PATHWAY TO PERSONAL FINANCIAL SUCCESS

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ABSTRACT Individuals armed with solid financial knowledge and commitment to prudent financial goals likely will achieve a higher level of wealth and ultimately financial wellness than those who do not. There are, however, potential landmines along the road to financial wellness. Two of the biggest negative behaviors that can get individuals off track are procrastination and impulsive purchasing. Our research will show how self-regulation can temper the negative effects of procrastination and impulsivity, when supported through the intervention of social support which can serve to strengthen positive financial habits.

Keywords: financial wellness, goal commitment, self regulation

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INTRODUCTION

Keiko Matsuda, 45, is a sales executive for a large financial institution. She is married and has three children. Keiko and her husband are overjoyed, and a bit concerned. It seems their oldest daughter just got accepted to a prestigious university that their daughter has always dreamed of attending. They are thrilled, as it is a dream come true, but concerned about how they will finance this, with two more waiting in the wings. Despite making a combined $200,000, they have little saved up, and the annual cost after aid is almost $40,000. They knew they should be putting money away in a college savings plan, but somehow never got around to it. To make matters worse, Dave was recently furloughed from his job as a middle manager for a major airline, which will slash their household income by almost half. Since they hadn't planned for the job disruption, handling college expenses out of current income becomes more problematic. They are currently trying to figure out what the best course of action would be. Do they let her go, or do they send her to a state school with much lower tuition?

Although this is a fictional story, the premise plays out across America everyday. Many Americans find themselves in Keiko's position every year. In fact, a 2019 study of consumer savings by Bankrate, suggested that 20% of Americans have no savings at all. A fact they note has been consistent over the past several years. Even more alarming is that 75% of households save less than 10% of income for all purposes – such as retirement, emergencies, college expenses or other. This directly impacts the economy with less spending power during times of crisis, the local, state, and federal governments that are often left to support them, and employers as they need this collective saving power to support corporate savings and retirement plans.

This paper aims to go beyond financial knowledge and financial wherewithal as a means to financial wellness. Financial wellness requires more than simply setting goals. Social support is needed as a driving force for long-term commitment to those goals. Understanding this is vital to changing the statistics surrounding savings rates, whether it is corporate retirement programs or individual savings, so both organizations and individuals are more financially well off. This concern is of critical importance to senior managers in the business world.

A large grocery chain, who takes a paternal attitude toward its employees illustrates this point. Their goal is to help employees save for a successful retirement. They provide an employer match for their company 401k program, however due to tax laws which emphasize equality of contributions, their higher paid employees are prohibited from contributing the maximum amount due to the lower paid hourly workforce who don't contribute significantly. Their challenge is to provide an environment which encourages employee savings across the full spectrum of employees.

This concept was first explored by testing undergraduates at a land grant university. The findings from the survey provided mixed results on our original hypotheses, but led to important future research topics, which are further discussed. The literature review expands on the concept of financial knowledge, financial literacy, and financial wellness while exploring some important concepts that lead to financial wellness such as goal orientation, planfulness, self-regulation, and social support. Finally, the results, implications, and direction of future research is discussed.

Research suggests the pathway to personal financial success is relatively straightforward. An individual must set realistic goals, make a plan as to how to achieve those goals and implement the plan to achieve those aspirations (Lusardi 2007). This pathway is well known. So why is it that people don't follow it to the end result? To answer this question, we integrate research from Goal Commitment Theory (Locke and Latham, 1988; Frese, Stewart & Hannover 1987) and Self Determination Theory (Desi and Ryan 2000), and its corollary Self-Regulation Theory (Baumeister and Leary 1997) to explain how social support is a key factor in why so many people struggle to achieve financial success despite knowing the pathway. It is our premise that by combining sound goal setting and commitment coupled with social support mechanisms will allow individuals to overcome negative behaviors and form the basis for development of beneficial financial habits. Setting and committing to realistic and achievable financial goals, along with the social support to reinforce the implementation of those financial plans which will ultimately lead to financial wellness.

