

The influence of present and future time perspective on financial net worth

by

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B.S.B.A., Washington University, 1985  
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AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

School of Family Studies and Human Services  
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## **Abstract**

This study explored the influence of present-fatalism, present-hedonism, and future time perspectives on financial net worth. Time perspective has been shown to influence many behaviors, both non-financial and financial, but this is the first study that evaluated the relationship between time perspective and net worth.

Net worth was divided into two variables, a dichotomous variable indicating those who had a negative net worth (defined as a net worth less than or equal to zero) and a continuous variable of the actual dollars of net worth of those who had a positive net worth (defined as a net worth greater than zero). Developing a separate negative net worth variable allowed this study to expand on prior research that focused solely on that aspect of net worth (Chen & Finke, 1996; Mountain & Hanna, 2012). Data was taken from the National Longitudinal Survey of Youth 1979 (NLSY79), using results primarily from the 2014 survey. A logistic regression was used to evaluate the negative net worth variable (Model 1) while an ordinary least squares (OLS) regression was used to analyze the influence on positive net worth (Model 2). This study found that present-fatalism increased the odds that an individual would have a negative net worth, while a future-orientation would decrease those odds. It found that present hedonism and future-orientation contributed to having a positive net worth.

Model 1 had a Nagelkerke R Square of .367 and was able correctly to classify 77.2% of those who had a negative net worth (compared to 67.6% using only the intercept). In addition to time perspective findings, several control variables were incorporated into the study. Those who had a higher current income, who were male, who were married, and who owned a home had lower odds of having a negative net worth. Those who had a college education had lower odds of having a negative net worth compared to those with a high school diploma, while those who only

attended grade school had greater odds of having a negative net worth compared to high school graduates. Blacks and Hispanics had greater odds of having a negative net worth compared to Whites. Risk tolerance, parent socio-economic status, and age were not significant predictors of negative net worth.

Model 2 was significant, with an  $R^2$  of .419. Risk tolerance, current income, parent socio-economic status, gender, age, marital status, and homeownership all contributed to a positive net worth. Compared to high school graduates, having a college education contributed to a positive net worth while having only a grade school education detracted from having a positive net worth. Being Black or Hispanic, as compared to being White, detracted from positive net worth.

The results of this study must be juxtaposed against the limitations, which include the use of proxy variables for time perspective (which may not accurately reflect the constructs), erosion of the longitudinal sample over time, the use of a variable (risk tolerance) from a different year, non-normal distribution of some control variables, and potential endogeneity caused by the inclusion of homeownership as a control variable. Those limitations having been noted, this study found that the strong influence of future-orientation on reducing the odds of having a negative net worth and contributing to positive net worth is significant because it validates the entire concept of financial planning, which proposes that having a future financial path will help clients achieve financial success. It also opens up new possibilities in financial counseling, in that clients may benefit from time-perspective therapy and coaching. In addition, the findings of this study emphasize the positive influence of homeownership on net worth.

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## **Acknowledgements**

As I was crafting this section, I pondered that my entire quest for my doctoral degree has been like a long journey in an entirely foreign land, and as I am wont to use analogies, I could not help but compare it my last trip to my favorite non-US city: Paris, France.

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## Chapter 1 - Introduction

Net worth is arguably the most important financial metric of an individual or household. Net worth is the result of totaling all of a person's assets, or things they own, and then subtracting from that number all of that person's debts, or things they owe (Conley, 2001). The importance of net worth, sometimes more simply referred to as wealth, lies in its cumulative nature. It is perhaps easiest to visualize this by comparing net worth to another common financial variable: income. Income levels can fluctuate substantially from year to year, while net worth provides a longer-term view of all the resources available to a household, including those that can accumulate over time and generations (Conley, 2001). To use an academic analogy, income is like the student's report card, while net worth is like the student's transcript.

Wealth is one of the primary factors in the overall financial security and prospects of a household (Gottschalk, Vornovytssky, & Smith, 2013) and is becoming an ever more important resource for those households, especially in the United States. One example of this increasing need for wealth involves retirement planning, where a transition away from defined benefit plans to defined contribution plans has shifted the responsibility for funding retirement away from companies and the government and toward individuals (Lusardi & Mitchell, 2011). Another example is the increasing cost of a college degree, which was 2.5 times higher in 2015 than it was in 1980, while financial aid has simultaneously dropped dramatically (Mitchell & Leachman, 2015). Wealth has been found to be a significant predictor not only of the ability to attend a four-year college, but to actually graduate (Jez, 2014). Wealth is no longer a luxury; it is now a requirement for Americans who want to send their children to college and who want income beyond social security in retirement.

Studies suggest that higher levels of wealth even correspond with better health. Some suspect it is because the wealthy suffer less from obesity (Zagorsky, 2004), while others attribute this effect to better cardiovascular health for the wealthy, which includes obesity but also factors in smoking and hypertension (Hajat, Kaufman, Rose, Siddiqi, & Thomas, 2010). Regardless, it seems that the wealthy live longer (Attanasio & Emmerson, 2003). Some researchers have posited that while there is obviously a correlation between health and wealth, there is confusion over whether higher wealth contributes to better health, or whether being healthy makes a person wealthier (Meer, Miller, & Rosen, 2003). A meta-analysis of health and wealth literature considered 29 studies and found most of them noted a causal relationship between higher wealth and better health (Pollack et al., 2007). Their conclusion was that future studies should include a wealth measure, and that it should be more rather than less detailed in quantifying wealth (Pollack et al., 2007).

The importance of wealth in American society should certainly be no surprise for Americans, since the goal of achieving higher levels of net worth is explicitly ingrained into the culture of the United States. James Truslow Adams wrote that the American dream is “that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement” (Adams, 1935, p. 214-215). Interpreting Adams’s words, one may conclude that achieving higher levels of net worth should simply be the result of an individual’s effort or intelligence, yet experts would dispute these conclusions. It does not appear that the hours of work or the effort expended are correlated with wealth and income (McNamee & Miller, 2004). Nor does it appear that intelligence, as measured by IQ scores, has a significant impact on net worth (Zagorsky, 2007; Griesdorn & Durband, 2016).

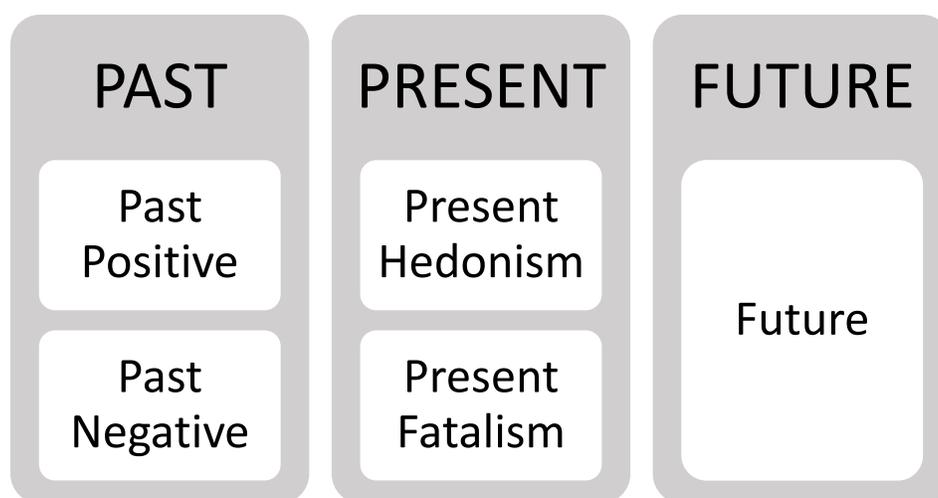
If wealth is not determined by those factors promulgated by the American Dream, what attributes do impact net worth? Previous studies have shown several demographic factors appear to impact net worth directly. These factors start at birth with the socio-economic status of parents, which has been shown to positively influence the net worth of their children (Pfeffer, 2010) and continue throughout an individual's life to include age (Bricker et al., 2017), gender (Ruel & Hauser, 2013), race (Campbell & Kaufman, 2006), homeownership, and marital status (Griesdorn & Durband, 2016). The conclusion from these studies is that those with a higher net worth are likely to be older, male, white, married, and homeowners. A higher level of education is also expected to influence net worth through increased levels of income (Tamborini, Kim, & Sakamoto, 2015). Other successful attempts at predicting net worth have introduced psychological characteristics such as personality types (Nabeshima & Seay, 2015), locus of control and self-mastery (Griesdorn & Durband, 2016), self-esteem (Chatterjee, Finke, & Harness, 2009), and risk tolerance (McInish, Ramaswami, & Srivastava, 1993).

The current study approaches net worth in a relatively unique way. Most studies on net worth treat it as one continuous variable, but in this study, net worth as an outcome variable has been divided between those who have a positive net worth and those who have a negative net worth. The purpose for this distinction is to determine if time perspective and other control variables influence those two groups of people differently.

### **Variable of Interest**

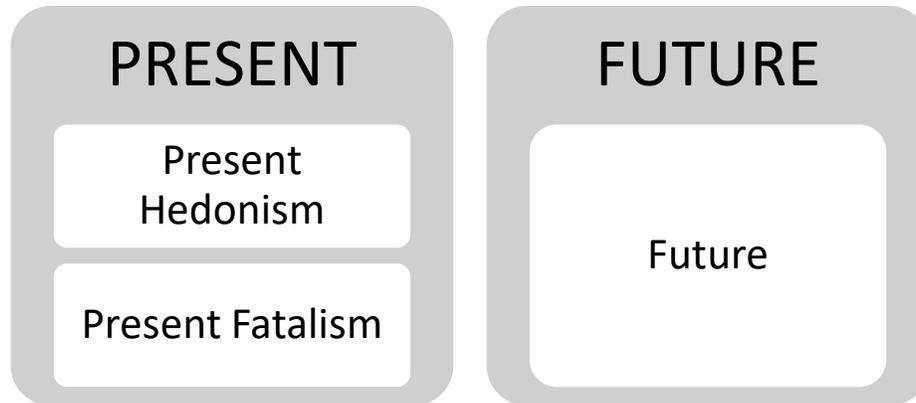
Time perspective is a relatively new concept introduced by Gonzales and Zimbardo in 1985. Time perspective theorizes that people are influenced by their perception of time. It was initially subdivided into five different categories: future, present-hedonism, present-fatalism, past-positive, and past-negative (Figure 1.1). Future-oriented people focus their lives on what is

ahead and are thus generally good at planning and achieving goals. Present-hedonists, in contrast, focus on enjoying life and having fun in the current moment. Present-fatalists focus their lives on surviving the daily challenge and are usually characterized by a sense of hopelessness in escaping from their current situation. Those who score high in the past-positive category look back on their past fondly and are usually nostalgic. Their counterparts, those who are past-negative, view the past with regret and generally see failure and pain behind them. Since the introduction of time perspective theory (Gonzalez & Zimbardo, 1985), there has been an effort to more clearly define the future time perspective by splitting it (Boyd & Zimbardo, 1997; Carelli, Wiberg, & Wiberg, 2011), much as was done for the present and past time perspectives, but these hypothesized future perspectives have not been universally adopted by researchers. Time perspective is sometimes confused with time preference, an economic construct involving choices between future and current consumption (Frederick, Loewenstein, & O'Donoghue, 2002). While time perspective and time preference appear to be similar, evidence suggests they are different constructs (Daugherty & Brase, 2010).



**Figure 1.1 Time Perspective Theory as Originally Proposed (Gonzalez & Zimbardo, 1985).**

Since its launch in 1985, time perspective theory has gained popularity in fields like academia (Orosz et al., 2016), health care (Henson, Carey, Carey, & Maisto, 2006; Rothspan & Read, 1996), gambling (Hodgins & Engel, 2002), and law enforcement (Zimbardo, Keogh, & Boyd, 1997). It has also evolved considerably with the development of additional time perspectives and additional measuring instruments. One of the biggest challenges facing the study of time perspective is the size of the survey instrument: the Zimbardo Time Perspective Inventory (ZTPI) contains 56 questions (see Appendix A). Researchers have addressed this in a couple of different ways. Some have tried, with varying levels of success, to measure the same perspectives using fewer questions (McKay et al., 2015). Others have truncated the time perspectives they test by eliminating the past-positive and past-negative perspectives (D'Alessio, Guarino, De Pascalis, & Zimbardo, 2003). This seems to be a reasonable approach, since the past-positive and past-negative time perspectives appear to be poor predictors of behavior (Henson et al., 2006). This study uses the latter approach, the shortened version (see Appendix A), and will use that as a guide to evaluate the influence of future, present-hedonism, and present-fatalism on net worth (Figure 1.2). In addition to mirroring the approach that other researchers have taken, reducing the number of time perspectives to be evaluated down to three is necessary due to the limited number of usable variables in the dataset available for this study.



**Figure 1.2 Shortened Version of Time Perspective Theory.**

### **Purpose**

In addition to adding to the body of knowledge by evaluating the combination of variables that have not been tested thoroughly, this study was designed to focus on two areas that may ultimately help Americans accumulate more wealth. The first of these areas is time perspective. If time perspective is found to be a significant predictor of net worth, it may ultimately inaugurate a whole new way for financial professionals to evaluate, assess, and counsel their clients. It has been hypothesized that it is possible for an individual to change their time perspective (Zimbardo & Boyd, 2008) an idea which has spawned a growing area of research interest. Time perspective is already being used to treat people with other disorders, and there is no theoretical reason why time perspective could not be a more critical element of financial planning and financial therapy.

Further, the design of this study will enhance the prior results of those who looked at negative net worth and provide further insights as to those specific predictors that apply to people who are not economically successful. Those individuals presumably need financial help

the most, so empirical findings to better understand their situation may make it easier to assist them more effectively.

In addition to those two designed outcomes, it is quite possible that this study may have an added benefit. If the experts are correct that wealthier people are healthier and live longer, helping Americans increase their wealth may contribute to keeping them alive and functioning for even longer.

### **Data and Hypotheses**

The purpose of this dissertation is to explore how future and present time perspective influence the accumulation of wealth in a unique way by dividing the sample into positive and negative net worth segments. Using data from the National Longitudinal Survey of Youth 1979 cohort, the following hypotheses were tested through the framework of time perspective (Gonzalez & Zimbardo, 1985):

H<sub>1A</sub>: Present-fatalism oriented individuals will be more likely to have a negative net worth.

H<sub>1B</sub>: Present-fatalism oriented individuals will be associated with lower levels of net worth.

Present-fatalistic people feel trapped in the present; they feel powerless to change their situation and believe the only thing that will make it better is luck (Zimbardo & Boyd, 1999, 2008). Present-fatalists treat money as if it does not matter, and because they think investments are unlikely to pay off in the future, there is no rationale to put off a purchase today to save for tomorrow (Zimbardo & Boyd, 2008). With no saving or investing, there is no reason to believe these individuals will accumulate a net worth.

H<sub>2A</sub>: Present-hedonism oriented individuals will be more likely to have a negative net worth.

H<sub>2B</sub>: Present-hedonism oriented individuals will be will be associated with levels of lower net worth.

Present-hedonistic individuals are the “live for today” people, who focus on maximizing current pleasure. These individuals will ignore future consequences in their quest for the latest thrill (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999). Present-hedonists are optimistic that there will be no rainy days, and thus there is no reason to save for one; they will journey in life from rags to riches and then back to rags (Zimbardo & Boyd, 2008). It would be expected that people who are more concerned with present fun would be unlikely to devote money to building their net worth.

H<sub>3A</sub>: Future-oriented individuals will be less likely to have a negative net worth.

H<sub>3B</sub>: Future-oriented individuals will be associated with higher levels of net worth.

Future-oriented individuals are planners who are firmly focused on what comes next and will gladly sacrifice now so they can meet their future goals (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999). Future-oriented people will pay their bills on time, save money, and carefully plan their investments (Zimbardo & Boyd, 2008). Individuals so focused on what is in the future are presumably much more likely to build a positive net worth.

### **Limitations of Study**

Most studies on time perspective have been small, purpose-built experiments where subjects consisted mostly of undergraduate students. This is understandable, since the time perspective questionnaire is relatively large and has not been incorporated into a large data set. In order to test a larger and older population, this study will have to use proxy variables to attempt

to replicate the future, present-hedonism, and present-fatalism constructs. This presents a challenge, in that proxy variables may not be strong proxies for the standard time perspective evaluations and may be less effective in measuring the actual time perspective constructs.

