

ADDITIONS TO THE FINANCIAL BEHAVIORS SCORE (FBS) IN ASSESSING NET
WORTH OF COUPLES

By

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To the wonderful women I was named after, Mary Rachel King Dorman and Marie Davis Johnson, my grandmothers

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Abstract of Thesis Present to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Master of Science

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In the past few years, economic conditions have fostered financial hardship for American households. Households are struggling to maintain wealth in a financial environment that is becoming more severe (Federal Reserve, 2011; Kennickell, 2009). Due to difficult economic times, the ability of households to plan for the future is of growing importance as they consider retirement, try to make ends meet, and plan for children's college. The need to sustain or gain more wealth coupled with the challenging economic times has shed light on the growing importance of financial management for households. Financial management is particularly important for lower income households that have less financial resources to accumulate wealth. For lower income households, financial management is the cornerstone to their ability to grow net worth.

This study used the Household Production Model as a theoretical framework. The Household Production Model frames how families manage their finances by examining inputs, throughputs, and outputs of households (Deacon & Firebaugh, 1988). The study used Hayhoe and Gutter's (2012) Financial Behaviors Score, based on Dew and Xiao's (2011) Financial Management Behavior Scale. Hayhoe and Gutter's FBS (2011) score

may be missing vital aspects that play a role in measuring financial behaviors, which could impact the determination of a household's net worth. Important dimensions on which this scale might improve include understanding the extent to which households engage in advanced planning for the financial future, whether household members combine incomes, and whether households accessibility to emergency funds.

The purpose of this study was to expand on the current FBS by including the extent of advanced planning for financial future of families, whether spouses or partners combine their assets, and whether families have access to emergency funds. These three new factors were predicted to affect household net worth. The study used the NC-1172 Data; the data were collected from low to moderate income households. The NC-1172 instrument was designed to collect data regarding savings behavior. The findings suggest that financial management is indeed an important predictor of net worth. Further, the model that included whether a household had a planning horizon over a year, combined assets, and accessibility to an emergency fund was accepted over the model which did not. This demonstrated the scope of financial management behaviors considered as important determinants of net worth may vary for couples.

With the economy facing hard times and many households becoming delinquent on loan payments; this instrument was designed to learn more about the psychological and economic factors related to savings behavior. This study is pertinent to financial management because it addresses how far into the future families plan their finances, whether spouses or partners combine their assets, and if families have an emergency fund.

CHAPTER 1 INTRODUCTION

In the past few years, economic conditions have fostered financial hardship for American households. In the United States, total household net worth fell from \$14.4 trillion in 2007 to \$13.9 trillion in 2010 (Federal Reserve, 2011). Net worth, a valuable indicator of household financial well-being, as well as household economic and psychological well-being, is important to American households (Campbell & Henretta, 1980; Headey & Wooden, 2004; Kim, Aldrich, & Keister, Chapter 5, 2004; Mullins, 1992; Smith, Langa, Kabeto, & Ubel, 2005; USDA: Economic Research Service, 2004; Weisbrod & Hansen, 1968). The way households spend, save, and monitor finances has become an increasingly pertinent subject due to economic hard times felt by households of almost all socioeconomic levels. It is important for households to understand how financial management behaviors affect net worth.

According to the Federal Reserve (2011), households reported over \$16.5 trillion in assets in 2010; the year the data for this study were collected. Total household assets in 2010, over \$16.5 trillion, were more than \$4 trillion less than total household assets in 2007 (Federal Reserve, 2011). According to the Federal Reserve (2011), the type of liability found to increase at the greatest rate between 2007 and 2010 was bank loans, which totaled approximately \$99 billion in 2007 and increased to well over \$260 billion in 2010. According to Kennickell (2009), the Gini coefficient for wealth in 2007, a scale used to measure inequality in income and wealth distribution, was estimated to be 0.8121. The Gini coefficient is a score ranging from 0 to 1 that measures inequality of distribution. A Gini score of 0 would indicate there is perfect equality, whereas a score of 1 would indicate complete inequality. In 1998, the Gini coefficient for wealth was

0.7935 (Kennickell, 2009) and according to Kennickell (2009), in 1989, the Gini coefficient was 0.7863. The Gini coefficient increased between the years of 1998 and 2007. The increase in the Gini coefficient for wealth in the United States is evidence of increasing inequality in wealth distribution. At the height of the economic bubble, data from the U.S. Census Bureau (2012) shows that the median household net worth increased almost \$30,000 between 1998 and 2007, from \$91,300 in 1998 to \$120,300 in 2007. The difference between the mean (\$359,700) and median (\$91,300) household net worth in 1998, \$268,400, almost doubled by 2007; the mean for 2007 was \$556,300, the median was \$120,300, and the difference was \$436,000 (U.S. Census Bureau, 2012). This change illustrates how American's household net worth became more unequal during this time. The largest decrease in household wealth, more than \$3 trillion, occurred between 2007 and 2008 (Federal Reserve, 2011). This decrease in household wealth illustrates how the harsh financial recession negatively impacted American households. For some, financial troubles could have been lightened or possibly avoided altogether by engaging in positive financial management behaviors.

According to the U.S. Census Bureau (2010), the median household income in 2009 was \$49,777, which was a 0.7% decline in median income for households between 2008 and 2009. According to the U.S. Census Bureau (2011) the median household income in 2010 continued to decline by 2.3%, to \$49,445, from the previous year. The U.S. Census Bureau (2011) explains that since the recession in 2007 the median household income has declined by 6.4%, which is a 7.1% decline from the economic peak in 1999. Some households are struggling to stay above the poverty

line. The poverty rate increased significantly between 2008 and 2009 from 13.2% to 14.3% (U.S. Census Bureau, 2010). According to the U.S. Census (2011), poverty rates continued to increase in 2010 to 15.1%. This could mean severe financial consequences for household finances considering inflation increased by over 3% between July of 2009 and July of 2010, while income remained unchanged or decreased for households (Bureau of Labor Statistics, 2010). These changes can have a significant impact on low income households that have fewer financial resources to weather hard financial times. The small percentage change can impact households on a small and large scale. The small and large scale financial changes that families will have to make can range from how households shop for groceries to whether households can afford to buy insurance for their households, car or health. This can even impact savings behavior by not allowing enough money to save for emergencies. Changes in the poverty and inflation rates can greatly impact a low income household's ability to build net worth.

Another factor impacting American household's financial behaviors is the high unemployment rate. In 2010, the year the data for this study were collected, the national unemployment rate hit a new high of 9.6% (Bureau of Labor Statistics, 2011). The national unemployment rate impacts households for many reasons. This could mean that members of households, who are seeking work, were laid off or could not find work; resulting in less income for the household. With a reduction of income due to unemployment, people may rely on multiple credit cards or dipping into savings to pay bills, creating debt as well as financial strain. Stress resulting from financial hardship has the ability to manifest psychologically in relationships and may affect how

household members interact (Becker, 1965; Liker & Elder, 1983; Ross & Hill, 2000).

With the high national unemployment rate over the past few years, it is clear that unemployment is a problem for American households. High unemployment rates mean fewer people have sufficient income to cover their household costs. Without insufficient income, households run the risk of depleting their net worth to pay for household costs. Also, households without income will have an extremely difficult time maintaining or growing their net worth.

Financial management is particularly important for lower income households who have fewer financial resources available to accumulate wealth. For lower income households financial management becomes the cornerstone to their ability to grow net worth. For households to cope with the difficult economic climate, it may be necessary to make small and large scale changes in financial management behaviors. These changes can range from the way households shop for groceries to large purchases. One way households cope with or avoid financial hardships is through budgeting and monitoring, or tracking spending (Conger et al., 1999; Hilgert, Hogarth, & Beverly, 2003; Kerkmann, Lee, Lown, & Allgood, 2000). The Household Production Model frames family financial management as a process of inputs, throughputs, and outputs (Deacon & Firebaugh, 1988). Some common inputs are financial goals and aspirations. Some examples of a household's throughputs can be planning and organization of finances. The output households get from inputs and throughputs are the goals they set, such as no financial debt or an increase in net worth. People struggle to properly assess inputs and throughputs that can have an impact on outputs. A measure that considers the

three main constructs of the Household Production Model would help to assess financial behaviors related to net worth.

Dew and Xiao (2011) created the Financial Management Behavior Scale (FMBS) to measure household financial behaviors using multi-dimensional psychometrics to predict savings and consumer debt. The FMBS measures four domains of financial management behaviors: consumption, cash management, savings and investment, and credit management (Dew & Xiao, 2011). Dew and Xiao (2011) concluded the FMBS scale is valid, reliable ($\alpha = .81$), efficient, and an accurate scale to measure financial management behaviors. Hayhoe and Gutter (2012) took the concept of the FMBS created by Dew and Xiao (2011) and created their own score, the Financial Behaviors Score (FBS). Hayhoe and Gutter's (2012) FBS consisted of four behaviors: spending less than is earned, planning spending, monitoring spending, and having written financial goals. However, the FBS scale may be missing important aspects of household financial management, which could affect household's net worth. Three important variables, if included, may improve this score. These variables include the extent to which households plan for their financial future, whether couples combine assets, and whether households have access to resources (outside of the household) in case of an emergency.

The purpose of this study was to revise the FBS to create a more robust measure of the relationship between financial management and net worth. This study expanded Hayhoe and Gutter's (2012) FBS to include the extent to which couples plan their finances into the future, whether spouses or partners combine their income, and whether they have access to emergency funds. The goal was to determine if these

three additional factors added to the FBS would indicate a stronger relationship with net worth. These three factors were expected to increase the ability of the FBS to predict net worth. This study recognized that net worth is a major component of a household's financial well-being but not the only one. The results of this study have potential to help households better understand the impact of their financial behaviors on net worth.

To accomplish the purpose of this research, the study used the NC-1172 data collected by the project team. The NC-1172 instrument was designed to collect data regarding savings behavior of low to moderate income households. With the economy facing hard times, this instrument was designed to learn more about psychological and economic factors related to savings behavior. This research addressed the extent to which families plan their finances into the future, whether spouses or partners combine their assets, and whether households have access to resources in case of an emergency.

CHAPTER 2 LITERATURE REVIEW

Background

This study examined financial management behaviors of households and the relationship of financial behaviors to a household's net worth. Mitra, Kirkman, and Seifert (2002) explain one of the primary objectives to financial management is to create and maintain a surplus for capital investments for a positive net worth. They continue to explain the only way "net worth can grow is when the annual cash inflow exceeds the annual cash outflow" (Mitra, Kirkman, & Seifert, 2007, p. 7-3). For low to moderate income households, financial resources can be more difficult to obtain, making financial goals harder to attain. Thus, financial management becomes extremely important for households that have few financial resources to expend on wealth accumulation. The lack of financial management in these households may have serious implications for the household's net worth. It is clear a measure is needed for households and those who work with them to easily assess their financial management behaviors related to household net worth.