The current thinking amongst academics and policy makers is that improving financial literacy will lead to financial wellness. However, there are several problems with that solution. First, and foremost, is the lack of evidence that financial literacy leads to behaviors that will create wellness (Fernandes, Lynch and Netemeyer 2014). Part of this is due to a lack of a clear definition of what financial literacy is. Leading scholars, such as Lusardi (2007) and Mandell (2006) equate financial literacy with financial knowledge. Quoting Richard Thaler in the New York Times (10/2013), *"In some ways, the finding that financial education doesn't provide long-term payoffs is hardly surprising. After all, how much do you remember from your high school chemistry class? Unless you use chemistry at work, you probably don't recall much about ionic bonding."* Consequently, knowledge acquisition, while useful, will have a limited long-term impact on wellness. It is our contention that the behavioral side of the equation is the more tangible aspect of the search for financial literacy. Not only knowing what to do but making a plan to implement those behaviors. A key aspect of the contribution of financial knowledge is in understanding the current environment, and the desired future state. Goal commitment requires clarity of goals. Financial knowledge will provide individuals with an awareness of what appropriate goals are, and potentially how to achieve them.

Deci and Ryan (2000) laid out the requirements for Self Determination Theory (SDT). In order for the individual to create the proper environment for self-motivation they need three characteristics – competence, autonomy and relatedness. Competence is where financial knowledge comes in. In order for an individual to be motivated to make the behavioral adjustments necessary the individual must first possess the knowledge of what needs to be done and how it might be done. Autonomy relates to a feeling of control. That one has the ability to effect change in one's short and long-term financial situation. Goal Orientation and Goal Commitment are two related concepts which speak to the idea that an individual can take the knowledge they have obtained and commit it to action through the setting and implementation of goals. Lastly, relatedness is the idea that one is part of a group.

Personal finance is largely a solitary undertaking. People sit in their dining rooms all over the country and grapple with organizing their finances. However, as with many things in life, that solitary pursuit leaves us with an array of choices to fulfill or not our particular obligations. Community support can be the aspect that creates an environment of accountability which holds individuals to their tasks. This relatedness also has the benefit of modelling, the idea that one can learn the lessons of successful individuals and follow those guides.

It is precisely these last two aspects of SDT that our study will attempt to show enhanced outcomes. The starting point for any such analysis is to begin with the individual's financial wherewithal. For our purposes, financial wherewithal is a concept that includes household income and net worth. However, as with Keiko and Dave, financial wherewithal is no guarantee of financial wellness. Even armed with presumably a high degree of financial knowledge, allowing for her job in financial services, the lack of creating goals and implementing those goals hampered the effect of knowledge on wellness. Consequently, the next step in our model is to evaluate the efficacy of goal commitment on wellness. It is our contention that for one to be truly successful in accomplishing both short- and long-term goals one needs to set goals and commit themselves to the implementation of those goals. To that end, our model incorporates the last dimension of the planning process, that of relatedness.

With the onset of social media, social support can either be localized whereby a participant tells a few friends, joins an investment club or some other method of establishing a communal awareness of the individual goals. But, it could be more elaborate such as participation in a social media forum, such as a Facebook chat room, for discussing goals and the progress toward them. As Thaler pointed out unless you use chemistry at work, the knowledge will atrophy. This theory is the foundation of such things as "Save More Now", auto enroll, and auto escalate for 401k savings. Our study will show that through goal setting and social support the knowledge is kept alive, and ultimately leads to better financial behaviors.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

There is an established link between planning and financial wellness (Lusardi and Mitchell 2007, 2011). In their research, Lusardi and Mitchell show that financial literacy and planning have a direct correlation to increases in wealth. According to the Sallie Mae survey, parents who plan for college savings have accumulated over twice savings for college than non-planners, $22,169 versus $9,208. However, the literature on financial literacy indicates small effect sizes relative to the costs of programs to educate participants (Fernandes, Lynch and Netemeyer 2014). In their meta-analysis of financial literacy and the relationship to financial behaviors, they showed that the linkage was not only small, but also fleeting in its effectiveness. Indeed, while not a direct focus on our study, we find that Financial Literacy is a flawed concept, not well understood or defined by academics.

Financial literacy is really a combination of several constructs (Huston 2010). A key component of financial literacy is financial knowledge. Financial knowledge is a measure of how well a consumer understands basic financial principles such as inflation, interest rates and diversification (Lusardi and Mitchell 2007, 2011, 2014, Mandell 2006). This knowledge is tested by asking individuals a three to five question test, and scoring how well the individual answers the questions. Historically, the ratio of correct answers hovers around 60%. But, as Fernandes et al point out this success ratio has limited effect on financial behaviors.

This is best understood by a simple example. If John Q Public does not know the relationship between bond prices and interest rates (one of the lowest scoring questions at only 27% correct NLSY79 Financial Literacy Questionnaire 2012), but pays his/her bills regularly, are they then financially literate or illiterate?