The data set used in the current study is longitudinal, and most variables are derived from the same year (2014), with only four exceptions. The first exception is intentional, and thus should not be problematic, in that family income in 1979 was included as a means to evaluate the socio-economic status of the respondent's parents. The next two, race and gender, are variables that were surveyed when the study first began (1979) and are not expected to change. It is probable that any changes made will be small enough as to be insignificant to this study. The only other variable that was not taken from 2014 was risk tolerance, which was taken from a question surveyed in 2010. The same question was asked in 2014, but only 117 people responded, which made using that variable untenable. It is possible that an individual's risk tolerance could have changed from 2010 to 2014, and if it did, that could call into question the validity of the results from that variable.

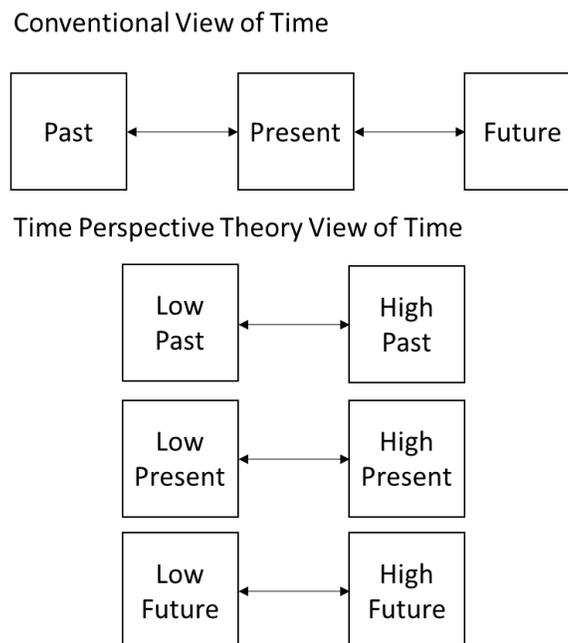
With any study using longitudinal data, there is a risk of adverse selection, where people drop out of the study over time, and then the sample does not represent the overall population. To evaluate the degree to which the sample is similar to and different from the population, race, gender, and education levels of respondents will be evaluated. These issues are addressed in Chapter 3 where the sample is described.

## Chapter 2 - Theoretical Framework and Related Literature

The review of literature starts with an overview of the theory of time perspective, followed by a summary of how time perspective has been analyzed in prior studies related to personal finance. This is followed by a general review of the common predictors of net worth and outcomes associated with wealth accumulation.

### Theory of Time Perspective

Zimbardo and Boyd (1999) stated, “Time perspective is a fundamental dimension in the construction of psychological time, emerges from cognitive processes partitioning human experience into past, present, and future temporal frames” (p. 1271). It is perhaps this aspect of time perspective—the unlocking of each time frame to function as its own scale, largely independent of the others—that is most revolutionary (Figure 2.1).



**Figure 2.1** Contrasting the Difference between Conventional and Time Perspective Views of Time.

According to the theory of time perspective, those with a present time perspective will perceive future goals as being temporally farther away, while a person with a future time perspective will perceive those future goals as being temporally much closer (Zimbardo & Boyd, 1999). It is thus possible that a 25-year-old future-oriented person may see retirement, a goal that is some 40 years or more distant, as being much closer temporally, and is more likely to begin saving money for that goal. Meanwhile, a 25-year-old present-oriented person may see retirement as a distant objective, so far removed as to be inconsequential, and would thus be more likely to spend their money on present wants or needs. In addition, the magnitude or attractiveness of that future goal will be increased for those with a future time perspective and decreased for those with a present time perspective. Similarly, the magnitude of a present choice will be increased for those with a present time perspective and decreased for those with a future time perspective.

Time perspective proposes that individuals have learned time perspectives, dominated generally by the past, present, or future, and that these time perspectives exert a dynamic influence on the decisions that individuals make (Zimbardo & Boyd, 1999). Below are descriptions of the three time perspectives used in this study:

### **Present-Fatalism**

People with a present-fatalistic time perspective live in the present but feel as if they are trapped in it. The primary feeling from this group is helplessness, as they feel they have no power to change their current or future situation. People in this category tend to think that luck and fate are guiding factors in determining the direction their lives take (Zimbardo & Boyd, 1999, 2008).

## **Present-Hedonism**

People with a present-hedonistic time perspective focus on maximizing current pleasure. These individuals will ignore future consequences in their quest for the latest thrill, which tends to make them risk-takers. They tend to be very sociable (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999).

## **Future-Oriented**

People with a future-oriented time perspective are firmly focused on what comes next. They are usually goal-oriented and will sacrifice current consumption to meet their future goals. Individuals in this group are generally very task-oriented (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999).

Two other time perspectives were proposed when the theory was originally introduced: past-positive and past-negative (Gonzalez & Zimbardo, 1985). Individuals who score highly on the past-positive scale view the past with fond memories and with nostalgia. They usually have a strong focus on family but tend to be conservative and reluctant to embrace change (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999). Those with a high past-negative score view the past with regret and tend to focus on bad memories and experiences (Gonzalez & Zimbardo, 1985; Zimbardo & Boyd, 1999). Past-negative and past-positive time perspectives were left out of this study for two reasons. The first is that there were not variables in the dataset this study uses to create suitable proxy variables. Second, past-negative and past-positive time perspectives have been shown to be poor predictors of behavior (Hensen et al., 2006) and would most likely not be useful in evaluating the accumulation of wealth.

It is important to note that while individuals usually have a dominant time perspective, higher scores in one time perspective do not preclude high scores in another time perspective.

Because of this, certain behaviors may be more affected by scores on one time perspective than another (Gonzalez & Zimbardo, 2008). For example, driving fast (speeding) is usually associated with a higher present-hedonism score (Zimbardo et al., 1997), and while a higher future score may modify this, it is the present-hedonism trait that drives the speeding behavior. Despite his or her breakneck pace on the highway, that individual may also be focused firmly on future-planning and may be goal-oriented, as befits their high future time perspective score.

The relationship between present-hedonistic, present-fatalistic, and future time perspectives with certain behaviors has been recorded in multiple studies. Research has linked these time perspectives to several traits, including smoking, drinking, drug abuse (Keogh, Zimbardo, & Boyd, 1999), driving (Zimbardo et al., 1997), gambling (Hodgins & Engel, 2002), vaccinations (Henson et al., 2006), unprotected sex (Rothspan & Reid, 1996), and academic cheating (Orosz et al., 2016). The study attempts to add to the literature by exploring the link between time perspective and net worth.

### **Evolution of the Theory**

Subsequent research on time perspective indicates that the future time perspective can be further refined, and possibly divided into two separate perspectives as has been done with the present (present-hedonism and present-fatalism) and past (past-positive and past-negative) time perspectives. Boyd and Zimbardo (1997) proposed that the future time perspectives be divided between future and future-transcendental. This future-transcendental time perspective would reflect a belief in life after death (Boyd & Zimbardo, 1997). There has been little evidence to support this new time perspective, and indeed, it was found to be the measure of a belief, and not a time perspective (Seema, Sircova, & Baltin, 2014). Swedish researchers took a different approach and divided the future time perspective into two parts, much like the past time

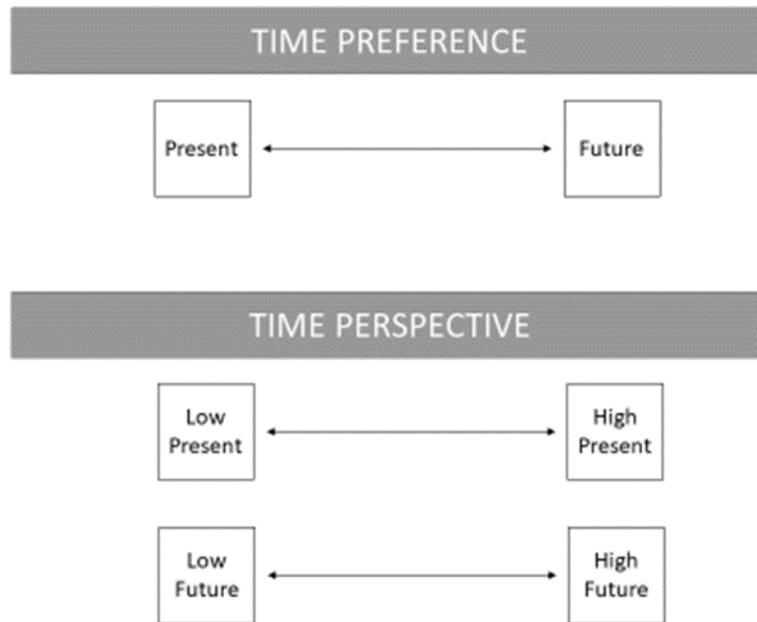
perspectives. They proposed that there was a future-negative time perspective, indicating those who were afraid of what the future held, and a future-positive time perspective, indicating individuals who are optimistic about what the future holds (Carelli et al., 2011). While this scale creates opportunities for more closely defining the future time perspective dimension, it is relatively new and untested, and it would be difficult to replicate in this study, so a decision was made to proxy the original future time perspective variable.

Merely identifying where time perspective can influence behaviors is valuable, but some researchers have taken it to the next level and have developed therapeutic applications based on the theory. Dutch researchers used Future Oriented Group Training to significantly help potentially suicidal patients (Van Beek, Kerkhof, & Beekman, 2009). Time perspective therapy in various forms has been used to help repair social relationships (Holman, 2015), treat post-traumatic stress disorder (Zimbardo, Sword, & Sword, 2012), cope with aging (Bitti, Zambianchi, & Bitner, 2015), and improve coaching techniques (Boniwell & Osin, 2015).

### **Time Perspective vs. Time Preference**

When reviewing literature on intertemporal concepts, it is easy to use the terms time preference and time perspective interchangeably, but these two constructs do not appear to be the same (Figure 2.2). Time preference, sometimes referred to as intertemporal choice, is a concept widely used in economics, and refers to “decisions involving tradeoffs among costs and benefits occurring at different times” (Frederick et al., 2002, p. 351). In other words, time preference refers to delayed gratification. Time perspective appears to be a much broader psychological construct in that it tries to explain why individuals have different temporal attitudes, including attitudes, beliefs, and values related to time (Seema et al., 2014). In essence, time perspective is a cognitive process where individuals sort their flow of experiences and perceptions into mental

categories of past, present, and future (Keogh et al., 1999).



**Figure 2.2 Contrasting the difference between time preference and time perspective.**

It would seem logical that time preference would have an influence on time perspective, but there is reason to suspect that may not be the case, or if it is, the influence is minimal. An examination of the 56 questions used in the Zimbardo/Stanford Time Perspective Inventory (ZTPI) reveals that none of the questions pose a pure time preference dilemma, where the individual is offered the choice of consumption tomorrow instead of consumption today. In addition, Stolarski, Bitner, and Zimbardo (2011) found that time preference was only significantly correlated with the past negative, past positive, and present-fatalism time perspectives and showed no significant correlation to future or present-hedonism time perspectives. Other studies have found that there are some significant correlations between time preference and time perspective, but these are small (Adams & Nettle, 2009; Daugherty & Brase, 2010). Further, a theoretical article (Teuscher & Mitchell, 2011) examining the differences

between time perspective and time preference reviewed the existing works on the topic and concluded that while the two constructs appear to be similar, there does not seem to be a robust relationship between them. A study of people with frontal brain lobe injuries found that such injuries impacted future time perspective but did not impact temporal discounting, or time preference (Fellows & Farrah, 2005). These studies seem to point to, and validate, the conclusion of Daugherty and Brase (2010) that time perspective and time preference are similar yet very different constructs.

This is important because there have been a plethora of studies focusing on time preference and financial characteristics, and in many cases these studies find that myopic behavior in one area can indicate myopic behavior when dealing with money (Finke & Huston, 2004, 2013). While these studies are certainly interesting, they do not appear relevant to this study, since the construct they measure (time preference) is significantly different than time perspective.

## **Net Worth**

Net worth, or simply wealth, is defined as the difference between a household's assets and liabilities, an equation those familiar with the basics of business accounting can readily understand (Zagorsky, 2007). It is reasonable to think of net worth as the ultimate financial report card, in that it takes into account the accumulated resources available to a household, resources that can be used for current needs or passed on to future generations (Conley, 2001).

## **Time Perspective**

As noted, there are currently no studies linking time perspective directly to net worth, but there are studies that link time perspective to things that have been shown to influence net worth. For example, individuals with future, present-hedonism, and past-negative time perspectives

were more likely to engage in retirement planning (Petkoska & Earl, 2009; Earl, Bednall, & Muratore, 2015). Focusing only on the future time perspective, individuals were more likely to participate in a 401(k) plan provided they had a basic level of financial knowledge. Without that knowledge base, future-orientation did not impact plan participation (Howlett, Kees, & Kemp, 2008).

There have also been some studies focused on time perspective and basic consumer spending characteristics, which also have an indirect effect on net worth. Future-orientation was related to increased regular saving and loan-repaying behavior (Klicperová-Baker, Košťál, & Vinopal, 2015) and better financial decisions overall (Rutledge & Deshpande, 2015). Conversely, having a low future-orientation score was correlated with increased levels of debt (Rutledge & Deshpande, 2015). Those who were present-fatalists were more likely to pay off their loans (Klicperová-Baker et al., 2015), while those who scored low in present-orientation generally showed increased amounts of personal savings (Rutledge & Deshpande, 2015).

In addition to the time perspective variables, this study also includes several control variables that influence net worth. The only psychological characteristic considered was risk tolerance, while demographic characteristics include current income, parent socio-economic status, education, gender, age, race, marital status, and home ownership.

## **Risk Tolerance**

While there are several past studies that link risk tolerance to net worth, which found that in general the higher an individual's risk tolerance the higher their net worth (Finke & Huston, 2003; McInish et al., 1993), what makes risk tolerance a fascinating variable for this study is that there are also a number of studies that link time perspective to risk tolerance.

The only known study linking financial risk tolerance to present-fatalism found that individuals with higher levels of present-fatalism have a lower financial risk tolerance (Rodermund, 2012). Jacobs-Lawson and Hershey (2005) found a positive relationship between future time perspective and risk tolerance, but they used a scale for future time perspective developed by Hershey and Mowen (2000), and it is unclear whether this scale measures the same construct that the ZTPI measures. Their findings were contradicted by Ryack and Sheikh (2016), who found using questions from the ZTPI that individuals with higher future time perspectives actually had lower financial risk tolerance scores than those who were present-hedonistic.

Locus of control (LOC) and personality type (the Big 5) are two other psychological constructs that are important to mention, even though they are not included as control variables in the study, because they have provided the proxy variables in this study. Humans are complex beings and understanding them requires a multi-faceted approach; thus, it is probable that an attribute of one construct can also be a characteristic of another. In this situation, LOC is another psychological variable that has been shown to predict net worth (Sumarwan, & Hira, 1993). LOC is defined as the degree to which an individual thinks rewards and events that happen to them are the result of their own efforts and attitudes, versus the degree to which they feel they are the result of outside forces (Rotter, 1960). In some ways, LOC is similar to time perspective, and while many of the traits and attributes of each scale are similar, the constructs they measure seems to be entirely different; time perspective is focused on temporal effects, while LOC is focused on influence and control. The Big 5 is one of the more common personality scales used and includes five personality factors: extroversion (outgoing and friendly), conscientiousness (reliable and hardworking), openness (imaginative and open-minded), agreeableness (warm and caring), and neuroticism (nervous and worried). Of these traits, extroversion and

conscientiousness have been shown to be predictors of wealth (Nabeshima & Seay 2015). As will be discussed in Chapter 3, this study derives its present-fatalism and future time perspective variables from a piece of the LOC assessment, and it draws its present-hedonism proxy variable from the Ten Item Personality Measure scale (TIPI) used to assess the Big 5 personality traits.

### **Demographic Characteristics**

There have been many studies about demographic factors that influence financial net worth, which must be considered when evaluating the predictors of net worth. Some of these relationships are intuitive. For example, it is no surprise that those with higher incomes would have a higher net worth (Barsky, Bound, Charles, & Lupton, 2002).

