THE ROLE OF SELF-EFFICACY IN STOCK-MARKET PARTICIPATION AND FINANCIAL INFORMATION-SEEKING

A Thesis

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by

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ABSTRACT

This study of self-efficacy's (Bandura, 1977) effects on an individual's likelihood to invest in the stock market and seek financial information attempts to uncover some of the factors that contribute to or hinder stock-market participation in individuals. Study participants are from a racially and ethnically diverse sample population of males and females of various socio-economic statuses who are 18 years of age or older.

When tested, the GSE scale (Jerusalem & Schwarzer, 1977) yielded a Cronbach's alpha measurement of .83, which suggests that its internal reliability is high. When tested, the financial self-efficacy (FSE) scale yielded a Cronbach's alpha measurement of .74, which suggests that its internal reliability is also high.

The data suggest that GSE is a correlate of FSE, and that FSE is a statistically significant predictor of stock-market participation intention and financial information-seeking. The data that GSE is positively related to FSE, and that FSE is, in turn, positively related to stock-market participation intention and financial information-seeking.

The data suggest that there is not a direct relationship between GSE and stock-market participation, but that there is a direct relationship between FSE and stock-market participation. The data also suggest that there is a direct relationship between GSE and financial information-seeking, a direct relationship between FSE and financial information-seeking, and a direct relationship between financial information-seeking and stock-market participation.

The majority of survey participants reported that they were "familiar with" the stock market, "somewhat comfortable" about investing a portion of their income in the stock market, and "somewhat positive" or "optimistic" in their outlook of stock-market strength and stability. However, a little over half of all survey participants reported that they were "somewhat fearful or anxious" about investing a portion of their income in the stock market. Though somewhat fearful or anxious, however, the majority of survey participants listed that they plan to invest in the stock market now or in the future, which suggests that fear or anxiety are not (strong) deterrents of stock-market participation intention and subsequent investing.

BIOGRAPHICAL SKETCH

D'Anjalevette "D'An" Hagan earned her Bachelor of Arts degree in English with a minor in Psychology from Florida Agricultural and Mechanical University (FAMU) in the spring of 2003. During her four-year matriculation, she was a member of the Institute for Leadership Excellence, Presidential Ambassadors, and the English Guild. Earning high academic honors, she served as President of the Alpha Kappa Mu National Honor Society and was a member of the Golden Key International Honour Society and the White and Gold Honor Society. D'An was a Presidential Scholar, Florida Academic Scholar, and Florida Merit Scholar. She made the Dean's List for eight semesters and graduated *summa cum laude*, with a number one ranking in her field.

An avid writer, D'An published her first poem in a national anthology during her sophomore year in high school. She continued to write and publish poetry, plays, and short stories in high school and college, and at her university commencement, she earned the A. A. Lesesne-Howard award for literature, as well as the Honors Thesis-in-the-Major award for her work on seventeenth-century English poets.

While a full-time student at FAMU, D'An held various positions in Florida state government. She worked at the Department of Labor and Employment Securities, the Agency for Workforce Innovation, and the Department of Health. After graduation, she earned a position at the Department of Children and Family Services as a senior management analyst in the Office of Internal Audit. Two years later, she accepted a position with

the Florida Legislature in the House Democratic Office as a legislative analyst focusing on education and health care issues.

A lover of the arts, D'An has an insatiable appetite for exquisite prose, elegant verse, and exceptional storylines. Her favorite authors are Joyce Meyer, F. Scott Fitzgerald, Alice Walker, Edgar Allan Poe, and Samuel Taylor Coleridge. She often credits Fitzgerald's *The Great Gatsby* as significantly changing her literary life and inspiring the creation of intricate artistry, balance, and beauty in her personal poetry and prose. Moreover, Coleridge's *The Rime of the Ancient Mariner* dramatically altered her conception of how supernatural, macabre plot sequences can provide character complexity and a rich dimension of mystery, fantasy, and intrigue to literature. In this vein, D'An views her poetry and prose as an artist would a blank canvas, and paints her words with fluid blends and deliberate strokes. Her love of classical art quietly underlies in her writing and imbues her compositions with refulgent color. Though D'An wrote her first book at the age of five, she is confident that her master's thesis, her most formal "book" to-date, will not be her last.

In addition to the literary arts, D'An enjoys the performing arts and regularly attends local theater, Broadway productions, and the Metropolitan Opera. She also enjoys the ballet and the eclectic performances of national dance companies.

After graduation, D'An plans to work in the private sector. She accepted a position at Fried, Frank, Harris, Shriver, and Jacobson, LLP, law firm in the financial district of Manhattan, New York, and will work in its marketing and communications department as its business development coordinator designing business plans and pitch books on behalf of the firm.

This master's thesis is dedicated to God, my mom, Jacqui, my brother, Lance,
my extended family, dear friends, and special committee members,
Jim, Connie, and Melissa—
with scholarship, love, and lasting gratitude

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Collecting data from diverse populations across the country was a challenging proposition. The social networking sites Facebook.com and Myspace.com provided the necessary media that connected me with former classmates and friends—who subsequently became study participants—in almost every pocket of the nation. The ability to connect with former classmates and friends in this computer-mediated space not only propelled my thesis development but also reunited me with long-lost "adopted" siblings who were honorary family members at various stages of my life.

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PREFACE

In determining why an individual chooses to invest or not invest portions of his or her income in the stock market, it is worth understanding an individual's knowledge of capital markets and his or her attitudes and beliefs regarding stock-market investing. It is also important to understand how individuals seek financial information and news before they make their investment decisions. Such an examination could shed light on how likely an individual is to invest in the stock market and might uncover the underlying cognitions that influence an individual's investment behavior. The purpose of this investigation is to explore the role of self-efficacy in stock-market participation and financial information-seeking.

Albert Bandura's (1977, 1986) self-efficacy construct will serve as the theoretical construct guiding this research. Self-efficacy is an important dimension of Bandura's (1963) social cognitive theory, which suggests that an individual gains knowledge by observing other individuals during social interactions, experiences, and external media influences. Social cognitive theory describes learning in the context of interrelationships among behavior, environmental factors, and personal factors, and offers one explanation on the role of an individual's active relationship with his or her environment. Self-efficacy suggests that individuals are likely to participate in activities in which they deem themselves competent and confident and less likely to participate in activities in which they deem themselves incompetent and insecure.

This line of research is particularly relevant in the communication and financial-services fields because it can shed light on how self-efficacy relates to stock-market participation intention, actual stock-market participation, and

financial information-seeking, which has academic and professional implications that can advance knowledge in these areas. From a professional standpoint, if self-efficacy can be induced in prospective investors in a mutually beneficial and non-predatory manner, these expectations could influence investors' willingness to invest their moneys in the stock market through a financial advisor or stock broker at a financial-services firm.

This research is particularly salient for lending institutions and financial news organizations because of the implications that better communication of high self-efficacy expectations might have on prospective investors and financial news audiences. The communication implications have advantages that could increase clientele, readership, revenue maximization, and profitability. In addition, this research is relevant in the communication of financial planning and long-term financial security from financial advisors to prospective investors since, according to the Employee Benefit Research Institute (EBRI) (2007), a majority of Americans are financially unprepared for retirement, and retirement planning is a mysterious concept and somewhat of a financial "unknown" for many consumers.

In 2007, the EBRI conducted a study to assess retirement confidence in Americans. The study found that fewer Americans are taking the necessary steps for financial security during the time of retirement. While Americans have many sources of financial information and news about long-term investing, many may also lack sound knowledge regarding financial planning. Americans' decisions and actions to plan for retirement are limited.

The study found that 40 percent of those sampled had not given serious thought to the duration of their retirement, and that 57 percent of Americans

had not calculated the amount of money they would need in order to live comfortably during retirement. Nearly 37 percent of retirees left the workforce before they originally planned to, and while 66 percent of workers thought that they would return to the workforce after retirement, only 37 percent actually did so (Russell Investments, 2007).

In assessing retirement confidence, the study reveals that most Americans are confident about their long-term financial futures and their financial stability during retirement. Seventy percent of workers are "somewhat" to "very confident" that they will have enough money after they retire, regardless of the lack of an in-place plan to prepare for retirement. A prevailing sense of optimism in consumers leads them to believe that their financial futures are secure, regardless of what occurs in the stock market and with public- and private-sector employers (Russell Investments, 2007).

This research suggests that while Americans are confident about their financial welfare once they retire, there is also a pervasive lack of knowledge about long-term savings plans and investment options to ensure financial security during their retirement years. Though American consumers are confident about their financial futures, testing the self-efficacy construct to induce more well-planned investment behavior in individuals could potentially lead to a better understanding of how consumers can take an active role in shaping their circumstances and achieve various investment goals to produce intended outcomes, namely, financial well-being and long-term security.

Stock-market investing, psychology, and volatility

The mystery of the stock market both intrigues and confounds institutional and individual investors who participate in the buying and selling of securities in the capital markets of the world. Wall Street's appeal has prompted many investors to engage actively in stock-market trading when the market is strong and forecasts for continued market strength and stability are positive in outlook and duration. On the other hand, Wall Street's appeal can also compel institutional and individual investors to participate in the stock market during declining periods, causing investors to retain securities well past their financial viability or to sell-off hastily securities that should be retained until the market rebounds.

The psychology of investor behavior is worth examining because it partially dictates the climate of the capital marketplace and the tenor of the national and global economies. According to Browning (2007), the July 12, 2007, stock-market surge is an excellent example of market volatility and shows how quickly the market can rally based on the volatile emotions of traders and portfolio managers.

A prime example of market uncertainty and volatility was seen in the summer 2007 crisis in the mortgage market. With sharp increases in homeowner foreclosures (primarily in the sub-prime mortgage market), the capital marketplace has reflected both investor wariness in the credit landscape and investor emotion regarding the short-term and long-term financial viability of retail banks and other financial entities who lent to sub-prime candidates. This pessimistic investor sentiment, based primarily on fear and doubt, coupled with sub-prime mortgage holders' inability to repay home

loans and pay ever-increasing variable interest rates, led to the sub-prime mortgage meltdown that became a global crisis, which has not, as of this writing, abated.

According to Browning (2007), adjustable-rate mortgages offered from lenders to sub-prime homeowners left homeowners with ballooning interest rates that they were unable to repay, which posed financial and operational hardships to the lending institutions that were unable to collect on the mortgages, not discounting the millions of homeowners who faced foreclosure. This crisis has affected the entire national economy, indeed, and may be the triggering force in what appears to be an emergent recession.

