proposed attitude dimensions and spending habits, Roberts and Jones (2001) address the need for further longitudinal research.

A key component of the consumer culture is the materialistic attitudes held by many college students. This segment of shoppers is a particularly attractive market for credit card companies, made evident by the annual increase in on-campus solicitations. Palan, Morrow, Trapp and Blackburn (2011) discuss the issue of credit card misuse among college students, stating that students associate credit cards with spending. Their findings support the idea that credit cards promote compulsive buying behaviors and incentivize purchases that may not otherwise be bought when using cash (Palan et al., 2011). Palan et al.'s (2011) study utilized an online survey method that only tested senior business majors enrolled in a capstone course. The fact that participants were all business majors completing their culminating class gives a very biased view of results. These individuals have been educated with a business degree, which can provide conclusive results for business-minded students but not those who do not fit into this category.

Another study in support of these arguments is one by Norvilitis, Merwin, Osberg, Roehling, Young and Kamas (2006). Researchers claim that students often do not understand the financial implications of their behaviors (Norvilitis et al., 2006). Those with credit cards tend to spend less time and more money when making purchases (Norvilitis et al., 2006). Presently, students are captivated by the consumer culture, and having the means to delay paying off purchases is enticing. In the long run this can result in higher debt and money management issues. Norvilitis et al. (2006) use a comprehensive study mechanism, which includes a 173-item omnibus questionnaire. While the study design was intentionally extremely detail-oriented, capturing everything from financial well-being, attitudes toward debt, psychological measures and materialism, it was extremely taxing to complete, which may have deterred some students

from being fully engaged throughout the entire survey. Furthermore, participants were instructed to complete the survey outside of class and return with the completed questionnaire at a subsequent meeting. There is a high possibility of extraneous variables that could have affected the survey results. Students inevitably completed the survey at different times, locations and could have done so at multiple intervals rather than in one sitting. These variances may cause results to vary in ways that were unintended by the researchers.

### *Factors Influencing Financial Behaviors III: Gender Differences*

In a separate study of differences in spending habits and credit use, Hayhoe, Leach, Turner, Bruin and Lawrence (2000) study the relationship between affective credit attitudes and gender on purchasing habits. The researchers introduce a multivariate model that includes variety of purchases, financial management practices, financial stressors, affective credit attitude, and number of credit cards with a balance (Hayhoe et al., 2000). They use this model to analyze behavioral differences, particularly with regards to gender. Hayhoe et al. (2000) survey college students over the age of eighteen from six different public universities. The sample consists of an even split between males and females, the majority of which are full-time students (Hayhoe et al., 2000). To analyze the results, the researchers use a logistic regression analysis when studying the effect of credit purchases and apply an OLS regression model when studying financial practices (Hayhoe et al., 2000). Afterwards, Hayhoe et al. (2000) use a path analysis model to show the relationship between credit attitudes, variety of purchases, number of financial stressors, number of financial management practices, and number of credit cards on which the student carried a balance. As the researchers use an exploratory analysis, they



first run a saturated model where all paths are initially specified, followed by a restricted model, where they only include significant paths (Hayhoe et al., 2000). Results show that there is a strong influence of gender and affective credit attitudes. In particular, financial management practices, financial stressors, affective credit attitudes and number of credit cards differed by gender (Hayhoe et al., 2000). The responses received allow researchers to draw conclusions about the ways men and women vary in their financial habits. Females tend to use credit cards on appearance goods, like clothing, while males use credit cards for electronics, entertainment and food (Hayhoe et al., 2000). Women are also found to exhibit more financial practices such as keeping a written budget, planning spending and saving regularly (Hayhoe et al., 2000). However, both genders feel that overall, they do a good job managing their finances (Hayhoe et al., 2000). The shortcoming of this study is the lack of testing for differences in ethnicity. The variable has proven to have significant effects among other studies in the field and is also a variable included in the model used for this study. While there was a large sample size in Hayhoe et al.'s (2000) analysis, it is unclear the various backgrounds of individuals that were captured by this study, which may provide further understanding and examination of the results.

Among various pieces of literature, gender often acts as a strong determining factor. In a study of money attitudes and credit card debt, women report having a self-imposed budget more frequently than men (Norvilitis et al., 2006). Contrary to Norvilitis et al. (2006) and Hayhoe et al. (2000), Roberts (2000) finds that women have been raised and enculturated to find satisfaction from shopping. Thus, they are more likely to exhibit spending behaviors, particularly compulsive buying, as compared to men. This finding suggests that spending for

females may only be greater than that of males in the context of shopping for appearance goods, such as clothing, shoes, accessories and cosmetics. The conclusions from different researchers focusing on gender appear to agree on these statements across the board. Roberts (2000) acquires data strictly from students at Baylor University, a Baptist university in Texas. The student body of Baylor University may attract many students of this religious demographic, which can hold certain beliefs towards spending and saving. Researchers could have extended their research to a non-denominational university where this religious aspect would not have been an issue.

#### *Literature outside the U.S.*

While most studies focus on American college students, some researchers have extended the literature outside the U.S., highlighting the fact that the financial attitudes and behaviors of college students are also an international focus. Sabri and MacDonald (2010) analyze the relationship of savings behavior and financial issues among college students in Malaysia. They find that financial experience prior to college often fosters poor habits (Sabri & MacDonald, 2010). As the majority of students first experience financial independence at the university level, there is overall low financial literacy among the participants. The sample consists of both private school and public school students, which later proves to be a significant factor in the study (Sabri & MacDonald, 2010). Participants that come from private schools are more likely to come from wealthier backgrounds, which can account for the high volume of spending among these students (Sabri & MacDonald, 2010). Moreover, Sabri and MacDonald (2010) are also able to identify that those of Chinese descent are a specifically wealthy

population in Malaysia, and much of the spending is linked to this group of students. Overall, respondents in this sample are more prone to spending than saving; more than half of the respondents choose to spend money that is received for scholarships or education loans (Sabri & MacDonald, 2010). Often, this money is spent on personal shopping, most of which is consumed before the end of one semester (Sabri & MacDonald, 2010).