The definition of financial literacy has been expanded to include financial behavior (Warmath and Zimmerman 2019). It also includes the ability and willingness to implement the knowledge. Ability is understood to be a measure of one's skill at applying the knowledge once gained. Warmath and Zimmerman apply Bloom's Taxonomy of Learning (1956) to understand literacy means moving knowledge to a high plane of learning. Willingness is a construct dealing with self confidence in one's ability to apply the acquired knowledge. Our research extends these two concepts, ability and willingness, in the application of financial knowledge to positive financial behaviors.

The concept that building financial knowledge has a positive impact on consumer financial wellbeing has been studied thoroughly, less attention has been focused on potential roadblocks between building a sound plan and financial wellness. At times, the consumer is their own worst enemy. We all procrastinate on making the kinds of plans that will lead us down the path to wellness. There is another potential roadblock that lies on the path to wellness, that of impulsive consumer behaviors. On the positive side, self-regulation can aid consumers in avoiding these roadblocks.

Our process begins with financial wherewithal. *Financial Wherewithal* is the raw material that each individual brings to the table with which to build some concept of financial wellness. Each individual has a different array of building blocks with which to use for this purpose. Is the individual beginning with a high net worth, and a high salary, or are they minimum wage workers merely focused on making ends meet?

In order to achieve wellness, the individual must possess the motivation to work toward it. The determination of the components of this motivation form the basic architecture of Self Determination Theory. (Deci and Ryan 2000) Humans work on the principle that in order to achieve holistic wellness they must have three fundamental components: Competence, Relatedness and Autonomy. As our research will demonstrate these three components play a determining role in the development of financial wellbeing and can stave off the perils of road blocks along the way.

The first factor along the path to financial wellness is Competence. Competence is the knowledge and ability to achieve one's goals. It is at the heart of goal setting and planning. In order to achieve competency, and thus make obtainable goals, one must achieve a level of financial literacy. *Financial knowledge* is the ability to understand financial concepts, and their applications. (Lusardi 2008). While not the focus of this research, it is important to note that financial literacy is problematic across the world. Our survey of college students enrolled in Introductory Finance at a large Midwest college scoring about 60% on a 7 question Financial Literacy test. This factor clearly complicates the concept of goal orientation and planfulness, as they both rely on an understanding of the appropriate target upon which to plan.

Goal Orientation is the process of setting objectives for oneself that require effort to achieve (Frese, Stewart, and Hannover 1987) . Goal orientation really is a combination of two important constructs, goal setting and goal commitment. A goal could be to run a marathon, save for college, lose weight or any other purposeful objective. In order to effectively achieve that goal, an individual needs a plan. Frese and colleagues showed a direct link between goal orientation and planfulness for effective outcomes. *Planfulness* is the process of determining the steps for achieving the goal. Planfulness is a factor within the goal setting process. Once a goal is determined, planfulness is the path one sets forth in terms of how achieving that goal will work. Importantly, Masicampo and Baumeister (2011) showed that planfulness can lead to behaviors being transferred from something that requires thought to a habit.

Expanding the concepts of goal orientation and planfulness is the construct of goal commitment. Goal commitment is the strength of individual desire to achieve a goal. If one sets a goal, but is not strongly motivated to achieve that goal, then the likelihood of achievement is fairly small. However, if the individual has a strong commitment to a goal, their likely completion of that goal is much higher. This is where self-regulation comes into play.

Habitual behaviors are those behaviors which occur regularly, and with little thought. It is these behaviors which make achievement of goal automatic, and importantly less intrusive to mental capacity (Kahnemann 2011). In his work, Kahnemann showed that we have two types of neural processes. System one thinking is that which is automatic and requires little effort. System two type thought is more unique and requires effortful thinking as to determination of a potential direction. Habits are generally thought to inhabit system one. Masicampo and Baumeister (2011) showed that if one plans, the task gets transferred over to system one thought, and will therefore become less taxing cognitively. Their research showed that this transfer takes place before the goal is actually accomplished. The exhaustive thinking having already been done in the planning process. Building on habit is precisely why Lusardi and Mitchell showed that planning led to wealth accumulation.

The primary research question this paper aims to answer is how social support can counter the effects of procrastination and impulsivity and strengthen the link between planning and financial wellness. The hypotheses below break that research question into separate elements to explore the links and how the constructs in the model interact with the ultimate goal of improving financial wellness.

H_1: Goal setting and goal commitment have a positive relationship with financial wellness.