The focus of this section is the theoretical approach used in this study and research on household financial management. Theories previously employed to understand household financial management include Systems Theory, Attachment Theory, and the Household Production Model. Liker and Elder (1983) studied how depression and large financial losses can result in preoccupation with budgeting and heighten frustration within a household. Systems Theory was used to demonstrate when the income flow of a household decreases dramatically, a change must be made in the budget to account for this reduction. Liker and Elder (1983) also found household

members facing severe financial loss experienced an increase in relational tension and conflict. Systems Theory is appropriate for examining the functionality of households; yet, this theory lacks ability to take into account psychological factors that might influence the decision making process. Ross and Hill (2000) used Attachment Theory as a theoretical foundation for their research on family unpredictability. Their research implies, within family finances, a lack of money management predicts family instability. Attachment theory was used to explain how children and adults learned from their parent's financial behaviors. However, this theory fails to take into account inputs, throughputs, and outputs, as well as the functionality of a family's finances. Weiss (2009) used the Household Production Model as the theoretical framework for his research on how work and leisure roles are currently defined. He used the Household Production Model to explain how household work is not a market item that can provide income, where wages are earned, but is performed within the home and can be done at the expense of time but produces a desired output. Weiss (2009) illustrated how taking care of a child can be a large time input, but for some households the output of an "increase in the welfare of the child, a public good that both parents enjoy, and direct contact of one of the parents with the child" is most desired (p. 7). The Household Production Model provides an economic point of view suited to this research, because it allows for the system of goods, or outputs, such as net worth, to be better understood by examining inputs and throughputs.

Household Production Model

This study used the Household Production Model as its theoretical framework. The Household Production Model frames how families manage their finances into three different areas: inputs, throughputs, and outputs. The model does so by examining

these three avenues of a household's production and how the household participates in each area (Deacon & Firebaugh, 1988). Some common inputs that households consider regarding finances are financial goals and aspirations, demands, time, preferences, and available resources, budgeting, tracking expenses, and setting financial goals. The throughput is the process households' use, which can include planning and organizing finances to account for demands or resources. The output that households gain from the function is the goal that is set, such as no financial debt or specific net worth amount. This study focused on a household's output of net worth. Figure 2-1 provides a visual explanation of the Household Production Model and shows the nature of how households use inputs in various processes (throughputs) to produce specific outputs (e.g., well being, net worth).

Becker (1965) has been cited by many previous researchers as one of the originators, if not the originator, of the Household Production Model (Goodwin, Ackerman, & Kiron, 1997; Weiss, 1997). In his research, Becker expanded on traditional household economic theory, stating that resources and constraints determine a household's maximum utility, or output. Becker (1964) diverged from traditional household economics in his definition of resources. Traditional theory suggests that resources are specifically income, which is made up from wages earned and other income (Becker, 1965). Becker (1965) developed the construct of non-working time, or leisure, as part of the function that makes up a household's total utility. Becker explained how leisure time is valuable and cannot be ignored as it impacts the household's function (Becker, 1965). Leisure time, time during the nights or weekends,

can be used in a profitable or non-profitable way that impacts the overall output of the household, i.e., well-being.

Muth (1966) expanded on Becker's (1965) work by explaining how households wish to produce outputs. Muth (1966) implied that for households to do so they must plan. Muth (1966) illustrated how a household, to achieve a production or output such as a dinner or a clean house, utilizes inputs such as goods or time. More recent work on the Household Production Model includes Apps and Rees' (1997) research on the combination of the household production model and labor supply, Coupire's (2007) work was on more accurate predictions in female's average contribution to household income, and Rapoport, Sofer, and Solaz's (2011) research underscored the importance of recognizing how non-wage time is spent.

Apps and Rees (1997) expanded on the traditional household production model in two ways. They included two members of a household who provide income and they accounted for ways that members of a household can collectively combine their resources, income, and other assets to maximize the household's output. Apps and Rees' (1997) explained how this works when a couple, each earning their own income, combined their income and assets, thus creating a collective supply to the household. Coupire (2007) used the household production model to better understand females' average contribution to household income. He did so by using nine years of data from the British Household Panel Survey of women who recorded their weekly hours of paid work, labor earnings, and non-labor earnings (Coupire, 2007). Coupire's (2007) data sampled 9,764 women (2,585 singles and 7,179 couples). Coupire's (2007) results

showed that use of the Household Production Model in predicting females' shares of household income was a more accurate predictor of true income.

Previous research has shown net worth is a valuable output to measure a household's financial well-being (Campbell & Henretta, 1980; Headey & Wooden, 2004; Kim, Aldrich, & Keister, 2004; Mullins, 1992; Smith, Langa, Kabeto, & Ubel, 2005; USDA: Economic Research Service, 2004; Weisbrod & Hansen, 1968). The Household Production Model has been applied to household consumption (Baxter & Jermann, 1999), child care (Brink & Groot, 1997), food systems and demand (Huffman, 2010), and resource allocation (Rapoport, Sofer, & Solaz, 2011). The overarching theme of the Household Production Model is the more time and effort put into something, the greater the output. This study focused on estimating the relationship of families' throughput of financial management to its output of net worth. Net worth provides an image of a household's overall financial situation. A household's income may be what first comes to mind as the best measure of household well-being, but research has shown that net worth is a better measure of household well-being than income (Kim, Aldrich, & Keister, 2004).

Net Worth and Financial Management Behaviors

Heady and Wooden (2004) measured household well-being by examining income and net worth. Well-being was defined by two "single item measures of overall life satisfaction and satisfaction with your financial situation" (Heady & Wooden, 2004, p. 6). In their research, Heady and Wooden (2004) examined whether income or net worth would show higher correlations providing a stronger relationship to well-being. Net worth was found to have higher correlations than income in both item measurements of well-being, indicating a stronger relationship (Heady & Wooden, 2004). Weisbrod and

Hansen (1968) measured families' well-being with a combination of income and net worth because "income is a flow while net worth is a stock" (p. 1316). Within their research they were able to provide a view of how households were doing financially and how increasing income and net worth could impact their life cycle and their ability to gain net worth (Weisbrod & Hansen, 1968). In fact, Lusardi (1998) researched how precautionary savings could impact a household's net worth over a household's life cycle. Using Health and Retirement Study and, limiting the age range of 51 – 61 years old, Lusardi (1998) found households with long planning horizons (5-10 years) accumulated more wealth than those with shorter planning horizons (next few months or next few years).

Net worth is a general way to measure a population's spread of wealth. Kim, Aldrich, and Keister (2004), and Keister (2000a) found between the 1960s and 1990s the wealth of American households increased more than threefold, to over \$23 trillion, and in the 1980s the majority of wealth was accumulated by the richest 20%. Yet, despite dramatic increases in American household wealth, inequality in wealth distribution has increased (Keister, 2000b). Campbell and Henretta (1980) conducted research on status claims of households and measured these households' claims using their net worth and occupation. Their study found net worth "can play a direct role in status evaluations" (Campbell & Henretta, 1980, p. 628). Hatcher (2000) examined whether households that save for emergencies would have greater net worth at the end of their life cycle than households that did not. Hatcher's (2000) results demonstrated that households with limited resources, such as low to moderate income households, could benefit from emergency savings to help promote greater net worth later in life.

Hatcher (2000) noted it could be more difficult for low to moderate income households to increase their net worth through saving for emergencies because of fewer resources. Xiao and Noring's (1994) study of household saving behaviors also supported the premise that households with lower levels of net worth had resources to save. In fact, Xiao and Noring (1994) reported households with net worth that placed them in the lowest quarter reported saving for "daily expenses" and "purchases," while the middle and top quarter reported saving for "emergencies," "retirement," "children," and "growth." This further supports the premise that households with lower levels of net worth have fewer resources with which to accumulate wealth.

Deacon and Firebaugh (1988) defined net worth as the balance between the value of a household's assets and liabilities. Compared to income alone, net worth is a much more encompassing, long term image of how a household is doing financially. Net worth includes debts, the value of an owned home, as well as any savings. A household's net worth is a good indicator of a household's overall consumption and savings behaviors. For example, if a household is consuming above the amount it can afford, the household may have to rely on credit that incurs debt and reduces overall net worth. In previous research, net worth also has been found to be an indicator of a household's ability to participate in different financial activities. For example, individuals with a higher net worth are more likely to own stock (Gutter, Fox, & Montalto, 1999; Hong, Kubik, & Stein, 2004; Kennickell, 2009). It is clear that net worth is a better measure of the financial well-being of a household than income.

How households divide labor, whether it is earning income or household work, is important. This study examined whether couples combine and share their income and

other assets, as well as whether the budgeting and monitoring of spending and saving has an impact on their overall financial wellbeing as measured by net worth. Rapoport, Sofer, and Solaz (2011) wanted to better understand how the classification of non-wage earning time is spent and how the sharing rule affects household production. The researchers used the French Time-Use survey, in which 7,460 households were included with a total of 20,370 individuals. From this data set, Rapoport et al. (2011) conducted their research with a sample of 1,414 couples. The first issue of non-wage earning time often has been classified as pure leisure rather than time spent doing domestic work that contributes to the household's output. Rapoport et al. (2011) took the position that this time should not be oversimplified and household or domestic production should be accounted for as well. The second issue of the sharing rule is whether the sharing of household duties (such as earning an income or caring for children) and decision making (such as planning and preparation for meals or household budgeting), should be included for a more encompassing view of household production (Rapoport et al., 2011). According to Rapoport et al. (2011) the classification of all non-wage earning time as leisure can be misleading, especially for women who work from home, by making partners who do not contribute as much time to wage earning look as though they spend larger amounts of time in leisure. These results are also misleading, in that the partner who does not spend as much earning wages appears as though they are not contributing to the overall household output. The results ignore the possibility that a partner may be more engaged in domestic or household work, and not sharing as much of the household burden as the other partner (Rapoport

et al., 2011). Building on their research, this study included an indicator of whether couples combine their assets, and plan and monitor their spending together.

Conceptualizing Financial Management as a Throughput

This study proposed to better understand financial behaviors of households by examining the impact of adding additional variables to the FBS scale created by Hayhoe and Gutter (2012). The Financial Management Behavior Scale (FMBS) was developed and validated by Dew and Xiao (2011) to study multi-dimensional psychometric financial management behaviors. Dew and Xiao (2011) created a scale founded on the idea that individuals engage in financial management behaviors daily which may impact their financial well-being. They created the FMBS by incorporating dimensions of financial behaviors shown to be applicable and beneficial to financial well-being. Some of the financial topics the FMBS measures are comparison shopping, savings and investments, credit use, saving for retirement, and insurance use (Dew & Xiao, 2011).

The steps of scale construction were broken into three sections. First, Dew and Xiao (2011) identified and developed measures for the most important domains of financial management behaviors: consumption, cash flow, credit, savings and investment, and insurance. Secondly, Dew and Xiao (2011) sent a draft to financial planning and counseling professionals and scholars to review their measures. Third, Dew and Xiao (2011) implemented the suggestions to strengthen the FMBS. They then tested their newly developed 17-item scale for validation. They did this by using a stratified random sample from the National Center for Marriage and Family Research, collected in 2009 in an attempt to understand how families were coping with the 2007-2009 recession (Dew & Xiao, 2011). Dew and Xiao (2011) had a 67% response rate with 1,011 participants. Fully 45% of respondents were married (Dew & Xiao, 2011).