The consumer culture is not only growing rapidly in the U.S. but also seems to have taken shape in both developed and developing economies around the globe. Phau and Woo (2008) investigate money attitudes and credit card usage among Young Australians using a mall intercept method in a popular shopping complex. Participants of the study are administered an eight-question survey which asks about demographics, money attitudes, compulsive buying habits, credit card usage and shopping patterns (Phau & Woo, 2008). It is found that young adults tend to associate money with a high-status image (Phau & Woo, 2008). Frequent spending habits are associated with an individual's desire to achieve a certain social status. Moreover, Phau and Woo (2008) identify cultural and social norms that may have varying effects when the study is conducted in different countries. There exists both present oriented and future oriented societies, which can be a strong determinant in whether individuals are more likely to spend or save (Phau & Woo, 2008). As Australia is a melting pot of cultures, the observed attitudes towards money matters are varied (Phau & Woo, 2008). Researchers conclude that attitudes and behaviors toward spending and saving are a function of both age and cognitive maturation (Phau & Woo, 2008). The younger a student, the less they are inclined to save, as there is no immediate worry of covering financial costs (Phau & Woo, 2008). There is regard for attaining a constant stream of income that will account for accumulated debt. This

finding by Phau and Woo (2008) provides support for the Permanent Income Hypothesis.

Younger consumers are less mindful of covering costs now, as they anticipate earning money from a future employer that will allow them to smooth out consumption habits over time.

However, the sample was taken from a single, homogenous Australian population in a popular shopping complex. It is unknown whether there is an environmental effect factoring into the results of this study. Conducting a study on financial attitudes and behaviors in a shopping mall may have adverse effects on consumer responses. Considering that many of the participants had made or were planning to make a purchase can influence their views on their personal habits, skewing the results of this study.

In a study conducted in London, Furnham (1999) observes the spending and saving habits of British adolescents. It is interesting to note the findings of such a study, as not many researchers have attempted to investigate the financial habits of children. Focusing on a younger age bracket may provide insights into reasons as to why college students spend or save the way they do. Furnham (1999) is able to suggest why an individual may be more susceptible to spending, as early exposure to certain attitudes and parental treatment can largely factor into the development of spending habits. The study on British children asks participants to complete a questionnaire which asks about sources of income, how much money is generally put into savings, where it is stored and the purpose it is intended for (Furnham, 1999). The main demographics Furnham (1999) focuses on are gender, age and class, with the first two proving to be highly significant. Researchers conclude that age is the most powerful predictor of saving (Furnham, 1999). The older a child is, the more money he or she will receive and save. In terms of gender, females are better at money management, as they are less comfortable with

handling debt (Furnham, 1999). However, this could be due to differences in socialization, as it is found that at a younger age, boys are receiving more pocket money and are allowed to take on part-time jobs before girls (Furnham, 1999). This finding by Furnham (1999) may explain the gender differences that appear within multiple studies on financial attitudes. The socialization and upbringing of boys in comparison to girls builds a separate framework for handling money issues. Finally, social class differences appear to be a difficult demographic to measure. It is predicted that higher socioeconomic status implies more savings, but the sample turned out to be a homogenous population of children from middle class backgrounds (Furnham, 1999). This limitation to the study did not allow for full investigation of the range of demographics that were initially intended for study.

After examining a broad range of literature, it can be concluded that the main contributions of my study stem from a connection of economic theories to the spending and saving habits of college students. Many researchers have focused on examining different variables that may have different effects on a college student's financial habits, but few have analyzed whether the results have shown support for existing theories that account for consumer behavior. More specifically, theories of Hyperbolic Discounting and the Permanent Income Hypothesis serve to understand financial attitudes among consumers, and minimal research has been conducted to further investigate this relationship within the context of personal finance. My study seeks to provide a bridge between the spending and saving habits of college students and the theoretical framework behind consumers' financial habits.

### III. METHODOLOGY & DATA

#### *Data Collection*

For the purposes of this study, I designed my own survey using Qualtrics and distributed the questionnaire to students via convenience sampling at Skidmore College across all class years. Convenience sampling is a method which recruits volunteers to participate in a study, selected due to their availability and easy access. Students were approached in common spaces around campus including the library and Case Student Activity Center, and those who agreed to participate were emailed the link to the online survey. A conscious effort was made to capture the demographics of the population. To account for this, students from various ethnicities and genders were asked to participate, such that it is a reflective sample of the Skidmore College student body. For instance, approximately 70.6% of students at Skidmore identify as White, followed by Asian at 6.2%, then Black at 4.4%, all of which were factored into the recruitment of participants (Skidmore College - CollegeData College Profile). The data collection process was conducted over a two-week period, where a total of 66 surveys were sent out and 55 complete responses were recorded – a response rate of 83.3%.