For the purposes of this study, we define financial wellness less as a savings metric and more as a state of mind. According to the Consumer Financial Protection Bureau, Financial Wellness has three elements. It requires an individual to have the ability to meet both current and future obligations. It also requires a sense of comfort in one's current financial status, and finally it requires one the ability to have the ability to comfortably make financial decisions in the future.   For one to achieve financial wellness, they must achieve a level of financial independence from which stress about pending financial difficulties is largely eliminated. (Joo 2008, Fu 2020). This stress is replaced by plans, for which habitual behavior seeks to achieve.

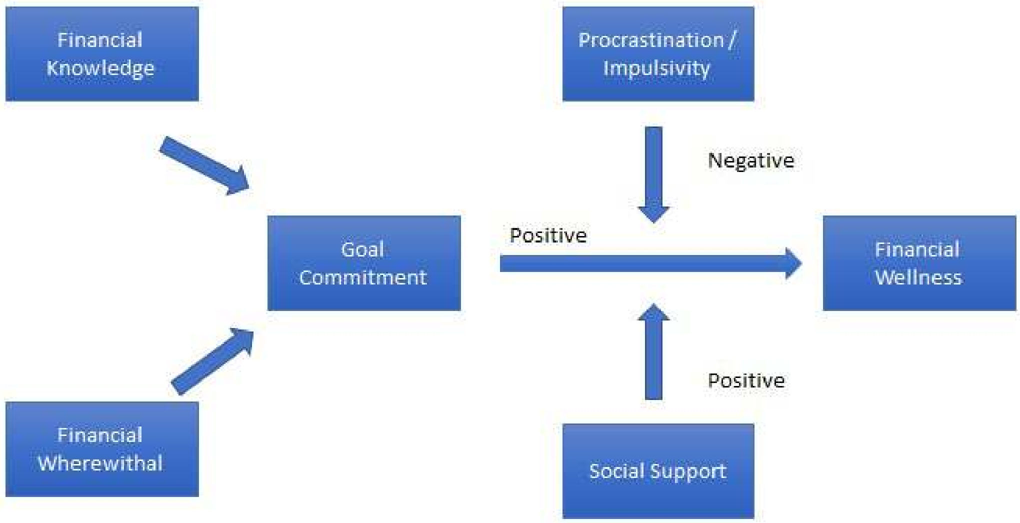
Although the premise of this hypothesis may seem obvious, the road to success is not so simple as creating a plan and making the habitual behavior do the rest. Part of the departure from the pathway to success is simply financial knowledge. The process of determining what are reasonable goals, and how to achieve them is a complicated process. Individuals need some degree of financial knowledge in order to begin the process of establishing budgets for short and long term objectives. Creating savings plans to accomplish long term targets requires forethought to balance the current spending plans with long term objectives.

Once armed with the financial knowledge required to establish goals and develop plans for implementing those plans, the road to success is still fraught with roadblocks which could derail progress toward success. It is our intention to identify two important roadblocks and propose steps that can increase the accountability of an individual toward making progress on the path to success.

The first roadblock is procrastination. *Procrastination* is the willful delay of performing a task to the detriment of the individual. Probably the most common form of procrastination has to do with studying for a big test. Students know that the big test is coming, and early preparation will ultimately lead to higher scores and less test related stress. However, the concept of "pulling an all-nighter" is all too familiar. We delay the task of studying, perhaps because it is unpleasant or complicated, but it is ultimately to our detriment.

FIGURE 1

Hypothesized Model



It is our contention that procrastination acts to delay or cancel out the goal setting and planning process.

H_2a: Procrastination has a negative relationship with the link between goal orientation and financial wellness.

A second, and somewhat related roadblock is impulsivity. *Impulsivity* is taking action based on limited forethought generally to the long-term detriment of the individual. Making an impulse buy is something that people do all the time. The problem with impulse purchasing is that it is something that we may regret in the long term. Even people with well thought out budgets can be derailed by impulse purchases, especially those that haven't been accounted for the planning process.

Once a goal has been set, and plans put in place, the threat shifts to implementation of the plans. This is where we contend that impulsivity plays its role. Our research tests the hypothesis that through the development of self-regulation an individual can offset the siren call of procrastination and impulsivity. Fortunately, measurement and the capacity to change are traits that can be trained and importantly supported in such a way as to increase adherence to goals.

H_2b: Impulsivity has a negative relationship with the link between self-regulation and financial wellness.

Fortunately, there are ways to insure a minimum of encroachment from procrastination and impulsivity on the road to financial wellness. *Self-regulation* (or self-control) is the tendency of an individual to stay on task toward fulfillment of long term goal attainment. Baumeister (2002) suggested three ingredients for self-regulation. These are standards, or goals, monitoring, and the capacity to change. The idea of creating an environment whereby individuals are accountable, both internally, and externally will keep people on the proper track.