Family socio-economic status has also been found to play a role in net worth, and not just in the form of intergenerational transfers. Most prominently, parental wealth has been linked to a child's educational attainment (Morgan & Kim, 2006; Haveman & Wilson, 2007). More recently, a study analyzing parental income and its effect on the income of their children found that "A 10 percentile point increase in parent rank is associated with a 3.41 percentile increase in a child's income rank on average" (Chetty, Hendren, Kline, & Saez, 2014, p. 2).

Education also has an indirect impact on net worth in that the more education a person has, the more likely they are to have higher earnings, which will presumably lead to a higher net worth (Carnevale, Rose, & Cheah, 2013; Tamborini et al., 2015). This advantage appears to perpetuate itself in that children from families with a higher net worth are more likely to go to college and more likely to complete a bachelor's degree (Conley, 2001).

Gender can also have a significant influence on net worth, with women both earning and accumulating less wealth than men (Chang, 2010; Maroto & Aylsworth, 2017). It should also be

no surprise that those who are older generally have a higher net worth (Diaz-Gimenez, Quadrini, Rios-Rull, & Rodriguez, 2002; Bricker et al., 2017; Killewald, Pfeffer, & Schachner, 2017).

Race is also a significant predictor of net worth. Whites were found to have substantially more wealth than Asians, Hispanics, or Blacks (Campbell & Kaufman, 2006). Campbell and Kaufman's (2006) study was particularly interesting because, in the past, researchers had established that Blacks and Hispanics trailed Whites in net worth, but Asians had not been included in the analysis. Their findings broadly ranked races, in order of highest to lowest net worth, as Whites, Asians, Hispanics, and Blacks. There have been many reasons put forward to explain the racial disparity in wealth, but some of this variance may be explained by intergenerational transfers (Black, Devereux, Lundborg, & Majlesi, 2015). According to Menchik and Jianakoplos (1997), 10% to 20% of the wealth differences between Black and White households can be explained by inheritances.

Married couples accumulate more wealth than single people, while divorce takes a toll in reducing net worth (Addo & Lichter, 2013; Ruel & Hauser, 2013). The increase in wealth for married couples appears to be significant, with married respondents showing net worth increases of 77% over single respondents (Zagorsky, 2005). Couples who have been continuously married have higher levels of net worth than those who are in a subsequent marriage, having been divorced or widowed and then remarried (Holden & Kuo, 1996; Aldo & Lichter, 2013). Regardless, those who are currently married were found to have higher net worth levels than those who are divorced or widowed (Holden & Kuo, 1996). A possible explanation for higher levels of marital net worth may be that those with higher levels of marital satisfaction were found to exhibit sounder financial management behavior (Dew & Xiao, 2013).

Homeownership is an important part of households' net worth, since many Americans have little savings beyond the equity in their home (Lusardi & Mitchell, 2007). While a home can represent the entire net worth of a middle-class person, Lusardi and Mitchell (2017) found that even the wealthiest people in their sample had close to one-third of their net worth tied up in the equity of their home. The benefits of homeownership can be quite pronounced. Even accounting for the real estate meltdown during the great recession, it was found that in 2012, each year of homeownership between 1986 and 2008 generated approximately \$4,400 more mid-life wealth (Killewald & Bryan, 2016). It is suggested that homeownership enhances net worth through higher rates of return on the asset itself, and because mortgage payments may act as a form of forced savings (Killewald et al., 2017).

### **Negative Net Worth**

This study uses two distinct net worth outcome variables, one for those who have a positive net worth, and one for those who have a negative net worth. This is in contrast to most studies which use net worth as a single, continuous variable, including both positive and negative numbers. There have been a paucity of studies focusing solely on negative net worth, and the two most notable (Chen & Finke, 1996; Mountain & Hanna, 2012) were designed to study negative net worth as it relates to the life cycle hypothesis theory. They found that individuals who were older, more educated, had higher incomes, and owned a home were less likely to have a negative net worth. Risk tolerance and being currently married were not significant in their studies (Chen & Finke, 1996; Mountain & Hanna, 2012). Mountain and Hanna (2012) found that those who were Black were more likely to have a negative net worth, while Chen and Finke (1996) did not find race to be significant in predicting negative net worth.

## Chapter 3 - Methods

### Sample

Data were obtained from the National Longitudinal Survey of Youth 1979 (NLSY79). The NLSY79 is compiled by the U.S. Bureau of Labor Statistics (BLS) and has been administered annually beginning in 1979, and biennially since 1994. The NLSY79 is a longitudinal panel study that follows 12,686 respondents who were born between 1957 and 1964. During the initial years of the survey, most of the data were collected through personal interviews, but this method has been steadily decreasing. In 1979, 4.4% of interviews were conducted via telephone, while in 2012, 90.7% were completed telephonically. It is important to note that the NLSY79 population was initially developed by including three subsamples: (a) a subsample designed to represent the general population of American civilians, (b) a subsample consisting of disadvantaged Blacks, Hispanics, and Whites, and (c) a subsample of people in the American military. In 1985, the military subsample was discontinued, and in 1991, the subsample of disadvantaged Whites was discontinued as well. This has created an oversampling of Blacks and Hispanics in the sample.

As might be expected, time has eroded the number of participants in the NLSY79. By 2014, the sample size had shrunk considerably, such that approximately half of the respondents were still answering surveys. In addition, those who were surveyed did not answer all the questions proffered. The filtering question for this study, used to ultimately generate both the negative net worth and positive net worth variables, was only answered by 6,930 respondents, limiting the population size of this study to that amount.

It is important to evaluate the degree to which this sample in 2014 mirrors itself when it was launched in 1979. To determine that, this study has evaluated relative gender, income, and

education levels, as well as racial composition. When this study was launched in 1979, 50.5% of respondents were male. In 2014, the current sample shows that males make up approximately 49%. The median income of people in the sample in 2014 is \$55,000, which is only 2.7% higher than the national median income of \$53,657 in 2014 when the sample was taken (DeNavas-Walt & Proctor, 2015).

Education levels were evaluated by observing the means of the NLSY samples in 1994, 2004, and 2014 (see Table 3.1). From 1994 to 2014, there was a decline in participation by high school graduates and those who only attended grade school of approximately 10%. During the same period, those who attended some college remained remarkably stable, decreasing by less than 2%. College graduates and those attending graduate school had incredibly large increases, growing at 27% and 52%, respectively. This may be attributed to both the age of the sample population increasing and individuals finishing up their college education somewhat belatedly.

**Table 3.1 Difference in Education Distribution between the NLSY Sample in 1994, 2004, 2014 (current sample) as Shown in Mean Values.**

	NLSY Sample (1994)	NLSY Sample (2004)	Current Study (2014)
Grade School	0.138	0.107	0.124
High School Grad	0.450	0.436	0.401
Some College	0.227	0.242	0.223
College Grad	0.117	0.119	0.149
Graduate School	0.068	0.097	0.103

The racial makeup of this sample is somewhat dissimilar to the proportions with which it started in 1979 (see Table 3.2). From 1979 to 2014, the proportion of Blacks has grown by

14.4% so that Blacks now comprise 28.6% of the sample, the proportion of Hispanics has grown by almost 19% so that Hispanics now comprise 18.8% of the sample, the proportion of Whites has declined by 7% so that Whites now comprise 43.3% of the sample, and the proportion of the race-other group has shrunk by almost 25% so that they now comprise 9.3% of the sample.

**Table 3.2 Difference in Racial Distribution between the Original Sample (1979), the Current Study (2014), and the National Average (2014) as Shown in Mean Values.**

	Original Sample (1979)	Current Study (2014)
Black	0.250	0.286
Hispanic	0.158	0.188
White	0.461	0.433
Race-Other	0.123	0.093

### **Negative Net Worth**

The first outcome variable, negative net worth, is a dichotomous variable designed to distinguish those with a negative net worth from those with a positive net worth. Based on the average age of the sample (53 years), those who have not thus far accumulated a positive net worth were deemed to be economically unsuccessful. Individuals who have not been able to generate a positive net worth by mid-life are unlikely to do so in the future (Lusardi, 1999). Thus, the decision was made to include respondents who have a negative net worth, or had no net worth (broke even) based on the response to the following question asked in the 2014 data administration: *Suppose you [and spouse/partner's name] were to sell all of your major possessions (including your home), turn all of your investments and other assets into cash, and pay all of your debts. Would you have something left over, break even, or be in debt?*

Response options were recoded such that having something left over was entered as 0, while breaking even and being in debt were coded 1. Of the individuals surveyed in 2014, 6,930 responded to this question, with 2,344 indicating that they had a negative net worth, and 4,586 indicated that they had a positive net worth. The empirical model for negative net worth (Model 1) is shown in Figure 3.1.

### **Positive Net Worth**

The second outcome variable is a continuous variable which reflects the actual dollars of net worth of those who asserted they had a positive net worth. It was derived by filtering respondents based on the question referenced above, where only respondents who selected having something left over were included in the analysis. Those respondents were then asked (in the same year), *After all your debts are paid off from selling off all assets, how much would you have left over?* The actual amount was entered up to a top-coded amount of \$250,000, with the exception of the top two percent of respondents with valid values. The values of these top two percent were then averaged, and that value, \$5,384,039, was substituted for their net worth.

This variable exhibited significant non-normal distributions, with skewness of 4.526 (SE = .045) and kurtosis of 22.014 (SE = .0916). Skewness represents how symmetrical the data is (when data is perfectly symmetrical, skewness = 0), and it is generally preferable to have skewness results fall between -1 and 1. In this case, the variable was positively skewed, meaning the data was clustered toward the y axis, and the skewness score far exceeded 1. Kurtosis reflects how flat or peaked the data is, and in this case, the data was too peaked. Kurtosis is generally expected to be between -2 and 2, so with a kurtosis score of 22.014, this data exhibited a large level of kurtosis. To alleviate these problems, the variable was converted to a logarithmic scale. The logarithmic variable reduced skewness to -.806 (SE = .045) and kurtosis to 1.808 (SE =

.091), bringing both skewness and kurtosis into the acceptable range. The natural logarithmic conversion eliminated zero values, but only reduced the sample by four. The empirical model for positive net worth (Model 2) is shown in Figure 3.2.

## **Time Perspective**

The ideal measures of time perspective in terms of present-hedonism, present-fatalism, and future time perspectives would include the Zimbardo Stanford Time Perspective Inventory (ZTPI), a 56-item survey answered using a Likert-type scale. This study utilizes the NLSY79, which like most data sets does not incorporate the ZTPI into its question bank. This does much to explain why prior research on time perspective has generally been provided by small, purpose-built survey samples. This study sought acceptable proxies for the time perspective concepts by selecting a question that was as similar as possible to those used in the ZTPI.

### **Present-fatalism**

The top three items for present-fatalism, as ranked by their factor loading scores in the development of the ZTPI (Zimbardo & Boyd, 1999), include the following: (a) “my life path is controlled by forces I cannot influence;” (b) “it doesn’t make sense to worry about the future, since there is nothing that I can do about it anyway;” and (c) “since whatever will be will be, it doesn’t really matter what I do.” This study used a proxy question from the NLSY79 that was available in 2014 and was similar to questions listed above, which in this case was pulled from the Locus of Control assessment:

Pick the statement that best describes you. Statement A: “Many times I feel that I have little influence over the things that happen to me.” Statement B: “It is impossible for me to believe that chance or luck plays an important role in my life.”

This variable was recoded such that Statement A was entered as 1, while Statement B was changed to 0.

### **Present-hedonism**

The top three items for present-hedonism, as ranked by their factor loading scores in the development of the ZTPI (Zimbardo & Boyd, 1999), include the following: (a) I take risks to put excitement in my life, (b) taking risks keeps my life from becoming boring, and (c) it is important to put excitement in my life. This study used a proxy question from the NLSY79 that was available in 2014 and was similar to questions listed above, which in this case was taken from the TIPI scale used to evaluate the Big 5 personality traits:

“Here are some personality traits that may or may not apply to you. You will hear several pairs of personality traits that are related but not exactly the same.

Using a scale of 1 to 7, where 1 means “disagree strongly” and 7 means “agree strongly,” rate how well each pair of traits applies to you, even if one characteristic applies more strongly than the other. RESPONSE CHOICE: "Open to new experiences, complex."”

### **Future-oriented**

The top three items for the future time perspective, as ranked by their factor loading scores in the development of the ZTPI (Zimbardo & Boyd, 1999), include the following: (a) meeting tomorrow’s deadline and doing other necessary work comes before tonight’s play, (b) I complete projects on time by making steady progress, and (c) I am able to resist temptations when I know that there is work to be done. This study used a proxy question from the NLSY79 that was available in 2014 and was similar to questions listed above, which in this case was taken from the Locus of Control assessment group:

Pick the statement that best describes you. Statement A: When I make plans, I am almost certain that I can make them work. Statement B: It is not always wise to plan too far ahead, because many things turn out to be a matter of good or bad fortune anyhow.

This variable was recoded such that Statement A was entered as 1, while Statement B was changed to 0.

### **Control Variables**

In addition to the two-time perspective variables, this study included several control variables. Because this is a longitudinal data set, variables may be from different years. The year of the data survey for each variable will be shown in parentheses.

Risk tolerance was assessed using the following question from the 2010 survey administration: “People can behave differently in different situations. How would you rate your willingness to take risks in [financial matters]? Rate your willingness from 0 to 10, where 0 means *unwilling to take any risks* and 10 means *fully prepared to take risks*.” Risk tolerance was the only data taken from a year other than 1979 or 2014. In this case, risk tolerance had to be taken from the 2010 survey year because the 2014 survey only asked 117 people ( $M = 3.59$ ) about financial risk tolerance.

Respondents’ current family income (2014) included income from all household members related by blood or marriage. This variable had large amounts and encompassed a broad range, and it exhibited significant non-normal distributions, with skewness of 3.508 (SE = .036) and kurtosis of 16.40 (SE = .072). This was converted to a logarithmic scale, using  $\log(x+1)$  to account for zero values. The logarithmic variable slightly reduced skewness to -3.302 (SE = .036) and kurtosis to 11.145 (SE = .072). Both the skewness and the kurtosis of the logarithmic variable still exceeded the acceptable range. It was possible to significantly reduce

skewness and kurtosis by using a natural logarithmic conversion, but unfortunately this would be done at the expense of reducing the sample by 261 respondents, and these 261 respondents were those who recorded having zero current income. The decision was made that having those people in the sample was more important than reducing non-normal distributions.

Parent socio-economic status is proxied by using the family income variable from 1979 when respondents were between the ages of 14 and 22. Similar to current family income, this variable includes income from all household members related by blood or marriage, and also similar to current family income, this variable had large amounts, encompassed a broad range, and exhibited significant non-normal distributions, with skewness of 1.561 (SE = .036) and kurtosis of 3.343 (SE = .072). A conversion to a logarithmic variable was made, using  $\log(x+1)$  to account for zero values, even though that increased skewness to -3.171 (SE = .036) and kurtosis to 23.979 (SE = .072). A natural log would have been preferable, but that would have eliminated 49 people from the sample, and as those who would be eliminated came from the poorest families, it was important to include them. Leaving the variable in its unaltered form was also an option, but the range of responses was so broad that it was difficult to interpret the resulting statistics. In any event, running both models with various permutations of logarithmic and non-logarithmic variables showed little impact on model strength.

Education was measured using the highest grade completed, a continuous variable starting with 1<sup>st</sup> grade (coded 0) and ranging up to the 8<sup>th</sup> year of college or more (coded 20). This variable was recoded into dichotomous variables to represent levels of academic achievement. Completing 12<sup>th</sup> grade usually signals finishing high school, which is a significant educational milestone. On a continuous scale, that difference in significance is blurred. Recoding this variable also provided the ability to analyze how each level contributes or detracts from net

worth. The educational category of grade school was created by coding respondents with less than 12 years of education as 1, and all others as 0. High school graduates were coded as those with 12 years of education. Respondents who completed some college were coded as those who completed 13 to 15 years of education. Those who reported 16 years of education were coded as a college graduate, and those with 17 or more years of education were coded as attending graduate school. It is important to note that these three categories dealing with college may not fully reflect the educational achievements of the students. For example, it is possible that students graduated early (with 15 years of education) or took longer to graduate (with 17 years of education). Nonetheless, it is probable that these discrepancies are minor, and will have no impact on the categories. Respondents with a high school level of education were used as the reference group.