As 2007 entered its last quarter, the entire year was marked with turbulence in the capital marketplace. Browning (2007) suggests that a decline in consumer and investor confidence, fewer orders for capital goods, housing woes and sub-prime mortgage offerings, and a general uncertainty regarding federal interest-rate plans have caused steep drops in the Dow Jones Industrial Average (DJIA), with some drops as steep as 416 points in a single day (February 27, 2007). However, the prevailing belief that the market would rebound led to securities stabilization and various market rallies, primarily based on optimism and hope. On the other hand, continuing uncertainty about the availability of credit and increases in prices across most commodities has also led to serious market volatility on the downside.

Pessimism and doubt also underpin the capital marketplace. Analysts and investors constantly seek to understand market trends and supply relatively accurate market forecasts. When the economy is weak, securities perform poorly, the market sours or is expected to sour, and pessimistic investors typically scale back their stock purchases and build cash reserves or

invest in precious metals, bonds, or money-market accounts (Browning, 2007). However, the investment practice of scaling back a portfolio during turbulent times is not always a wise financial option since some analysts recommend purchasing securities when the market declines to appreciate more significant gains when the market rebounds.

Self-efficacy and stock-investment behavior

The investigation of the self-efficacy (1977) construct and its relation to the stock-market investment practices of investors is particularly relevant for the current year because investor cognitions and behaviors might have notably dictated the pace of the world capital marketplace and its sharp upswings and steep downturns during the last 12 months. Consumers and investors who are concerned with the mortgage market, rising oil prices, and a reduction in credit extensions continue to experience market volatility and securities-pricing crescendos and decrescendos, which make it difficult to determine the overall rhythm of the market.

In 2007, Wall Street continued to drive the DJIA into record highs, and in March 2007 pushed the Standard & Poor's 500-stock index (S&P 500) into record territory for the first time in over seven years (Browning, 2007). But the market has since declined considerably from those highs. An examination of investor self-efficacy could provide greater insight into investor psychology and behavior when this construct is used as a tool to measure the likelihood of an individual's willingness to invest in the stock market.

LITERATURE REVIEW

The self-efficacy construct

Albert Bandura's "self-efficacy" construct (1977) is a component of his theory of "social cognition" (Bandura & Walters, 1963). Social cognitive theory (SCT) suggests that a researcher can understand and predict individual and group behaviors and can also identify methods in which behaviors can be slightly modified or changed completely. SCT is grounded in the following assumptions:

-Response consequences (rewards or punishments) influence the likelihood that an individual or group will perform a certain behavior repeatedly in a certain situation.

-An individual or group can learn by observing others (vicarious experience) as well as learn from personally participating (performance accomplishment) in an action.

-An individual or group has a tendency to model a behavior that is observed from others, especially people with whom they identify.

Bandura's self-efficacy theory (1977) proposes a theoretical connection between cognitive processes and behavioral change. The term itself refers to an individual's perception of his or her capabilities to engage in behavior that can influence his or her circumstances and produce a desired effect or outcome (Bandura, 1994).

Underlying questions related to Bandura's self-efficacy construct are:

1. Does perceived self-efficacy (high or low) influence attitudes and behaviors?
2. To what extent do psychological feelings of self-efficacy affect human behavior?
3. How can individuals exercise a degree of control over their circumstances? ("Control" in this context refers to an individual's perceived feelings of self-efficacy in successfully completing a task or overcoming an impediment or fear.)

Having control, or having perceived feelings of control, is significant for an individual and has interesting social and psychological implications. For example, control over a positive or negative situation demonstrates for the individual that (s)he has mental, intellectual, or physical control or power over certain circumstances (e.g., running a 10-kilometer marathon) or barriers (e.g., training for the marathon) and demonstrates for the individual in front of his or her peers that (s)he has the mental, intellectual, and physical capabilities to master a task (e.g., running a 10-kilometer marathon) or overcome an impediment [e.g., making time to train for the marathon if (s)he is a busy person] or fear (e.g., failing to complete the marathon).

Rooted in the underlying assumption that cognitive processes craft and strengthen self-efficacy expectations is the belief that these expectations affect the likelihood of an individual's capacity to use coping behavior(s) in various, and often threatening, circumstances (Bandura, 1977). Because an individual might severely fear or be somewhat reluctant to participate in activities (s)he

perceives as threatening or beyond his or her scope of coping behavior(s), while conversely participating in those activities (s)he perceives as achievable and within the scope of her coping behavior(s), an individual's perception of self-efficacy shapes the activities (s)he chooses to involve himself or herself in and, through expectations of success or failure, determines the coping behavior(s) used. According to Bandura, the greater the perception of self-efficacy, the more likely an individual is to use a coping behavior to produce an intended outcome.

Self-efficacy expectations are thought to be derived from four information sources: performance accomplishment, vicarious experience, verbal persuasion, and emotional arousal (Bandura, 1977). These information sources can also serve as the therapeutic methods for strengthening feelings of self-efficacy during self-efficacy "treatment."

Performance accomplishment

This information source suggests that personal victories in difficult situations strengthen self-efficacy expectations and failures during difficult circumstances weaken self-efficacy expectations, especially if such failures occur during the early stages of the performance or action attempt. This information source also suggests that repeated victories during difficult situations through sustained efforts strengthen self-efficacy expectations. Methods of inducing self-efficacy in the participant under this information source include participant modeling, performance desensitization, performance exposure, and self-instructed performance, which lead to performance remedies that are suggested to help individuals overcome their

avoidance behavior during difficult situations (Bandura, 1977). Self-efficacy expectations derived from performance accomplishment have a stronger effect on permanent behavioral change than do the additional three information sources listed below.

Vicarious experience

This information source suggests that individuals do not solely rely on performance accomplishment for feelings of self-efficacy and instead might use observational learning to improve their feelings of self-efficacy. Self-efficacy through vicarious experience is said to occur when an individual observes other individuals completing threatening activities without subsequent consequences or failures, observations that encourage the observer to persevere in his or her efforts to conquer his or her impediments.

Methods of inducing self-efficacy in the participant under this information source are "live" modeling and "symbolic" modeling (Bandura, 1977). Live modeling is the practice in which a person demonstrates a certain behavior to the participant; e.g., a participant who has arachnophobia might watch another person successfully handle a spider without being physically harmed. Symbolic modeling is the practice in which a person observes a particular behavior (see arachnophobia example) not in person but through various media, such as a television or digital video displays (Bandura, 1977, 1986).

Verbal persuasion

Perhaps the most natural and accessible method for manipulating human behavior is verbal persuasion. This information source suggests that verbal persuasion is used to convince, or verbally coach, individuals that they can overcome threatening situations with sustained effort (Bandura, 1977). Methods of inducing self-efficacy in the participant under this information source include suggestion, exhortation, self-instruction, and interpretive treatments (Bandura, 1977).

Emotional arousal

Individuals' physiological dynamics during threatening situations are indicative of fear, anxiety, and a susceptibility to stress. Moreover, when an individual appears viscerally agitated during threatening situations to his or her peers, this can debilitate his or her feelings of competence and confidence, thereby triggering fear or anxiety over his or her feelings of perceived incompetence and insecurity. Because anxiety can rise during stressful situations and evoke emotional arousal, this can potentially weaken self-confidence and strengthen feelings of personal inadequacy. Therefore, it is necessary to diminish emotional arousal (e.g., fear, anxiety, and stress), which can discourage avoidance behavior in the participant, and strengthen feelings of self-efficacy.

Methods of inducing self-efficacy in the participant under this information source are attribution, symbolic desensitization coupled with relaxation exercises, and symbolic exposure (Bandura, 1977).

In the "attributional" approach to avoidance behavior, attribution of emotional arousal is a method of altering avoidance behavior by modifying for the participant the cognitive labeling of emotional arousal (Valins & Nisbett, 1971). For example, if participants who experience emotional arousal from a certain phobia are counseled to believe that that the phobia no longer elicits a (emotionally upsetting or emotionally disruptive) physiological reaction in them, this cognitive re-labeling alone can strengthen feelings of self-efficacy and weaken avoidance behavior (Bandura, 1977).

Misattribution of emotional arousal is a derivative of the attributional approach to avoidance behavior and is a method of counseling participants to believe that their emotional arousal is caused by a non-emotional source. While it is possible to weaken mild emotional arousal with misattribution therapy, this technique is ineffective in weakening more severe emotional arousal, especially in those participants who are not easily led to misattributing their phobias to non-emotional or inconsequential sources (Bandura, 1977). When studied empirically, misattribution therapy does not yield significant results in chronic anxiety conditions (Singerman, Borkovec, & Baron, 1976), and some of the emotional-arousal reductions seen in other conditions cannot be replicated (Bootzin, Herman, & Nicassio, 1976; Kellogg & Baron, 1975).

Symbolic desensitization is a method to weaken autonomic responses to imagined threats rather than actual threats (Bandura, 1977). In symbolic desensitization therapy, participants receive graduating levels of imaginary exposure to aversive or threatening stimuli, along with muscle relaxation therapy while the stimuli are presented. For example, if a participant suffers from arachnophobia, he or she might be asked to visualize himself or herself

approaching a spider, touching a spider, and finally handling a spider. Symbolic desensitization is not as effective in strengthening feelings of self-efficacy as is performance desensitization, a method in which participants receive graduating levels of *actual* exposure to aversive or threatening stimuli (Bandura, 1977).

In symbolic exposure, participants are asked to imagine aversive or threatening stimuli in high doses for prolonged durations (Bandura, 1977). The high doses and prolonged imaginary exposure to aversive or threatening stimuli elicit in the participant high levels of fear or anxiety, which is the goal of this type of therapy. Once high levels of fear or anxiety are induced in the patient, these fear or anxiety levels are prolonged until the emotional arousal is extinguished. According to Rabavilas, Boulougouris, and Stefanis (1976), prolonged exposure to aversive or threatening stimuli that result in fear reduction or behavioral change is more effective than brief encounters that will likely end before fear reduction or avoidance behavior is induced.

Generalized feelings of self-efficacy

Generalized feelings of self-efficacy have interesting implications for domain- or task-specific self-efficacy (Pajares & Schunk, 2001), and could better explain and predict how overall feelings of high or low self-efficacy affect cognitions, emotions, and behaviors. General self-efficacy (GSE) refers to the manner in which individuals judge how strong or weak their self-efficacy expectations are across various (cognitive, emotional, behavioral, and situational) domains, the coping skills they will use when faced with a challenge or adversity, and the duration of the coping skills they will use to

produce an intended outcome. Individual judgments of self-efficacy expectations, or perceived self-efficacy expectations (Bandura, 1986), facilitate goal-setting, effort investment, persistence when confronted with barriers, and recovery from setbacks (Jerusalem & Schwarzer, 1979).