#### *Survey measurement instrument*

The seven-minute survey was divided into three separate sections. The first asked about demographic factors such as class year, gender and ethnic background. Students selected the choices that best reflect how they self-identify under these categories. The second section consisted of a set of four randomized questions that asked about financial sources, satisfaction with current spending, plans for future spending and Hyperbolic Discounting. The question

pertaining to financial sources involved a multiple-choice selection with options being a) I receive most of my money from an allowance (from parents, guardians, etc.) b) I earn money from an employer c) I have a debit card and d) I have a credit card. Participants were then asked subsequent questions on whether they planned for future spending as well as satisfaction with current spending. Both were measured on a 5-point Likert scale with options ranging from Always, Often, Sometimes, Seldom and Never. Hyperbolic Discounting was measured by asking if a student would prefer to receive \$15 today or \$20 tomorrow.

The final section was a set of five randomized questions regarding most frequently purchased items, financing of leisure expenditures, a numerical average of monthly spending, changes of spending and saving that may have occurred over college career, and the Permanent Income Hypothesis. To understand what students spent most of their budget on, participants were asked to rank among five categories in the order of 1, being most frequently purchased, to 6, being least frequently purchased. Options provided were clothing, electronics, cosmetics, entertainment, and food and beverage. Individuals were also asked what source they used to make personal or leisure purchases, and the survey provided options including money from a parent or guardian, money earned on their own, credit card and other. Students were also asked to estimate average monthly spending and were given options such as a) Less than \$100 b) \$100-199 c) \$200-399 d) \$400-599 or e) \$600+. The final two questions were posed in a graphic slide manner, which asked participants to select an option on a given numerical scale that ranged from 0 to 100. The first question asked, "On a scale of 0 (no change at all) to 100 (lots of change), have you experienced changes in your spending or saving habits over your time at Skidmore?" The second question asked how much participants agreed with

the statement, “I am willing to spend more now because I anticipate getting a decently paid job after graduation”. 0 indicated strongly agree while 100 denoted strongly disagree.

### *Model*

After collecting results from the survey questionnaire, two baseline models were developed. The models were built upon specific factors being tested within the survey instrument. Upon initial analysis, it appeared that spending had a much more significant effect than saving on a college student’s financial habits. When asked to consider changes in both saving and spending that have occurred over an individual’s time in college, there were more reported changes in spending while few offered the same degree of changes in saving. Specifically, 25.5% of participants recorded responses in the range of 50-100, indicating significant changes in spending. Conversely, when asked about changes in savings, only 16.4% of respondents reported much change in savings. As a result, I have chosen to focus the analysis on spending habits. I utilized two probit regressions as my baseline models. Model 1 tests the effects of class year, gender and race on average spending while Model 2 analyzes two economic theories of consumption, namely Hyperbolic Discounting and the Permanent Income Hypothesis, in relation to average monthly spending. The separation of variables allows for different types of analyses that focus either solely on demographics or theoretical framework.

$$\Pr (avg\_spend_i) = \phi(\beta_1 classyr_i + \beta_2 gender_i + \beta_3 race_i + \varepsilon_i) \quad (1)$$

$$\Pr (avg\_spend_i) = \phi(\beta_1 HD_i + \beta_2 PIH_i + \varepsilon_i) \quad (2)$$

where HD denotes Hyperbolic Discounting and PIH indicates Permanent Income Hypothesis.



### *Measurement of Variables*

The dependent variable, which analyzes average spending, was measured through a multiple-choice question that asked students to estimate their average monthly spending. Options given to students included a) less than \$100 b) \$100-199 c) \$200-399 d) \$400-599 or e) \$600+. The results were aggregated and categorized to run the probit regression model. It was found that most of the respondents answered either d) \$400-599 or e) \$600+. Thus, those results were taken to create the dummy variable *avg\_spend*, where responses that were either d) \$400-599 or e) \$600+ were assigned a value of 1, and 0 otherwise.

The independent variables each correspond to a specific factor being tested in relation to an individual's spending mechanisms. The variable *classyr* accounts for whether students in different class years currently attending Skidmore College have different effects on spending. This provides a comparison among age groups to test spending mechanisms. The variable *classyr* included the Classes of 2020, 2019, 2018 and 2017. I predict that younger students, or freshmen, would have a positive relationship with average spending, while older class years would have a negative relationship with average spending. At the onset, I predict that freshmen are only starting to get acclimated with financial independence and may not be able to manage spending as well as students in other class years. *gender* tests for differences in spending that may arise depending on whether the participant was male or female. My predictions for *gender* are that females are more discretionary with spending as previous literature has shown them to employ more savings mechanisms. This hypothesis is supported by the results of Norvilitis et al. (2006). The third variable *race* is a composite of the various ethnicities included within the testing parameters. The survey included options of White, Black or African American,

Asian, Hispanic, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and Other. Similar to the findings of Chen and Volpe (1998), my predictions for ethnicity are that Whites will spend more than other demographics while Blacks will spend less. Finally, *HD* and *PIH* correspond with Hyperbolic Discounting and the Permanent Income Hypothesis, respectively. The last two variables in the equation test for the applicability of those economic theories in the context of personal finance. Hyperbolic Discounting was tested by asking survey participants a question with regards to their preferences for receiving a reward. In particular, the question asked if the individual would prefer to receive \$15 today or \$20 tomorrow. To test the application of the Permanent Income Hypothesis, students were asked to rank their sentiments toward a statement. It was framed in such a manner that asked participants how much they agreed with the statement, "I am willing to spend more now because I anticipate getting a decently paid job after graduation". The question was presented in a graphic slide manner on a scale ranging from 0 to 100. Along the scale, there were various markers that indicated seven options from Strongly Agree to Strongly Disagree. I predict that there will be some evidence of both the Permanent Income Hypothesis as well as Hyperbolic Discounting among the sample population of college students. Researchers such as Angeletos et al. (2001) and Laibson (1998) both find that at a younger age, consumers tend to be present oriented and exhibit mannerisms that are in line with both theoretical models. Tables 1, 2, and 3 provide summary statistics of the data collected from the survey.