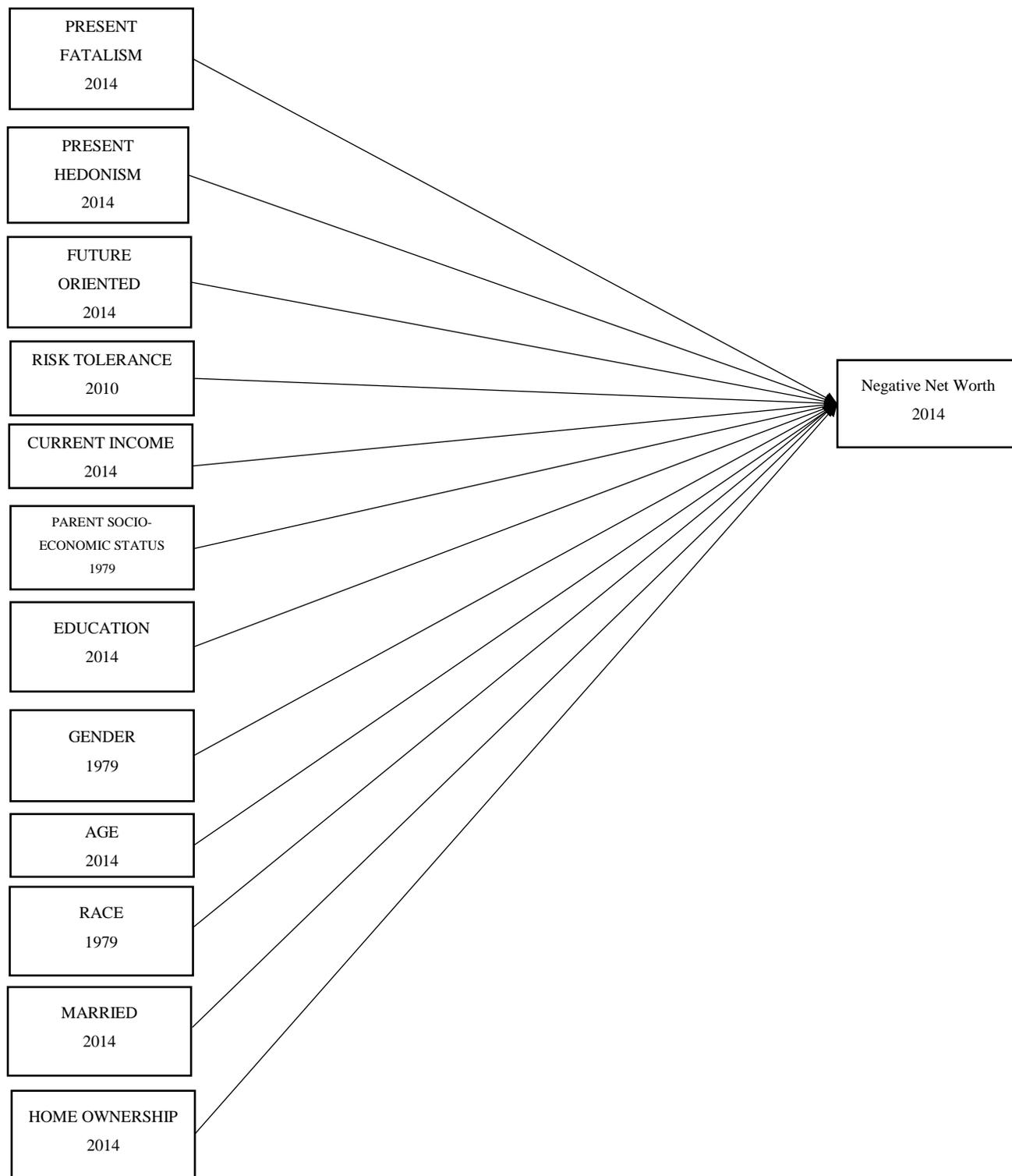
Gender was captured in the 1979 administration of the data and was recoded to represent males, with male coded as 1 and female coded as 0. Age (2014) shows the actual age of the respondent on the day the survey was taken.

Race was broken down into four dichotomous variables: Black, Hispanic, White, and race-other. Race was asked in the first collection of data in 1979 and was grouped by the categories of Hispanic, Black, and non-Black, non-Hispanic. The Black variable was created by recoding the race question into a dichotomous variable, where Black was recoded as 1, while Hispanic and non-Black, non-Hispanic were coded as 0. The Hispanic variable was created in a similar fashion, by recoding the race question into a dichotomous variable, such that Hispanic remained coded as 1, while Black and non-Black, non-Hispanic were coded as 0. The White and race-other variables were created by further refining the non-Black, non-Hispanic variable. This was done by sorting the non-Black, non-Hispanic respondents by the racial/ethnic origin variable

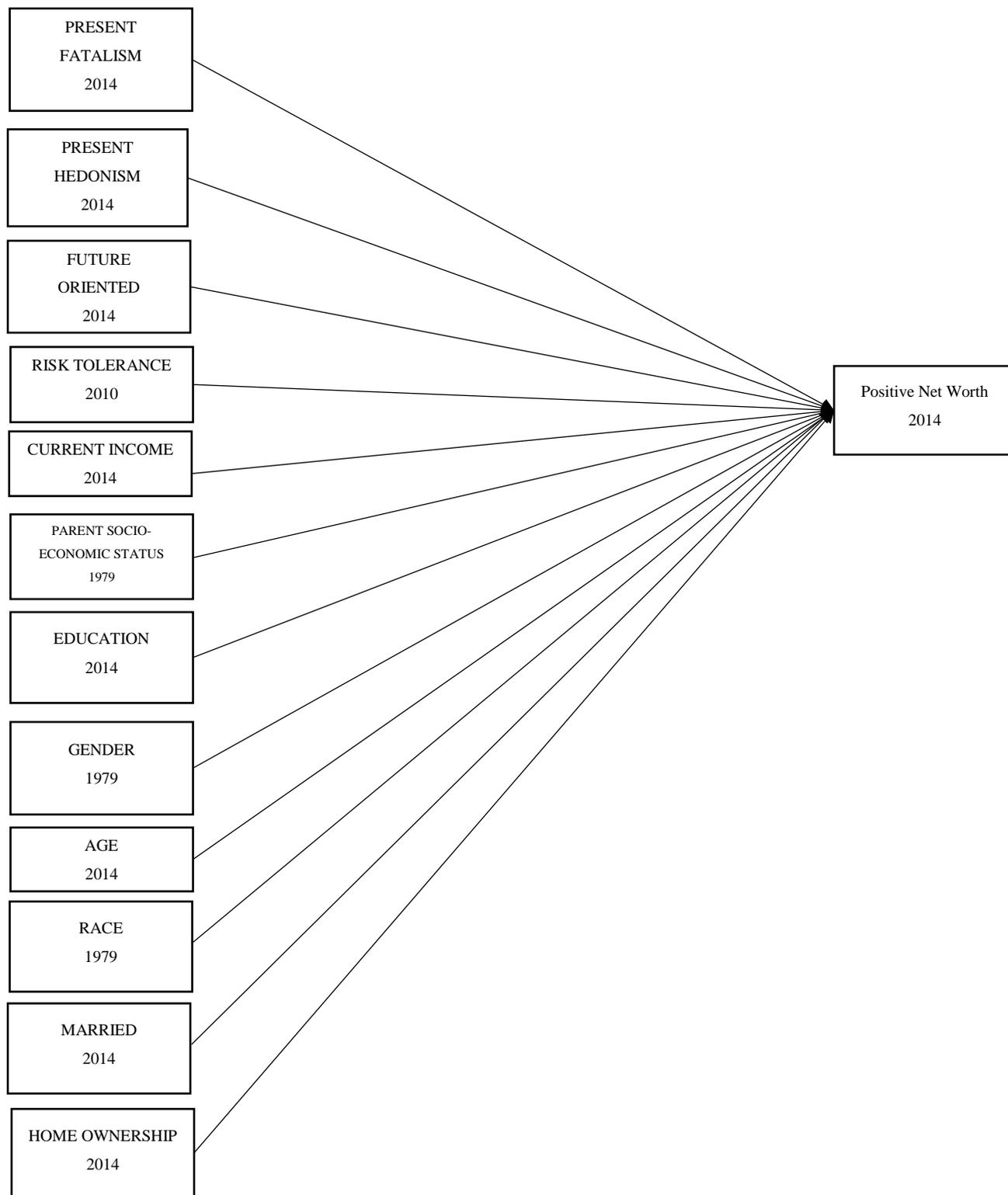
(1979), which asked respondents “what is your origin or descent?” Those who chose European races (English, French, German, Greek, Irish, Italian, Polish, Portuguese, Russian, Scottish, and Welsh) were classified as White. The remainder were classified as race-other. The “White” variable was not included in the model, since it was selected as the reference group for this series of dummy variables.

Marital status was asked in 2014 and is divided into five groups of never married, married, separated, divorced, and widowed. This was recoded such that those who indicated they were currently married were coded 1, while all others were coded 0. This was done to simplify the model and to conform with the review of the literature, which predicts that being married will impact net worth more positively than any of the other categories (widows, divorced individuals, and those who never married).

Respondents (or their spouse/partner) who owned the house in which they were living in the 2014 NLSY79 data were coded 1, otherwise 0. No recoding was required of this variable.



**Figure 3.1 Empirical Model of Logistic Regression Analysis for Variables Predicting Individuals with a Negative Net Worth.**



**Figure 3.2 Empirical Model of OLS Regression Analysis for Variables Predicting Positive Net Worth.**

## **Data Analyses**

Two regression analyses were performed. A logistic regression analysis (Model 1) was performed to predict the likelihood that the variables of interest and the control variables will influence the outcome variable of negative net worth reflecting individuals who have a negative net worth. An OLS regression (Model 2) was performed to ascertain the influence of the variables of interest and the control variables on the outcome variable of positive net worth. A bivariate analysis was performed to better discern differences between the samples from Models 1 and 2. Data analyses were conducted using IBM SPSS Statistics Program, version 25. Multicollinearity was checked using variance inflation factor (VIF) scores, which ranged from 1.018-1.576 ( $M = 1.067$ ), and thus fell within normal range (VIF between 1 and 10). Missing data were deleted listwise, such that if any of the data for the variables was missing, the entire case was deleted from the analysis.

## **Chapter 4 - Results**

This study analyzed the influence of time perspective on net worth from two perspectives. In Model 1, a logistic regression analysis was performed to evaluate the likelihood that an individual would have a negative (or zero) net worth. In Model 2, An OLS regression was subsequently performed to determine which factors contributed to greater levels of positive net worth. This chapter is structured such that descriptive statistics for both models are shown at the beginning. This is followed by a bivariate analysis to compare the two sample groups. Finally, the regression results for Models 1 and 2 are presented.

### **Model 1: Negative Net Worth Descriptive Statistics**

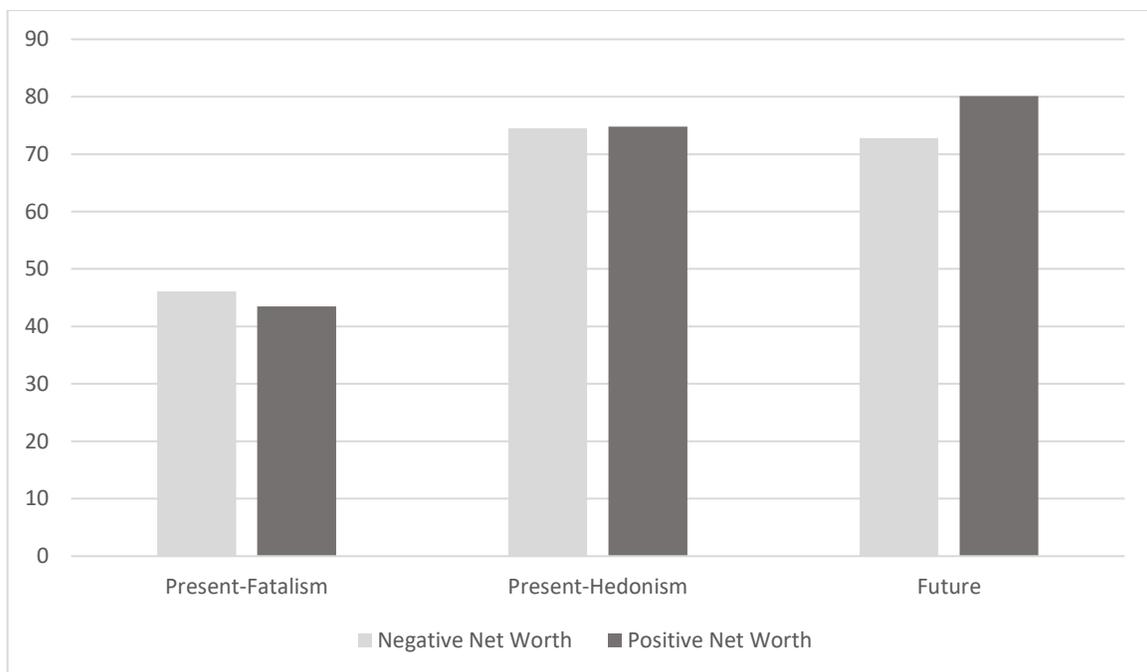
The descriptive statistics for Model 1 are summarized in Table 4.1. It is important to clarify that the sample for Model 1 (the logistic regression analysis) includes both those who have a negative net worth and those who have a positive net worth, and thus the descriptive statistics shown in Table 4.1 also represent descriptive statistics for the entire sample.

**Table 4.1 Summary of Logistic Regression Analysis for Variables Predicting Individuals with a Negative Net Worth: Descriptive Statistics ( $N = 4,547$ ).**

Variables	<i>M</i>	<i>SD</i>	Range
Negative Net Worth	.324	.468	0 – 1
Time Perspective Variables			
Present-fatalism	.461	.499	0 – 1
Present-hedonism	5.220	1.628	1 – 7
Future	.728	.445	0 – 1
Financial Risk Tolerance	3.690	2.734	0 – 10
Current Income	\$77,869	\$91,313	\$0-595,986
Parent Socio-Econ. Status	\$16,973	\$13,074	\$0-75,001
Education			
Grade School	.130	.336	0 – 1
High School Grad	.405	.491	0 – 1
Some College	.222	.415	0 – 1
College Grad	.145	.352	0 – 1
Graduate School	.100	.300	0 – 1
Male	.489	.500	0 – 1
Age	53.400	2.220	49 – 58
Race			
Black	.297	.457	0 – 1
Hispanic	.189	.392	0 – 1
White	.417	.493	0 – 1
Race-Other	.091	.287	0 – 1
Married	.549	.498	0 – 1
Home Ownership	.640	.480	0 – 1

Of the sample of 4,547 respondents, 32.4% indicated that they had a negative net worth ( $SD = .468$ , range: 0-1). The sample appeared to be heavily weighted with future-oriented individuals ( $M = .728$ ,  $SD = .455$ , range: 0-1), while the scores for present-hedonism also seemed

high ( $M = 5.22$ ,  $SD = 1.628$ , range: 1-7), although it is difficult to evaluate without a frame of reference for the general population, and that is unavailable. Almost 46% of the sample indicated present-fatalistic characteristics ( $SD = .499$ , range: 0-1). It is important to remember that high scores in one time perspective do not preclude a respondent from having a high score in another time perspective. The time perspective percentage distribution for this sample compared to the positive net worth sample is shown in Figure 4.1.



**Figure 4.1 Comparison of Time Perspective by Mean of Each Group.**

Financial risk tolerance showed a mean of 3.69 ( $SD = 2.734$ ) on a 0 to 10-point scale, where a score of 0 indicated respondents were unwilling to take any risks while a 10 means they were fully prepared to take risks. The score of 3.69, well below the midpoint of 5.5, suggests that this group was more financially risk averse. Current income showed a mean of \$77,869 ( $SD =$

\$91,313), with a range of zero to \$595,986. Parent socio-economic status, as measured by family income in 1979, showed a mean value of \$16,973 ( $SD = \$13,143$ ), with a range of \$0 to \$75,001.