Social support is the first ingredient in increasing goal adherence. *Social support* is defined as a positive influence of an external group on individual behaviors. If an individual makes a goal, for example to run a 10K over Memorial Day weekend, there is the possibility that they will get sidetracked, and end up either not trained properly and run at less than their potential or to skip the event entirely. However, if they join a running club with the intention of training for and participating in the event, the likelihood of not following through on those goals is lessened dramatically. The process of sharing a goal and finding people who share similar goals is the foundation for adherence to the goal. (Cialdini, 2004; Baumeister, 1995) The authors talked of the need for an individual to belong to a group. Baumeister referred to the concept of relatedness. Cialdini broke the operation of social normative behavior into two parts compliance and conformity. Compliance is the need for people to execute a goal most efficiently. Importantly, deviation from the optimal path instills possible feelings of guilt. Consequently, motivation is to stay on task, in order to reduce the possibility of deviation. The second part of social normative behaviors is conformity. Conformity is the need to tailor one's behavior to group norms, in order to adhere to the standards set by the group. Goals are for proper financial behaviors, something that is highly personal, belonging to a group for reinforcement of those goals, the individual will likely behave in a way that is consistent with group norms. Finally, there is one additional benefit of social support and that is the positive feedback related to achieving milestones towards your goals. Social support provides both a negative reinforcement in that you don't want to disappoint the group or be the one that doesn't conform, but also a positive reinforcement that counteracts that when a person belongs to that group and conforms to the norms.

H_3: Social support will positively influence adherence to behaviors leading to financial wellness.

The second ingredient toward accountability for goal/plan adherence is tools for measuring progress toward those goals. Tracking progress toward a goal is essential to incent an individual toward achieving a particular goal. Whether it is measuring VO2max, Heart Rate, or simply the ability to run a distance is a key to know if an individual is prepared to run that Memorial Day 10K. Without it, there is little in the way of information to determine if the individual is ready to run. Improved financial metrics have already been introduced in many areas. For example, employers under the Secure Act are now required to give participants an estimate to the monthly income their 401(k) will produce. Technology has provided a number of easily accessible devices to report on financial progress through such apps as Mint, Robinhood, Personal Capital and Acorn. Each of these applications provide specific guidance, and important monitoring for personal financial decision making.

For financial wellness, there are a number of important metrics toward establishing financial progress. Budgets can serve as short term progress reports. The 401(K) statement can track progress toward long term objectives, though I would argue less frequently than would be beneficial. Even age related benchmarks, as in by age 35 an individual should have saved 2 times their annual salary for retirement. Heuristics are important rules of thumb that require little in the way of financial literacy to understand how an individual is progressing, yet provide an important check on progress.

H_4: Measurement tools will positively influence adherence to behaviors leading to financial wellness.

Taken together, social support and measurement tools, will provide the necessary ingredients for an individual to stay on track for achieving the goals set forth, without falling prey to procrastination and impulsivity. Measurement tools need to be established and used regularly by the group to be effective. In this way it enhances the social support by measuring not only the success towards a goal but the conformity towards the group norms. The measurement indicates whether the individual receives positive or negative reinforcement by the group. These two form the basis for self-regulation which lies at the heart of successful financial planning and implementation.

H_5: Self-regulation will offset the influence of procrastination and impulsivity, and lead to improved financial wellness.

Procrastination and impulsivity both cause decreased financial wellness as previously discussed. *Financial Wellness* is a state of mind whereby an individual feels comfortable with their financial state of being (Joo 2008, Netemeyer, Warmath, Fernandes, Lynch 2018). As such it is more a psychological construct than an economic one. Importantly, Fernandes et.al. determined wellness has both short and a long term component. In the short run, it is really about near term budgetary management, while in the long term wellness has to do with meeting one's long term goals such as college and retirement planning. Having the self-regulation to regularly manage and stick to a budget, as opposed to being impulsive with your finances, and sticking to those long term goals, as opposed to procrastinating, ultimately leads to financial wellness.