Table 1: Five number summary statistics of dependent variable *avg\_spend* and independent variables *race*, *classyr*, *gender*.

Variable	Observations	Mean	Std. Dev.	Min	Max
avg_spend	55	0.286	0.456	0	1
race	55	2.071	1.263	1	4
classyr	55	2.436	1.135	1	4
gender	55	1.454	0.503	1	2

Table 2: Summary statistics of ethnicity, gender and class year.

Variable	Subgroup	Percentage (%)	Observations
Ethnicity		100	55
	White	51.79	29
	Black	12.5	7
	Asian	12.5	7
	Other	23.21	13
Gender		100	55
	Male	45.45	25
	Female	54.45	30
Class Year		100	55
	2020	23.64	13
	2019	23.64	13
	2018	25.45	14
	2017	27.27	15

Table 3: Summary statistics of Permanent Income Hypothesis and Hyperbolic Discounting Variables

Variable	Description	Percentage (%)	Observations
PIH		100	55
	Strongly Agree-Somewhat Agree	54.5	30
	Strong Disagree-Somewhat Disagree	45.5	25
HD		100	55
	\$15 today	25.5	14
	\$20 tomorrow	74.5	41

Based on the summary statistics, it is evident that the variable for *race* has the highest standard deviation, indicating the largest variance of values. As there are four different subsections to the variable race and a purposefully disproportionate amount between each, it would make sense that *race* holds the highest standard deviation value. On the other hand, *avg\_spend* and *gender* both have fairly low standard deviations, as these variables were encoded to be dummy variables.

The summary statistics also show that the breakdown of *ethnicity* is such that it is proportionate to the actual demographic representation of the Skidmore College student body. Whites are the most prominent ethnicity, with a representation of 51.8% among survey participants, followed by Blacks and Asians, each composing 12.5% of the participants in the study. The *other* category of ethnic background represents 23.2% of the participants, as there were many respondents who reported a mixed ethnic background. In terms of gender, there is a larger population of female students, as was also reflected during the recruitment of participants. To draw some conclusions based on class year, it was ensured that a fairly even number of participants were recruited from each class. 27.3% of participants were from the Class of 2017, 25.5% were from the Class of 2018, and the Class of 2019 and 2020 comprised 23.6% each of the total responses.

### *Data Cleaning*

Prior to conducting regression analyses, the raw data collected from the survey were cleaned and encoded. First, an initial sweep through the responses indicated that one participant did not fully complete the survey. This single incomplete response was deleted, so

as not to skew the results and only include a portion of this individual's answers. There also existed a column of text response for the *race* variable, where participants had the option to specify a more particular ethnic background if they chose to do so. Since there were no recorded responses in this column, it was also deleted. The raw data output also included columns for amount of time taken to finish the survey, confirmation of consent, and confirmation of submission, all of which were unnecessary and omitted in preparation for the data analysis process.

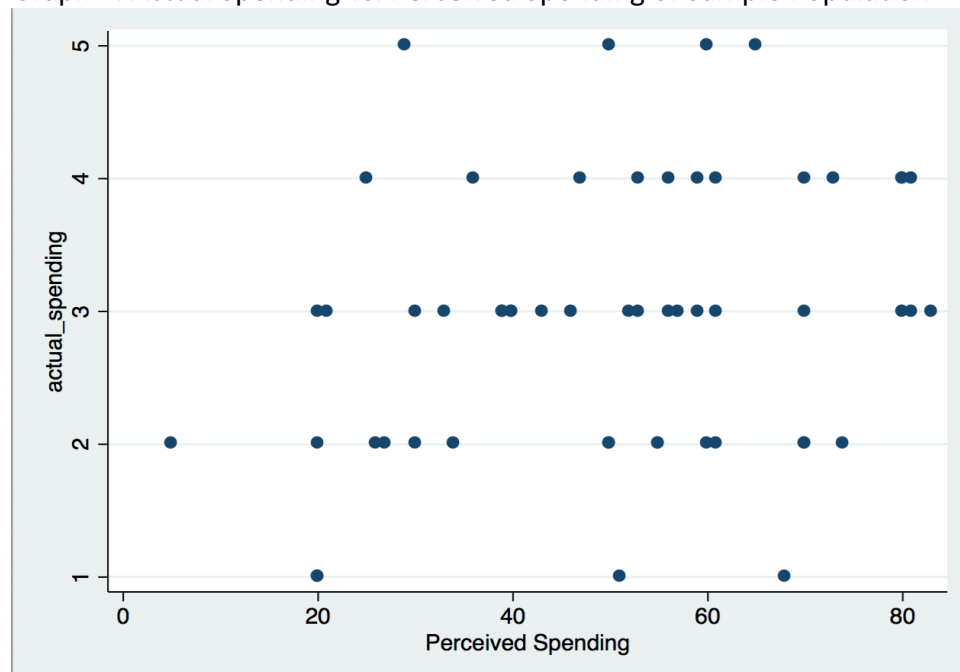
Since most of the recorded responses were in non-numerical form, most of the data had to be encoded into numerical values that denoted specific characteristics. The variable *ethnicity* was initially encoded into ten separate categories, which resulted in too many subsets to analyze. Therefore, the variable *race* was created which assigned numbers 1-4 to correspond with different ethnic categories; 1 = White, 2 = Black or African American, 3 = Asian, and 4 = Other. The category Other is comprised of individuals who recorded responses of Hispanic descent or mixed ethnicities. For the variable *classyr*, the same process was applied where 1 = Class of 2017, 2 = Class of 2018, 3 = Class of 2019, and 4 = Class of 2020. With regards to gender, 1 corresponds to female participants and 0 otherwise, resulting in the creation of a dummy variable.