Dew and Xiao (2011) sought to validate the five-factor scale by asking participants how they rate themselves in certain financial behaviors, such as saving money, and compared it against the participants' actual levels of finances. For example, participants were asked to indicate their level of consumer debt. After conducting a residual correlation Dew and Xiao (2011) dropped impulsive buying from the five-factor scale (as it never scored above 0.49). Dew and Xiao (2011) then employed a scree plot to determine if a four or five factor scale would fit best. This analysis resulted in Dew and Xiao (2011) selecting a four-factor scale. This revision shortened the FMBS from 17 items to 15 items. Dew and Xiao (2011) then employed Cronbach's Alpha to test for reliability ($\alpha = .81$). Dew and Xiao (2011) established the validity of their scale through financial planners and professional agreement that the items measure what they are intended to measure. A Least Squares Regression of the mean of the 15 items, gave a positive association ($\beta = .94, < .001$).

Criterion validity is determined by testing a variable to see if it predicts another variable, which would be expected if the tested variable truly measures what it claims (Dew & Xiao, 2011). Dew and Xiao (2011) used "levels of savings and consumer debt on the FMBS and subscales" (p. 50). Dew and Xiao concluded that the FMBS needs more work and refinement yet concluded this scale is one of a kind - a way to measure financial management using nationally representative data.

The Financial Behaviors Score

In a similar effort, focusing on low and moderate income households, Hayhoe and Gutter (2012) created the Financial Behaviors Score on a newer data set, the NC-1172. This same data set was used in the current study. Hayhoe and Gutter (2012)

considered the FMBS in creation of the FBS but since the data were collected before the FMBS was available, their data set does not contain proxies for all the FMBS variables. Hayhoe and Gutter (2012) state that the Financial Behaviors Score was created to “document how a combination of four financial management behaviors that have been shown to improve financial capacity might influence savings behavior” (p. 6). From the NC-1172 data, 826 respondents were used, and like Dew and Xiao (2011), 45% of respondents were married. Hayhoe and Gutter (2012) used Cronbach’s Coefficient Alpha to test reliability of the four-item FBS. The four items were spending income, plans for money, monitoring money, and written financial goals. Scores could range from 0 to 11; this is because some questions were weighted more than others. The four items were found to have a mean score of 2.55, with a standard deviation of 3.14 (Hayhoe & Gutter, 2012).

This study examined the relationship of financial management behaviors on net worth using a modified measure of the Hayhoe and Gutter FBS (2012). This study attempted to determine if additions to Hayhoe and Gutter’s (2012) FBS changed the overall output of the model as measured by net worth. Hayhoe and Gutter’s (2012) FBS may be missing important aspects of household behaviors that could play an important role in how net worth is predicted. The literature supports additional important dimensions which may potentially play an important role in impacting the net worth of a households including the extent to which households plan for their financial future (Lusardi, 1998), whether households have access to resources in case of an emergency (Hatcher, 2000; Xiao & Noring, 1994), and whether couples in the household combine their assets (Apps & Rees, 1997). Fortunately, the NC-1172 data

included items which measured all three of these areas and these were used as additions to Hayhoe and Gutter's (2012) FBS.

Below are the research hypotheses which guided this study. This study aimed to create a better score for predicting couples' net worth. By examining the FBS it allowed this study to determine if the newly added variables would change the score compared to previous research. Ultimately, this study attempted to expand on the original FBS and learn new information about a couple's household financial behaviors as they relate to net worth.

Hypotheses

The following hypotheses guided this study:

1. The additional variables to the Hayhoe and Gutter (2012) FBS - having a planning horizon greater than a year, access to emergency funds, and combining of assets - will significantly improve ability to predict net worth for couples as compared to the Hayhoe and Gutter (2012) FBS.
2. The aggregated version, the Hayhoe and Gutter (2012) FBS with the additional variables, will significantly improve prediction of couples' net worth as compared to the Hayhoe and Gutter (2012) FBS plus three additional variables.
3. The aggregated measure of the FBS, which includes the three additional variables, will be a better predictor of net worth than the seven variables individually.
4. Households that exhibit greater levels of the financial behaviors used in the new scale will show higher levels of net worth.

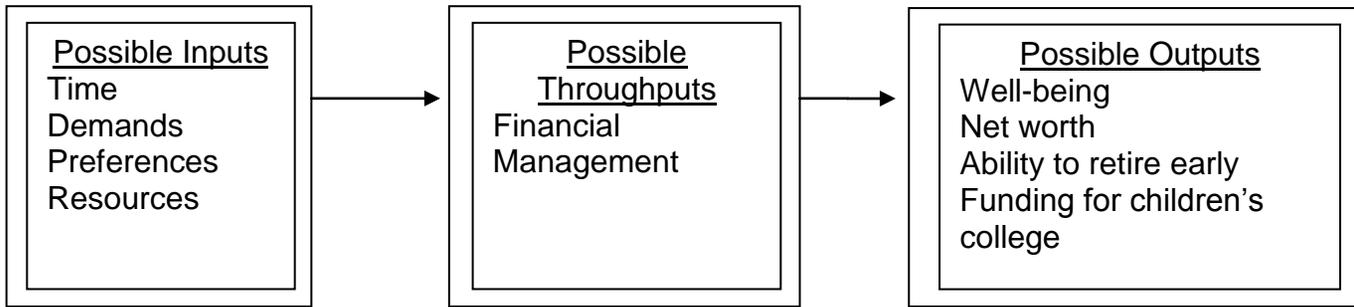


Figure 2-1. Household Production Model

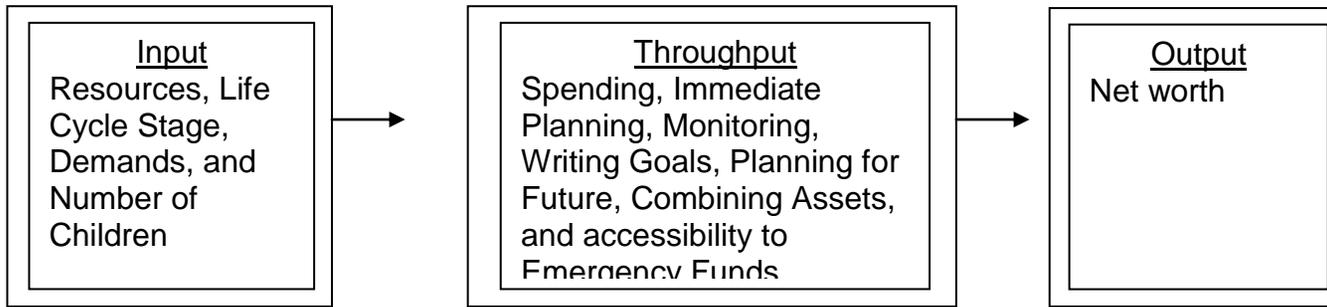


Figure 2-2. Household Production Model adapted to the FBS with expanded behaviors

CHAPTER 3 METHODS

Sampling and Data Collection

This study used data collected by the NC-1172 “Complex Nature of Savings” multistate research project which was created to better understand consumer savings behavior. The target population for this study was low to moderate income households (NC-1172, 2007). As stated in Hayhoe and Gutter (2011), the study was sponsored by the North Central Region of the Cooperative Extension Service through land grant universities. The instrument used was developed to measure savings behavior, various psychological factors, economic factors, financial knowledge, socialization, and available resources that could influence savings behavior (NC-1172, 2007). The survey was distributed and data were collected using an online survey. The data were collected through Survey Sampling International LLC, which provides computers and Internet service for individuals who complete surveys.

Data were collected in late 2010 over a two week period until 1,000 surveys were completed. Only respondents with a spouse or partner and households with a gross income of less than \$80,000 were included in the data collection. This study filtered all participants based on an item that directed respondents to indicate whether or not they have a spouse or partner. The researcher chose to use this item as the most accurate indicator of whether the respondent has a spouse or partner because it provided the most conservative estimate. After performing cross tabulations with other measures that indicate whether the respondent had a spouse, the responses were found to be inconsistent on this measure. The item used to filter this data was the most direct and conservative measure, making it the best choice for the data. This study also required

either the respondent or spouse be under the age of 66. After these conditions were met, the sample size was reduced from 1,000 to 471.

Over 65% of the respondents reported a household gross income of between \$20,001 and \$60,000; fourteen percent reported their household gross income as \$0 to \$20,000 and 30.7% reported between \$60,001 and \$80,000, the top income for the sample. The average net worth for the sample was \$23,960. Twelve percent of the sample reported an average negative \$4,500 net worth and just over 22% had an average net worth of zero. About 40% of the sample had a positive net worth. A complete summary of the variables, both dependent and independent, can be found in the following paragraphs or in Table 4-1, 4-2, and 4-3.

Dependent Variable

Net Worth: The dependent variable in this study was net worth, defined as assets minus liabilities. The level of assets were measured with the following question: “What would you estimate the TOTAL value of your or your family’s investment assets, financial accounts, and cash on hand to be at this time? Please include retirement savings. Please exclude the value of your home, business, vehicles, furniture, and clothing. Please do not include any debt attached to these assets.” Answer choices were as follows: “\$0 - \$1,000,” “\$1,001 - \$10,000,” “\$10,001 – \$25,000,” “\$25,001 – \$50,000,” “\$50,001 – \$75,000,” “\$75,001 – \$100,000,” “\$100,001 – \$150,000,” “\$150,001 – \$200,000,” and “\$200,001 and over.” These answers were coded for the category’s midrange: “\$0 - \$1,000” was coded as “\$500,” “\$1,001 - \$10,000” was coded as “\$5,000,” “\$10,001 – \$25,000” was coded as “\$17,500,” “\$25,001 – \$50,000” was coded as “\$37,500,” “\$50,001 – \$75,000” was coded as “\$62,500,” “\$75,001 – \$100,000” was coded as “\$87,500,” “\$100,001 – \$150,000” was coded as “\$125,000,” “\$150,001 –

\$200,000” was coded as “\$175,000,” and “\$200,001 and over” was coded as “\$200,000.”

The level of liabilities was measured with the following question: “Please estimate the dollar amount of your or your family’s debt excluding mortgage and business debt.” Answer choices were as follows: “\$0 - \$1,000,” “\$1,001 - \$10,000,” “\$10,001 – \$25,000,” “\$25,001 – \$50,000,” “\$50,001 – \$75,000,” “\$75,001 – \$100,000,” “\$100,001 – \$150,000,” “\$150,001 – \$200,000,” and “\$200,001 and over.” These answers were coded for the answer’s midrange: “\$0 - \$1,000” was coded as “\$500,” “\$1,001 - \$10,000” was coded as “\$5,000,” “\$10,001 – \$25,000” was coded as “\$17,500,” “\$25,001 – \$50,000” was coded as “\$37,500,” “\$50,001 – \$75,000” was coded as “\$62,500,” “\$75,001 – \$100,000” was coded as “\$87,500,” “\$100,001 – \$150,000” was coded as “\$125,000,” “\$150,001 – \$200,000” was coded as “\$175,000,” and “\$200,001 and over” was coded as “\$200,000.”