There were five educational categories captured, of which the largest was high school graduates ( $M = .405$ ,  $SD = .491$ , range: 0-1), which is appropriate since it is the reference for this group of dummy variables. The high school graduates were followed, in order of the size of the mean, by those who had completed some college ( $M = .222$ ,  $SD = .415$ , range: 0-1), those who had graduated from college ( $M = .145$ ,  $SD = .352$ , range: 0-1), those who only had a grade school education ( $M = .130$ ,  $SD = .336$ , range: 0-1), and those who had gone on to graduate school ( $M = .100$ ,  $SD = .300$ , range: 0-1). The gender split was slightly less than half, with males constituting 48.89% ( $SD = .50$ , range: 0-1) of the sample. The average age of the respondents was 53.4 ( $SD = 2.220$ ), with an age range of 49 to 58. Blacks made up 29.7% ( $SD = .457$ , range: 0-1) of the sample, while Hispanics contributed 18.9% ( $SD = .392$ , range: 0-1). Accounting for these two groups, as well as removing the race-other individuals ( $M = .091$ ,  $SD = .287$ , range: 0-1), the sample consisted of 41.7% White respondents ( $SD = .493$ , range: 0-1). Married individuals comprised approximately 54.9% ( $SD = .498$ , range: 0-1) of the sample, while 64% ( $SD = .48$ , range: 0-1) of the respondents owned their own homes.

### **Model 2: Positive Net Worth Descriptive Statistics**

The outcome variable for the OLS regression analysis was the log of positive net worth. It is important to remember that this sample ( $n = 2,913$ ) is a subset of the larger sample used for the logistic regression model ( $n = 4,547$ ). The descriptive statistics for the OLS analysis are summarized in Table 4.2.

**Table 4.2 Summary of OLS Regression Analyses for Variables Predicting Positive Net Worth: Descriptive Statistics (*N* = 2,913).**

Variables	M	SD	Range
Positive Net Worth	\$395,671	\$882,318	\$5,384,039
Time Perspective Variables:			
Present-fatalism	.435	.496	0 – 1
Present-hedonism	5.240	1.484	1 – 7
Future	.801	.399	0 – 1
Financial Risk Tolerance	3.810	2.549	0 – 10
Current income	\$98,552	\$101,444	\$0 – 595,986
Parent Socio-Economic Status	\$19,057	\$13,772	\$0 – 75,001
Education			
Grade School	.081	.273	0 – 1
High School Grad	.380	.486	0 – 1
Some College	.236	.425	0 – 1
College Grad	.176	.381	0 – 1
Graduate School	.126	.332	0 – 1
Male	.522	.500	0 – 1
Age	53.450	2.226	49 – 58
Race			
Black	.206	.404	0 – 1
Hispanic	.173	.378	0 – 1
White	.512	.500	0 – 1
Race-Other	.103	.304	0 – 1
Married	.654	.476	0 – 1
Home Ownership	.790	.404	0 – 1

The outcome variable, positive net worth (log), had a mean of 11.438, a standard deviation of 1.996, and a range extending from a minimum of 0 up to a maximum of 15.5. This

corresponds to a non-logarithmic actual mean net worth of \$395,671 ( $SD = \$882,318$ ), and a range extending from zero up to almost \$5.4 million.

Present-fatalism showed a mean of .435 ( $SD = .496$ , range: 0-1), while present-hedonism produced a mean of 5.24 ( $SD = 1.484$ , range: 1-7). This sample also appeared to be heavily weighted with future-oriented individuals ( $M = .801$ ,  $SD = .399$ , range: 0-1). These numbers can be seen in comparison to the entire sample in Figure 4.1.

The mean for financial risk tolerance was 3.81 ( $SD = 2.549$ ) on a 0 to 10-point scale. Current income had a mean of \$98,552 ( $SD = \$101,444$ ), with a range of zero to \$595,986. Parent socio-economic status showed a mean value of \$19,057 ( $SD = \$13,772$ ), with a range of \$0 to \$75,001.

High school graduates ( $M = .380$ ,  $SD = .486$ , range: 0-1) were also the largest educational category for this sample, and just as it did for Model 1, it serves as the reference for this group of dummy variables. The high school graduates were followed, in order of the size of the mean, by those who had completed some college ( $M = .236$ ,  $SD = .425$ , range: 0-1), those who had graduated from college ( $M = .176$ ,  $SD = .381$ , range: 0-1), those who had gone on to graduate school ( $M = .126$ ,  $SD = .332$ , range: 0-1), and those who only had a grade school education ( $M = .081$ ,  $SD = .273$ , range: 0-1).

The gender split was unequal, with males constituting 52.2% ( $SD = .50$ , range: 0-1) of the sample. The average age of the respondents was 53.45 ( $SD = 2.226$ ), with a range of age 49 to 58.

Blacks made up 20.6% ( $SD = .404$ , range: 0-1) of the sample, Hispanics contributed 17.3% ( $SD = .378$ , range: 0-1), and the race-other individuals comprised 10.3% ( $SD = .304$ ,

range: 0-1). White individuals made up more than half of the sample ( $M = .512$ ,  $SD = .425$ , range: 0-1).

Married individuals comprised 65.4% ( $SD = .476$ , range: 0-1) of the sample, while 79% ( $SD = .404$ , range: 0-1) of the respondents owned their own homes.

### **Bivariate Analysis**

The descriptive statistics shown above do not allow for a good comparison of the positive net worth and negative net worth samples since the sample used in the negative net worth analysis was the entire sample. To provide a better comparison, a bivariate analysis was performed (see Table 4.3). This bivariate analysis provides an accurate portrayal of the characteristics specific to the negative net worth group and allows for meaningful comparison to the positive net worth sample. This independent  $t$  test found all the variables to be significantly different with the exception of present-hedonism.

**Table 4.3 T-test Comparison of Independent Variables Used in Models 1 (Negative Net Worth) and 2 (Positive Net Worth).**

Variable	Means		t(df)
	Positive Net Worth	Negative Net Worth	
<b>Time Perspectives</b>			
Present-fatalism	0.439	0.502	-4.405(2881.9)***
Present-hedonism	5.240	5.180	1.296(4545.0)
Future	0.800	0.577	15.099(2427.2)***
Financial Risk Tolerance	3.800	3.460	3.644(2486.1)***
Current Income	\$97,799	\$36,276	29.224(4402.5)***
Parent Socio-Econ Status	\$18,985	\$12,773	17.017(3768.3)***
<b>Education</b>			
Grade School	0.081	0.231	-12.449(2082.4)***
High School Grad	0.380	0.452	-4.422(2839.9)***
Some College	0.235	0.193	3.308(3098.2)**
College Grad	0.177	0.078	10.049(3934.8)***
Graduate School	0.125	0.047	9.617(4189.2)***
Gender (Male)	0.517	0.432	5.387(2924.3)***
Age	53.450	53.290	2.350(2940.0)*
<b>Race</b>			
Black	0.212	0.473	-17.410(2448.4)***
Hispanic	0.174	0.220	-3.567(2685.2)***
White	0.505	0.232	19.188(3382.5)***
Race-Other	0.102	0.068	3.978(3428.5)***
Married	0.647	0.343	20.174(2918.9)***
Home Ownership	0.790	0.330	32.508(2563.3)***

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

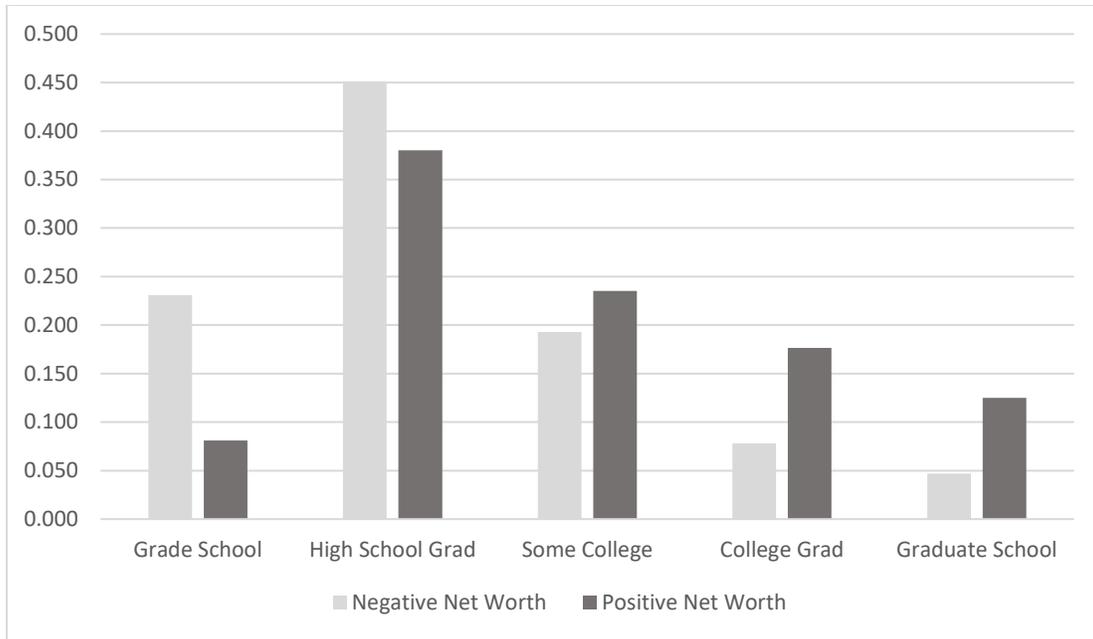
A brief glance at the descriptive statistics shows that time perspective for positive net worth individuals was more future-oriented and less present-fatalistic than that of the negative

net worth respondents. More importantly, the bivariate analysis revealed the strength of future-orientation on this group, with 80% of the positive net worth group being future-oriented as compared to 57.7% of the negative net worth group ( $t(2427.2) = 15.099, p < .001$ ).

Those who had a positive net worth had a 9.83% higher financial risk tolerance ( $M = 3.8$ ) than their negative net worth counterparts ( $M = 3.46$ ) ( $t(2486.1) = 3.644, p < .001$ ), although both scores are well below the midpoint of 5.5, which indicates that both groups may be somewhat financially risk averse.

Current income for positive net worth individuals had a mean of \$97,799 which was almost three times higher than the mean for those with a negative net worth, which was \$36,275.97 ( $t(4402.5) = 29.224, p < .001$ ). With a mean of \$18,984, parent socio-economic status for those with a positive net worth was almost a third higher than the \$12,773 mean for those with a negative net worth ( $t(3768.3) = 17.017, p < .001$ ).

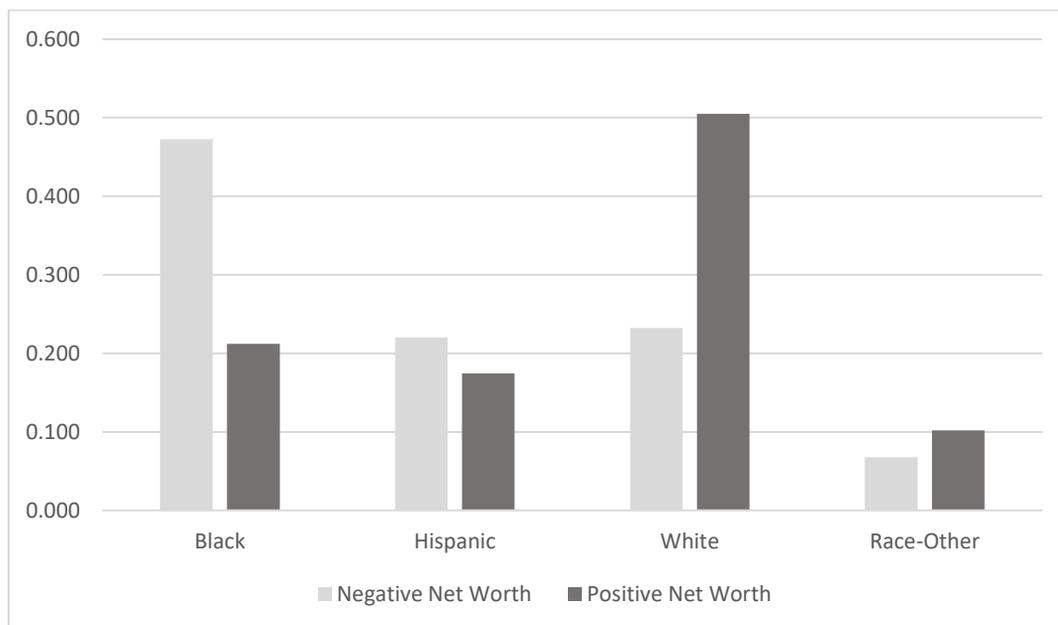
Considering the five educational categories, the bivariate analysis emphasizes the stark differences between these two groups, which is illustrated in Figure 4.2. The negative net worth individuals had almost three times as many members who had only attended grade school, in comparison to those with a positive net worth ( $t(2082.4) = -12.449, p < .001$ ). Just as striking was the difference in how many more positive net worth people graduated from college and went to graduate school. Over 120% more positive net worth people graduated from college ( $t(3934.8) = 10.049, p < .001$ ) and 165% more went to graduate school ( $t(4189.2) = 9.617, p < .001$ ).



**Figure 4.2 Means of Education Groups by Bivariate Analysis.**

The positive net worth group contained more men (51.7% were male) than women ( $t(2924.3) = 5.387, p < .001$ ). The average ages were virtually the same: 53.45 years for the positive net worth sample and 53.29 years for the negative net worth sample ( $t(2940) = 2.35, p < .01$ ).

The racial composite of the two samples are different in the distribution of Hispanics and those of other races, but starkly different between Blacks and Whites. Hispanics with a negative net worth ( $M = .22$ ) were over 20% larger than those with a positive net worth ( $t(2685.2) = -3.567, p < .001$ ). Those in the race-other group with a positive net worth ( $M = .102$ ) were 33% bigger than those with a negative net worth ( $t(3428.5) = 3.978, p < .001$ ). The proportion of Blacks with a negative net worth soared to 47.3%, more than double the number of Blacks with a positive net worth ( $t(2448.4) = -17.41, p < .001$ ), while the number of Whites with a positive net worth was correspondingly double that of Whites with a negative net worth ( $t(3382.5) = 19.188, p < .001$ ). These differences can be seen graphically in Figure 4.3.



**Figure 4.3 Means of Racial Groups by Bivariate Analysis.**

Of those with a positive net worth, 64.7% were married, compared to only 34.3% of those with a negative net worth ( $t(2918.9) = 20.174, p < .001$ ). 79% of those who had a positive net worth owned their home, while only 33% of those with a negative net worth were homeowners ( $t(2563.3) = 32.508, p < .001$ ).

### **Model 1: Negative Net Worth Logistic Regression**

A logistic regression analysis was run to determine the likelihood that an individual would have a negative net worth. A test of the full model versus a model with intercept only was statistically significant ( $\chi^2(17, N = 4,547) = 1385.115, p < .001$ ). The model appeared to be good, with a Nagelkerke R Square of .367. The model was able correctly to classify 77.2% of those who had a negative net worth, improved from 67.6% using only the intercept. Results from the logistic regression are shown in Table 4.4.

**Table 4.4 Summary of Logistic Regression Analysis for Variables Predicting Individuals with a Negative Net Worth ( $N = 4,547$ ).**

Variables	B	SE(B)	$e^B$
Time Perspective Variables			
Present-fatalism	.170*	.076	1.186
Present-hedonism	-.008	.023	.992
Future	-.652***	.087	.521
Financial Risk Tolerance	-.025	.014	.975
Current Income (log)	-.115***	.017	.892
Parent Socio-Econ, Status (log)	-.040	.038	.960
Education			
Grade School	.470***	.115	1.599
High School Grad	---	---	---
Some College	-.284**	.099	.753
College Grad	-.317*	.129	.728
Graduate School	-.425**	.157	.654
Male	-.435***	.078	.647
Age	-.014	.017	.986
Race			
Black	.907***	.096	2.476
Hispanic	.475***	.108	1.608
White	---	---	---
Race-Other	.197	.144	1.218
Married	-.225*	.085	.798
Home Ownership	-1.483***	.083	.227
Constant	6.851		
$\chi^2$		1385.115	
Df		17	

Notes: B = Beta. SE B = Standard error.  $e^B$  = exponentiated B (odds ratio).  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## **Time Perspective**

The odds of having a negative net worth were 18.6% higher for every unit increase of present-fatalism. Present-hedonism was not significant in this model. Future-orientation was very influential, however, in that the odds of having a negative net worth were 47.9%  $((e^B - 1) * 100)$  lower.

## **Control Variables**

Financial risk tolerance was not significant in this model. Current income was statistically significant, with those earning higher incomes having 10.8% lower odds of having a negative net worth. Parent socio-economic status was not statistically significant.