The Permanent Income Hypothesis relates to the idea of individuals exhibiting consumption smoothing mechanisms over their lifetime. To test for this theory, participants were asked the degree to which they agreed with the statement, "I am willing to spend more now because I anticipate getting a decently paid job after graduation". On a scale of 0 being Strongly Agree to 100 meaning Strong Disagree, survey participants were given a graphic slider

to indicate their attitudes toward the statement. Therefore, four separate value ranges were established to aggregate the data for the regression analysis. A variable named *pih1* was created to correspond with values ranging from 1-25, *pih2* corresponds with values ranging from 26-50, *pih3* corresponds to values from 51-75, and *pih4* indicates responses between 76-100.

The encoding of data for Hyperbolic Discounting resulted in the creation of another dummy variable, where variable *hd* = 1 if the respondent answered \$15 today and *hd* = 0 if the response was \$20 tomorrow. About 74.5% of consumers responded with a preference for receiving \$20 tomorrow, indicating that there was very little desire for a smaller, sooner reward. Instead, there was a strong willingness to delay receiving money if it entailed pocketing a later but larger reward. Though the numeric value is relatively small, waiting another day to receive an extra \$5 was hypothetically more enticing. Only an underwhelming 25.4% of participants appeared to be hyperbolic discounters.

Graph 1: Actual Spending vs. Perceived Spending of Sample Population



Graph 1 shows the relationship between Actual Spending and Perceived Spending. Actual Spending was measured by students who self-reported average monthly spending, recording responses through five different options including a) less than \$100 b) \$100-199 c) \$200-399 d) \$400-599 or e) \$600+. These five options correspond to the y-axis scale ranging from 1-5. Perceived spending was measured by asking students their observed changes in spending over their time at Skidmore. The question was posed in a likert-scale manner where students could select an option on a range of 0-100, where 0 denoted no change at all and 100 denoted lots of change. The graph shows that students have false perceptions of their spending habits, as there is no trend present from these findings.

After processing the raw data, I decided to test not only demographics and theory alone, but also various combinations of demographic characteristics as well as economic theories of consumption. To my knowledge, previous literature has not accounted for testing a model that incorporates both demographics and theory altogether. Model 1 tests ethnicity, Model 2 tests for variances in gender, Model 3 observes class year, Model 4 accounts for the Permanent Income Hypothesis, Model 5 analyzes Hyperbolic Discounting, Model 6 is a combination of demographic factors with Hyperbolic Discounting, Model 7 combines demographics with the Permanent Income Hypothesis, and Model 8 is a full aggregation testing all independent variables against the dependent variable, average spending. The full model equation is as follows:

$$\Pr (avg\_spend_i) = \phi(\beta_1 white_i + \beta_2 black_i + \beta_3 asian_i + \beta_4 female_i + \beta_5 freshman_i + \beta_6 sophomore_i + \beta_7 junior_i + \beta_8 pih1_i + \beta_9 pih2_i + \beta_{10} pih3_i + \beta_{11} hd_i + \varepsilon_i)$$

Previous literature tends to utilize an Ordinary Least Squares (OLS) regression model, such as the study of Hayhoe et al (2000). The downfall to an OLS model in the context of my study is that it assumes a linear probability, and in some cases, the predicted probabilities may lie outside the boundaries of 0 and 1. This poses as an issue, as probabilities need to be within the range of 0 and 1. A probit regression model corrects for this issue by imposing a normal distribution assumption on the error term. Probit models can thus bind the probability between the threshold of 0 and 1, to ensure that the results are applicable within the context of a probability model.

#### **IV. RESULTS**

For this study, a probit regression analysis was employed where *avg\_spend* is the dependent variable. The marginal effects were reported to interpret each independent variable using their sub-categorical assignments. Results from all eight models are provided in the table below.



Table 4: Regression results of demographic characteristics and theoretical framework in relation to average spending

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	avg_spend	avg_spend	avg_spend	avg_spend	avg_spend	avg_spend	avg_spend	avg_spend
white	0.294*					0.324*	0.256	0.268
	(0.164)					(0.173)	(0.184)	(0.185)
black	0.318					0.261	0.117	0.115
	(0.273)					(0.308)	(0.314)	(0.313)
asian	0.578***					0.728***	0.812***	0.806***
	(0.205)					(0.177)	(0.149)	(0.152)
female		-0.0410				0.00991	-0.0157	-0.0119
		(0.121)				(0.128)	(0.133)	(0.134)
freshman			0.0679			0.164	0.135	0.128
			(0.171)			(0.195)	(0.197)	(0.198)
sophomore			-0.0802			-0.0596	-0.0565	-0.0726
			(0.156)			(0.163)	(0.152)	(0.154)
junior			-0.0975			-0.237*	-0.259**	-0.270**
			(0.152)			(0.141)	(0.117)	(0.119)
pih1				0.438			0.556*	0.570**
				(0.271)			(0.285)	(0.281)
pih2				0.382**			0.455***	0.443**
				(0.171)			(0.173)	(0.177)
pih3				0.244			0.328	0.335
				(0.235)			(0.259)	(0.261)
hd					0.0952	0.160		0.0711
					(0.145)	(0.196)		(0.194)
Observations	55	55	55	55	55	55	55	55

Standard errors in parentheses. Reported coefficients are marginal effects.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### *Ethnicity*

As discussed in the methodology section, the variable for ethnicity was grouped into four categories consisting of students who are White, Black or African American, Asian or Other. To compare spending habits cross-culturally, the regression was run using the *other* category as the baseline. Results from the regression analysis reveal that Whites, Blacks, and

Asians all spend more than the Other ethnicity group. The coefficients for *white* and *asian* are significant at the 10% and 1% levels, respectively. Results indicate that Whites spend 29.4% more, Blacks spend 31.8% more and Asians spend 57.8% more than those grouped in the Other category.