The GSE scale (Jerusalem & Schwarzer, 1979) was designed to measure general feelings of perceived self-efficacy in an effort to predict an individual's coping behaviors with daily hassles and stressful life events. According to Schwarzer (1992), perceived self-efficacy reflects an optimistic expectation that an individual can participate in challenging or adverse activities and cope with obstacles across various domains of human functioning. The GSE consists of 10 items to measure the perceived self-efficacy construct. Each item relates to successful coping skills, with the researchers' belief in an internal, stable attribution of overall success.

Jerusalem and Schwarzer (1979) suggest that perceived self-efficacy is an operative construct because of its relationship with cognitive and emotional processes on behavioral change and is, therefore, applicable to and relevant for clinical or laboratory practice to induce behavior change over a period of time to produce an intended outcome.

Table 1 shows the 10-item questionnaire used to measure GSE (Schwarzer & Jerusalem, 1993), which requires responses on a Likert-type scale ranging from 1 ("Not at all true") to 4 ("Exactly true").

Table 1

General Self-Efficacy Scale

Question
1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to get what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

1 = Not at all true **2** = Hardly true **3** = Moderately true **4** = Exactly true

Studies that test the self-efficacy construct

A test of Bandura's self-efficacy construct (1977) was conducted when the National Institute of Mental Health (NIMH) developed a multi-site condom use self-efficacy scale to assess individuals' levels of confidence in condom usage. This scale is used in the study "Applying the NIMH Multi-site Condom Use Self-efficacy Scale to College Students" (Peterson & Gabany, 2001), which was administered to racially-diverse students (18 years of age or older) who visited the student health clinic (for any reason) at Indiana State University.

Research indicates that one of the reasons for inconsistent condom use is a lack of self-efficacy in the intended user (Bradford & Beck, 1991). Because self-efficacy can be tailored to specific circumstances, it was suggested that the instrument of condom-use self-efficacy, if measured reliably and validly, could predict students' intentions to use condoms (Mahoney, Thombs, & Ford, 1995). The test instrument consists of 26 items, each rated on a five-point scale, from "Not at all sure" (1) to "Completely sure I can do" (5) (DeLorio, Maibach, O'Leary, Sanderson, & Celentano, 1997). Examples of test questions from the Peterson and Gabany (2001) study are:

1. "I can use a condom without fumbling."
2. "I can get every partner who I've ever had sex with before to use a condom even if they don't want to."
3. "I can get a new partner to use a condom even if I'm drunk or high."
4. "I can say no to sex with a new partner if we don't have a condom even if I want to have a relationship."
5. "I can avoid situations that can lead to unsafe sex when I don't have a condom."

A previous study (DeLorio et al., 1997) that tested the condom-use self-efficacy scale in a sample of geographically diverse, sexually transmitted diseases clinic patients was found to have satisfactory reliability and construct validity. The Peterson and Gabany (2001) study yielded six factors that signify condom use self-efficacy: [1.] Multifaceted risk avoidance, [2.] Condom placement, [3.] Persuasion, [4.] Eroticizing condoms, [5.] Persuasion under the

influence (i.e., persuading a sexual partner to use a condom if one or both partners is intoxicated), and [6.] Condom availability. Students who reported using condoms consistently during the last 30 days of the experiment period scored statistically significantly higher on the self-efficacy scale, supporting Bandura's self-efficacy postulation (1977). This suggests that the self-efficacy scale can be used as a predictor (or at least an important correlate) of consistent condom use among the college population (Peterson & Gabany, 2001). (It should be noted that only two items from the study instrument loaded on the fifth and sixth factors, and that conducting more research to measure these two areas more sufficiently would be beneficial to better understand additional components of self-efficacy.)

This study does not come without its limitations, however. One criticism is the use of a condom-user convenience sample at the student health clinic during the survey period. Another is the use of self-report measures concerning regular condom usage. Nevertheless, the results of the research indicate that the scale is both reliable and valid and can be useful in evaluating the condom-use self-efficacy levels among college students, and that the results can be used cautiously as an indicator of future condom use (Peterson & Gabany, 2001).

Empirical studies of Bandura's (1977) self-efficacy construct have generally supported his hypotheses, specifically that an individual's assessments of his or her abilities are predictors of whether or not (s)he will engage in a certain behavior to produce an intended outcome. The study conducted at Indiana State University that incorporates self-efficacy measurements supports Bandura's (1977) postulation, as does interdisciplinary research on self-efficacy in the various fields of educational

development, clinical dysfunction, behavioral medicine, and organizational functioning that attest to the explanatory and predictive powers of the self-efficacy construct (Bandura, 1995).

Another example of research that applies the self-efficacy construct is Strauser's (1995) work on rehabilitation counseling practices. In it, Strauser notes that a Mitchell, Brodwin, and Benoit (1990) study hypothesizes that individuals who suffer professional injuries might enter rehabilitation therapy with diminished feelings of self-efficacy because these individuals are temporarily or no longer able to earn income for themselves or for their families, have lost their jobs, and have lost friendships associated with employment. Strengthening an individual's self-efficacy through rehabilitation counseling can help individuals effectively manage these issues and increase the likelihood that they will return to work once rehabilitation counseling ends and self-efficacy is strengthened (Mitchell, Brodwin, & Benoit, 1990).

Improved feelings of self-efficacy among injured individuals can lead to better rehabilitation outcomes, physically and professionally. Shoor and Holman (1984) report that an individual's perceived self-efficacy in pain management rehabilitation therapy plays a significant role in managing pain associated with arthritis. Altmaier et al. (1993) report that lower-back pain patients who received counseling to increase feelings of self-efficacy had fewer incidents of (self-reported) back pain at a six-month follow-up appointment. The same study also found that increases or decreases in an individual's feelings of self-efficacy during rehabilitation therapy were predictive of an individual's level of pain management on both functional measures (e.g., range of motion exercises) and self-report pain measures. Therefore, these

findings further support the argument that strengthening feelings of self-efficacy in individuals during rehabilitation therapy can play a major role in maintaining gains in functioning, specifically pain management (Altmaier, et al., 1993).

The professional benefits of strengthening feelings of self-efficacy during rehabilitation therapy can alter the psychological outlook for the individual receiving treatment. The primary goal of rehabilitation therapy is to help the individual return to the workforce. In many cases, individuals who have disabilities or have suffered job-related injuries do not reenter the workforce (Strauser, 1995). Louis Harris and Associates (1986) indicate that individuals with disabilities have significantly higher rates of unemployment and underemployment, which adversely affect economic and social status and self-image (Szymanski & Hershenson, 1992). Research indicates that job loss exposes out-of-work individuals to greater risks of poor mental health (e.g., depression, anxiety, and minor psychiatric morbidity) and diminished feelings of self-esteem and life satisfaction (Caplan, Vinokur, Price, & van Ryn, 1989).

Unemployment can lead to weaker feelings of work identity, reducing the probability that a disabled or injured individual will return to work (Gallagher et al., 1989). An individual's perceived difficulties in applying for and earning new employment after rehabilitation therapy are also key factors in the decision-making process regarding career decisions. Individuals who perceive establishing a new career as relatively easy have been found to be three times more likely to return to work than individuals who perceive establishing a new career as difficult (Gallagher et al., 1989). Because individuals with disabilities and job-related injuries can encounter reemployment difficulties, it is necessary to strengthen feelings of self-efficacy

during the early stages of rehabilitation therapy, throughout the rehabilitation counseling centered on new career decision-making processes, and during the transitional period when the individual completes rehabilitation therapy and rejoins the workforce.

The uses and effects of the self-efficacy construct

The utility of the self-efficacy construct is, perhaps, most salient for individuals of varying socioeconomic positions and circumstance. When framing this concept and speculating on its effects, Bandura's (1977) self-efficacy construct pinpoints an intrinsic human quality that has, perhaps, gone unnoticed in the human psyche when individuals assess their competence or incompetence in specific situations. The element gone unnoticed is suggested to be the power and influence of self-efficacy beliefs, beliefs that can be either positive or negative. In examining the self-efficacy construct, its usefulness becomes quite evident and overarching. Cognitions that lead to avoidance behavior (of threatening stimuli) can be, according to the self-efficacy construct, rapidly to gradually diminished through therapy designed to strengthen feelings of self-efficacy in the participant.

A key component of the self-efficacy construct is that cognitive processes can facilitate change. Returning to the study regarding rehabilitation therapy, in disability and post-injury rehabilitation counseling, an individual, for example, might be reluctant to return to the workforce or seek new employment in a new industry. To strengthen feelings of self-efficacy in these individuals, a rehabilitation counselor might have the individual talk to or observe an individual who is disabled or suffers from a

job-related injury successfully rejoin the workforce or gain employment in a new field. If live models are not available for participant observation, the rehabilitation counselor could have the individual observe various media that reinforce feelings of self-efficacy symbolically (Betz, 1992).

Self-efficacy research supports the idea that cognitive processes are more effectively modified by performance accomplishment (Bandura, 1977). A rehabilitation counselor can increase feelings of self-efficacy in the individual in therapy by helping the individual gain mastery of work and job-seeking skills (Strauser, 1995). According to Rak and O'Dell (1994), career-search skills are critical to the success of disabled or injured individuals seeking employment. Reviewing career Web sites or employment advertisements, submitting applications, honing interview skills, and developing the skills necessary for employment (in a new field) should be emphasized to prepare adequately disabled or injured individuals for entry or reentry into the workforce.

Workshops and training seminars can offer practical experiences for the individual to gain a sense of personal mastery of these specific skill sets. An individual who attends a vocational workshop or successfully completes a training seminar centered on job-related skills or job-seeking skills will have higher feelings of self-efficacy. Eden and Aviram (1993) found that strengthening an individual's job-search self-efficacy increased job-search activities and the subsequent offers of employment disabled or injured individuals received.

Validity and generalizability of the self-efficacy construct

Construct validity of self-efficacy exists when the construct, its measurement, and its correlation to theoretically related constructs are persuasive enough for researchers to suggest that the construct can explain and predict behavior (Cherryholmes, 1988). Kvale (1995) provides additional ways to assess validity that offer pictures of reality and, from epistemological standpoints, constructions of knowledge. Communicative validity refers to the testing of the validity of knowledge or truth claims during discourse—most likely scholarly and research-driven discourse (Kvale, 1995). This form of validity is based on the social construction of reality that occurs from continued claims, counterclaims, and heuristics. Kvale acknowledges that examining the nature of the discourse is necessary in the social construction of reality (1995) because the character of the arguments and refutations are, in essence, validating the theoretical constructs and concepts up for debate.