Each participant’s liabilities were subtracted from their assets, resulting in the household’s net worth. This calculation of net worth excludes home ownership. The lowest net worth score possible was negative \$200,000 and the highest net worth score possible for this created variable was \$200,000.

Independent Variables

The first four independent variables were coded by Hayhoe and Gutter (2012) for their FBS to fit the NC-1172 Survey.

Spending: The first independent variable used in this study was from the Hayhoe and Gutter (2012) FBS. The level of household spending was measured by the following question: “How would you describe your (if you have no spouse/partner) or your family’s spending over the past year?” The following are the responses and how

they were coded and weighted for this study's score: "Spending exceeded income," was coded as "0," "Spending equaled income," was coded as "1," and "Spending was less than income," was coded as "1."

Plan: The second independent variable was frequency of financial planning which was measured by the following question: "How often does your family make plans on how to use your money?" The response choices and how they were coded and weighted for this study's score are as follows: "Never," was coded as "0," "Seldom," was coded as "0," "Occasionally," was coded as "0," "Usually," was coded as "1," and "Most of the time," was coded as "1." "Seldom" and "Occasionally" was combined because they both describe infrequent practices. By giving these two responses the same score, the study avoided causing the weight of the measure to be distorted or giving more credit to one behavior than another. This study also chose to combine "Usually" and "Most of the time" because both answer choices describe a frequent practice. Like before, this study gave these two responses the same score to avoid causing the weighting of the measure to be skewed.

Monitor: The third independent variable was monitoring spending, which was measured by the following questions: "How often does your family monitor your spending?" The answer choices were coded are as follows: "Never," was coded as "0," "Seldom," was coded as "0," "Occasionally," was coded as "0," "Usually," was coded as "1," and "Most of the Time," was coded as "1." This variable was scored and treated like the previous one. "Seldom" and "Occasionally" as well as "Usually" and "Most of the time" were combined because the answer choices were so similar in nature.

Written Goals: The last variable of this study was whether the household has written goals based on the following question: “Does you or your family have written goals such as owning a home, retirement, children’s education, or starting a business that require savings?” The following are the answers and how they were coded: “Yes,” was coded as “1,” and “No,” was coded as “0.”

Planning Horizon: Planning horizon was the first new variable created for the enhanced FBS. This variable measured the time period that was most important to a household’s financial planning; it was measured with the following question: “In planning your (if you have no spouse or partner) or your family’s saving and spending, which of the time periods listed below is most important?” The following were possible responses and how they were coded and weighted: “Next few months,” was coded as “0,” “Next year,” was coded as “0,” “Next 1-4 years,” was coded as “1” “Next 5-10 years,” was coded as “1,” and “Longer than 10 years” was coded as “1.” This study chose to weight all choices that were within a year time range as “0” because of the immediacy of their financial planning horizon. All answer choices over one year and up were coded “1” indicating households that have a long range of planning for their finances.

Emergency Fund: The last variable added to this study’s enhanced FBS was whether households have access to resources in case of an emergency. This was measured with the following question: “Beyond your or your family’s financial resources, if you needed at least \$3,000, who could you turn to for this money? Check all that apply.” Participants could select: “No one,” “Extended Family,” “Friends,” “Community,” “Get a loan from a bank or credit union,” “Use my credit cards,” or “Other.” “No one”

was scored as “0” and all other responses were scored as “1.” The decision to score all other choices as “1” was made because the score seeks to determine if the household has the ability to obtain the emergency funds rather than focusing on the source of the money. As a result, anyone who answered any of the possible sources of funding was scored as “1.”

Combine Assets: The next independent variable that was added to this study’s improved FBS was whether partners combine their assets and was measured by the following question: “If you have a spouse or partner, do you combine assets for planning purposes?” The following were the answer choices: “Yes,” “No,” and “No, I have no spouse or partner.” Questions with the answer “Yes” were scored as 1 and “No” were scored 0.

The highest possible score was 7 and the lowest possible score was 0. Scores ranged from 0 (1% of the sample) to 7 (8%). The mean score for the sample was 4.179 with a standard deviation of 1.63209.

Statistical Methods

Preliminary statistics were employed to investigate the normality of the data. A Normal Probability Plot was used to determine whether the data were normally distributed. According to de Vaus (2001), a probability test evaluates the likelihood that data are a good representation of the general population to be measured. Depending on the amount of variance between the sample and the actual population, the Normal Probability Plot shows if there is normality or abnormalities within the data. The Normal Probability Plot was performed on the dependent variable, net worth. The result showed that while the data were not perfectly normal, the data were approximately normally distributed. The results of the Normal Probability Plot are shown in Figure 3-1.

The demographic variables were age of the respondent, number of people in the family, job status of the respondent, job status of the respondent's spouse, education level of the respondent, and education level of the respondent's spouse.

Based on the approximate normality of the data and the type of score created, this study used an Ordinary Least Squared Regression. To test the first hypothesis the research selected a multiple Ordinary Least Squared Regression, and by doing this produced a coefficient. Lewis-Beck (1980) explains that a coefficient provides the proportion of variation in the dependent variable by all the independent variables. The OLSR provided each model's regression residual sum, which was used for calculating the F-statistic. This test compared the sum of the squares for the two models, the composite measure of the FBS and the individual variables. For the second hypothesis, an OLSR was employed on the two models to calculate an F-statistic. For the third hypothesis, an OLSR was employed on the two models to calculate an F-statistic. Once again this statistic allowed for the study to compare two models. For the fourth hypothesis, an OLSR was employed to determine the significance of the model in predicting net worth.

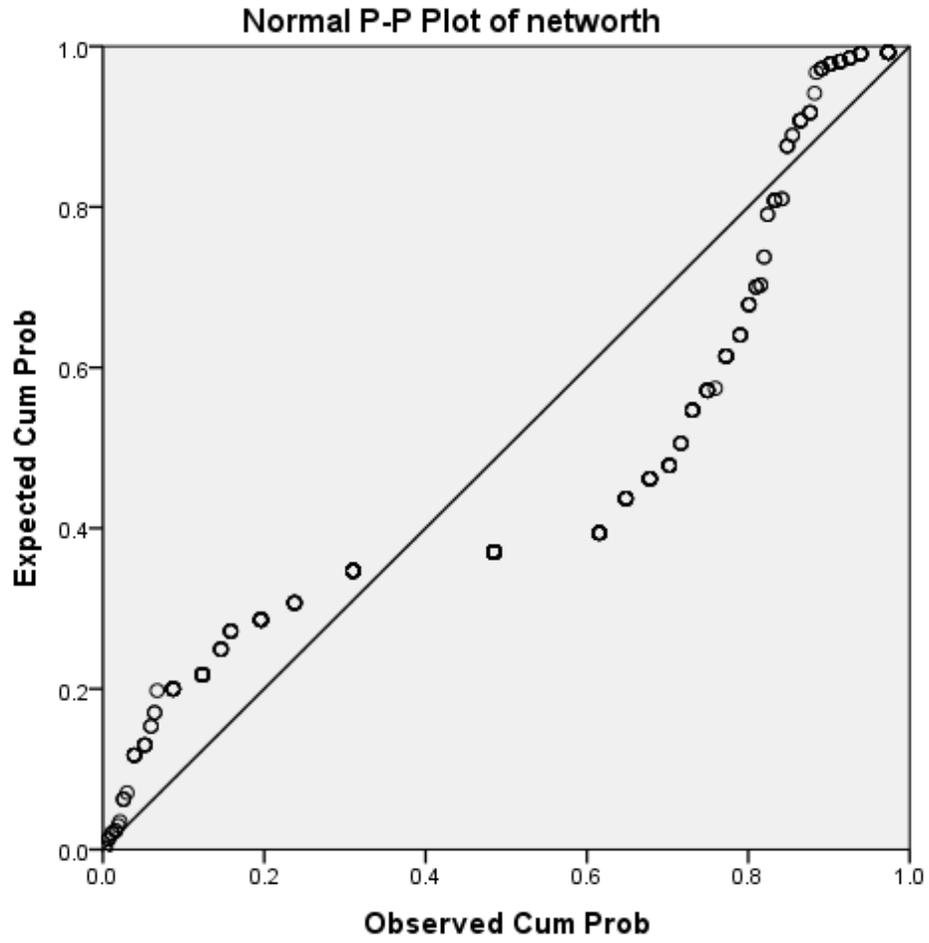


Figure 3-1. Normal Probability Plot

CHAPTER 4 ANALYSIS

Sample Description

Demographic Variables

The sample profile and descriptive statistics can be found in Table 4-1. The average number of people per household was 2.85, with a range of one to nine. The ages of the respondents ranged from 18 to 75 and the spouse's ages ranged from 19 to 75. The mean respondent's age was 45.0 and the mean spouse's age was 45.3. These averages were at the midpoint of the range. A Pearson Chi Square test on correlation between the ages of respondents and their spouses indicated that these two demographics were highly correlated with a chi square of 3802.52 and a $p = 0.000$. Due to such a high correlation, only the respondent's age was used in further analyses to avoid multicollinearity bias. Thirty two percent of respondents were employed full time and 51% of respondent's spouses were employed full time. Fifty percent of respondents reported either not working for pay (22.2%) or were disabled, retired or out of the labor force and not currently seeking employment (27.8%). Almost three fourths (72.5%) of the sample had completed some college or more. Less than 30% (27.4%) had earned a high school education or less. A majority (58.3%) of respondents' spouses was found to have completed some college or more, while just over 40% (41.2%) earned a high school degree or less. At 49.5%, almost half of the sample had a gross income of under \$40,000, and just fewer than 80% had an income of under \$60,000. With such a large percent of the sample making under \$60,000 in gross income, the sample was ideal for the study's focus on low to moderate income households. Over all, this demographic profile described a sample that was well-suited for this study.

Dependent Variable

Net worth was estimated as assets minus liabilities. The mean household net worth was \$23,960 with a standard deviation of \$72,380; the median was 0. The minimum household net worth was \$-182,500 and the maximum was \$199,500. Twenty-two percent of respondents had a net worth of zero and almost 60% of respondents had a net worth of zero or less. Five percent of respondents reported having a net worth of \$199,500 or more. For a detailed view of net worth see Table 4-2.

Independent Variables

There was some variation in the proportion of the households engaging in the various financial behaviors that make up this study's FBS. It is important to keep in mind this study contained only couple households, unlike Hayhoe and Gutter (2012).

Spending: This study, of couple households, found 26.5%, of respondents reported spending more than their income while the majority, at 73.5%, reported to either spend equal to their income or spend less than their income. Hayhoe and Gutter (2012) found a third of participants spent less than what they made.

Planning: Within this study, half of households do not regularly plan their spending (51.2%), while 48.8% of households regularly plan their spending. Hayhoe and Gutter (2012) found only 15% of respondents had a written spending plan.

Monitoring: In this study's sample 58% of couple households reported regularly monitoring their spending, while 42% reported not regularly monitoring their spending. Hayhoe and Gutter (2012) found that 25% of households responded they usually monitored their spending.