#### *Permanent Income Hypothesis*

The survey question pertaining to the Permanent Income Hypothesis was designed using a scale bar, such that those who recorded a response between 0-49 are deemed to be in support of the hypothesis while those between 50-100 were not. When observing the data, it was found that 52.7% of survey respondents fell within the threshold of 0-49 on the scale, and 47.3% of survey respondents fell within the threshold of 50-100 on the scale. More than half of the participants err on the side of agreement with the statement, warranting support for the Permanent Income Hypothesis. To run the regression analysis, the upper hand threshold of *pih4* was used as the baseline. Results showed that there is statistical significance at the 5% level for the threshold of values in *pih4*. Compared to respondents who are currently less willing to spend now despite the possibility of greater future income, those who are more willing to spend now, will spend on average 38.2% more.

#### *Class Year*

Collecting data from students in various class years allowed the results to be representative of individuals at different ages and phases of their college careers. This allows for the analysis of age and its relationship with personal finance. When comparing average

spending amounts between those in the Class of 2017 and those in the Class of 2020, the data revealed that 66.7% of fourth year students indicated spending anywhere between \$100-399 while 62.5% of first year students indicated spending anywhere between \$400-600+ on an average monthly basis. In addition, 66.7% of fourth year students noticed significant changes in their spending habits over their time at Skidmore. When running the regression model, the Class of 2017, or senior students, was used as the baseline for comparative analysis. Results show that freshman are 6.8% more likely to spend than seniors. On the other hand, sophomores are 8% less likely to spend and juniors are also less likely to spend at a rate of 9.8%. These results show that there is reason to believe that first year students spend significantly more within this demographic framework, as predicted. Although these results were insignificant, the signs of the coefficients are as expected, where freshman students were positively correlated and sophomore and juniors were negatively correlated with average spending.

### *Gender*

Data for gender consist of a split between 25 male participants and 30 female participants. These numbers for the gender variable are aggregated across all class years and ethnicities. Between males and females, data supports the idea that males are more likely to spend more in a given month than females. More precisely, results reveal that females are 4.1% less likely to spend than the average male student, a finding that was expected. Again, the sample population, consisting of 54.5% female and 45.5% male, is representative of the more populous female demographic of Skidmore College.

### *Hyperbolic Discounting*

The idea that consumers are hyperbolic discounters and make decisions based on time preferences does not seem to be an initial trend within the scope of personal finance literature among college students. When running the regression model, it was found that for every incremental increase of hyperbolic discounting, average spending increases by 9.5%. However, this finding proved to be insignificant. There may also be a limitation to the design of this particular survey question in that the time lag of one day is too small. Given this short time frame, the value of \$5 is arguably too high. Both of these factors may have contributed to a poor question design, ultimately not able to capture the intended theoretical nature of the study.

### *Demographic and Theoretical Models*

Models 6, 7, and 8 all combine demographic characteristics with theoretical framework. These models test for the significance when accounting for both demographics and Economic theory, which to my knowledge, has not been previously tested in related literature. When looking strictly at demographics and Hyperbolic Discounting in Model 6, there is significance among ethnicity and class year. The coefficient for *white* is 32.4%, significant at the 10% level, and for *asian* is 72.8%, significant at the 1% level. For the analysis on ethnicity, the variable group *other* was used as the baseline. Interpreting these results, *white* has increasing probability of average spending by 32.4% while *asian* has increasing probability of average spending by 72.8%. The result for *junior* is also significant at the 10% level but with a

decreasing probability by 23.7% in relation to average spending. Hyperbolic Discounting results were insignificant, but positively correlated with average spending, as expected.

Model 7 examines demographics and the Permanent Income Hypothesis. The coefficients for *asian* and *junior* are positive and significant at the 1% level while the Permanent Income Hypothesis also shows positive significance at both the first and second thresholds. The variable *asian* has increasing probability of spending by 81.2% and *junior* has decreased probability of spending by 25.9%. *pih1* is significant at the 10% level while *pih2* at the 1% level. Those in the threshold of *pih1* have increased probability to spend by 55.% and those in the threshold of *pih2* have increased probability of spending at a rate of 45.5%.

The full model, aggregating all 11 independent variables, shows significance among the same variables discussed in Model 7. Again, *asian* and *junior* are positive significant, this time with increased probability to spend at 80.6% and decreased probability to spend at 27%, respectively. However, in the full model, *junior* is positively significant at the 5% level while *asian* still holds significance at 1%. *pih1* and *pih2* show positive coefficients at the level of 5% significance, both with increased probabilities of 57% and 44.3%. An interesting finding to note is that in each model, the variables *asian* and *pih2* remain significant, confirming that these variables are strongly correlated with average spending.

### *Savings*

Similar regressions were also run to observe any patterns in savings that may be present among the sample population. While there was still significance present among certain variables, changes in saving habits did not seem to be as present as that of spending habits. The dependent variable, *avg\_save*, was measured through the question that asked about

perceived changes in habits over time at Skidmore. Students were asked to report their perceptions of changes in both spending and saving on a scale of 0 to 100, with 0 indicating no change at all and 100 indicating lots of change. Results from the regression analysis are shown in table 5 below.