The communicative validity of the self-efficacy construct can be evidenced in the professional, academic, psychological, and epistemological fields. Motivation techniques, self-help, intellectual strength, mental stamina, and philosophical (existential) principles all hinge on the underlying tenets of personal efficacy beliefs to some degree. Scholars and researchers who consciously or inadvertently engage in dialogue on self-efficacy principles are, according to Kvale, validating it as a communicative construct.

The character of this discourse is empirically structured and socially substantiated. For example, when discussing self-efficacy academically and logically, if scholars from various fields presented data and real-world phenomena that corroborated Bandura's construct, the communicative validity of self-efficacy would dramatically increase, according to Kvale's

(1995) assertion. This could lead to the emergence of what Kuhn (1962) calls a "scientific paradigm." The pre-and post-paradigm period in the scientific community is particularly relevant to the field of social cognition and self-efficacy research in that from a pre-paradigm perspective, self-efficacy elements (the self-efficacy construct, its information sources, and various modes of induction) exist as elements of Bandura's broader effort to understand the underlying variables and principles of social cognition and human behavior.

Self-efficacy elements, their interrelations with social cognition and human behavior, and their validity as individual constructs could help advance scientific knowledge by analyzing, explaining, and predicting phenomena associated with social cognition and self-efficacy beliefs in individuals or groups. Once a social cognitive and self-efficacy paradigm is constructed, the post-paradigm climate could prove useful theoretically and practically. Self-efficacy could be utilized by scholars and researchers to tackle the broader cognitive, emotional, psychological, and environmental issues from a social-cognitive perspective and continually examine and redefine the scientific paradigm of social cognition and its self-efficacy implications.

The pragmatic validity (Kvale, 1995) of the self-efficacy construct is what the majority of researchers and professionals are perhaps most concerned with. For Kvale, "truth is whatever assists us to take actions that produce desired results" (1995). The truth claim of the self-efficacy construct is what has been tested by researchers in their investigations of the psychological construct of self-efficacy and self-control.

The concepts of action, application, and real-world effect can be extrapolated from a construct's pragmatic validity. Kvale suggests that

"knowledge is action rather than observation" (1995) when validating the pragmatism of a construct. For the researcher or professional who is especially results-oriented and demands of scholarly discourse or theoretical approaches a practical application, Kvale's pragmatic validity is particularly relevant. For these types of researchers or professionals, theory with no relevant methods for practical application would prove fruitless. Therefore, from a pragmatic validity standpoint, the NIMH study is at least one example of the fact that the theoretical construct of self-efficacy is a concrete phenomenon that drives human attitudes and behavior.

According to Shapiro (2002), "generalizability depends on an understanding of the social meanings people attach to messages and an understanding of the causal relationships between and among variables." Because the self-efficacy construct derives from SCT, when considering self-efficacy in a social context, specifically how peers assign interpretations to the concept of perceived self-efficacy in others, generalizability could socially extend to situations in which peers observe a phenomenon; e.g., an individual who has a paralyzing fear of public speaking observes a friend conquer that same fear, due to the friend's self-efficacy beliefs, sustained efforts, and behavior change.

In understanding the causal relationships between the variables of self-efficacy (independent variable) and mastery (dependent variable), for example, it can be argued that an individual's mastery of public speaking is at least partially contingent upon that individual's beliefs that he or she can overcome the individual's fear of public speaking. This fear mastery could

translate to other (threatening) scenarios and the techniques for overcoming a fear, for example, could generalize to diverse circumstances.

The possibility of the diffusion of self-efficacy across diverse circumstances brings to the surface the driving undercurrent of overall "optimism." The tacit expectations that an individual can control or influence his or her attitudes and behaviors to achieve intended outcomes have positive implications for personal success. However, if individuals do not realize the implicit promise of the self-efficacy construct, the question then becomes, is all lost? ("All" in this context represents the degree of control an individual experiences when adopting the beliefs that (s)he can control or shape his or her reality.) If an individual fails to execute mental, intellectual, or physical self-efficacy in (threatening) situations then that individual will most likely remember this mental, intellectual, or physical deficit and create for himself or herself a memory-based *deficiency deposit box* in which past and present inadequacies are stored and accessible for retrieval at the onset of additional mental, intellectual, or physical challenges and assaults.

The information source of performance accomplishment is perhaps the best indicator of the notion of the self-efficacy deficit when measured against the additional three information sources of vicarious experience, verbal persuasion, and emotional arousal. In performance accomplishment, the participant or individual is required to perform a (threatening) behavior to produce an intended outcome. From this performance, the individual should likely experience feelings of self-efficacy as a direct result of the completion of the (threatening) task.

These feelings of self-efficacy should generalize to similar—or even dissimilar—circumstances because the individual's psychological or physical impediment has been experientially removed, thereby demonstrating for that individual that a threatening situation can be overcome with the adoption of perceived self-efficacy beliefs. When generalizability does not occur, research suggests that the individual most likely failed to adopt feelings of self-efficacy in past situations, which caused subsequent feelings of self-inadequacy in (threatening) situations. If feelings of perceived self-inadequacy persist in the individual but the individual desires to strengthen self-efficacy beliefs then it is necessary for the individual to seek treatment by reenrolling in therapy specifically targeted at reducing avoidance behavior (to aversive or threatening stimuli) and strengthening feelings of self-efficacy.

Generalizability of self-efficacy occurs most predictably in circumstances that are most similar to those treated in self-efficacy therapy (Bandura, Blanchard, & Ritter, 1969). However, what makes the self-efficacy construct so intriguing is that generalizability can also occur in dissimilar circumstances than those specifically treated during self-efficacy therapy. The generalizability of acquired coping behaviors during threatening situations can facilitate anxiety or fear reduction or performance mastery across various spectra. The domains for the self-efficacy construct are potentially limitless and its generalizability can encourage self-efficacy beliefs in numerous cognitions and behaviors.

The heuristic provocativeness of the self-efficacy construct is far-reaching. Personal, academic, and professional motivations have undeniable roots in the concept of self-efficacy over oneself and one's environment, where controllable. In participant modeling, self-monitoring, self-control,

performance preparation, and performance accomplishment, SCT and the self-efficacy construct compel discourse and research that continually investigate the psychological and social implications of Bandura's social-cognitive theory.

A study conducted by Terry and O'Leary (1995) found that self-efficacy predicted behavioral intention but not actual behavior (change), whereas perceived (self-) control predicted behavior (change) but not intentions. Based on this finding, it may be that perceived control is a better predictor of actual performance behavior. Therefore, future research in the general and domain-specific self-efficacy fields could focus on the cognitive and emotional processes underlying an individual's conceptualization of general and domain-specific personal control, expectations for control over a certain period of time, and the likelihood that intentional beliefs will become actions to produce desired outcomes.

The contemporary financial landscape

Investing in one's financial future can be both an exciting proposition and a self-empowering practice. In a consumer-driven society with a voracious appetite for material possessions and conspicuous displays of wealth or affluence, an individual may feel compelled to reach this "gold standard" of privilege through unbridled spending patterns and sometimes faulty investments in depreciating material goods, thereby relinquishing his or her financial security to here-and-now must-haves in a consumer's culture.

Never before have consumers been so bombarded with credit offerings, credit extensions on delinquent accounts, and predatory lending practices. These credit offerings have almost led to a culture of credit addiction in their

purchasers, a culture in which consumers are more inclined to obtain lines of credit rather than saving the necessary moneys needed to purchase their needs and wants. In this credit-driven culture, retail bankers are primarily interested in selling credit products to consumers; e.g., mortgages, home equity lines of credit, home improvement loans, auto loans, vacation loans, and credit cards (low-interest and high-interest rates depending on an individual's credit score).

Retail bankers sometimes aggressively target sub-prime individuals without regard to their financial position and financial well-being or their ability to repay the debt. This practice is referred to as "predatory lending," a practice in which a lender initiates a loan to a borrower and often provides misinformation and manipulates the borrower through aggressive sales tactics, and/or takes advantage of the borrower's lack of information about the loan terms and their consequences. The results of these transactions are loans with terms and conditions that the borrower often cannot repay, leading the borrower to foreclosure or bankruptcy (The United States Department of Housing and Urban Development, 2007).

The summer of 2007's sub-prime mortgage meltdown has left banks and other financial-lending institutions with massive debts as a result of Wall Street's investment practices regarding risky mortgages. Wall Street consolidates sub-prime mortgages and sells them to investors who borrow heavily to purchase them. The crisis erupted when investors who borrowed the capital needed to purchase the sub-prime mortgages could not repay the mounting debts. This financial crisis on Wall Street had far-reaching implications that affected the national economy and international economies, as well as consumers in the United States. As a result of the sub-prime

mortgage meltdown, qualified borrowers experienced, and continue to experience, considerable rate increases and less than qualified borrowers have been denied mortgage and mortgage-refinancing offerings. Moreover, homeowners had, and still have, difficulty repaying their mortgages and are no longer able to renegotiate their mortgages with their local banks because a private investor now holds the mortgage.

The capital marketplace, risk-tolerance, and risk-aversion

The terms "bull" and "bear" refer to the manner in which the two animals strike their opponents. During a battle, a bull thrusts his horns upward, while a bear swipes its paws downward. These battle tactics symbolize the climate of the capital marketplace and its fluctuations and are termed either "bull market" or "bear market." If the market is trending upward, it is referred to as a "bull market"; if it is trending downward, it is referred to as a "bear market." The high-end extreme of the bull market is sometimes referred to as a stock-market "bubble" (i.e., an overvaluation of securities) and on the low-end extreme is referred to as a stock-market crash (i.e., a 20% drop in an index's total value) (Encarta, 2003).

The bull market

The capital-market climate in which securities (stocks, bonds, currencies, commodities, etc.) prices rise or are expected to rise is referred to as a bull market. Optimism, institutional and investor confidence, and a belief system that securities will yield higher returns and continue on an upward

slope characterize a bull market and encourage buy-side securities growth. Because of the fluctuating nature of the capital marketplace, this upward slope cannot continue indefinitely and the knowledge of this eventual marketplace reversal shapes institutional and investor cognitions, emotions, and behaviors. These cognitions, emotions, and behaviors can dramatically alter the dynamics of securities-pricing and the capital marketplace, though these institutional and investor cognitive, emotional, and behavioral processes might be inaccurate depictions of the current financial landscape and faulty predictions of future market trends (MGForex, 2007).