Written Goals: One-third (33.5%) of households reported having written financial goals, while 66.5% of households do not have written goals. Meanwhile, Hayhoe and Gutter (2012) reported that 26% of respondents reported having written financial goals.

Planning Horizon: Two-thirds (67.5%) have a longer financial planning horizon than one year and 32.5% indicated their financial planning horizon was one year or less.

Accessibility to Emergency Funds: Sixty-four percent of the households reported having access to emergency funds while 36% of households do not.

Combine Assets: About two-thirds (65.8%) of respondents' state they combine their assets with their spouse or partner while 34.2% do not.

See Table 4-3 for all independent variables.

Statistical Analysis

Description of Models

This study employed an Ordinary Least Squares Regression in four different models to assess the best model for examining the relationships between financial management behaviors and net worth. Using this regression allowed the researcher to view the significance of the different descriptive variables within each model's regression. An OLSR also allowed the researcher to view the significance of each of the four models as they relate to predicting net worth.

After performing the regressions it was clear there was a problem with multicollinearity for the variables related to education. The Variance Inflation Factors (VIFs), which is a quantification of the collinearity of bivariates, of the education bivariates were high (Meyers, Gamst, & Guarino, 2006); for example 13.655 for spouses who completed some college. High levels of VIFs are an indicator of collinearity bias. To remedy this problem, the researcher truncated education bivariates

into two groups, respondents who had completed high school or less and those who completed some college or more, out of concern for collinearity bias. The new bivariate had lower VIFs, thus remedying the multicollinearity and avoiding bias.

Model 1: Model one was comprised of the original Hayhoe and Gutter (2012) FBS. The Hayhoe and Gutter (2012) FBS had a $p = 0.000$ in predicting couple household wealth. The age of the respondent was found to have a $p = 0.000$. As the respondents' age increased by one year, on average the household's net worth increased by \$957. Respondents who were unpaid volunteers were found to have a significant relationship in predicting net worth, $p < 0.045$, as compared to being employed full time. Households that had a respondent who was an unpaid volunteer were found to have \$67,617 in net worth as compared to households that had a respondent that was employed full time. Also, respondents whose spouse was not currently working for pay ($p < 0.038$) or was disabled, retired, or not seeking work ($p < 0.006$) were found to have a significant relationship to net worth, as compared to respondents whose spouses who were employed full time. Households that had a respondent's spouse that was not working for pay had on average \$21,680 more household net worth than households that had a respondent's spouse that was employed full time. Households that have a respondent's spouse who was disabled, retired, or not seeing work had on average \$27,340 more household net worth than a household that has a respondent's spouses who was employed full time.

Households that had a gross income between \$20,001 – 40,000 had a significant relationship, at $p < 0.011$, to net worth, as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$20,001 – 40,000 on

average had \$26,342 more household net worth than households that had a gross income between \$0 – 20,000. Households that had a gross income between \$40,001 – 60,000 or \$60,001 – 80,000 were found to have a significance of 0.000 in predicting net worth as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$40,001 – 60,000 on average had \$45,753 more household net worth than households that had a gross income between \$0 – 20,000. Households that had a gross income within \$60,001 – 80,000 on average had \$70,168 more household net worth than households that had a gross income between \$0 – 20,000.

Model 2: Model two comprised the original Hayhoe and Gutter (2012) FBS plus the three additional variables. The additional independent variables that were added to the original Hayhoe and Gutter (2012) FBS were planning horizon, availability of emergency funds, and the combining of assets. Planning Horizon, availability of emergency funds, and the Hayhoe and Gutter (2012) FBS were all found to have a $p < 0.001$ or better; while combining assets was not found to be significant. The age of the respondent was found to have a $p = 0.000$. As the respondents' age increased by one year, on average the household's net worth increased by \$950. Respondents who were an unpaid volunteer were found to have a significant relationship in predicting household net worth, $p < 0.030$, as compared to respondents who were employed full time. Households that had a respondent that was an unpaid volunteer were found to have \$70,286 more household net worth as compared to households that had a respondent that was employed full time. Also, respondents who were not working for pay were found to have a significant relationship in predicting household net worth, $p <$

0.038, as compared to respondents who were employed full time. Households that had a respondent not working for pay were found to have \$18,572 more household net worth as compared to households that had a respondent who was employed full time. Respondents whose spouses were not currently working for pay ($p < 0.008$) or was disabled, retired, or not seeking work ($p < 0.010$) were found to have a significant relationship in predicting net worth, as compared to respondents whose spouse was employed full time. Households where a respondent's spouse was not working for pay had on average \$26,786 more household net worth than households where a respondent's spouse was employed full time. Households where a respondent's spouse was disabled, retired, or not seeing work had on average \$24,714 more household net worth than a household where a respondent's spouse was employed full time.

Households that had a gross income between \$40,001 – 60,000 were found to have a significant relationship, $p < 0.051$, in predicting net worth as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$40,001 – 60,000 on average had \$31,827 more household net worth than households that had a gross income between \$0 – 20,000. Households that had a gross income between \$60,001 – 80,000 were found to have a significant relationship, $p = 0.000$, in predicting net worth as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$60,001 – 80,000 on average had \$53,571 more household net worth than households that had a gross income between \$0 – 20,000. This model was found to be the best measure of financial behaviors in predicting net worth and will be discussed later in the chapter.

Model 3: Model three comprised the combination of all seven independent variables combined into one new score. The newly aggregated FBS was found to have a significance of .000 in predicting couple household wealth. The age of the respondent was significant at $p < 0.001$. As the respondent's age increased by one year, on average the household's net worth increased by \$916. Respondents who were an unpaid volunteer were found to have a significant relationship in predicting net worth, $p < 0.046$, as compared to being employed full time. Households that had a respondent that was an unpaid volunteer were found to have \$65,534 more household net worth as compared to households that had a respondent who was employed full time. Also, respondent's whose spouse was not currently working for pay ($p < 0.015$) or was disabled, retired, or not seeking work ($p < 0.005$) were found to have a significant relationship in predicting net worth, as compared to respondents whose spouse was not employed full time. Households that had a respondent's spouse who was not working for pay had on average \$24,908 more household net worth than households that had a respondent's spouse that was employed full time. Households with a spouse who was disabled, retired, or not seeing work had on average \$27,634 more household net worth than households that had a respondent's spouse who was employed full time.

Households that had a gross income between \$20,001 – 40,000 were found to have a significant relationship, $p < 0.026$, in predicting net worth as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$20,001 – 40,000 on average had \$22,333 more household net worth than households that had a gross income between \$0 – 20,000. Households that had a gross income between \$40,001 – 60,000 or \$60,001 – 80,000 were found to have a

significance of 0.000 in predicting net worth as compared to households with an income between \$0 – 20,000. Households that had a gross income within \$40,001 – 60,000 on average had \$39,388 more household net worth than households that had a gross income between \$0 – 20,000. Households that had a gross income within \$60,001 – 80,000 on average had \$62,681 more household net worth than households that had a gross income between \$0 – 20,000.

Model 4: Model four comprised all seven independent variables as individual factors rather than aggregated factors. The individual independent variables: spending ($p < 0.001$), planning horizon ($p = 0.000$), and availability of emergency funds ($p = 0.000$) were all found to have a significance of .001 or better and planning was found to have a significant relationship of $p < 0.018$. Two of those independent variables, spending and planning, are from the original Hayhoe and Gutter (2012) FBS and two, planning horizon and emergency funds, are from the newly aggregated FBS. Respondents who were an unpaid volunteer were found to have a significant relationship in predicting household net worth, $p < 0.025$, as compared to respondents who were employed full time. Households with a respondent who was an unpaid volunteer were found to have \$72,610 more household net worth as compared to households with a respondent who was employed full time. Also, respondents who were not working for pay were found to have a significant relationship in predicting household net worth, $p < 0.037$, as compared to respondents who were employed full time. Households with a respondent that was not working for pay were found to have \$18,624 more household net worth as compared to households with a respondent who was employed full time. Respondent's whose spouse was not currently working for pay ($p <$

0.003) or was disabled, retired, or not seeking work ($p < 0.009$) were found to have a significant relationship in predicting net worth, as compared to respondents whose spouse was employed full time. Households where a respondent's spouse was not working for pay had on average \$30,023 more household net worth than households where a respondent's spouse was employed full time. Households where a respondent's spouse was disabled, retired, or not seeing work had on average \$25,119 more household net worth than a household where a respondent's spouses was employed full time.

Households with a gross income between \$40,001 – 60,000 were found to have a significant relationship, $p < 0.007$, in predicting net worth as compared to households with an income between \$0 – 20,000. Households with a gross income of \$40,001 – 60,000 on average had \$30,625 more household net worth than households with a gross income between \$0 – 20,000. Households with a gross income between \$60,001 – 80,000 were found to have a significant relationship, $p = 0.000$, in predicting net worth as compared to households with an income between \$0 – 20,000. Households with a gross income within \$60,001 – 80,000 on average had \$54,687 more household net worth than households with a gross income between \$0 – 20,000.

Please see Tables 4-5, 4-6, 4-7, and 4-8 for all of the models' OLSR output, including their significance.

Hypothesis Testing

Hypothesis One: The first hypothesis conjectured the FBS plus the three additional variables would show a significant improvement in predicting net worth for couples as compared to the FBS. To test this hypothesis, the Hayhoe and Gutter (2012) FBS (Model 1) was compared to the Hayhoe and Gutter (2012) FBS plus the three

additional variables (Model 2). An Ordinary Least Squared Regression (OLSR) reported the Hayhoe and Gutter (2012) FBS with the three additional variables and the original Hayhoe and Gutter (2012) FBS's regression's sum of squared residual. The F-statistic was used to compare the model estimating net worth with each scale. This was calculated by comparing each regression's sum of squared residual and degrees of freedom. This procedure allows for the analysis of the strongest measure to be used in testing the first hypothesis. After comparing the Hayhoe and Gutter (2012) FBS with the three additions to the Hayhoe and Gutter (2012) FBS, the resulting F-statistic was 16.99 with a cumulative probability of 0.9999; because of the result, the researcher rejected the Hayhoe and Gutter (2012) FBS. This means that the Hayhoe and Gutter (2012) FBS with additions is a better measure for predicting net worth than the original Hayhoe and Gutter (2012) FBS. The adjusted R^2 of the Hayhoe and Gutter (2012) FBS with additions is .241, as seen in Table 4-5, while the original Hayhoe and Gutter (2012) FBS has an adjusted R^2 of .178, as seen in Table 4-6. This comparison failed to reject this hypothesis, that the Hayhoe and Gutter (2012) FBS with the three additional variables is the strongest predictor of net worth. The results of the F-statistic and the adjusted R-squared fail to reject the first hypothesis. Please see Tables 4-5 and 4-6 for the OLSR output of these models.