METHODS

Sample

Participants were students with declared business finance majors at a land-grant university in the United States. Access to the class was provided by the professor that is participating in this research. The 93-question survey was administered in class using SurveyMonkey in March 2020 and no incentive was provided. A variety of demographic questions were presented, and students were asked questions related to their financial knowledge, planfulness, goal orientation, impulsivity, and self-regulation. We also had them take a Cognitive Reflection Test to gauge whether they had a tendency to respond to questions based on intuition or based on system two thought. Of the 264 students initially given the survey, 233 fully completed the survey and were used for this paper. We excluded 19 students for not fully completing the information and 12 students for failing the attention check. Respondents did not differ from non-respondents. Participant demographics are displayed in table 1 below:

Table 1		
Survey 1 Student Demographic Characteristics		
	%	N
Gender		
Male	56.6%	145
Female	43.4%	111
Different gender identity	0.8%	2
Race		
White/Caucasian	76.4%	197
Black / African American	4.3%	11
Hispanic / Latino	5.4%	14
Asian / Asian American	7.8%	20
American Indian / Alaska Native	5.8%	15
Academic Grade		
Freshman	0.8%	2
Sophomore	37.4%	96
Junior	47,1%	171
Senior	14,8%	38
Socio-Economic Status		
Poor	2.7%	7
Lower Middle Class	9.7%	25
Middle Class	38.4%	99
Upper Middle Class	41.1%	106
Wealthy	8.1%	21

Their financial habits were not unique when compared to the National Student Financial Wellness Study. 47.2% of students indicated that they had a credit card and of those 67.4% carried a balance on those credit cards. 33.9% of students indicated that they would not have enough money in savings to cover a $1,000 car repair. When asked about budgeting, only 43% of students replied they usually had a budget. Importantly, 48.5% of students have never calculated the monthly payment of their future student loans.

In order to test these hypotheses, we are conducting two studies of independent populations. Study 1 was used to validate our measurement variables. Study 2 was designed to test the veracity of our hypotheses, and will be done with a survey of employees at a middle market financial services firm.

Measures

One of the key aspects of this initial survey was to validate our measures. We focused our attention on using academically derived scales to see if they would fit for our purposes. We evaluated the following constructs.

Planfulness was measured using an 8-item scale (Frese et al 1987). Participants were asked to utilize 5-point scales (1 = strongly disagree, 5 = strongly agree) to respond to questions pertaining to a goal or task that they felt is important. The alpha reliability of this scale was .79.

Goal orientation was measured using a 6-item scale (Frese et al 1987). Participants were asked to utilize 5-point scales (1 = strongly disagree, 5 = strongly agree) to respond to questions pertaining to a goal or task that they felt is important. The alpha reliability of this scale was .85.

Impulsivity was measured using the 14-item abbreviated impulsivity scale (Coutlee et al 2014) Participants were asked to utilize 5-point scales (1 = never, 5 = always) to indicate their agreement with statements such as “I am self-controlled” and “I do things without thinking.” The alpha reliability of this scale was .75.

Self-control was measured using the 11-item Brief Self-Control Scale (Tangney et al 2004). Participants were asked to utilize 5-point scales (1 = strongly disagree, 5 = strongly agree) to indicate their typical behavior with statements such as “I can stay on a diet” and “I give in to my urges.” The alpha reliability of this scale was .81.

Financial knowledge was measured using a 6-item financial knowledge scale (Lusardi and Mitchell 2014). Participants were given multiple choice responses to choose from ranging from true/false responses to five potential answers for a question. These questions measured respondents on their understanding of inflation, interest rates, taxes, loans, savings, and stock returns. There was only one correct answer per question. The total number of correct responses was added together to determine an individual's financial knowledge score.

In order to measure financial wellness, we constructed a 10 question survey adapted from Fu (2020) and Netemeyer et.al. 2018. While we did not ask financial wellness questions of study group 1 as in our estimation a college sophomore lacked the life experience to give us representative answers to the questions of financial behaviors leading to wellness, it is our intention to ask these questions of our corporate study group.

The resultant scales had a relatively poor fit during the confirmatory factor analysis (CFA). Consequently, we used an EFA technique to hone in on the questions most relevant for the constructs we wanted to measure. Though the scales were developed by leading academics, we found them to be imprecise, so we used the top three indicators for each variable used for the analysis. A secondary concern was the resultant survey proved to be laborious for the survey respondent. Consequently, we viewed our initial survey as preliminary to assist in judging reliability of the survey variables.

Analyses

Our initial model used financial literacy as a dependent variable, and we constructed hypotheses around that concept. For our corporate study, we will use financial knowledge as an independent variable, and financial wellness as the DV. Analyses were conducted using path modeling in Mplus 8. In the initial path model, goal orientation (Hypothesis 1A) and planfulness (Hypothesis 1B) were used as predictors of financial knowledge. Impulsivity was added as a moderator (Hypothesis 2) to goal orientation and planfulness as a predictor of financial wellness. Simple slopes were calculated for the moderator, impulsivity, at +/- one standard deviation. Self-control was then added as an additional moderator (Hypothesis 3) to impulsivity, goal orientation, and planfulness as a predictor of financial wellness. Gender was used as a control variable and all independent variables were centered for analysis. Study 1 focused on Hypothesis 1A, 1B, 2, and 3. The remaining hypotheses will be tested in Study 3.