According to the S&P 500, there have been ten completed bull markets since 1942, each averaging 56 months in length (Stovall, 2007). For an institutional or individual investor, it is helpful to analyze and better understand previous bull-market trends when formulating hypotheses of bull-market duration, at present or in the future. Data collected from the S&P 500 for the final quarter of the year 2007 examine what Stovall calls the "five-year" bull market as a basis for which to describe and predict the length of the current bull market, originating in 2002 (Stovall, 2007).

Stovall's analyses of the current five-year bull market suggest that during the first 12 months of every bull market since 1942, the S&P 500 posted an average increase of 38.0 percent. Interestingly, none of the industries in the S&P 500 posted an average decline during first-year bull markets from 1968-2003. Second-year bull markets yielded an average increase of 11.4 percent without recorded declines, despite first-year increases from 21% to 58%. Third-year bull markets prove the most challenging, and often disappointing, for institutional and individual investors. Stovall's analyses suggest that in the last six decades, the average increase during a third-year bull market was

only 3.9 percent. During one previous third-year bull market, the S&P 500 increased by only two percent, declined five times, of which three of those five declines brought about official bear markets (Stovall, 2007).

To better understand the climate of the "typical" fourth-year bull market, Stovall (2007) analyzed the average returns from eight four-year bull markets. Bull markets that are generally strong in their fourth year continue to their fifth year. Stovall's analyses of the eight four-year bull markets revealed that seven continued to their fifth year while only one declined, with average returns of less than three percent. Past data demonstrate that the S&P 500 typically rallies during a fourth-year bull market, with average returns of 13.2 percent. However, the fifth-year bull market is typically characterized by heavy declines and sharp climbs. Historical evidence illustrates that the S&P 500 either falls flat (as in 1946 and 1961) or rose to produce an average return of almost nine percent. At present, Stovall suggests that "the S&P 500 is on track to post an advance of nearly 15 percent, more than six percentage points above the average gain in fifth-year bull markets" (Stovall, 2007).

When evaluating Stovall's assessment of the "five-year bull market" and the historical context in which to understand, analyze, and predict future bull-market behaviors, his research can provide relevant information for institutional and individual investors and shape their cognitions, emotions, and behaviors regarding financial investing. The bull market is a vibrant period in the capital marketplace and bolsters investor confidence and purchasing behavior. Investor opinions during a bull market are generally a mixture of optimism and realism, positive and practical, and encourage additional stock-market participation because of the cognitive and emotional factors that influence the investment practices of institutions and individuals.

The bear market

The capital-market climate in which securities (stocks, bonds, currencies, commodities, etc.) prices fall or are expected to fall is referred to as a bear market. Bear markets are typically characterized by a securities decline of approximately 15-20 percent or more in multiple indexes (Dow Jones Industrial Average or S&P 500) (Investopedia, 2007). The thought-climate of institutional and individual investors during a bear market is generally one of anxiety, fear, doubt, and uncertainty regarding stock-market returns on investments and typically compels investors to either purchase fewer securities or withdraw their funds entirely until the market rebounds. These investor cognitions and emotions are likely to induce investor behaviors that can dramatically alter the stock market, leading to even greater (securities) downturns and extending bear-market duration and further declines in the overall economy.

Tekchandani (2004) suggests that stock-market activity is based on the two psychological components of fear and greed; i.e., a fear of losing capital during stock-market declines and greed for earning more capital during stock-market surges. Increasing returns while decreasing risk is the optimal investment strategy for institutional and individual investors, who must consider the undulating rhythm of the stock market, inevitable periods of uncertainty, securities-pricing, and supply and demand. During a bear market, there is a weak demand for securities and subsequently a strong supply of securities. Investors typically sell off shares during this period and because the demand for securities is low, securities prices drop significantly because equity-purchasing is less attractive.

The cognitive and emotional belief system of institutional and individual investors drives investor behaviors and ultimately stock-market conditions and stock-market performance. The psychology of investing is dependent on the climate of the stock-market and vice versa. The psychological implications of stock-market investing include feelings of self-esteem, self-worth, optimism, pessimism, audacity, fear, and anxiety. During bull markets and bear markets, market conditions reflect the psychology of the investor, just as the psychology of the investor reflects the conditions of the market. It is necessary to consider the market climate when formulating hypotheses about its movement and trends and make sound, financial decisions when deciding to buy or sell securities in times of prosperity and in times of decline.

Amos Tversky and Daniel Kahneman's (1979) prospect theory has interesting psychological implications that can be applied to the investment landscape. The theoretical construct of "loss aversion" derived from prospect theory refers to the tendency for individuals, in this case investors, to avoid loss rather than acquire gains. Some studies suggest that experiencing losses are twice as psychologically powerful as enjoying gains. Preferring to minimize loss instead of maximizing gain leads to risk aversion when individuals weigh the two options (Tversky & Kahneman, 1979). For example, loss aversion suggests that an individual who loses $100 in an investment is likely to experience more satisfaction loss than another investor who experiences satisfaction from a $100-gain. Moreover, loss aversion further suggests that a transaction framed as either a loss or a gain can alter an investor's behavior.

When faced with a guaranteed opportunity for financial gain, investors

are more likely to become risk-averse, but when faced with a prospect of financial loss, investors are more likely to become risk-takers to safeguard themselves against loss. For instance, loss aversion suggests that an investor is likely to experience more feelings of satisfaction if (s)he avoids a 20 percent surcharge for a security rather than a 20 percent discount for purchasing the same security (Tversky & Kahneman, 1979). Therefore, it can be argued that an equal price change framed in dissimilar (loss-gain) manners has a significant effect on investor behavior.

According to Tversky and Kahneman (1979), investors tend to sell winning securities too early and hold onto to losing securities for too long. Loss aversion suggests that investors might hold onto losing securities and sell winning securities because of an emotional attachment to a losing security that they believe are today's losers but might (soon) be tomorrow's winners. Market research indicates that capital flows into high-performance mutual funds more rapidly than capital flows out of funds that are underperforming (International City/County Management Association Retirement Corporation, 2007).

During a bull market, investor demand for financial advice regarding the buying and selling of securities is generally high, whereas during a bear market, the demand for financial advice and stock-market participation is generally low. During a bull market, investors' decisions driven by emotional attachments can lead to risky behavior, driving capital markets to extremes in both the high- and low-end. Fear and greed are two emotions that motivate investor behaviors, especially during a bull market like that of the late 1990s, for example. Greed led some investors to purchase more securities even after securities climbed to peak levels, and fear caused investors to sell their

securities after prices dropped. Market analysts and financial advisors suggest that purchasing securities when prices rise and quickly selling securities once prices fall is irrational and inadvisable investment behavior, but that many investors act in this manner, nonetheless.

Financial investment instruments

Mutual fund

A mutual fund is a type of management-investment company that combines the money of its shareholders and invests those funds in a wide variety of stocks, bonds, and money-market instruments. Money-market instruments comprise short-term investments such as United States Treasury bills and other federal securities, commercial paper, and bank certificates of deposit. Mutual funds offer the investor professional management of funds and diversification of investments among securities offered by corporations, federal and state governments, and other entities (Encarta, 2003).

Most mutual funds are open-ended funds that have the ability to redeem outstanding shares immediately upon request. The number of mutual-fund shares is not fixed but fluctuates as new shares are sold to investors and outstanding shares are redeemed. The offering price and redemption price of an open-end fund are based on the market value of the securities in its portfolio. In addition, charges—loads—may be applied. The offering price may include a front-end load, which is offered to the broker or sales representative as commission. A back-end load may be subtracted from

the redemption price, often at a rate that progressively decreases the longer the shares are held (Encarta, 2003).

Closed-ended funds generally have a fixed number of shares outstanding and are traded on the over-the-counter market or, in some instances, on stock exchanges. Shares are bought and sold at the current market price plus a commission. Shares can sell at either a premium or discounted value of their assets (Encarta, 2003).

Mutual funds are regulated by federal and state laws. The Securities Act of 1933, the Securities Exchange Act of 1934, and the Investment Company Act of 1940 are the primary federal mandates regarding mutual-fund operations. The majority of states have laws regulating the organization of investment companies, and funds are further governed by statutes covering the sale of securities by brokers and dealers (Encarta, 2003).

Bonds

A United States bond is an interest-bearing certificate sold by corporations and governments to raise money for expansion or capital. An investor who purchases a bond lends capital to the bond issuer in exchange for interest accrual on the bond. After purchasing a bond, the investor can hold the bond and collect interest payments or sell the bond to a third party (Encarta, 2003).

For investors, stocks offer a higher potential return on investment if profits rise, but bonds offer less risk and are generally regarded as a safer investment. While stock dividends are paid out of company profits, bond-interest payments are paid out even if the company loses money. If a

corporation folds, bondholders must be paid before stockholders. Bonds do hold a certain degree of risk: because most bonds offer a fixed rate of return, a bond with a low coupon rate will be less valuable if interest rates rise to a point at which an investor's money could be more profitably invested somewhere else. If the inflation rate rises in relation to the coupon rate, the value of the investor's return will be reduced (Encarta, 2003).

A bond's value varies with default risk (credit rating) the of bond's issuers. If the issuer of the bond is unable to make timely principal and interest payments, the issuer is in default. Bonds issued by the United States government and other federal institutions are considered free of default risk. The risk of default is gauged by credit ratings: bonds in the highest categories of low default risk are known as investment-grade bonds; bonds not in the investment-grade rating are called junk bonds. Junk bonds have a higher degree of credit risk but offer a higher potential return on investment (Encarta, 2003).

401 (k).

Section 401 (k) of the Internal Revenue Code provides the framework for 401 (k) plans, which have become increasingly popular with employers and employees over the last few decades. A number of employers have replaced their defined benefit pension plans with 401 (k) plans and in 2000, nearly 42 million Americans participated in approximately 327,000 401 (k) plans, with assets totaling $1.8 trillion, increasing from 30,000 plans and 10 million participants in 1985 (Encarta, 2003).

Investment objectives

Mutual funds are classified according to their investment objectives. Funds and fund-managers are driven by a desire to grow capital or achieve the stability of capital or income. There are a variety of investment options in the mutual-fund classification system. Money-market funds, which are preferable to traditional bank accounts for investors who are growth-oriented (money-market funds yield higher returns than traditional bank accounts) and desire the security of capital in short-term investments (Encarta, 2003).

Aggressive growth funds seek higher returns than moderate growth funds by investing in promising but speculative securities, which involves greater risk for the portfolio manager and the investor. Moderate growth funds typically invest in larger, more financially secure companies with records of steadily increasing earnings. Growth funds and income funds incorporate both aggressive tactics and conservative strategies (Encarta, 2003).