Table 5: Regression results of demographic characteristics and theoretical framework in relation to average savings

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	avg_save	avg_save	avg_save	avg_save	avg_save	avg_save	avg_save	avg_save
white	0.0128 (0.160)					0.179 (0.184)	0.0866 (0.179)	0.131 (0.193)
black	0.305* (0.157)					0.341** (0.140)	0.267 (0.184)	0.293* (0.174)
asian	0.166 (0.196)					0.141 (0.221)	0.188 (0.208)	0.181 (0.212)
female		-0.0872 (0.130)				-0.0312 (0.138)	-0.0571 (0.146)	-0.0428 (0.148)
freshman			0.165 (0.162)			0.142 (0.179)	0.153 (0.181)	0.154 (0.181)
sophomore			0.234 (0.153)			0.189 (0.173)	0.257 (0.160)	0.230 (0.171)
junior			0.255* (0.149)			0.193 (0.187)	0.212 (0.175)	0.176 (0.191)
pih1				0.332** (0.139)			0.321** (0.145)	0.321** (0.142)
pih2				0.321** (0.151)			0.304** (0.155)	0.262 (0.173)
pih3				0.143 (0.173)			0.105 (0.187)	0.115 (0.186)
hd					0.238* (0.134)	0.221 (0.168)		0.136 (0.214)
Observations	55	55	55	55	55	55	55	55

Standard errors in parentheses. Reported coefficients are marginal effects.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The same set of specifications was utilized to study savings behavior. Model 1, focusing on ethnicity, shows that the coefficient for *black* is positive and significant at the 10% level. Specifically, black students are 30.5% more likely to save than other races. Model 3, observing differences among class years, finds that the coefficient for *junior* is positive and significant at the 10% level, with juniors 25.5% more likely to save than other class years. Model 4 investigates average savings versus the Permanent Income Hypothesis, with both *pih1* and *pih2* resulting in positive and significant coefficients at the 5% level. In Model 5, the result for Hyperbolic Discounting is positive and significant at the 10% level. Model 6, looking at demographics and Hyperbolic Discounting, find significance for *black* at the 5% level with a coefficient of 34.1%. This indicates blacks are 34.1% more likely to save in comparison to other ethnicities. Model 7 analyzes demographics and the Permanent Income Hypothesis, where *pih1* and *pih2* are both positive and significant at the 5% level. Students in the threshold of *pih1* are 32.1% more likely to save while those in the threshold of *pih2* are 30.4% more likely to save. Finally, the full model results show that Blacks are more likely to save at a rate of 29.3%, a finding that is significant at the 10% level. *pih1* is also positive significant at the 5% level with a coefficient of 32.1%.

When comparing the results of spending and saving, there are more statistically significant results within the spending models versus the savings models. This is in line with the students' responses, where 25.5% of students observed lots of change in spending while only 16.4% of students observed lots of changes in saving habits over their time at Skidmore. Some patterns have emerged when interpreting the regression results. The spending models display significance of the variable *junior*, which is negative and significant in each model it is used.

This is indicative of the fact that juniors spend the least in comparison to other class years. This can be confirmed when looking at the savings regression results, where *junior* is positively correlated with savings in model 3. The finding can suggest that juniors spend less on average because they have observed more implementation of savings mechanisms.

Similarly, the variable *asian* is also significant in all spending regressions that it is utilized, each with a significance at the 1% level. This demographic is strongly correlated with average monthly spending. Another interesting result to note is that *black* is significant in models 1, 6, and 8 of the savings models. This supports the idea that Blacks are more likely to save as opposed to students of other ethnicities. There is also no significance of the variable *black* within the 8 models of spending, which further confirms the findings.

## V. DISCUSSION

Much of the previous literature focuses on different variables that may influence the spending and saving habits of a college student, but few researchers develop a model that accounts for both demographic and theoretical values altogether. While age, gender and ethnicity have all shown to largely influence financial behaviors of a college student, little has been done to examine the role of certain theoretical frameworks including the theories of Hyperbolic Discounting and the Permanent Income Hypothesis. This study examines spending and saving behaviors among college students, taking into account variables of class year, gender and ethnicity in one model and the Permanent Income Hypothesis and Hyperbolic Discounting in a separate model.



In terms of planning ahead for future spending, females were more likely to plan for spending. When observing the number of responses that reported planning for spending often, 16.4% of females selected that option as compared to 7.3% of males. On average, females in this data set spend 4.1% less than males. This finding is in line with other literature. Sabri and MacDonald (2010) conclude that females employ more saving mechanisms, which included planning spending budgets. This may relate to the socialization and upbringing of females in comparison to males. In some societies, males are given the freedom to begin working at a younger age whereas females are held back until a certain age (Furnham, 1999). As males begin to earn income earlier, they have more disposable income to spend as opposed to women who are reliant on financial support from parents or guardians.

Chen and Volpe (1998) find that women, particularly those who are ranked lower among their class and with little work experience, are less knowledgeable on personal finance and therefore tend to develop wrong opinions and execute incorrect financial decisions. However, this statement seems to be a cultural bias. To claim that an individual has “wrong opinions” is a judgment against certain cultural norms and standards that may not hold true in every societal structure. Perhaps many of these individuals were enculturated under different mannerisms, where spending is revered. Furnham’s (1999) study reviews money pathology, which shows that males report greater confidence, independence, risk taking and gambling with money matters. This may apply to findings from this study, explaining why males were found to spend more on average than females.