All of the educational levels were significant in this model. Those who only attended grade school (grades 1-11) had 1.6 times greater odds of having a negative net worth than those who graduated from high school. Conversely, compared to those with a high school diploma, those with some college had 24.7% lower odds of having a negative net worth, those with a college degree had 27.2% lower odds of having a negative net worth, and those who attended graduate school had 34.6% lower odds of having a negative net worth.

Gender was significant, with men having 35.3% lower odds of having a negative net worth than women. Age was not statistically significant in this model.

The odds that Blacks have a negative net worth is 2.48 times higher than Whites. Similarly, the odds that Hispanics have a negative net worth is 1.608 times higher than Whites. The race-other category was not significant.

Those who were married had approximately 20% lower odds of having a negative net worth than those who were not married. The odds that those who owned their own home would have a negative net worth were reduced by 77.3%.

## **Model 2: Positive Net Worth OLS Regression**

An OLS regression model was run to determine predictors of positive net worth. The OLS regression model was significant ( $F(17, 2912) = 122.814, p < .001$ ), with an  $R^2$  of .419. The regression results are summarized in Table 4.5.

**Table 4.5 Summary of OLS Regression Analyses for Variables Predicting Positive Net Worth ( $N = 2,913$ ).**

Variable	B	SE B	$\beta$
Time Perspective Variables			
Present-fatalism	-.026	.058	-.004
Present-hedonism	.040	.019	.030*
Future	.510	.073	.102***
Financial Risk Tolerance	.051	.011	.065***
Current Income (log)	.152	.017	.140***
Parent Socio-Econ. Status (log)	.105	.029	.055***
Education			
Grade School	-.481	.112	-.066***
High School Grad	---	---	---
Some College	.234	.075	.050**
College Grad	.838	.084	.160***
Graduate School	.882	.095	.147***
Male	.184	.058	.046**
Age	.056	.013	.062***
Race			
Black	-.880	.078	-.178***
Hispanic	-.296	.082	-.056***
White			
Race-Other	.037	.097	.006
Married	.400	.066	.095***
Home Ownership	1.542	.077	.312***
$R^2$		.419	
$F$		122.814	
$Df$		17	

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

B = unstandardized beta. SE B = standard error of the coefficient.  $\beta$  = standardized beta.

## **Time Perspective**

Present-fatalism was not significant in this model. Present-hedonism was a positive predictor of positive net worth ( $\beta = .03, p < .05$ ), but not a very strong one. Every point increase in an individual's present-hedonism score increases net worth by 4.1%, which was calculated by taking the inverse of the log of beta of present-hedonism, subtracting one from it, and converting the result into a percentage by multiplying it by 100. Future-orientation ( $\beta = .102, p < .001$ ) was a much stronger predictor, with every additional unit of future-orientation increasing net worth by 66.5%.

## **Control Variables**

Financial risk tolerance was significant in this model ( $\beta = .065, p < .001$ ), indicating that those who take more financial risk are more likely to have a higher net worth. In fact, for every unit increase in risk tolerance scores, net worth is expected to increase by 5.2%. Current income was significant ( $\beta = .140, p < .001$ ), confirming the relatively common-sense conclusion that those who make higher incomes will have higher net worth. Parent socio-economic status was significant ( $\beta = .055, p < .001$ ).

All four of the education variables were significant predictors of net worth in comparison to the reference group: high school graduates. Having a college degree contributed the most to positive net worth ( $\beta = .160, p < .001$ ), followed by attending graduate school ( $\beta = .147, p < .001$ ) and those who attended some college ( $\beta = .050, p < .01$ ). Attending some college should boost net worth 26.4% above those with a high school education, graduating from college should boost net worth 131.2% above those with a high school education, and attending graduate school should boost net worth 141.6% above those with a high school education Those with a

grade school education ( $\beta = -.066, p < .001$ ) were likely to have a 38.2% lower net worth than those who graduated from high school.

Being male was a positive predictor of positive net worth ( $\beta = .046, p < .01$ ) with men having net worths 20.2% higher than women. Age generated a standardized beta of .062 ( $p < .001$ ), such that for every year older a person got, their net worth was expected to be 5.8% higher.

Using Whites as the reference category for race, the regression results showed that Blacks ( $\beta = -.178, p < .001$ ) and Hispanics ( $\beta = -.056, p < .001$ ) had significant negative beta coefficients, thus indicating a lower net worth for both. Being Black generated a 58.5% lower net worth than Whites, and being Hispanic generated a 25.6% lower net worth than Whites. The race-other result was not significant.

Those who were married recorded higher net worth numbers ( $\beta = .095, p < .001$ ) such that being married increased net worth 49.2%. The results for homeownership ( $\beta = .312, p < .001$ ) showed the largest standardized beta coefficient of the study, thus indicating a strong positive relationship between owning a home and having a higher net worth. Owning a home showed a remarkably high boost of 367.4% of net worth.

Standardized beta scores can be used to show which variables have the strongest effect on the dependent variable (positive net worth). The top five most influential variables, ranked in order of standardized betas, are home ownership ( $\beta = .312, p < .001$ ), being Black ( $\beta = -.178, p < .001$ ), graduating from college ( $\beta = .160, p < .001$ ), attending graduate school ( $\beta = .147, p < .001$ ), and current income ( $\beta = .140, p < .001$ ).

## **Chapter 5 - Conclusion**

The purpose of this study was to explore how time perspective influences the accumulation of wealth, and so the results of the study as they pertain to time perspective will be reviewed first. That will be followed by a discussion of findings related to the control variables. Limitations on this study will be addressed or referenced, and this study will conclude with a discussion of potential areas for future research.

### **Time Perspective**

Six hypotheses were proposed as part of this study, the first two dealing with present-fatalism, the next two dealing with present-hedonism, and the final two addressing future-orientation.

H<sub>1A</sub>: Present-fatalism oriented individuals will be more likely to have a negative net worth.

Support was found for this hypothesis, in that those who were present-fatalists were 18.6% more likely to have a negative net worth. This is consistent with Zimbardo and Boyd's (2008) view that present-fatalists have no confidence that investments will pay off and no real incentive to save, therefore they would be unlikely to build a net worth.

H<sub>1B</sub>: Present-fatalism oriented individuals will be associated with lower levels of net worth.

No support was found for this hypothesis, in that the results were statistically insignificant.

H<sub>2A</sub>: Present-hedonism oriented individuals will be more likely to have a negative net worth.

This hypothesis was not supported by this study. The results were statistically insignificant, so there is no validation that those who are present-hedonistic will be more likely to have a negative net worth.

H<sub>2B</sub>: Present-hedonism oriented individuals will be associated with levels of lower net worth.

This study found no support for this hypothesis, and in fact found that present-hedonism oriented individuals were more likely to have a positive net worth, albeit on a very small basis. Present-hedonism actually had the smallest significant standardized beta in this study. A change in unit of present-hedonism was only expected to impact net worth by 4.1%. Zimbardo and Boyd (2008) opined that since present-hedonists focus only on today's pleasure, and are inherently optimistic, they would see no need to save money and accumulate a net worth. This seemed to be substantiated by Rutledge and Deshpande (2015), who found that those who scored low in present-orientation generally showed increased amounts of personal savings. The result from this study disagrees with these assertions and lends its support to those who advocate that present-hedonism is a meaningful contributor to positive financial net worth. Ryack and Sheikh (2016) found that present-hedonism was a significant contributor to an individual having a higher financial risk tolerance. If the assumption that risk tolerance is an indicator of net worth is correct, then these conclusions suggest that those who are present-hedonistic and who have a higher risk tolerance will also have a higher net worth. A correlation analysis was done and found a positive correlation of .067 ( $p < .01$ ) between financial risk tolerance and present-hedonism. It was also found that individuals with present-hedonism time perspectives were more likely to engage in retirement planning, an activity which has also been shown to contribute to higher net worth levels (Petkoska & Earl, 2009; Earl et al., 2015).

H<sub>3A</sub>: Future-oriented individuals will be less likely to have a negative net worth.

There was support for this hypothesis with future-oriented individuals 47.9% less likely to have a negative worth.

H<sub>3B</sub>: Future-oriented individuals will be associated with higher levels of net worth.

There was also support for this hypothesis, with future-orientation predicting positive net worth, accounting for 10.2% of the variance ( $p < .001$ ). Every unit change in future-orientation increased net worth by 66.5%.

Support for both of these hypotheses is consistent with previous studies. Individuals who are future-oriented were more likely to engage in retirement planning (Petkoska & Earl, 2009; Earl et al., 2015) and participate in a 401(k) plan (Howlett et al., 2008), all of which have been shown to positively contribute to net worth. Future-orientation was also found to be related to increased regular saving and loan-repaying behavior (Klicperová-Baker et al., 2015) and to better financial decisions overall (Rutledge & Deshpande, 2015).

## **Control Variables**

### **Financial Risk Tolerance**

Financial risk tolerance was significantly related to having a positive net worth, but it was not statistically significant when predicting negative net worth. This is an interesting result, since it has been proposed that risk tolerance can be a proxy variable to predict net worth, in that the higher an individual's risk tolerance, purportedly the higher their net worth will be (Finke & Huston, 2003; McInish et al., 1993). At the same time, prior research evaluating negative net worth also found risk tolerance was not significant (Chen & Finke, 1996; Mountain & Hanna, 2012). The results from this study validate both of those assertions, in that they suggest that risk tolerance will be a predictor of net worth only in those cases where individuals have a positive

net worth but will not be useful as a predictor for those who have a negative net worth. It is also worth considering the degree to which the time perspective variables were correlated with risk tolerance. A simple bivariate correlation analysis showed no significant relationship between financial risk tolerance and present-fatalism, showed a positive correlation of .067 ( $p < .01$ ) between financial risk tolerance and present-hedonism, and showed a positive correlation of .056 ( $p < .01$ ) between financial risk tolerance and future-orientation.

### **Current Income**

Current income was found to be a significant detractor from having a negative net worth, a result that agrees with prior studies on negative net worth (Chen & Finke, 1996; Mountain & Hanna, 2012). As expected, income was also a significant contributor to positive net worth, which concurs with prior studies that found income to be a contributor to net worth (Barsky et al., 2002).

### **Parent Socio-Economic Status**

A parent's socio-economic status was not found to be significantly related to those with a negative net worth, which is a curious result, considering that most of the literature finds a strong relationship between the success of a child and the resources of the parents. This study did find that the parent's socio-economic status contributed to positive net worth, which does agree with previous research. Studies have suggested that a parent's income correlates to higher incomes for their children (Chetty et al., 2014). A bivariate comparison of parent socio-economic status to current income in this study does show a positive, significant relationship of .118 ( $p < .01$ ). Studies have also suggested that educational attainment was linked to parent socio-economic status (Morgan & Kim, 2006; Haveman & Wilson, 2007), and this study found significant correlations in all educational categories except those who only attended some college. It is

curious then, that with those factors largely correlated in this study (income and education), parent socio-economic status should still not be a significant influence on negative net worth.

### **Education**

Education was a coded group of dummy variables using those with a high school diploma as a reference group. All of the categories of education, as compared to their colleagues who had a high school diploma, were significant predictors in both Models 1 and 2. Those who only had a grade school education were more likely to have a negative net worth and less likely to have a positive net worth. Those who had some college, got a college degree, or went on to graduate school were all less likely to have a negative net worth and more likely to have a positive net worth. These results are consistent with prior literature. Prior studies of negative net worth have found education to be a detractor from having a negative net worth (Chen & Finke, 1996; Mountain & Hanna, 2012), just as this study found. The results showing a positive link between education and positive net worth also echo those results found by Griesdorn and Durband (2016).

### **Gender**

Being male was found to considerably reduce the likelihood of a person having a negative net worth, and to be a predictor of positive net worth. This is consistent with prior research, which has shown higher levels of wealth among men (Chang, 2010; Maroto & Aylsworth, 2017).

### **Age**

Age was not a statistically significant in predicting negative net worth, which was contrary to what was expected, especially since the two studies that also evaluated negative net worth found age to be significant (Chen & Finke, 1996; Mountain & Hanna, 2012). The reason for this result is unclear, but it could be due to the more homogenous age of this sample. This

sample had a median age of 53 years, while Chen and Finke's (1996) study, for example, had a mean age of 35. Age was a significant predictor of positive net worth, finding that those who are older generally have a higher net worth, which was consistent with prior research (Diaz-Gimenez et al., 2002; Bricker et al., 2017; Killewald et al., 2017).

## **Race**

Race was a group of dummy variables, including Black, Hispanic, White, and race-other, with White being the reference group. This study found that being Black or Hispanic instead of being White considerably increased the odds that a person would have a negative net worth. This result was not entirely expected given prior research on negative net worth had provided mixed results. Mountain and Hanna (2012) found that those who were Black were more likely to have a negative net worth, while Chen and Finke (1996) did not find race to be significant in predicting negative net worth. This study also found that being Black or Hispanic was a significant detractor in building positive net worth as compared to their White colleagues. These results were consistent with prior research. (Campbell & Kaufman, 2006).

## **Marriage**

This study found that married people were 20% less likely to have a negative net worth. This result is inconsistent with prior research on negative net worth, which found marriage not to be a significant variable (Chen & Finke, 1996; Mountain & Hanna, 2012). As mentioned above, it is possible this discrepancy can be explained by the big differences in ages of the two studies. Marriage was also found to be a predictor of positive net worth, and that is consistent with prior studies (Addo & Lichter, 2013; Ruel & Hauser, 2013; Zagorsky, 2005).

## **Home Ownership**

This study found that owning a home reduced the chances of having a negative net worth by 77%. Finding that homeownership reduced negative net worth is consistent with prior studies on negative net worth (Chen & Finke, 1996; Mountain & Hanna, 2012). Similar results were found in Model 2, with homeownership being a predictor of increased positive net worth. This is also consistent with prior research (Lusardi & Mitchell, 2007; Killewald & Bryan, 2016).

## **Analysis of Findings**

It was interesting that present-fatalism was a significant predictor of negative net worth and present-hedonism was not statically significant, while on the other hand present-hedonism was a predictor of positive net worth and present-fatalism was not significant. The strong suggestion this provides is that present-fatalism may not be useful in evaluating net worth unless it is viewed in a negative fashion, while present-hedonism is only a useful variable for looking at positive net worth, and as a result, future studies focusing on time perspective would be advised to consider separating net worth into positive and negative parts to study the effects of these two variables separately.

The key time perspective finding of this study is that future-orientation may be much more important than previously suspected. Looking first at those with a positive net worth, every additional unit of future-orientation increased net worth by 66.5%, a very large result but one that is not unreasonable considering that results from prior studies focused on activities that are future-oriented (e.g., retirement planning), and reported the positive impact they had on net worth. The influence of future-orientation on those with a negative net worth was also quite substantial, in that those who are future-oriented are 47.9% less likely to have a negative net worth. That is a substantial reduction in the odds of someone being economically unsuccessful.

The results from this study regarding the predictive ability of financial risk tolerance on net worth largely mirrored prior studies, showing that it was a significant positive predictor of positive net worth, yet statistically insignificant when evaluating negative net worth. The broader implication, however, is that while financial risk tolerance has often been touted as a proxy variable to predict net worth, it appears that premise may only be useful when considering positive net worth and not when considering negative net worth. The low correlation numbers between time perspective and risk tolerance also contrast with prior studies, which suggested much stronger relationships between the two constructs.

The influence of a parent's socio-economic status on positive net worth was expected, but that it was not significantly related to negative net worth was a surprise. The literature that was reviewed for this study, along with most conventional wisdom, is adamant that a parent's socio-economic status is important to a child's success, and indeed, it is also responsible for their failure. This study did not find that to be the case and, curiously, the answer as to why remains unknown. Parent socio-economic status was correlated to income and educational attainment, as expected, yet that relationship was not enough to create a significant relationship between parent socio-economic and negative net worth.

This study found that race played a key role in influencing both positive and negative net worth. Consistent with the research, those who were Black or Hispanic were much less likely than Whites to have positive net worth. The high probability that Blacks or Hispanics would have a negative net worth as compared to Whites was also not surprising, even though it was inconsistent with the results found by Chen and Finke (1996). It is worth considering that these numbers may be exacerbated by the much higher percentage of Blacks and much lower percentage of Whites in this study as compared to the national average.