For investors who wish to safeguard their capital from an uncertain financial marketplace, investments in high-quality bonds, blue-chip stocks, and federal securities can encourage feelings of investor confidence since these investment vehicles are insured by the credit of the U.S. government. Funds that utilize current income may be speculative, with high-yield, high-risk securities investments such as junk bonds; conversely, these funds may be conservative in outlook, with low-risk securities investments and dividend earnings (Encarta, 2003). In addition to aggressive- and moderate-growth funds, popular mutual funds are sector-specific and offer investors increased diversification. Sector-specific funds invest in a singular area of business in a corporation or a singular region or country of the world. Examples of sector-

specific funds are international stocks and bonds, gold and precious metals, and municipal bonds (Encarta, 2003).

Financial information-seeking

Financial news and information-seeking has interesting self-efficacy implications in that the purposive attempt to gather (better) information and financial news regarding stock-market investing could lead to increased self-efficacy expectations in individuals. The converse is also true: stronger self-efficacy expectations regarding stock-market investing could encourage individuals to seek information and financial news on stock-market performance, industry trends, and noteworthy events (e.g., hostile takeovers, mergers and acquisitions, liquidations, bankruptcy, etc.).

Stronger feelings of self-efficacy and their relationship with information-seeking has particular relevance in the field of communication because the financial media contribute to the world's capital markets and stock-market performance, and also shape the cognitive, emotional, and behavioral inducements in institutional and individual investors to either participate in or withdraw from stock-market investments.

According to Choo (1999) information-seeking resembles a problem-solving or decision-making process. An individual identifies possible information sources, differentiates and chooses a few of the sources, locates or contacts them, and interacts with the sources in order to obtain the desired information. Because information and information sources are vast, Choo suggests that individuals consider the amount of effort required to use an

information source with the anticipated usefulness of the information from that source. Interest, motivation, and task complexity are key factors when an individual considers the advantages and disadvantages of one information source over another.

At the cognitive level, Choo's (1999) research suggests that individuals tend to select information sources that they believe will provide information that will be credible, timely, relevant, usable, helpful, accurate, and reliable. Research on information-seeking typically groups some or all of these information-source attributes under the category of "perceived source quality" in order to examine its effect on information-source use.

At the affective level, Choo's (1999) research suggests that an individual's degree of personal interest and motivation in the problem-solving or decision-making process would better determine the amount of energy that (s)he expends in information-seeking. Kuhlthau (1993) suggests that as the information search progresses, initial feelings of uncertainty and anxiety fall as confidence rises. This has particular relevance to self-efficacy expectations in information-seeking in that Kuhlthau's research would support the belief that information-seeking can strengthen feelings of self-efficacy and, consequently, behavior change. In addition, Kuhlthau explains that if a distinct theme is constructed to focus the information search, the individual might become more highly motivated, and, if the search proceeds well, the individual will experience increased feelings of satisfaction and—in a self-efficacy context—performance accomplishment.

From a social cognitive perspective, Wilson (1997) postulates that because stronger feelings of self-efficacy regarding information-source selection and use leads to greater information-source use, weaker feelings of self-efficacy about an individual's ability to select and use an information source properly would lead to that information source not being used, regardless of that source's credibility, relevance, or accuracy.

At the situational level, Choo's (1999) research suggests that the selection and use of information sources are influenced by the amount of time and effort that is needed to locate or contact the information source, and to interact with the information source and extract information. Choo identifies three types of "effort": physical (e.g., to travel to the source); intellectual (e.g., to understand how to use effectively the information presented and extract the necessary data); and psychological (e.g., to handle effectively interacting with or navigating a difficult source). These source attributes can be grouped under the category called "perceived source accessibility."

Choo explains that the selection of information sources depends on the source's perceived quality and perceived accessibility. He also notes that task complexity or task uncertainty also influences information-seeking. For example, complex tasks tend to require broader information-seeking, gathering, and processing. In a self-efficacy context, if an individual is successful in seeking, gathering, and processing the information needed to (successfully) perform a particular task then this will increase the likelihood that that individual will continue to engage in this behavior to produce an intended outcome—collecting the necessary information.

Sources of financial information in communication media

A study conducted by The Harris Interactive Financial Landscape SM (2000) found that the Internet is the primary source of financial information for brokerage-firm and retail-banking consumers. According to the study, brokerage-firm customers are more likely than retail-banking customers to research the Internet for up-to-date financial information, and ranks the Internet above newspapers, magazines, television, and radio for financial data mining. Retail-banking customers rank the Internet second, behind only newspapers, as a source of financial news and information.

The study also found that brokerage-firm and retail-banking customers who earned an annual income of $100,000 or more are more likely than the total market to use all media sources of financial information on a regular basis, including the Internet. Seventy-four percent of brokerage-firm and retail-banking customers who earned an annual income of $100,000 or more use the Internet to gather financial news and information on a regular basis, compared with 44 percent of the total market who use the Internet to gather financial news and information. This study was conducted online (nationwide) among more than 30,000 adults, including 11,699 retail-banking customers and 2,089 brokerage-firm customers (The Harris Interactive Financial Landscape SM, 2000).

Table 2 presents the findings of The Harris Interactive Financial Landscape SM online survey:

Table 2

Media usage by brokerage-firm and retail-banking customers

	Brokerage-Firm Customers		Retail-banking Customers	
Media	Affluent	Total Market	Affluent	Total Market
Newspapers	77%	68%	81%	72%
Web sites	87%	74%	74%	44%
Television programs	68%	53%	46%	21%
Magazines	51%	33%	46%	21%

Affluent: Annual income of $100,000 or more

Source: The Harris Interactive Financial Landscape SM

According to the *News Interest Index*, an ongoing project of the Pew Research Center for the People and the Press, the Internet was a major source of financial information and news regarding the spring 2007 decline in the stock market (Kohut et al., 2007). The study reveals that one in five Americans first heard of the February 26, 2007, downturn in the stock market by researching the Internet. During a stock-market decline in 1997, the study found that just two percent of Americans following the news story reported that they first heard about the drop online. With the 2007 steep stock-market downturns, the study found that fewer Americans who followed market coverage learned of this event from television compared with ten years ago. The Internet was ranked as an even greater source of financial news and information for individuals following the market decline; 29 percent of those following the event heard about it online, while just 40 percent heard about it on television, down from 66 percent in 1997 (Kohut et al., 2007).

Self-efficacy expectations and external factors that can hinder stock-market participation

This research attempts to explain and predict how self-efficacy expectations can influence behavior (change). Ideally, this research attempts to uncover how perceived self-efficacy can be strengthened in individuals to induce them to consider thoughtfully whether or not they should or could invest in the stock market. Information-seeking can also induce stronger self-efficacy expectations in individuals (Kuhlthau, 1993), which can also influence their willingness to invest in the stock market. However, it is worth noting that there are external factors that contribute to the likelihood that an individual will invest in the stock market, factors such as limited income or discretionary money (for investing) and knowledge of the capital marketplace and securities performance and trends.

Limited financial resources, a lack of knowledge regarding financial investing, knowledge of the dynamics of the stock market, and financial information-seeking and information gathering all contribute to the decision-making process underpinning an individual's stock-market participation intention and actual participation. Limited financial resources available for stock-market investing can definitely hinder an individual's willingness to invest. Because an individual with limited financial resources spends a majority of his or her income on everyday necessities and living expenses, the amount of money needed to begin a financial investment plan might not be available for or even trusted to investing in the stock market.

It could be argued, as this research attempts to, that sound capital-market education that strengthens self-efficacy expectations regarding stock-

market investing could encourage investors with limited incomes or discretionary investment moneys to receive higher yields on their moneys that are currently held in savings accounts, money-market accounts, or certificates of deposits (CDs). For those individuals who do not own savings accounts, money-market accounts, or CDs, the need for financial advice and retirement preparation becomes even more pressing, because without an in-place plan to increase the likelihood of long-term financial security, these individuals are particularly vulnerable to long-term debt, financial hardships, and could potentially face financial devastation should an emergency occur.

While some would subscribe to the philosophy that all the financial education in the world could not induce these individuals to invest in the stock market, this research intends to debunk a "societal myth" perpetuating this misconception. Sound financial advice can begin to give these individuals an introductory knowledge of the financial landscape, the capital marketplace, and their (as consumers who spend more than they save) place as the largest contributor the overall economy. Wise financial counsel can begin to put these individuals on a path to long-term financial stability and offer guidance for how they can begin to invest even a nominal portion of their earnings in a low- to moderate-risk mutual fund (a fund based on stock-market securities trading). Incorporating this group of individuals for self-efficacy investigation is particularly salient in social-cognitive research because it can better determine how these individuals perceive the stock market, observe peer behaviors that could possibly induce self-efficacy expectations of performance accomplishment and vicarious experience, and their ability to interact with the "social group" of stock-market bankers, brokers, and fellow consumers.

Another argument for why individuals possibly do not invest in the stock market is based on their knowledge of stock-market instability and prolonged periods of stock-market decline. This knowledge is based on the information either sought purposively or presented in the various (general or financially-based) news media that induced avoidance cognitions, emotions, and behaviors in these individuals for financial investing. As Kuhlthau (1993) suggests, during successful information-seeking activities, confidence rises as initial feelings of uncertainty and anxiety fall. However, for investors who purposively seek information and financial news, or (involuntarily) hear about financial information through various communication media, information on poor market performance, failing industries, or a declining economy could lead the individuals to have reduced feelings of "source credibility" with the stock market and be less willing to place their moneys in an insecure and fluctuating landscape.

Incorporating this group for self-efficacy investigation is particularly relevant for social-cognitive research because it could better determine how self-efficacy expectations can be induced to alter the (lack of investment) behavior of individuals who already have strengthened feelings of self-efficacy for not participating in the stock market. The strengthened self-efficacy expectations in these individuals is most likely based on their information-seeking, information gathering, cognitive and emotional processes regarding their information findings, and a data-supported knowledge of the stock market's unpredictable movement. It would be worth noting whether or not these individuals could be induced to have increased self-efficacy expectations for financial investing that is directly counter to what they previously believed.

Conclusion

The capital marketplace can be a difficult landscape for institutional and individual investors to navigate, especially with the market's sharp upswings and steep downturns and the feelings of uncertainty that these fluctuations cause in investors. The cognitive, emotional, and behavioral effects of stock-market investing have interesting psychological and behavioral implications, and to better understand the decision-making process underlying how investors interact with the stock market, the self-efficacy (Bandura, 1977) construct is worthy, and particularly relevant, for investigation. Because this construct attempts to explain and predict how individual cognitions and emotions can influence behavior to achieve a certain outcome, self-efficacy and its (high, moderate, or low) level in individuals who invest in the stock market serves as the theoretical construct guiding this investigation.