From an ethnicity standpoint, Cummins et al. (2009) claim that American students have cherished the use of credit more. The credit-dependent society is often discussed as a growing

problem within the realm of personal finances. Relying on credit usage can lead to financial issues such as incurring large amounts of debt (Cummins et al. 2009). Many college students tend to be present oriented in that they are not concerned with covering the costs of credit card spending, mostly due to the fact that at this age, students are dependent on parents and guardians to pay off these balances (Hayhoe et al., 2000).

The regression results of class year from this study find that freshman and senior students exhibit higher spending behaviors while sophomores and juniors exhibit less spending. This finding may be in line with the fact that first year students are younger and therefore do not know how to handle finances well (Chen & Volpe, 1998). There is a learning curve that exists when making the transition from being completely financially dependent to slowly becoming financially independent. Chen and Volpe (1998) believe that participants with less work experience, many of whom are younger, also are unable to manage finances. An interesting finding from this study is the fact that fourth year students are also spending more on average. The transition from college to post graduation may also probe more spending in preparation and anticipation of a higher income.

Within the context of the Permanent Income Hypothesis, research has found that younger individuals seem to be more optimistic about their future financial earnings, which can be a good indication of the reason why they are able to take on more debt now, expecting to pay it off later (Norvilitis et al., 2006). Similarly, Roberts and Jones (2001) find compelling evidence for the Permanent Income Hypothesis through their review of the UCLA/American Council on Education Annual Survey. Three out of four students said that one of the main reasons for going to college was to make more money (Roberts & Jones, 2001).

In an analysis of the Hyperbolic Discounting Function, David Laibson (1998) suggests that age, income, and wealth are all correlated with various levels of patience. In other words, at different stages of the life cycle, there is a certain preference of present orientation or future orientation. Accounting for age, income and wealth at the university level, Hyperbolic Discounting may not be as applicable. This study finds that, in general, most people do not display habits that are reflective of Hyperbolic Discounting. About 74.5% of participants opted for the choice to receive \$20 tomorrow over \$15 today. The population tended towards a later, higher reward amount, indicating future oriented thinking.

The study comes with inherent limitations that can be addressed in future studies. First, there is the issue of endogeneity that has surfaced after conducting this study. It cannot be completely determined whether the independent variables are the variables with the confounding effects on the dependent variable. The issue, also known as reverse causality, indicates that there is a constant feedback loop to indicate if the independent variable is impacting the dependent variable, or if this relationship exists in the opposing direction as well. For instance, there is no way to completely determine whether the relationship strictly exists in the sense that average spending is affected by class year, gender, ethnicity, PIH and HD, or if the opposite could happen. It is possible that average spending can result in changes in certain variables such as the Permanent Income Hypothesis and Hyperbolic Discounting. The theoretical frameworks can have a confounding or unexpected effect based on changes in average spending. To correct for this issue, an instrumental variable can be introduced, which does not correlate with the error term but instead correlates with the independent variables.

Secondly, the sample size is small, with a total of 55 responses. As convenience sampling was used and no monetary incentive was provided, this may have decreased the probability of gaining more participants. However, while only 55 students participated, it was ensured that an equal representation of class years was present and that there were representations of gender and ethnicity reflective of the Skidmore College population.

Thirdly, there may have been some selection bias that inevitably played into this study's design. Participants were carefully selected via convenience sampling at common spaces around campus, however, students were asked to participate in the study based on demographics. Since demographic characteristics are a large focus in this study, it was important that survey participants came from a variety of combinations in age, gender, and ethnicity. As such, students were first asked their class year and ethnicity prior to recruiting them to participate in the proposed study. Though selection bias was present, it was necessary to account for demographics, as it was a large focus in the context of this study.

## **VI. CONCLUSION**

The spending and saving habits of college students provide an insight into the financial mechanisms that are utilized by young adults. Results from this study show that there are clear patterns that have emerged, which are in conjunction with findings captured by other researchers. Conclusive evidence is present of the fact that ethnic background is a strong determinant of certain spending patterns. As deemed by other researchers, namely Chen and Volpe (1998) and Pritchard et al. (1989), students who are White tend to spend more than other demographics. Not only is this further exemplified in my study, but it is also found that

Asian students also spend a significant amount more compared to other ethnic backgrounds. In an effort to find a connection to existing economic theories of spending, there was significance behind the data collected for the Permanent Income Hypothesis. If this attitude towards spending holds true and continues on an upward trend, students may start to overestimate future earnings, resulting in more financial issues to deal with at a later time.

The results of this study provide various implications and policy suggestions that can contribute to the literature of the spending and saving habits of college students. As it stands today, the breadth and depth of studies can be extended to further analyze other variables that may have significant effects on the financial habits of college students. Demographic factors such as age, gender and ethnicity seem to be most commonly studied while many theoretical frameworks of consumption and savings have not. The findings pertaining to existing economic models of Hyperbolic Discounting and the Permanent Income Hypothesis can be extended over longer periods of time. For instance, if a study was able to follow a population of students pre-college and post-college, this may give a better understanding of the changes that occur within the time frame of university education. This would come with observed perceptions prior to college that may influence financial habits as well as practices that were developed during this period.

The scope of this literature also fails to take into consideration habitual spenders, and how these individuals may affect the results. Future studies should account for categorization of types of spenders in order to compare findings and draw conclusions about financial practices among different spenders. As more focus is being drawn towards studying the financial habits of young adults, there is increasing desire to understand the issue and the main

driving forces that lie behind the development of financial habits. It would be interesting to note the impact of formal education on the spending and saving habits of college students. Very minimal research has been conducted in this particular branch of the topic, and doing so could shed light on methods that allow students to develop good financial habits. Most young adults have their first sense of financial independence during their college years, and having no prior knowledge of experience may have adverse effects in the future.

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