This study found that owning a home reduced the chances of having a negative net worth by 77% and while increasing the net worth of those with a positive net worth by 367%. Home ownership is an evident cornerstone of net worth and one that is not easily separate and distinct from net worth. Prior studies in personal financial planning have used homeownership as a predictor of net worth (e.g., Griesdorn & Durband, 2016), although the issue of endogeneity is of obvious concern. This is a limitation of this study and others that precede it.

### **Implications of Findings**

An inevitable question at the conclusion of a study like this one is to ask what use these findings are, and how someone such as a practicing financial planner may apply them in his or her practice. The results of this study suggest that financial planners may want to consider evaluating the time perspective of their clients, as it may do much to explain the current financial situation the clients find themselves in, and suggest pitfalls the clients will face in the future. While knowing someone's time perspective is valuable and interesting, using that knowledge to truly help them is much more valuable. Beyond just evaluating their clients, there is the possibility that the financial planner can utilize time perspective therapy to help their clients change their time perspective. The results of this study show that future-orientation clearly has the most impact on net worth, so increasing a person's future-orientation is a worthy goal. According to Zimbardo and Boyd (2008), future-orientation can be learned, and their book provides some basic guidelines on how a client could endeavor to do just that. Successes in other fields using time perspective therapy, as was noted in Chapter 2, make this option appear even more viable.

Another result that should be noticed by financial practitioners is the huge impact that home ownership has on net worth. To reiterate, this study found that owning a home made the odds of an individual having a negative net worth drop by 77%, and it found that owning a home

increased positive net worth by almost 4 times. As important as home ownership is to American net worth, the Tax Cuts and Jobs Act passed in 2017 raise significant concerns about its continued relevance. The new law retains the tax deduction for mortgage interest (with some lower limits), but it also increases the standard deduction (Sharf, 2018). This has the impact of making the tax deduction for mortgage interest irrelevant for many. Zillow estimated that prior to the tax law change, 44% of US homes were worth enough to make the mortgage interest deduction worth claiming, while with the new tax bill, that number drops to 14.4% (Casey, 2017). It is unclear how much tax deductions influence American's decisions to become homeowners, but it is concerning that the government appears to have disincentivized the purchase of an asset that appears to be all-important in helping Americans build their net worth. Financial practitioners should weigh the tradeoffs of homeownership carefully when advising their clients. It may make sense, even if there are limited tax advantages, to still recommend the purchase of a home.

## **Limitations**

It is important to recognize and consider the limitations of this study. Probably the biggest limitation of this study is the use of proxy variables for time perspective. This creates a degree of uncertainty over whether those proxy variables actually represent their designated time perspective construct.

Another limitation stems from the sample itself. First, there is the risk of adverse selection, in that a sample that initially consisted of 12,686 individuals, consisted, for this study, of 6,930 respondents. As was seen in Chapter 3, this erosion caused the sample to change such that it included more women, more minorities, and more people who were college educated. While these changes in the sample did not seem significant enough to require weighting, it is

important to point out that no weighting was done, and that may have caused the model to become more heteroscedastic.

The current income and parent socio-economic variables, even after conversion to logarithmic form, continued to show skewness and kurtosis levels beyond what is normally acceptable. It is possible that the non-normal characteristics of these variables may have distorted the study.

Other limitations may stem from the risk tolerance variable, which was the only variable that was not taken from 1979 or 2014. The risk tolerance variable used was from 2010, which was arguably near the height of the great recession and would almost certainly have been on the mind of respondents. While it is possible that the risk tolerance scores are significantly underestimated, a recent study tends to mitigate that risk. It was found that while risk tolerance scores can vary based on market volatility, the actual movement of the scores is rarely more than 2% and is not sufficient to move an individual from one risk tolerance category to another (Rabbani, Grable, Heo, Nobre, & Kuzniak, 2017).

A further concern is the potential for endogeneity caused by the inclusion of home ownership as an independent variable. The value of the respondent's home is included in the net worth calculations, and is thus included in both outcome variables. It is possible that this is causing a simultaneity bias affecting the regression error terms.

### **Recommendations for Future Research**

The results in regards to time perspective are a clear beacon for further study. The way in which present-hedonism and present-fatalism influenced positive and negative net worth suggests looking at these two pieces of the net worth puzzle separately is something future researchers should strongly consider. The very strong influence of future-orientation on positive

and negative net worth, by its significance alone, bears further examination. These findings, especially as it relates to those with a negative net worth, suggest an opportunity to explore ways time perspective may be used to help people improve their financial situation. In conjunction with the significant racial findings, it would be helpful if such efforts were especially focused on ways to reach and influence minorities, especially Blacks and Hispanics. It is hoped that future works would be able to overcome the limitations of this study and use actual time perspective variables, or perhaps broader proxies, and might use a broader and more representative sample.

The low correlation results between risk tolerance and the time perspective variables in this study also merit further investigation. In addition, it would be useful to further expand that study to ascertain the impact of risk tolerance on both time perspective and net worth, positive and negative.

The results showing the lack of a relationship between a parent's socio-economic status and the child's subsequent net worth as it applies to those with a negative net worth certainly should arouse enough curiosity for further research. There must be more to it than the relationship to education and current income, but what that is remains a mystery.

The importance of home ownership in conjunction with recent tax law changes also merits additional focus. It is likely that most people do not understand the degree to which housing deduction changes will impact them, but it is worth investigating what is the likely influence that such changes will have on the overall housing market.

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## Appendix A - Surveys

### ZIMBARDO TIME PERSPECTIVE INVENTORY (ZTPI)

*Read each item and, as honestly as you can, answer the question: "How characteristic or true is this of you?"*

*Score the answer on a scale of 1-5, where 1 is Very Untrue, 3 is Neutral, and 5 is Very True*

1. I believe that getting together with one's friends to party is one of life's important pleasures.
2. Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories.
3. Fate determines much in my life.
4. I often think of what I should have done differently in my life.
5. My decisions are mostly influenced by people and things around me.
6. I believe that a person's day should be planned ahead each morning.
7. It gives me pleasure to think about my past.
8. I do things impulsively.
9. If things don't get done on time, I don't worry about it.
10. When I want to achieve something, I set goals and consider specific means for reaching those goals.
11. On balance, there is much more good to recall than bad in my past.
12. When listening to my favorite music, I often lose all track of time.
13. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.
14. Since whatever will be will be, it doesn't really matter what I do.
15. I enjoy stories about how things used to be in the "good old times."
16. Painful past experiences keep being replayed in my mind.
17. I try to live my life as fully as possible, one day at a time.
18. It upsets me to be late for appointments.
19. Ideally, I would live each day as if it were my last.
20. Happy memories of good times spring readily to mind.
21. I meet my obligations to friends and authorities on time.
22. I've taken my share of abuse and rejection in the past.
23. I make decisions on the spur of the moment.
24. I take each day as it is rather than try to plan it out.
25. The past has too many unpleasant memories that I prefer not to think about.
26. It is important to put excitement in my life.
27. I've made mistakes in the past that I wish I could undo.
28. I feel that it's more important to enjoy what you're doing than to get work done on time.
29. I get nostalgic about my childhood.
30. Before making a decision, I weigh the costs against the benefits.
31. Taking risks keeps my life from becoming boring.
32. It is more important for me to enjoy life's journey than to focus only on the destination.
33. Things rarely work out as I expected.
34. It's hard for me to forget unpleasant images of my youth.
35. It takes joy out of the process and flow of my activities, if I have to think about goals, outcomes, and products.

36. Even when I am enjoying the present, I am drawn back to comparisons with similar past experiences.
37. You can't really plan for the future because things change so much.
38. My life path is controlled by forces I cannot influence.
39. It doesn't make sense to worry about the future, since there is nothing that I can do about it anyway.
40. I complete projects on time by making steady progress.
41. I find myself tuning out when family members talk about the way things used to be.
42. I take risks to put excitement in my life.
43. I make lists of things to do.
44. I often follow my heart more than my head.
45. I am able to resist temptations when I know that there is work to be done.
46. I find myself getting swept up in the excitement of the moment.
47. Life today is too complicated; I would prefer the simpler life of the past.
48. I prefer friends who are spontaneous rather than predictable.
49. I like family rituals and traditions that are regularly repeated.
50. I think about the bad things that have happened to me in the past.
51. I keep working at difficult, uninteresting tasks if they will help me get ahead.
52. Spending what I earn on pleasures today is better than saving for tomorrow's security.
53. Often luck pays off better than hard work.
54. I think about the good things that I have missed out on in my life.
55. I like my close relationships to be passionate.
56. There will always be time to catch up on my work.

**STANFORD/ZIMBARDO TIME PERSPECTIVE INVENTORY – SHORT FORM (STPI)**

***Read each item and, as honestly as you can, answer the question: “How characteristic or true is this of you?”***

***Score the answer on a scale of 1-5, where 1 is Very Untrue, 3 is Neutral, and 5 is Very True***

1. I believe that getting together with one's friends to party is one of life's important pleasures.
2. I believe that a person's day should be planned ahead each morning.
3. If things don't get done on time, I don't worry about it.
4. It gives me pleasure to think about my past.
5. When I want to achieve something, I set goals and consider specific means for reaching those goals.
6. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.
7. I believe that my future is beautiful and well planned.
8. I try to live my life as fully as possible one day at a time.
9. It doesn't make sense to worry about the future since there is nothing to do about it anyway.
10. When I have money I like playing and betting.
11. It upsets me to be late for appointments.
12. I do things impulsively and I take decisions at the moment.
13. I feel that it's more important to enjoy what you're doing than to get work done on time.
14. I don't make things that are important for me in the future, if they don't like me now.
15. I'm inclined to lose my self-control if someone provokes me.
16. It upsets me when people are late for appointments.
17. When I go to parties I get drunk.
18. I complete projects on time by making steady progress.
19. I take risks to put excitement in my life.
20. I make lists of things to do.
21. I keep working at difficult, uninteresting tasks if they will help me get ahead.
22. I am able to resist temptations when I know that there is work to be done.

## Appendix B - Coding: Statistics Syntax File (SPSS)

data list /

A0002600 (F3)  
R0000100 (F5)  
R0009600 (F2)  
R0173600 (F2)  
R0214700 (F2)  
R0214800 (F2)  
R0217900 (F5)  
T3094901 (F2)  
T4201100 (F2)  
T4961800 (F2)  
T4962000 (F7)  
T4998000 (F2)  
T4998400 (F2)  
T4998604 (F2)  
T5004000 (F2)  
T5022600 (F6)  
T5023300 (F2)  
T5023600 (F2)

.

missing values all (-5 thru -1).

variable labels

A0002600 "VERSION\_R26\_1 2014"  
R0000100 "ID# (1-12686) 79"  
R0009600 "1ST/ONLY RAEL/ETHNIC ORIGIN 79"  
R0173600 "SAMPLE ID 79 INT"  
R0214700 "RAEL/ETHNIC COHORT /SCRNR 79"  
R0214800 "SEX OF R 79"  
R0217900 "TOT NET FAMILY INC P-C YR 79"  
T3094901 "WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010"  
T4201100 "HGHST GRADE/YR COMPLTD & GOT CREDIT 2014"  
T4961800 "ANY MONY LEFT AFT ALL DEBTS PAID? 2014"  
T4962000 "AMT LEFT OVER AFTER ALL DEBTS PAID 2014"  
T4998000 "ROTTER: IMPORT OF PLANNING 2014"  
T4998400 "ROTTER: DEGREE OF INFLUENCE R HAS OVER OWN LIFE 2014"  
T4998604 "TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014"  
T5004000 "R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014"  
T5022600 "TOTAL NET FAMILY INCOME 2014"  
T5023300 "MARITAL STATUS 2014"  
T5023600 "AGE AT INTERVIEW 2014"

.

value labels

A0002600  
1 "1 TO 999"  
1000 "1000 TO 1999"  
2000 "2000 TO 2999"  
3000 "3000 TO 3999"

4000 "4000 TO 4999"  
5000 "5000 TO 5999"  
6000 "6000 TO 6999"  
7000 "7000 TO 7999"  
8000 "8000 TO 8999"  
9000 "9000 TO 9999"  
10000 "10000 TO 10999"  
11000 "11000 TO 11999"  
12000 "12000 TO 12999"

/

R0009600

0 "NONE"  
1 "BLACK"  
2 "CHINESE"  
3 "ENGLISH"  
4 "FILIPINO"  
5 "FRENCH"  
6 "GERMAN"  
7 "GREEK"  
8 "HAWAIIAN, P.I."  
9 "INDIAN-AMERICAN OR NATIVE AMERICAN"  
10 "ASIAN INDIAN"  
11 "IRISH"  
12 "ITALIAN"  
13 "JAPANESE"  
14 "KOREAN"  
15 "CUBAN"  
16 "CHICANO"  
17 "MEXICAN"  
18 "MEXICAN-AMER"  
19 "PUERTO RICAN"  
20 "OTHER HISPANIC"  
21 "OTHER SPANISH"  
22 "POLISH"  
23 "PORTUGUESE"  
24 "RUSSIAN"  
25 "SCOTTISH"  
26 "VIETNAMESE"  
27 "WELSH"  
28 "OTHER"  
29 "AMERICAN"

/

R0173600

1 "CROSS MALE WHITE"  
2 "CROSS MALE WH. POOR"  
3 "CROSS MALE BLACK"  
4 "CROSS MALE HISPANIC"  
5 "CROSS FEMALE WHITE"  
6 "CROSS FEMALE WH POOR"  
7 "CROSS FEMALE BLACK"  
8 "CROSS FEMALE HISPANIC"  
9 "SUP MALE WH POOR"  
10 "SUP MALE BLACK"

11 "SUP MALE HISPANIC"  
 12 "SUP FEM WH POOR"  
 13 "SUP FEMALE BLACK"  
 14 "SUP FEMALE HISPANIC"  
 15 "MIL MALE WHITE"  
 16 "MIL MALE BLACK"  
 17 "MIL MALE HISPANIC"  
 18 "MIL FEMALE WHITE"  
 19 "MIL FEMALE BLACK"  
 20 "MIL FEMALE HISPANIC"  
 /  
 R0214700  
 1 "HISPANIC"  
 2 "BLACK"  
 3 "NON-BLACK, NON-HISPANIC"  
 /  
 R0214800  
 1 "MALE"  
 2 "FEMALE"  
 /  
 R0217900  
 0 "0"  
 1 "1 TO 999"  
 1000 "1000 TO 1999"  
 2000 "2000 TO 2999"  
 3000 "3000 TO 3999"  
 4000 "4000 TO 4999"  
 5000 "5000 TO 5999"  
 6000 "6000 TO 6999"  
 7000 "7000 TO 7999"  
 8000 "8000 TO 8999"  
 9000 "9000 TO 9999"  
 10000 "10000 TO 14999"  
 15000 "15000 TO 19999"  
 20000 "20000 TO 24999"  
 25000 "25000 TO 49999"  
 50000 "50000 TO 9999999: 50000+"  
 /  
 T3094901  
 0 "0"  
 1 "1"  
 2 "2"  
 3 "3"  
 4 "4"  
 5 "5"  
 6 "6"  
 7 "7"  
 8 "8"  
 9 "9"  
 10 "10"  
 /  
 T4201100  
 1 "1ST GRADE"

2 "2ND GRADE"  
 3 "3RD GRADE"  
 4 "4TH GRADE"  
 5 "5TH GRADE"  
 6 "6TH GRADE"  
 7 "7TH GRADE"  
 8 "8TH GRADE"  
 9 "9TH GRADE"  
 10 "10TH GRADE"  
 11 "11TH GRADE"  
 12 "12TH GRADE"  
 13 "1ST YEAR COLLEGE"  
 14 "2ND YEAR COLLEGE"  
 15 "3RD YEAR COLLEGE"  
 16 "4TH YEAR COLLEGE"  
 17 "5TH YEAR COLLEGE"  
 18 "6TH YEAR COLLEGE"  
 19 "7TH YEAR COLLEGE"  
 20 "8TH YEAR COLLEGE OR MORE"  
 95 "UNGRADED"  
 /  
 T4961800  
 1 "Have something left over"  
 2 "Break even"  
 3 "Be in debt"  
 /  
 T4962000  
 0 "0"  
 1 "1 TO 4999"  
 5000 "5000 TO 9999"  
 10000 "10000 TO 14999"  
 15000 "15000 TO 19999"  
 20000 "20000 TO 24999"  
 25000 "25000 TO 29999"  
 30000 "30000 TO 39999"  
 40000 "40000 TO 49999"  
 50000 "50000 TO 59999"  
 60000 "60000 TO 69999"  
 70000 "70000 TO 79999"  
 80000 "80000 TO 89999"  
 90000 "90000 TO 99999"  
 100000 "100000 TO 149999"  
 150000 "150000 TO 999999999: 150000+"  
 /  
 T4998000  
 1 "STATEMENT A"  
 2 "STATEMENT B"  
 /  
 T4998400  
 1 "STATEMENT A"  
 2 "STATEMENT B"  
 /  
 T4998604

1 "1 (disagree strongly)"  
2 "2"  
3 "3"  
4 "4"  
5 "5"  
6 "6"  
7 "7 (agree strongly)"  
/  
T5004000  
1 "YES"  
0 "NO"  
/  
T5022600  
0 "0"  
1 "1 TO 999"  
1000 "1000 TO 1999"  
2000 "2000 TO 2999"  
3000 "3000 TO 3999"  
4000 "4000 TO 4999"  
5000 "5000 TO 5999"  
6000 "6000 TO 6999"  
7000 "7000 TO 7999"  
8000 "8000 TO 8999"  
9000 "9000 TO 9999"  
10000 "10000 TO 14999"  
15000 "15000 TO 19999"  
20000 "20000 TO 24999"  
25000 "25000 TO 49999"  
50000 "50000 TO 99999999; 50000+"  
/  
T5023300  
0 "0: 0 NEVER MARRIED"  
1 "1: 1 MARRIED"  
2 "2: 2 SEPARATED"  
3 "3: 3 DIVORCED"  
6 "6: 6 WIDOWED"  
/  
T5023600  
40 "40"  
41 "41"  
42 "42"  
43 "43"  
44 "44"  
45 "45"  
46 "46"  
47 "47"  
48 "48"  
49 "49"  
50 "50"  
51 "51"  
52 "52"  
53 "53"  
54 "54"

55 "55"  
56 "56"  
57 "57"  
58 "58"  
/  
.

descriptives all.