Research questions

RQ1:

Is generalized self-efficacy (GSE) directly related to stock-market participation, or is the relationship mediated by financial self-efficacy (FSE)?

RQ2:

How do GSE and FSE relate to information-seeking, and how is information seeking related to stock-market participation?

Hypotheses

H1. Generalized self-efficacy (GSE) will be positively related to financial self-efficacy (FSE).

H2. FSE will be positively related to stock-market participation intention.

H3. FSE will be positively related to financial information-seeking.

METHODS

Participants

Participants were purposively selected for this investigation using a combination of quota sampling (200-survey minimum) and snowball sampling. The social networking sites of Facebook.com and Myspace.com were also used as media resources in which to contact prospective participants. Participants were selected from a racially and ethnically diverse sample population of males and females of various socio-economic statuses who were 18 years of age or older.

Table 3

Demographic variables

Gender	Age groups	Racial groups	Education levels	Income levels
Male	18-24	American Indian (AI)	< 9th grade	< $25,000
Female	25-34	Alaska Native (AN)	9th-12th grade, No diploma	$25,000-$39,999
	35-54	Asian	High School graduate or equivalent	$40,000-$54,999
	55 or older	African American (AA or Black)	Some college credit, but less than 1 year	$55,000-$69,999
		Native Hawaiian (NH)	1 or more years of college, no degree	$70,000 or more
		Pacific Islander (PI)	Associate's degree	
		Hispanic (Latino)	Bachelor's degree	
		Caucasian (White)	Master's degree	
		Other	Professional degree	
			Doctorate degree	

In total, there were 109 males and 112 females (1 participant did not report on his or her gender) that participated in this study. Forty-six participants were between the ages of 18 and 24; 101 were between the ages of 25-34; 54 were between the ages of 35-54; and 20 were 55 or older. Two participants reported their race as either AI or AN; 9 reported their race as Asian; 157 reported their race as AA or Black; none reported their race as NH or PI; 7 reported their race as Hispanic or Latino; 42 reported their race as Caucasian or White; and 7 reported their race as Other. None of the participants had less than a 9th-grade education; 3 had between a 9th-grade and 12th-grade education, but received no diploma; 10 completed high school only; 13 received some college credit, but less than one full year of study; 25 completed 1 or more years of college, but received no degree; 17 earned their associate's degree; 97 earned their bachelor's degree; 41 earned their master's degree; 10 earned their professional degree; and 4 earned their doctorate degree. Forty participants earn less than $25,000 per year; 73 earn between $25,000 and $39,999; 36 earn between $40,000 and $54,999; 27 earn between $55,000 and $69,999; and 30 earn more than $70,000.

Because the sample of African-American participants is so high (roughly 71% of the total population of survey participants), it is worth noting whether or not this will influence the results of the data analysis and if so, how this will affect the results and which (possible) relationships will emerge.

Participants were chosen by either word-of-mouth recruitment or direct recruitment by the researcher. Two hundred and fifty surveys were distributed to potential participants. Two hundred and twenty-two surveys were completed and returned (88 percent response rate). Human subjects signed an informed consent form notifying them that their participation in this

study was voluntary and that their personal information will remain confidential once the study is completed. The treatment of these human subjects was in accordance with and was approved by Cornell University's Institutional Review Board.

Instrument

A survey was designed to assess an individual's general self-efficacy and financial self-efficacy. Generalized self-efficacy (GSE) measures focus on the participant's attitude and beliefs about how they face life challenges or problems in general. Financial self-efficacy (FSE) measures focus on stock-market investing and the cognitive, emotional, and behavioral phenomena underlying the information-seeking and intention processes that lead an individual to invest or not invest in the stock market.

In determining whether or not GSE and FSE influence stock-market participation intention, actual stock-market participation, and financial information-seeking in individuals, this study attempts to assess GSE and FSE to determine whether or not an individual's self-reported feelings of self-efficacy are related to his or her stock-market investing behaviors. Each survey question relates to self-efficacy expectations and is designated in an either GSE or FSE context. The hypotheses attempt to uncover and predict possible relationships among perceived GSE, FSE, stock-market participation intention, actual stock-market participation, and financial information-seeking.

The GSE scale (Jerusalem & Schwarzer, 1979) is incorporated in the survey to measure participants' general feelings of perceived self-efficacy,

with a focus on using these GSE feelings as predictors of stock-market participation intention, actual stock-market participation, and financial information-seeking behaviors.

In Section I, the GSE construct is measured by the GSE scale. Each question is designed to assess an individual's overall perceived self-efficacy. Measuring an individual's GSE is particularly relevant because it could help determine whether or not overall feelings of self-efficacy can generalize to financial self-efficacy. The GSE scale (Jerusalem & Schwarzer, 1979) helps assess an individual's general feelings of perceived self-efficacy, and requires "Not at all true," "Hardly true," "Moderately true," and "Exactly true" responses, with numerical codes 1-4 assigned to each response respectively (GSE scale items listed in earlier section).

To obtain a score on the general self-efficacy scale (Jerusalem & Schwarzer, 1979), the researcher reports the summed score. If a respondent completes all 10 items of the scale, the score would range between 10 to 40 points. Higher scores represent higher feelings of perceived self-efficacy. It is generally recommended that the scale is not scored if a respondent does not answer three of the 10 items. If a respondent answers all but one or two of the scale items, it is suggested that the scale is valid to assess perceived self-efficacy and can be scored (Schwarzer, 2007).

According to Schwarzer and Jerusalem (1995), studies have shown that the GSE scale has high reliability, stability, and construct validity (Leganger, Kraft, & Røysamb, 2000; Schwarzer, Mueller, & Greenglass, 1999). Cronbach's alpha ranges from 0.75 to 0.94, and correlations between or among the GSE scale and other social cognitive variables (intention, implementation of

intentions, outcome expectations, and self-regulation) are high and substantiate the validity of the scale (Luszczynska, Scholz, & Schwarzer, 2005). When we tested the internal reliability of Jerusalem and Schwarzer's (1979) GSE scale, it yielded a Cronbach's alpha measurement of .83, which suggests that the internal reliability of the scale is high. The range of participant responses on the GSE scale in this study is 15, with a mean score of 34, and standard deviation 3.76. Among these respondents, GSE is relatively high.

In Section II, the FSE construct is measured by the FSE scale. Each question is designed to assess an individual's perceived financial self-efficacy. Measuring an individual's FSE is particularly relevant because it could help determine whether or not these feelings influence an individual's likelihood to invest in the stock market and seek financial information and news. The FSE scale is derived from the GSE scale (Jerusalem & Schwarzer, 1979) and helps assess an individual's feelings of perceived self-efficacy for stock-market investing. The scale requires "Not at all true," "Hardly true," "Moderately true," and "Exactly true" responses, with numerical codes 1-4 assigned to each response respectively. This section of the survey comprises the following questions:

1. If I do not understand a certain financial investment tool, I can usually find the information I need to understand this tool.
2. I am confident about the credibility of the stock-market information/news I receive.
3. It is easy for me to set and accomplish my financial goals.
4. I am interested in financial counseling with a financial advisor.

5. If I were to receive credible stock-market investment counseling, I would be more likely to invest in the stock market.
6. I could gain a higher level of understanding about stock-market investing if I devote the necessary time and effort to follow the market.
7. I can cope with financial loss resulting from stock-market declines.
8. I am confident that after a stock-market decline, the market will rebound.
9. I am comfortable with taking on more financial risk to achieve higher financial gains/returns-on-investment.
10. I think that investing in the stock market will offer higher returns-on-investment in the long run compared with traditional savings accounts.

When we tested the internal reliability of the FSE scale, it yielded a Cronbach's alpha measurement of .74, which suggests that the internal reliability of this scale is also high. The range of participant responses on the FSE scale is 26, with a mean score of 29, and standard deviation 4.57. In comparison with participants reported GSE, FSE was somewhat lower.

The GSE and FSE scales are used as independent measures in Hypotheses 1-3 and as predictor variables for the research questions. Though the validity and reliability of the FSE scale were not known prior to this study, this study provides an opportunity to test the reliability of the FSE construct. Since the FSE scale derives from the GSE scale, it was worth measuring its internal reliability to determine whether or not the FSE scale had similar levels of reliability when compared with the GSE scale.

In Section III, attitudes and beliefs about stock-market investing are measured. Each question is designed to assess an individual's cognitions and emotions about the financial landscape. Understanding participants' attitudes and beliefs about stock-market investing and financial information-seeking could help determine how these feelings correlate to investment and information-seeking behavior. "Comfort," "Fear," and "Anxiety" questions are included in this section. Questions include:

1. "Have you ever experienced fear or anxiety about investing a portion of your income in financial investment tools?"
2. "How would you classify your outlook about the strength and stability of the stock market?"
3. "How comfortable are you with investing a portion of your income in financial investment tools?"

This section of the questionnaire contains the following questions, and a participant may select only one answer. Responses are assigned with the numerical code "1" (to provide a summed score for each response for all participants who answered questions in the same manner). The survey items are listed below:

1. How would you rate your familiarity with financial investment tools; e.g., mutual funds (includes money market accounts and retirement accounts), stocks, bonds, etc.? (Completely unfamiliar, Unfamiliar, Familiar, and Completely familiar.)

2. How comfortable are you with investing a portion of your income in financial investment tools; e.g., mutual funds (includes money market accounts and retirement accounts), stocks, bonds, etc.? (Completely uncomfortable, Somewhat uncomfortable, Somewhat comfortable, and Completely comfortable.)
3. How would you classify your outlook about the strength and stability of the stock market? (Completely negative or pessimistic, Somewhat negative or pessimistic, Somewhat positive or optimistic, and Completely positive or optimistic.)
4. Have you ever experienced fear or anxiety about investing a portion of your income in financial investment tools? (Yes or No.)
5. Please rate your fear or anxiety level. (Completely fearful or anxious or Somewhat fearful or anxious.)

Section III also measures the dependent variable of intention, which is expected to be predicted by the independent variables of GSE and FSE. Intention is the primary focus of this investigation, as the cognitive and emotional factors that have the potential to influence future financial behavior are particularly relevant for determining whether or not there are relationships among GSE, FSE, stock-market participation intention, actual stock-market participation, and financial information-seeking. This section of the survey comprises the following questions and requires "Yes" or "No" responses, which seek to measure intention:

1. Do you have the financial resources to invest in the stock market?
2. If you answered "yes" to the previous question, do you plan to invest in the stock market now or in the future?
3. If you answered "no" to question 6, if you had the financial resources would you invest in the stock market now or in the future?