RESULTS

A confirmatory factor analysis (CFA) was conducted using Mplus 8 to establish construct and discriminant validity. Our proposed model was examined first with the variables of planfulness, goal orientation, impulsivity, and self-regulation.The initial 4-factor model showed fairly poor fit according to the Hu and Bentler (1999) criteria ($\chi2_{(623)} = 1260.768$, $p < .01$; CFI = .751; TLI = .734; SRMR = .085; RMSEA = .066, CI 95% = .061, .072).

Indicators loaded fairly poorly on the regular self-regulation variable (0.228 to 0.470; average = 0.362) and a little bit stronger on the reverse coded self-regulation variable (-0.277 to -0.703; average = -0.493). Indicators for impulsivity produced mixed results (0.255 to 0.638; average = 0.415) and (-0.268 to – 0.797; average = -0.659). Indicators for goal orientation (0.307 to 0.731; average = 0.557) and planfulness (0.296 to 0.778; average = 0.415) loaded fairly. R^2 values were all under 0.70 indicating that the model did not explain most of the variance.

Due to the relatively poor fit of the initial model, only the indicators with the strongest loading factors were used for the second model. The second model included only the three indicators that loaded the strongest on their respective variables in the original model. The revised 4-factor model showed drastic improvement and fairly good fit according to the Hu and Bentler (1999) criteria ($\chi2_{(48)} = 96.607$, $p < .01$; CFI = 0.954; TLI = 0.936; SRMR = 0.051; RMSEA = .066, CI 95% = .047, .085). R^2 values were slightly improved in this revised model.

With relatively strong correlation between the planfulness and goal orientation variables (0.722), and the self-regulation and impulsivity variables (0.592), our third model combined these variables. Next, the fourth model combined all the factors into one factor. In Table 1, model 2 that was developed with the three strongest loaded indicators for each variable showed the best fit of the four models. Thus, we will use model 2 to test our hypothesized model.

TABLE 1

Confirmatory Factor Analyses of Study Variables

Model	Description	x^2	*df*	CFI	TLI	RMSEA [CI]	SRMR
1	Original 4-Factor	1260.768	623	0.751	0.734	.066 [0.061, 0.072]	0.085
2	Revised 4-Factor	96.607	48	0.954	0.936	.066 [0.047, 0.085]	0.051
3	2-Factor Model	206.34	53	0.854	0.818	0.111 [0.096, 0.128]	0.077
4	One Factor, All Factors Combined	584.202	54	0.494	0.382	0.205 [0.190, 0.220]	0.164

Table 2 shows means, standard deviations, and correlations among the variables included in this study. Our outcome variable, financial knowledge, did not have any significant association with any of the independent variables. Self-control was positively correlated with both goal orientation ($r = .251$, $p < 0.01$) and planfulness ($r = .183$, $p < 0.01$) and negatively correlated with impulsivity ($r = -.32$, $p < 0.01$). As expected, goal orientation and planfulness were positively correlated ($r = .563$, $p < 0.01$).

TABLE 2

Descriptive Statistics and Correlations

	Mean	SD	FK	SC	GO	PF	IMP
Financial Knowledge	3.914	1.145	1.000				
Self-Control	2.345	0.868	0.036	1.000			
Goal Orientation	3.957	0.671	0.034	0.251**	1.000		
Planfulness	3.556	0.885	-0.096	0.183**	0.563**	1.000	
Impulsivity	2.913	0.593	-0.011	-0.32**	-0.098	-0.128	1.000

Despite this exercise being more exploratory, we did test a hypothesis relating to financial knowledge. Hypothesis 1 posited that both goal orientation and planfulness positively related to financial knowledge. While this relationship is not central to our main purpose of determining predictors of financial wellness, there was an important finding from the analysis. Goal orientation was found to have a positive, yet non-significant relationship with financial knowledge ($b = 0.221$, $p = 0.099$) while planfulness had a significant, negative relationship to financial knowledge ($b = -0.219$, $p < 0.05$). Leaving significance out for the moment, these effects are interpreted that goal orientation leads to financial knowledge, while planfulness leads to less financial knowledge. Given the strong correlation between goal orientation and planfulness, these effects can essentially cancel each other out when a person displays both equally, leaving a person with no more financial knowledge than someone that doesn't plan and doesn't set goals. The low R-Squared value of 0.021 was also non-significant. Therefore, the hypothesis that goal orientation and planfulness are somehow predictors of financial knowledge is not supported.