Hypothesis Two: The second hypothesis posed that the new version of the FBS (Model 3) would be a better predictor of net worth than the Hayhoe and Gutter (2012) FBS plus additional variables (Model 2). The F-statistic was used to compare the Hayhoe and Gutter (2012) FBS plus additional three variables to the new aggregated FBS. After testing the two scores, the result was an F-statistic of 6.947 with a

cumulative probability of .9999. This result confirmed that the Hayhoe and Gutter (2012) FBS with additional variables was a better predictor of net worth than the newly aggregated FBS. This confirmed the Hayhoe and Gutter (2012) FBS with the additional variables was a better predictor of net worth than the newly aggregated FBS. This study chose to look at the adjusted R^2 values to confirm this hypothesis. The Hayhoe and Gutter (2012) FBS with additional variables had an adjusted R^2 value of 0.241, as seen in Table 4-6, and the newly aggregated FBS had an adjust R^2 value of 0.212, as shown in Table 4-7. These results provided further support that the Hayhoe and Gutter (2012) FBS with additional variables was a better measure for predicting net worth for couples than the newly aggregated FBS. Thus, the second hypothesis was rejected as shown in Tables 4-6 and 4-7.

Hypothesis Three: To test the third hypothesis the study employed similar analysis, the OLSR and an F-statistic. This hypothesis conjectured that the newly aggregated FBS (Model 3) would be a better predictor of net worth than the individual (Model 4). An OLSR was used for analysis of the newly aggregated FBS and also for the individual variables. The newly aggregated FBS was compared using an F-statistic to the individual variables. The F-statistic was 5.039 with a cumulative probability of 0.9999. The results show that the individual variables are a better predictor of net worth than the newly aggregated FBS. Examining each adjusted R^2 , the newly aggregated FBS adjusted R^2 was .212, as shown in Table 4-7, and the individual variable adjusted R^2 was .250, as seen in Table 4-8, further supports the outcome. The results demonstrate the individual variables are a better predictor of net worth than the

aggregated score. As a result, the third hypothesis was rejected. The OLSR output of these models is shown in Tables 4-7 and 4-8.

Hypothesis Four: The fourth hypothesis proposed that households exhibiting greater levels of the financial behaviors used in the score would have higher net worth. This hypothesis was examined by performing an OLSR on the Hayhoe and Gutter (2012) FBS plus the three additional variables (Model 2) to examine the aggregated score's significance. The result of the regression on the score proved to have a p-value of 0.000 in predicting net worth, showing significance. The result of the analysis thus failed to reject the third hypothesis. Please see Table 4-7 for the OLSR output of this model.

Summary

The results of this analysis reveal interesting findings about creation of the new FBS for couple's net worth. The model that includes the original Hayhoe and Gutter FBS with the additional three independent variables, planning horizon, emergency funds, and combining assets, was selected by comparing this approach to a reduced model and a model where all FBS scores are aggregated. As expected, the age and the income of the respondent were important to consider when estimating net worth. The age of a person is an indicator of the respondent's Life Cycle stage. The study found that within this model, as age of the respondent increased by one year their net worth increased on average by \$950.

It is not surprising that the first hypothesis yielded a positive result. While failure to support the second hypothesis was not expected, it is telling that there are variables included within the newly aggregated score that are not strong predictors of net worth. A failure to support hypothesis three was also a surprising result. The results of the

analysis concluded in the rejection of the third hypothesis. It is clear that the newly aggregated FBS included some variables that were and some that were not predictive of net worth. Finally, with analysis supporting the fourth hypothesis it is clear that the financial behaviors that were included in the newly aggregated FBS are significant in predicting a household's net worth.

Table 4-1. Descriptive Statistics of Demographic Variables

Variable	M	SD	Proportions
Members in Household	2.85	1.29248	
Age	45.04	15.005	
Spouse's Age	45.27	14.123	
Employment Status			
Full Time			32.5
Part Time			10.3
Temporarily Laid Off			6.2
Unpaid Volunteer			1.1
Not working for Pay			22.2
Disabled, Retired, or Not Seeking Work			27.8
Spouse's Employment Status			
Full Time			51.6
Part Time			12.0
Temporarily Laid Off			5.4
Unpaid Volunteer			0.6
Not working for Pay			12.2
Disabled, Retired, or Not Seeking Work			18.2
Education			
High School or less			27.4
Some College or more			72.5
Spouse's Education			
High School or less			41.2
Some College or more			58.3
Gross Income			
\$0-20,000			14.2
\$20,001-40,000			35.0
\$40,001-60,000			30.4
\$60,001-80,000			20.2

Table 4-2. Descriptive Statistics of Dependent Variable

Variable	Descriptive Statistic	Amount
Net Worth	M	23960.44
	SD	72380.53
	Mdn	0
	Mode	0
	Minimum	-182500
	Maximum	199500
	25%	-4500
	50%	0
	75%	37000
	Skewness	1.083
	Kurtosis	1.066

Table 4-3. Descriptive Statistics of Independent Variables

Variables	M	SD	Proportions
Spending	.7346	.44201	
Spending exceeded income			26.5
Spending equaled income / Spending was less than income			73.5
Planning	.4883	.50040	
Never / Seldom / Occasionally			51.2
Usually / Most of the Time			48.8
Monitoring	.5801	.49408	
Never / Seldom / Occasionally			42.0
Usually / Most of the Time			58.0
Written Goals	.34	.473	
Yes			33.8
No			66.2
Planning Horizon	.6752	.46881	
Next few months / Next year			32.5
Next 1-4 years / Next 5-10 years/ Longer than 10 years			67.5
Emergency Funds	.6497	.47758	
No one / Extended Family / Friends / Community / Get a loan from a bank or credit union / Use my credit cards / Other			65
No one			35
Combine Assets	.7152	.45180	
Yes			71.5
No			28.5

Table 4-4. Hayhoe and Gutter (2012) FBS OLSR Output

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
(Constant)	-95093.476	19601.162	-4.851	.000
Age **	957.204	267.963	3.572	.000
Job: Full Time (Comparison)				
Job: Part Time	2852.883	11551.698	.247	.805
Job: Temp Laid Off	11838.891	14906.570	.794	.428
Job: Unpaid Volunteer *	67617.191	33569.519	2.014	.045
Job: Not Working for Pay	14227.457	9233.481	1.541	.124
Job: Disabled, Retired or not Seeking Work	-3503.702	9766.419	-.359	.720
Spouse Job: Full Time (Comparison)				
Spouse Job: Part Time	8678.944	10276.668	.845	.399
Spouse Job: Temp Laid Off	13115.664	15686.946	.836	.404
Spouse Job: Unpaid Volunteer	-19109.200	47965.160	-.398	.691
Spouse Job: Not Working for Pay *	21680.689	10393.156	2.086	.038

Table 4-4. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Spouse Job: Disabled, Retired or not Seeking Work*	27340.131	9991.287	2.736	.006
Education: High School or Less (Comparison)				
Education: Some College or More	11075.940	7848.978	1.411	.159
Spouse Education: High School or Less (Comparison)				
Spouse Education: Some College or More	10263.159	7090.351	1.447	.148
Members in Household	-3029.599	2614.665	-1.159	.247
Income: \$0 – 20,000 (Comparison)				
Income: \$20,001 – 40,000*	26342.983	10275.741	2.564	.011
Income: \$40,001 – 60,000**	45753.104	11335.661	4.036	.000

Table 4-4. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Income: \$60,001 – 80,000**	70168.226	12333.710	5.689	.000
Hayhoe and Gutter (2012) FBS**	9733.721	2662.626	3.656	.000
*<.05 **<.001				
	R	R ²	Adjusted R Square	Std. Error of the Estimate
	.460	.211	.178	65784.417
	Sum of Squares	Mean Square	F	Sig.
Regression	492691410939.422	27371745052.190	6.325	.000
Residual	1839225521493.007	4327589462.336		

Table 4-5. Hayhoe and Gutter (2012) FBS plus Additional Independent Variables OLSR Output

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
(Constant)	-120599.938	19348.132	-6.233	.000
Age **	950.034	259.937	3.655	.000
Job: Full Time (Comparison)				
Job: Part Time	5391.016	11127.703	.484	.628
Job: Temp Laid Off	16683.931	14443.194	1.155	.249
Job: Unpaid Volunteer *	70286.948	32234.964	2.180	.030
Job: Not Working for Pay*	18572.542	8932.969	2.079	.038
Job: Disabled, Retired or not Seeking Work	2135.835	9461.350	.226	.822
Spouse Job: Full Time (Comparison)				
Spouse Job: Part Time	8625.359	9892.572	.872	.384
Spouse Job: Temp Laid Off	11399.854	15040.439	.758	.449
Spouse Job: Unpaid Volunteer	1749.946	46647.513	.038	.970

Table 4-5. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Education: High School or Less (Comparison)				
Education: Some College or More	12961.983	7563.504	1.714	.087
Spouse Education: High School or Less (Comparison)				
Spouse Education: Some College or More	12533.971	6812.268	1.840	.066
Members in Household	-2641.700	2525.512	-1.046	.296
Income: \$0 – 20,000 (Comparison)				
Income: \$20,001 – 40,000	18034.972	10047.558	1.795	.073
Income: \$40,001 – 60,000**	31827.805	11379.954	2.797	.005
Income: \$60,001 – 80,000**	53571.576	12475.906	4.294	.000
Planning Horizon**	26060.727	6651.791	3.918	.000

Table 4-5. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Emergency Funds**	26866.213	6810.931	3.945	.000
Combine Assets	-6697.300	7236.913	-.925	.355
Hayhoe and Gutter (2012) FBS**	9051.723	2714.909	3.334	.001
* $<.05$ ** $<.001$				
	R	R ²	Adjusted R Square	Std. Error of the Estimate
	.527	.277	.241	62972.006
	Sum of Squares	Mean Square	F	Sig.
Regression	635730168335.462	30272865158.832	7.634	.000
Residual	1657567922573.627	3965473498.980		

Table 4-6. Newly Aggregated FBS OLSR Output

Variables	Unstandardized Coefficients β	St. Error	t	Sig.
(Constant)	-113693.203	19477.403	-5.837	.000
Age **	916.038	262.872	3.485	.001
Job: Full Time (Comparison)				
Job: Part Time	4418.073	11292.613	.391	.696
Job: Temp Laid Off	13599.580	14473.516	.940	.348
Job: Unpaid Volunteer *	65534.775	32755.394	2.001	.046
Job: Not Working for Pay	16038.523	9031.170	1.776	.076
Job: Disabled, Retired or not Seeking Work	-1016.311	9586.862	-.106	.916
Spouse Job: Full Time (Comparison)				
Spouse Job: Part Time	10116.197	10033.397	1.008	.314
Spouse Job: Temp Laid Off	13355.891	15304.427	.873	.383
Spouse Job: Unpaid Volunteer	-2727.195	46618.030	-.059	.953
Spouse Job: Not Working for Pay *	24908.855	10161.012	2.451	.015

Table 4-6. Continued

Variables	Unstandardized Coefficients β	St. Error	t	Sig.
Spouse Job: Disabled, Retired or not Seeking Work*	27634.264	9761.322	2.831	.005
Education: High School or Less (Comparison)				
Education: Some College or More	9784.563	7661.120	1.277	.202
Spouse Education: High School or Less (Comparison)				
Spouse Education: Some College or More	10751.184	6918.182	1.554	.121
Members in Household	-3219.466	2561.593	-1.257	.210
Income: \$0 – 20,000 (Comparison)				
Income: \$20,001 – 40,000*	22333.997	9964.360	2.241	.026
Income: \$40,001 – 60,000**	39388.165	11050.693	3.564	.000