RECODE T4961800 (1=0) (2=1) (3=1) (SYSMIS=SYSMIS) INTO NoNetWorth.  
EXECUTE.

DO IF (NoNetWorth = 0).  
RECODE T4962000 (SYSMIS=SYSMIS) (ELSE=Copy) INTO PosNetWorth.  
END IF.  
EXECUTE.

RECODE T4998400 (1=1) (2=0) (SYSMIS=SYSMIS) INTO Pres\_Fatal.  
VARIABLE LABELS Pres\_Fatal 'PresentFatalism'.  
EXECUTE.

RECODE T4998000 (1=1) (2=0) (SYSMIS=SYSMIS) INTO Future.  
VARIABLE LABELS Future 'Future'.  
EXECUTE.

RECODE T4201100 (SYSMIS=SYSMIS) (1=1) (2=1) (3=1) (4=1) (5=1) (6=1) (7=1) (8=1) (9=1) (10=1) (11=1)  
(12=0) (13=0) (14=0) (15=0) (16=0) (17=0) (18=0) (19=0) (20=0) (95=SYSMIS) INTO ED\_GradeSch.  
EXECUTE.

RECODE T4201100 (SYSMIS=SYSMIS) (13=0) (14=0) (15=0) (16=0) (17=0) (18=0) (19=0) (20=0) (95=SYSMIS)  
(1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) (8=0) (9=0) (10=0) (11=0) (12=1) INTO ED\_HSchGrad.  
EXECUTE.

RECODE T4201100 (SYSMIS=SYSMIS) (16=0) (17=0) (18=0) (19=0) (20=0) (95=SYSMIS) (1=0) (2=0) (3=0)  
(4=0) (5=0) (6=0) (7=0) (8=0) (9=0) (10=0) (11=0) (12=0) (13=1) (14=1) (15=1) INTO ED\_SomeCollege.  
EXECUTE.

RECODE T4201100 (SYSMIS=SYSMIS) (17=0) (18=0) (19=0) (20=0) (95=SYSMIS) (1=0) (2=0) (3=0) (4=0)  
(5=0) (6=0) (7=0) (8=0) (9=0) (10=0) (11=0) (12=0) (13=0) (14=0) (15=0) (16=1) INTO ED\_CollegeGrad.  
EXECUTE.

RECODE T4201100 (SYSMIS=SYSMIS) (95=SYSMIS) (1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) (8=0) (9=0)  
(10=0) (11=0) (12=0) (13=0) (14=0) (15=0) (16=0) (17=1) (18=1) (19=1) (20=1) INTO ED\_GradSchool.  
EXECUTE.

RECODE R0214700 (1=0) (2=1) (3=0) (SYSMIS=SYSMIS) INTO Black.  
VARIABLE LABELS Black 'Black'.  
EXECUTE.

RECODE R0214700 (3=0) (SYSMIS=SYSMIS) (1=1) (2=0) INTO Hispanic.  
VARIABLE LABELS Hispanic 'Hispanic'.  
EXECUTE.

DO IF (R0214700 = 3).

```
RECODE R0009600 (0=0) (1=0) (2=0) (3=1) (4=0) (5=1) (6=1) (7=1) (8=0) (9=0) (11=1) (12=1) (13=0)
(14=0) (15=0) (16=0) (17=0) (18=0) (19=0) (20=0) (21=0) (22=1) (23=1) (24=1) (25=1) (26=0) (27=1)
(28=0) (29=0) (SYSMIS=SYSMIS) (10=0) INTO WHITE.
```

```
END IF.
```

```
VARIABLE LABELS WHITE 'White'.
```

```
EXECUTE.
```

```
RECODE WHITE (1=0) (0=1) (SYSMIS=SYSMIS) INTO Race_Other.
```

```
VARIABLE LABELS Race_Other 'RaceOther'.
```

```
EXECUTE.
```

```
RECODE Race_Other (1=1) (0=0) (SYSMIS=0).
```

```
EXECUTE.
```

```
RECODE WHITE (1=1) (0=0) (SYSMIS=0).
```

```
EXECUTE.
```

```
RECODE T5023300 (0=0) (1=1) (2=0) (3=0) (6=0) (SYSMIS=SYSMIS) INTO Married.
```

```
VARIABLE LABELS Married 'Married'.
```

```
EXECUTE.
```

```
RECODE R0214800 (1=1) (2=0) (SYSMIS=SYSMIS) INTO Male.
```

```
VARIABLE LABELS Male 'Male'.
```

```
EXECUTE.
```

```
COMPUTE FamInc79Log1=LN(R0217900 + 1).
```

```
EXECUTE.
```

```
COMPUTE FamInc14Log1=LN(T5022600 + 1).
```

```
EXECUTE.
```

```
COMPUTE PosNWLog=LN(PosNetWorth).
```

```
EXECUTE.
```

```
missing values all (-5 thru -1).
```

```
REGRESSION
```

```
/DESCRIPTIVES MEAN STDDEV CORR SIG N
```

```
/MISSING LISTWISE
```

```
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL
```

```
/CRITERIA=PIN(.05) POUT(.10)
```

```
/NOORIGIN
```

```
/DEPENDENT PosNWLog
```

```
/METHOD=ENTER Pres_Fatal T4998604 Future T3094901 FamInc14Log1 FamInc79Log1 ED_GradeSch
```

```
ED_SomeCollege ED_CollegeGrad ED_GradSchool Male T5023600 Black Hispanic Race_Other Married
```

```
T5004000.
```

```
LOGISTIC REGRESSION VARIABLES NoNetWorth
```

```
/METHOD=ENTER Pres_Fatal T4998604 Future T3094901 FamInc14Log1 FamInc79Log1 ED_GradeSch
```

```
ED_SomeCollege ED_CollegeGrad ED_GradSchool Male T5023600 Black Hispanic Race_Other Married
```

```
T5004000
```

```
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

## Appendix C - Statistics Output (SPSS)

### Logistic Regression

#### Notes

Output Created		03-JUL-2018 13:33:30
Comments		
Input	Data	/Users/rrodermund/Documents/ Dissertation - Stats/DISS_FINAL/JUL3.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	12686
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing

Syntax		LOGISTIC REGRESSION VARIABLES NoNetWorth /METHOD=ENTER Pres_Fatal T4998604 Future T3094901 FamInc14Log1 FamInc79Log1 ED_GradeSch ED_SomeCollege ED_CollegeGrad ED_GradSchool Male T5023600 Black Hispanic Race_Other Married T5004000 /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
Resources	Processor Time	00:00:00.04
	Elapsed Time	00:00:00.00

### Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	4547	35.8
	Missing Cases	8139	64.2
	Total	12686	100.0
Unselected Cases		0	.0
Total		12686	100.0

a. If weight is in effect, see classification table for the total number of cases.

### Dependent Variable Encoding

Original Value	Internal Value
.00	0
1.00	1

## Block 0: Beginning Block

**Classification Table<sup>a,b</sup>**

	Observed	Predicted		Percentage Correct	
		.00	1.00		
Step 0	NoNetWorth	.00	3074	0	100.0
		1.00	1473	0	.0
Overall Percentage					67.6

a. Constant is included in the model.

b. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)	
Step 0	Constant	-.736	.032	538.962	1	.000	.479

**Variables not in the Equation**

	Score	df	Sig.	
Step 0	PresentFatalism	19.436	1	.000
	TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014	1.680	1	.195
	Future	249.667	1	.000
	WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010	15.016	1	.000
	FamInc14Log1	415.330	1	.000
	FamInc79Log1	161.986	1	.000
	ED_GradeSch	198.234	1	.000
	ED_SomeCollege	10.381	1	.001
	ED_CollegeGrad	78.174	1	.000
	ED_GradSchool	67.673	1	.000
	Male	28.670	1	.000

	AGE AT INTERVIEW 2014	5.464	1	.019
	Black	323.759	1	.000
	Hispanic	13.498	1	.000
	RaceOther	13.885	1	.000
	Married	372.109	1	.000
	R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014	929.675	1	.000
	Overall Statistics	1303.899	17	.000

## Block 1: Method = Enter

### Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1385.115	17	.000
	Block	1385.115	17	.000
	Model	1385.115	17	.000

### Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	4342.386 <sup>a</sup>	.263	.367

## Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> PresentFatalism	.170	.076	5.054	1	.025	1.186
TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014	-.008	.023	.117	1	.733	.992
Future	-.652	.083	61.907	1	.000	.521
WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010	-.025	.014	3.450	1	.063	.975
FamInc14Log1	-.115	.017	44.431	1	.000	.892
FamInc79Log1	-.040	.038	1.115	1	.291	.960
ED_GradeSch	.470	.115	16.768	1	.000	1.599
ED_SomeCollege	-.284	.099	8.279	1	.004	.753
ED_CollegeGrad	-.317	.129	6.008	1	.014	.728
ED_GradSchool	-.425	.157	7.309	1	.007	.654
Male	-.435	.078	31.379	1	.000	.647
AGE AT INTERVIEW 2014	-.014	.017	.665	1	.415	.986
Black	.907	.096	88.711	1	.000	2.476
Hispanic	.475	.108	19.368	1	.000	1.608
RaceOther	.197	.144	1.875	1	.171	1.218
Married	-.225	.085	7.040	1	.008	.798
R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014	-1.483	.083	321.93 2	1	.000	.227
Constant	2.873	1.023	7.886	1	.005	17.689

- a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

## Classification Table<sup>a</sup>

	Observed		Predicted		Percentage Correct
			NoNetWorth .00	1.00	
Step 1	NoNetWorth	.00	2672	402	86.9
		1.00	634	839	57.0
Overall Percentage					77.2

a. The cut value is .500

a. Variable(s) entered on step 1: PresentFatalism, TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014, Future, WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010, FamInc14Log1, FamInc79Log1, ED\_GradeSch, ED\_SomeCollege, ED\_CollegeGrad, ED\_GradSchool, Male, AGE AT INTERVIEW 2014, Black, Hispanic, RaceOther, Married, R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014.

## Regression

### Notes

Output Created	03-JUL-2018 13:30:13	
Comments		
Input	Data	/Users/rrodermund/Documents/Dissertation - Stats/DISS_FINAL/JUL3.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	12686
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Cases Used		Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT PosNWLog /METHOD=ENTER Pres_Fatal T4998604 Future T3094901 FamInc14Log1 FamInc79Log1 ED_GradeSch ED_SomeCollege ED_CollegeGrad ED_GradSchool Male T5023600 Black Hispanic Race_Other Married T5004000.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.00
	Memory Required	18896 bytes
	Additional Memory	0 bytes
	Required for Residual Plots	

## Descriptive Statistics

	Mean	Std. Deviation	N
PosNWLog	11.4379	1.99624	2913
PresentFatalism	.4353	.49588	2913
TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014	5.24	1.484	2913
Future	.8012	.39914	2913
WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010	3.81	2.549	2913
FamInc14Log1	10.8996	1.83520	2913
FamInc79Log1	9.5342	1.03986	2913
ED_GradeSch	.0810	.27291	2913
ED_SomeCollege	.2362	.42481	2913
ED_CollegeGrad	.1761	.38098	2913
ED_GradSchool	.1263	.33228	2913
Male	.5218	.49961	2913
AGE AT INTERVIEW 2014	53.45	2.226	2913
Black	.2056	.40423	2913
Hispanic	.1727	.37803	2913
RaceOther	.1026	.30354	2913
Married	.6540	.47579	2913
R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014	.79	.404	2913

## Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014, TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014, Male, RaceOther, AGE AT INTERVIEW 2014, ED_SomeCollege, PresentFatalism, Future, Hispanic, WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010, FamInc79Log1, ED_GradSchool, FamInc14Log1, ED_GradeSch, Married, Black, ED_CollegeGrad <sup>b</sup>	.	Enter

a. Dependent Variable: PosNWLog

b. All requested variables entered.

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics Tolerance
		B	Std. Error	Beta			
1	(Constant)	3.347	.784		4.269	.000	
	PresentFatalism	-.016	.058	-.004	-.276	.783	.980
	TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014	.040	.019	.030	2.095	.036	.976
	Future	.510	.073	.102	6.981	.000	.939
	WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010	.051	.011	.065	4.468	.000	.938
	FamInc14Log1	.152	.017	.140	8.901	.000	.816
	FamInc79Log1	.105	.029	.055	3.597	.000	.861
	ED_GradeSch	-.481	.112	-.066	-4.288	.000	.855
	ED_SomeCollege	.234	.075	.050	3.132	.002	.792
	ED_CollegeGrad	.838	.084	.160	9.920	.000	.772
	ED_GradSchool	.882	.095	.147	9.269	.000	.800
	Male	.184	.058	.046	3.161	.002	.950
	AGE AT INTERVIEW 2014	.056	.013	.062	4.372	.000	.985
	Black	-.880	.078	-.178	-11.212	.000	.795
	Hispanic	-.296	.082	-.056	-3.599	.000	.828
	RaceOther	.037	.097	.006	.380	.704	.923
	Married	.400	.066	.095	6.025	.000	.801
	R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014	1.542	.077	.312	19.936	.000	.819

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 <sup>a</sup>	.419	.416	1.52606

a. Predictors: (Constant), R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014, TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014, Male, RaceOther, AGE AT INTERVIEW 2014, ED\_SomeCollege, PresentFatalism, Future, Hispanic, WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010, FamInc79Log1, ED\_GradSchool, FamInc14Log1, ED\_GradeSch, Married, Black, ED\_CollegeGrad

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4862.237	17	286.014	122.814	.000 <sup>b</sup>
	Residual	6742.013	2895	2.329		
	Total	11604.250	2912			

a. Dependent Variable: PosNWLog

b. Predictors: (Constant), R OR SPOUSE/PARTNER CURRENTLY OWN RESIDENCE? 2014, TIPI (HW APPLIES TO R) - OPEN TO NEW EXPER, COMPLX 2014, Male, RaceOther, AGE AT INTERVIEW 2014, ED\_SomeCollege, PresentFatalism, Future, Hispanic, WILLINGNESS TO TAKE RISKS IN FINANCIAL MATTERS 2010, FamInc79Log1, ED\_GradSchool, FamInc14Log1, ED\_GradeSch, Married, Black, ED\_CollegeGrad

a. Dependent Variable: PosNWLog

a. Dependent Variable: PosNWLog