Regressed separately, as a post hoc analysis, planfulness had a non-significant, negative relationship ($r = -0.124$, $p = 0.141$) with financial knowledge. Goal orientation had a non-significant, positive relationship ($r = 0.035$, $p = 0.597$) with financial knowledge.

Following Study 1, we sought to rework the data collection process with a refined survey, and hone in on the concept of financial wellness, instead of financial knowledge. In order to test the constructs identified, we surveyed a group of PhD candidates at a large Midwestern University. This group was surveyed on the refined concepts of our previous survey, as well as financial wellness. In this survey, we chose to omit any inquiry into Cognitive function, and have limited our inquiry into financial knowledge. These omissions were informed by the first study, as well as investigation into survey data from the National Longitudinal Survey of Youth 1979, which showed little in the way of correlation between financial knowledge and subsequent financial behaviors. As with Fernandes et.al., we found very small, though statistically significant explanatory power in financial knowledge, thus we determined to focus our survey on behavioral antecedents of short and long term financial wellness.

DISCUSSION AND CONCLUSION

The finding that there is a minimal relationship between financial knowledge and financial behaviors such as planning and goal setting is consistent with findings of Fernandes et al 2014. They found a limited correlation between knowledge and any measures of financial behavior. We think this is because the concept of financial literacy is different from simple knowledge acquisition, which is what our analysis showed. There is ample evidence that financial literacy contains behavioral aspects in addition to financial literacy (Huston and Conclusion 2010).

Consequently, our research uses financial knowledge as one important predictor of financial wellness, but focuses on the behavioral aspect of goal commitment, planfulness, self-control and the negative influences of procrastination and impulsivity.

We expect that our survey will reveal that those that plan for a particular financial decision will be more likely to fulfill that goal than those that don't think through their finances. Additionally, those that do so with a social support group will be better off than those that do so in isolation.

DIRECTIONS FOR FUTURE RESEARCH

We realize that testing our hypothesis with college undergraduates limits the applicability of our potential conclusions. Consequently, in order to test our hypotheses we have approached a middle market financial services organization headquartered in the southwest to survey their employees. We expect to be able to study two distinct groups of subjects for this second survey lending increases generalizability. The two groups are workers in several regional call centers, as well as financial professionals in the firm's main business areas. There are significant income differences between the two groups with the call center workers having an average hourly wage of $15 per hour, while the professional staff has an income level in the six figure range annually. The benefit of surveying these two groups is that it will allow us to control the effects of income levels on the responses for the survey questions.

One factor we hope to address in our research is the ability of lower income workers to save. It has been argued that low wage employees can not afford to save, or have appropriate financial habits simply because they lack the means to do so. By isolating this subset of the corporate population we hope to identify the factors that weigh into financial decision making. We argue that even someone with low financial wherewithal can still maximize their potential outcome albeit at a lower absolute level. Similarly, the higher income employees have what the authors term shiny object syndrome, where impulsive buying plays a large role in defining their overall wellbeing.

Consequently, with the second study, we begin using two important factors which lay the foundation for financial planning. Financial wherewithal, which we define as a combination of household income and net worth. We also look to financial knowledge as a starting point of our analysis. From there we will use our validated concepts of goal commitment, which combines goal setting, planfulness and a behavioral acceptance of the goal. We will look at the offsetting forces of procrastination and impulsivity relative to self-control/self-regulation. Finally, we will look at these and the potential impact of social support to tip the scales toward self-control and away from procrastination and impulsivity.

Additional potential future research is an investigation of the antecedents to goal setting and commitment. Our study has limited itself to looking at downstream behaviors, ways to reinforce positive behaviors once the goals have been set. While there is little doubt that improving implementation has a positive influence on the linkage between goals and wellness, not much is known about how individuals arrive at the decision to make those goals in the first place. Does one start saving for retirement after the kids are in college? When one turns fifty or some other magic age? How about the idea of saving for college, does it begin when the child is born or some later date? All of these trigger events have significant impacts on the amounts that need to be saved to account for the eventual need to fund the goal. The question researchers need to understand is what are the trigger events that motivate financial behaviors, and are they subject to manipulation toward earlier positive financial behaviors.

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