Table 4-6. Continued

Variables	Unstandardized Coefficients β	St. Error	t	Sig.
Income: \$60,001 – 80,000**	62681.739	12008.618	5.220	.000
New FBS**	10692.670	1947.521	5.490	.000
* < .05 ** < .001				
	R	R ²	Adjusted R Square	Std. Error of the Estimate
	.495	.245	.212	64139.676
	Sum of Squares	Mean Square	F	Sig.
Regression	561347000968.648	31185944498.258	7.581	.000
Residual	1731951089940.442	4113898075.868		

Table 4-7. Individual Independent Variables OLSR Output

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
(Constant)	-128473.521	19641.515	-6.541	.000
Age **	971.699	260.105	3.736	.000
Job: Full Time (Comparison)				
Job: Part Time	4906.318	11075.667	.443	.658
Job: Temp Laid Off	20727.108	14479.377	1.431	.153
Job: Unpaid Volunteer *	72610.515	32245.187	2.252	.025
Job: Not Working for Pay*	18624.295	8909.560	2.090	.037
Job: Disabled, Retired or not Seeking Work	2367.489	9419.191	.251	.802
Spouse Job: Full Time (Comparison)				
Spouse Job: Part Time	9536.014	9878.751	.965	.335
Spouse Job: Temp Laid Off	11158.089	14991.777	.744	.457
Spouse Job: Unpaid Volunteer	5708.392	46504.840	.123	.902

Table 4-7. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Spouse Job: Not Working for Pay *	30023.407	9999.773	3.002	.003
Spouse Job: Disabled, Retired or not Seeking Work*	25119.869	9582.738	2.621	.009
Education: High School or Less (Comparison)				
Education: Some College or More	13843.260	7546.145	1.834	.067
Spouse Education: High School or Less (Comparison)				
Spouse Education: Some College or More	13011.844	6786.519	1.917	.056
Members in Household	-2147.298	2523.623	-.851	.395
Income: \$0 – 20,000 (Comparison)				
Income: \$20,001 – 40,000	18283.763	10050.947	1.819	.070

Table 4-7. Continued

Variables	Unstandardized Coefficients			
	β	St. Error	t	Sig.
Income: \$40,001 – 60,000*	30625.083	11393.813	2.688	.007
Income: \$60,001 – 80,000**	54687.668	12511.457	4.371	.000
Spending **	22834.215	7103.161	3.215	.001
Planning *	18145.639	7631.459	2.378	.018
Monitoring	-6430.431	7474.485	-.860	.390
Written Goals	5604.383	6948.344	.807	.420
Planning Horizon **	24084.893	6653.087	3.620	.000
Emergency Funds**	26765.667	6776.373	3.950	.000
Combine Assets	-5762.377	7223.576	-.798	.425
* < .05 ** < .001				
	R	R ²	Adjusted R Square	Std. Error of the Estimate
	.539	.297	.250	62596.913
	Sum of Squares	Mean Square	F	Sig.
Regression	667173105776.977	27798879407.374	7.094	.000
Residual	1626124985132.112	3918373458.150		

CHAPTER 5 CONCLUSIONS AND IMPLICATIONS

Discussion of Findings

This study found many descriptive variables were significant predictors of net worth. The age of the respondent was found to have a significant relationship in predicting higher levels of net worth. This aligns with previous research on net worth relating to Life Cycle (Weisbrod & Hansen, 1968). The age of a respondent is descriptive of their life stage, thus aligning with the Life Cycle model. It is not surprising to find that the older the age of the respondent, the greater the level of net worth, because the respondent has had more time to accumulate wealth.

This study found income level of the respondent is a predictor of net worth. This finding also aligns with previous research (Weisbrod & Hansen, 1968). As stated earlier in the thesis, previous works describe how income and net worth are very closely correlated. In this study, the higher the income level, the more significant relationship there was with net worth. For example, households that have the highest income level in our sample, \$60,001 – 80,000 were found to have a significant relationship to net worth. This is because households with greater levels of income have more resources available to build net worth.

The results of this study found that job status was also a predictor of net worth. For the respondent, as compared to full time employment, the job status of unpaid volunteer and not working for pay were both found to have a significant relationship in predicting higher levels of net worth. For the respondent's spouse, as compared to full time employment, not currently working for pay and being disabled, retired, or not seeking work were found to have a significant relationship of predicting higher levels of net

worth. The results of the jobs status of both the respondent and the spouse were not expected.

Two of the three variables added to the original FBS were found to have a significant relationship in predicting higher levels of net worth. It was interesting to find that the variables independently were better predictors of higher net worth than the aggregated score. This could be due to the fact that one of the three of the independent variables, combining assets, did not have a significant relationship in predicting net worth.

Limitations

There are limitations to take into consideration when evaluating this study. First, this study only includes couples (spouses or partners). Therefore, the results of this study are limited to couple households and should not be generalized to all households.

The way employment status answers were categorized may have constituted another limitation of this study. For example, the results indicated that respondents who reported having a spouse who was disabled, retired, or not currently seeking work was found to predict a higher net worth when compared to respondents whose spouse worked full time. Logically, it does not seem likely that a respondent whose spouse was not seeking work to have a higher net worth than one whose spouse was employed full-time. However, it may be plausible for a respondent with a retired spouse to have a higher net worth than one whose spouse was employed full time. This mixed result may be due to the life stage of a household. For example, the respondent or respondent's spouse may have been stay at home parents, working but not for pay. Or the respondent or their spouse may be close to retirement or had recently retired, with a large amount of net worth, and currently volunteer. It would be beneficial for future

research to examine the life stage of the respondent and their spouse or partner. Also, the contradictory nature of the results may be due to the confusing and unclear answer choices. Specifically, the answer choice “not currently working for pay,” may have been too vague. This answer could be broken down into more categories such as “stay at home parent,” “volunteer,” or “student.” Another answer choice that may have confused respondents was “disabled, retired, or not seeking work.” This answer choice wrongly assumed disabled individuals did not work. The answer also grouped job statuses together (i.e., disabled, retired, and not currently seeking work) which should not have been grouped. It was not appropriate that someone who was disabled to have been categorized as retired or vice versa.

Further limitations of this study were related to variable of net worth. The first limitation, how net worth was measured, excluded the value of a household’s home. This provided a limited view as to a household’s complete financial situation. A household in this study could have reported having a net worth of \$200,000 but have a mortgage on a home that was currently underwater. If this was the case, the household’s net worth, including the value of their home, would be much lower or even negative. This was called for in the survey, which specifically stated to exclude the value of the household’s home. Another limitation of the dependent variables of net worth in this study was how the value was calculated and measured. Net worth was calculated as the midrange of assets minus the midrange of liabilities. Assets and liabilities were measured categorically, not on a continuous scale. An example of an answer choice would be “\$0-\$1,000.” A midrange was given to each answer category. For example, an answer choice of “\$0-\$1,000” was assigned the midrange value of “\$500.” From

there the midrange asset value was subtracted by the midrange liability value which supplied the net worth value used in this study. By calculating net worth in this way, the study created a value that was limited to being an estimate rather than an exact number. As a result, net worth values in this study were not an exact representation of the value of the net worth of the respondents. This study was limited by the survey's categorical answer choices. Future research can improve on this, by providing a continuous answer choice.

Another limitation of this study was the wording of some of the question and answer choices of the independent variables. For example for two independent variables the answer choices included "Never," "Seldom," "Occasionally," "Usually," and "Most of the time." The answer choices were confusing and because they do not provide a numerical example, it was difficult to assess a value. For one household the choice of seldom could mean engaging in a behavior once a year, but for other households seldom could mean engaging in a behavior once a month. Without an example or definition of the answer choices, they are open to broad interpretation. Also, the answer choices were too similar in nature, such as "seldom" and "occasionally" or "usually" and "most of the time." "Usually" and "Most of the time" indicate there was frequency but it was unclear as to how these choices differ, making the answer choices more confusing for a respondent. Future research could improve on the answer choices by providing specific examples with numerical values.

The wording of the independent variable labeled "written goals" stated: "Does you or your family have written goals such as owning a home, retirement, children's education, or starting a business that require savings?" Through this variable, the study

was trying to capture whether households created financial goals, however it may have created a further limitation. Couples and household members may have financial goals that are frequently discussed (such as paying for a child's college or planning for retirement) but are not written down. Households that did this would not have been awarded a point value in this study. Due to the wording of the question, the interpretation of this variable was limited to households that had written goals and did not include households who discussed and planned but did not explicitly write down goals.

An additional limitation of this study involved how the planning horizon was measured. For this study, households with a planning horizon of a year or greater were awarded one point. Households with a planning horizon of less than a year were not awarded points. This method of scoring did not allow the study to consider the life stage of households. For example, a household comprised of a newlywed couple may have a planning horizon of less than a year because of their new life stage, not because of a lack of financial security. Failing to account for a household's life stage presents the possibility of not fairly scoring households.

Another limitation of this study centers on the wording of the independent variable labeled "combine assets" which stated: "If you have a spouse or partner, do you combine assets for planning purposes?" The term "assets" was not defined and could have been interpreted differently by respondents. Assets could mean income, ownership of a home, IRA, or other forms of retirement accounts. Also, because some employer provided retirement accounts are in the employee's name only, they leave a spouse or partner off of the account and thus may not be considered as a

combined asset. The wording of this question could have been confusing to a respondent and should be clarified in future surveys. Future researchers might ask about specific forms of assets or respondents might be provided a list of assets and asked to select all that applied.

It is also important to note the data were collected during a difficult economic time. As discussed early, households during the time the data were collected were struggling to maintain wealth. This means the data may not be representative of the population's behavior during a healthy economy.

Finally, this study is a cross-sectional study, not longitudinal; therefore, is not representative of households over a long period of time. This study only provides one point in time. It does not provide information on past behaviors, demographics, or levels of wealth. It would be interesting to have a longitudinal study to view pre- and post-recession to observe changes in levels of net worth.

Conclusions

Hypothesis 1

Hypothesis 1 stated the additional variables to the Hayhoe and Gutter (2012) FBS will indicate a significant improvement in predicting net worth for couples as compared to the Hayhoe and Gutter (2012) FBS. The researcher failed to reject this hypothesis after conducting analysis on Model 1 and Model 2. Results of the comparison of the two models supported the hypothesis. As a result, it is clear that the additional variables had a positive impact in predicting net worth of couples and the ability of the Hayhoe and Gutter (2012) FBS to predict a couple's net worth was improved.

Hypothesis 2

Hypothesis 2 stated the aggregated version will significantly improve prediction of couples' net worth as compared to the Hayhoe and Gutter (2012) FBS plus three additional variables. The researcher rejected this hypothesis after conducting analysis on Model 2 and Model 3. The results of the F-statistic led the researcher to reject this hypothesis. As a result, the newly aggregated FBS was not a better predictor of a couple's net worth than Hayhoe and Gutter (2012) FBS plus additional variables. From this result, it seems that the newly added variables and the Hayhoe and Gutter (2012) FBS are a better predictor of net worth separated rather than aggregated into one large score.

Hypothesis 3

Hypothesis 3 stated the aggregated measure of the FBS will be a better predictor of net worth than the seven variables individually. Analysis was conducted using Model 3 and Model 4. The researcher rejected this hypothesis after calculating an F- statistic comparing Models 3 and 4. The result of this comparison indicated that individual variables are a better predictor of net worth than combining variables into one score. Rejecting one large score was also found to be the result in Hypothesis 2, and using the variables independently proved to be better way of predicting net worth.

Hypothesis 4

Hypothesis 4 stated households that exhibited greater levels of the financial behaviors used in the score will show higher levels of net worth. A T-test was used to analyze this hypothesis. The T-test showed there was significant predicting power in the newly aggregated FBS for net worth. Thus the researcher failed to reject the hypothesis

that households that exhibited greater levels of the financial behaviors comprised of the score would show higher levels of net worth.

Implications

The findings of this research study are interesting for many reasons. The results of the study affirm past research on net worth and give new insight on how to properly assess couple households' financial situation when predicting net worth.

For educators, the results of this study have some interesting implications. It is important for teachers to instruct about budgeting and planning spending, as well as spending within one's means. Both of those behaviors, not spending more than your income and planning how to spend money, were found to have a predictive relationship with higher net worth. Also, teachers should encourage students to consider long term when planning their finances and always be prepared with an emergency fund. These two behaviors, having a planning horizon of greater than a year and accessibility to an emergency fund, were found to have a predictive relationship to higher net worth. Teaching students to save early and have a financial planning horizon of greater than a year, may have a major financial impact on students' wealth. It would allow the student to accumulate wealth at a young age that could help them pay for later important expenses, such as college or a car.

For practitioners, planners, and counselors, this research indicates that Hayhoe and Gutter (2012) FBS plus the three individual variables were a better predictor of net worth than any of the scores created. This should be considered when evaluating households' financial situation and their net worth. This study affirms past research which shows that certain demographic variables are predictive of higher net worth, such as age or income level. Practitioners should continue to take those variables into

consideration. Also, from the results in this study it is clear that having a planning horizon of greater than a year was predictive of higher net worth. Practitioners should take this into consideration when helping households make financial plans, especially low to moderate income households, by planning over a year into the future and expanding their financial planning horizon. In addition, the financial behaviors of not over spending income and making plans for money are predictive of higher net worth. Having accessibility to an emergency fund also was found to be predictive of higher net worth. Therefore, it would be wise for practitioners to help households make plans for their finances that include saving for an emergency fund and not over spending.

Future research should examine the employment status of both partners, the role that debt plays in couples' finances, and the how often people are engaging in monitoring their finances, such as once a week, month, or year. Each of these may be significant predictors of net worth. Future research could examine further the different aspects of financial behaviors related to net worth, such as how credit is used, how aggressively debt is paid down, and how households invest their assets. Also, future research might eliminate current variables, such as whether households monitor their money, have written financial goals, or combine their assets since none of these behaviors were predictive of net worth. Eliminating these variables from the score may possibly produce a stronger score. Further research should consider also looking into how often households engage in different financial management behaviors.

Considering the results of this study, the variables independently did just as well as a composite score. Future research could focus on specific behaviors rather than aggregating variables to make a score. It also would be interesting for future research to

consider whether households were single income or had more than one income. Future research also might consider expanding the research to include not only couples but also singles. Also, it could be helpful to investigate in more detail the job status of both partners. This study showed that respondents with a spouse who was not working for pay or retired, disabled, or not seeking work was predictive of higher net worth as compared to respondents whose spouse was employed full time. This result may be due to respondents who are close to retirement or are already retired and have high levels of net worth. Further research is needed to better understand this relationship and what it means for household and their net worth. Further research of low to moderate income households should continue to better understand how to apply financial management behaviors to households where resources are less available.

REFERENCES

- Apps, P., & Rees, R. (1997). Collective labor supply and household production. *The Journal of Political Economy*, 105(1), p. 178-190.
- Baxter, M., & Jermann, U. (1999). Household production and the excess sensitivity of consumption to current income. *The American Economic Review*, 89(4), p. 902-920.
- Becker, G. (1965). A theory of the allocation of time. *The Economic Journal*, 75(Sept), 493-517.
- Bureau of Labor Statistics. (2010). *Consumer Price Index Detailed Report: Data for March 2009*. Retrieved from <http://www.bls.gov/cpi/cpid1010.pdf>.
- Bureau of Labor Statistics (2011). *Databases, Tables & Calculators by Subject*. Retrieved from <http://data.bls.gov/pdq/SurveyOutputServlet>.
- Brink, H., & Groot, W. (1997). A household production model of paid labor, household work and child care. *De Economist*, 145(3), p. 325 – 343.
- Campbell, R., & Henretta, J. (1980). Status claims and status attainment: The determinants of financial well-being. *American Journal of Sociology*, 86(3), p. 618-629.
- Conger, R., Elder, G., Lorenz, F., Conger, K., Simons, R., Whitbeck, L., Huck, S., & Melby, J. (1999). Linking Economic Hardship to Marital Quality and Instability. *Journal of Marriage and Family*, 52(3), 643-656.
- Coupiere, H. (2007). Time allocation within the family: Welfare implications of life in a couple. *The Economic Journal*, 117(1), p. 287-305.
- de Vaus, D. (2001). *Research design in social research*. London: Sage Publications.
- Deacon, R., & Firebaugh, F. (1988). *Family resource management: Principles of Application, Second Edition*. Needham Heights, MA: Simon & Schuster.
- Dew, J., & Xiao, J. (2011). The financial management behavior scale: Development and validation. *Journal of Financial Counseling and Planning*, 22(1), 43 – 59.
- Federal Reserve. (2011). *Coded tables: Balance sheet tables: December 2011*. Retrieved from: <http://www.federalreserve.gov/releases/z1/Current/Coded/coded-5.pdf>
- Federal Reserve. (2011). *Flow of funds accounts of the United States: Annual flows and outstanding 2005-2010*. Retrieved from: <http://www.federalreserve.gov/RELEASES/z1/Current/annuals/a2005-2010.pdf>

- Gartner, W., Shaver, K., Carter, N., & Reynolds, P. (2004). *Handbook of Entrepreneurial Dynamics*. Thousand Oaks, CA: Sage Publications. Retrieved from: http://www.corwin.com/upm-data/5008_Gartner_Chapter_5.pdf
- Gutter, M., & Fontes, A. (2006). Racial Differences in Risky Asset Ownership: A Two-stage Model of the Investment Decision Making Process. *Financial Counseling and Planning*, 17(2), 64-78.
- Gutter, M., Fox, J., & Montalto, C. (1999). Racial differences in investor decision making. *Financial Services Review*, 8(3), p. 149-162.
- Hatcher, C. (2000). Should households establish emergency funds? *Financial Counseling and Planning*, 11(2), p. 77 – 85.
- Hayhoe, K., & Gutter, M. (2012). Psychometric properties of scales in the NC1172-complex nature of saving data set. *Family & Consumer Sciences Research Journal*, under review.
- Headey, B., & Wooden, M. (2004). The effects of wealth and income on subjective well-being and ill-being. *The Institute for the Study of Labor*, No. 1032, p. 1-23.
- Hilgert, M., Hogarth, J., & Beverly, S. (2003). Household financial management: the connection between knowledge and behavior. *Federal Reserve Bulletin*, 309 – 322.
- Hong, H., Kubik, J. D., & Stein, J. C. (2004). Social interaction and stock market participation. *The Journal of Finance*, 59(1), 137-163.
- Huffman, W. (2010). Household production theory and models (Working Paper). *Iowa State University, Department of Economics*, p. 1-60.
- Keister, L. (2000). *Wealth in America*. New York: Cambridge University Press.
- Keister, L. (2000). Race and wealth inequality: The impact of racial differences in assets ownership on the distribution of household wealth. *Social Science Research*, 29(4), p. 477-502.
- Kennickell, A. (2009). *Ponds and streams: Wealth and income in the U.S., 1989 to 2007*. Washington, D.C.: Finance and Economic Discussion Series Division of Research and Statistical and Monetary Affairs, Federal Reserve Board.
- Kerkmann, B., Lee, T., Lown, J., & Allgood, M. (2000) Financial management, financial problems and marital satisfaction among recently married university students. *Financial Counseling and Planning*, 11(2), p. 55 – 65.

- Lewis-Beck, M. (1980). *Applied regression: An introduction*. Beverly Hills, CA: Sage Publications.
- Liker, J., & Elder, G. (1983). Economic hardship and marital relations in the 1930s. *American Sociological Review*, 48(3), 343-359
- Lusardi, A. (1998). On the importance of the precautionary saving motive. *The American Economic Review*, 88(2), p. 449-453.
- Meyers, L., Gamst, G., & Guarino, A. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage Publication.
- Mittra, S., Kirkman, J., & Seifert, G. (2007). *Practicing financial planning for professionals*. Rochester Hills, MI: RH Publishing.
- Mullins, R. (1992). Measure of economic well-being as predictors of psychological well-being. *Social Indicators Research*, 26(2), p. 119-135.
- Muth, R. (1966). Household production and consumer demand functions. *Econometrica*, 34(3), 699-708.
- Nardi. (2006). *Interpreting data: A guide to understanding research*. Boston, MA: Pearson Education, Inc.
- Rapoport, B., Sofer, C., & Solaz, A. (2011). Household production in a collective model: Some new results. *Journal of Population Economy*, 24, 23-45.
- Ross, L., & Hill, E. (2000). The family unpredictability scale: Reliability and validity. *Journal of Marriage and Family*, 62(2), 549-562.
- Smith, D., Langa, K., Kabeto, M., Ubel, P. (2005). Health, wealth, and happiness: Financial resources buffer subjective well-being after the onset of a disability. *Psychological Science*, 16(9), 663-666.
- U.S. Census Bureau. 2010. *Income, Poverty, and Health Insurances Coverage in the United States: 2009*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Census Bureau. 2011. *Income, Poverty, and Health Insurances Coverage in the United States: 2010*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Census Bureau. 2012. *Income, Expenditures, Poverty, & Wealth: Family Net Worth – Mean and Median Net Worth in Constant (2007) Dollars by Selected Family Characteristics*. Retrieved from:
http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth/wealth.html

United States Department of Agriculture: Economic Research Service (2006). *Economic brief number 7*. Retrieved from:
<http://www.ers.usda.gov/Publications/EB7/EB7.pdf>

Weisbrod, B., & Hansen, L. (1968). An income-net worth approach to measuring economic welfare. *The American Economic Review*, 58(5), p. 1315-1329.

Weiss, Y. (2009). Work and Leisure: A History of Ideas. *Journal of Labor Economics*, 27(1), p. 1-20.

Xiao, J., & Noring, F. (1994). Perceived saving motives and hierarchical financial needs. *Financial Counseling and Planning*, 5, p. 25 – 45.

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