In the "Information-seeking and financial investing" section, financial information-seeking and stock-market investing variables are measured. Each question is designed to uncover an individual's past financial behaviors and, if applicable, financial investment practices. From a past behavior perspective, financial information-seeking is an independent variable and is an important measure to include in the survey as a predictor of behavior. Assessing a respondent's past financial information-seeking is necessary to understand his or her interest in the financial landscape and in stock-market investing. In addition, the independent variable of financial investing is an important measure for this study as a predictor of a respondent's future financial behavior.

Better understanding an individual's past financial behaviors is particularly relevant because it could help determine whether or not these past behaviors are likely to influence future financial behavior. These questions relate to Hypothesis 3 and seek to understand the potential relationships between past financial behavior, in this case financial information-seeking and stock-market investing, and future financial behavior. This section of the survey comprises the following questions:

1. Have you ever sought general information about the stock market to gain a basic understanding of its function?
2. Have you ever sought financial news about the stock market?
3. If you answered "yes" to the previous question, which information sources do you use? (Internet, Magazines, Newspapers, Television, Radio, or Other.)
4. Have you ever received financial investment counseling from a financial advisor? (Yes or No.)
5. Have you ever invested in the stock market? (Yes or No.)
6. Are you currently invested in the stock market? (Yes or No.)
7. If you answered "yes" to the previous question, which financial investment tools do you use? [Mutual funds (includes money market accounts and retirement accounts, such as Individual Retirement Accounts), Individual Stocks, Bonds, 401 (k), 403(b), or None.]

Research procedure

The survey was given to participants who were instructed to answer honestly the questions presented. The survey consists of closed-ended questions, which took approximately 15 minutes to complete.

RESULTS

Tables 4-6 demonstrate the familiarity, comfort, outlook, and fear or anxiety levels related to stock-market investing in survey participants who listed that they experience these feelings:

Table 4

Participant familiarity with the stock market

Completely unfamiliar	Unfamiliar	Familiar	Completely familiar
8%	24%	59%	9%

Table 5

Participant level of comfort with stock-market investing

Completely uncomfortable	Somewhat uncomfortable	Somewhat Comfortable	Completely comfortable
8%	15%	52%	24%

[Note: The figures in Table 5 do not add up to 100% (they equal 99%), most likely due to rounding up or down when calculating the percentages.]

Table 6

Participant outlook on the strength and stability of the stock market

Completely negative or pessimistic	Somewhat negative or pessimistic	Somewhat positive or optimistic	Completely positive or optimistic
6%	34%	50%	6%

[Note: The figures in Table 6 do not add up to 100% (they equal 96%), most likely due to rounding up or down when calculating the percentages and participant failure to answer this survey item.]

Table 7

Participant anxiety level with stock-market investing

Completely fearful or anxious	Somewhat fearful or anxious
6%	94%

Fifty-five percent of all survey participants listed that they experience fear or anxiety regarding investing a portion of their income in the stock-market. Of those participants who listed that they experience fear or anxiety related to stock-market investing, 6% listed that they are completely fearful or anxious, while 94% listed that they are somewhat fearful or anxious. Forty-seven percent of all survey participants listed that they have never experienced fear or anxiety related to investing a portion of their income in the stock market.

Table 8 demonstrates the relationship between participants' financial resources and their intent to invest.

Table 8

Financial resource availability and the intent to invest in the stock market

Do you have the financial resources to invest in the stock market?	If you answered "yes" to the previous question, do you plan to invest in the stock market now or in the future?	If you answered that you do not have the financial resources to invest, if you had the financial resources would you invest in the stock market now or in the future?
("Yes" responses)	("Yes" responses)	("Yes" responses)
57%	81%	85%

(Note: The figures in Table 8 do not add up to 100% because one participant may provide more than one response.)

Fifty-seven percent of all survey participants listed that they have the financial resources to invest in the stock market. Of the participants who listed that they have the financial resources to invest, 81% listed that they plan to invest in the stock market now or in the future. Forty-three percent of all survey participants listed that they do not have the financial resources to invest in the stock market. Of those participants who listed that they do not have the financial resources to invest, 21% of them listed that they do not plan to invest in the stock market now or in the future. Of the 43% of survey all participants who listed that they do not have the financial resources to invest in the stock market, 85% of them listed that if they had the financial resources to invest, they plan to invest in the stock market now or in the future. Only 13% of survey participants who listed that they do not have the financial resources to invest listed that they plan not to invest in the stock market now or in the future.

Table 8 shows the media that survey participants listed that they use to seek general financial information. Sixty-five percent of all survey participants responded that they seek general financial information. According to the data collected, the Internet is the most popular medium for seeking financial information at 79%, with television the second most popular at 59%. Thirty-four percent of all survey participants listed that they do not seek general financial information.

Table 9

Participant media sources for seeking general financial information, for those who seek financial information

Internet	Magazines	Newspapers	Television	Radio	Other
79%	41%	54%	59%	17%	16%

(Note: The figures in Table 9 do not add up to 100% because one participant may provide more than one response.)

Table 10 shows the media that survey participants listed that they use when seeking financial news. Sixty-three percent of all survey participants listed that they seek financial news. According to the data collected, the Internet is the most popular medium for seeking financial news at 82%, with television the second most popular at 61%. Thirty-seven percent of all survey participants listed that they do not seek financial news.

Table 10

Participant media sources for seeking financial news,
for those who seek financial news

Internet	Magazines	Newspapers	Television	Radio	Other
82%	42%	56%	61%	18%	16%

(Note: The figures in Table 10 do not add up to 100% because one participant may provide more than one response.)

Table 11 lists the financial investment tools of survey participants who listed that they currently use financial investment tools. Forty-four percent of survey participants listed that they currently use financial investment tools. Of those survey participants who listed that they currently use financial investment tools, mutual funds are the most popular means of investing at 78%, with 401 (k) plans the second most popular means of investing at 60%. Fifty-six percent of survey participants listed that they do not currently use financial investment tools.

Table 11

Participant financial investment tools

Mutual funds	Individual stocks	Bonds	401 (k)	403 (b)
78%	43%	19%	60%	13%

(Note: The figures in Table 11 do not add up to 100% because one participant may provide more than one response.)

General self-efficacy (GSE), financial self-efficacy (FSE), stock-market investment intention, and financial information-seeking serve as the major variables of interest in the survey. GSE served as an independent variable that

predicted FSE. GSE and FSE then served as independent variables that predicted stock-market investment intention and financial information-seeking behaviors among specific demographic variables. GSE and FSE were controlled among gender, racial, education-level, and income-level groups to test possible relationships.

Jerusalem and Schwarzer's (1979) general self-efficacy scale and the researcher's financial self-efficacy scale were measured to test their internal reliability. The GSE scale yielded a Cronbach's alpha measurement of .83, which suggests that the internal reliability of the scale is high. The FSE scale yielded a Cronbach's alpha measurement of .74, which suggests that the internal reliability of this scale is also high.

The independent variable GSE served as the predictor of the dependent variable FSE to measure a possible relationship between GSE and FSE among the total population of survey participants (n=222). Using a regression analysis to test the relationship, we found that the data support Hypothesis 1. The test yielded an R^2-value of .17 and the model is significant ($p < .0001$). In addition, each demographic variable was incorporated in the model as an independent variable to detect possible relationships with the dependent variable (FSE). Demographic variables were tested individually and simultaneously and there are no significant effects on the overall relationship with GSE and FSE. Regression results are shown in Tables 12 and 13.

Table 12

Analysis of variance [GSE (IV) and FSE (DV)]

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	803.5438	803.544	46.4312
Error	220	3807.3436	17.306	Prob > F
C. Total	221	4610.8874		<.0001

Table 13

Parameter estimates [GSE (IV) and FSE (DV)]

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	11.913798	2.526279	4.72	<.0001
General self-efficacy	0.5068913	0.074389	6.81	<.0001

The independent variable of FSE served as the predictor of the dependent variable "intention" to measure the relationship of FSE on survey participant intention to invest in the stock market. For participants who listed that they have the financial resources to invest in the stock market (see survey Section III., Question #6), survey Question #7 was evaluated to measure intention in these participants. Using the nominal logistic regression model, we found that the data support Hypothesis 2. The fitted model has an R^2-value of 0.13, and the overall model is significant ($p < .0002$). GSE and each demographic variable were incorporated in the model to detect possible effects on the relationship between FSE and stock-market participation intention. GSE and each demographic variable were tested individually and simultaneously and there are no significant effects on the overall relationship

between FSE and stock-market participation intention. Regression results are shown in Tables 14 and 15:

Table 14

Whole model test [FSE (IV) and stock-market participation intention (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	7.083542	1	14.16708	0.0002
Full	46.800643			
Reduced	53.884185			

Table 15

Parameter estimates [FSE (IV) and stock-market participation intention (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-5.8359633	2.1794026	7.17	0.0074
Financial self-efficacy	0.25698844	0.0772403	11.07	0.0009

To determine whether or not relationships exist between the variables FSE and financial information-seeking, FSE served as the independent variable on financial information-seeking. Using the nominal logistic regression model, we found that the data support Hypothesis 3. The fitted model has an R^2-value of 0.03, and the overall model is significant ($p < .0002$). GSE and each demographic variable were incorporated in the model as independent variables to detect possible effects on the relationship between FSE and financial information-seeking. GSE and each demographic variable were tested individually and simultaneously and there are no significant

effects on the relationship between FSE and financial information-seeking. Regression results are shown in Tables 16 and 17:

Table 16

Whole model test [FSE (IV) and financial information-seeking (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	4.87163	1	9.743257	0.0018
Full	138.42334			
Reduced	143.29497			

Table 17

Parameter estimates [FSE (IV) and financial information-seeking (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-2.24297491	0.9577456	5.48	0.0192
Financial self-efficacy	0.1001282	0.0332791	9.05	0.0026

The research questions of possible relationships among GSE, FSE, actual stock-market participation, and financial information-seeking attempt to uncover whether there are direct relationships between GSE and stock-market participation or GSE and financial information-seeking; or whether these relationships are indirect, which would attempt to uncover whether GSE and stock-market participation or GSE and financial information-seeking are mediated by FSE.

To determine whether or not there is a direct relationship between GSE and stock-market participation, we used a nominal logistic regression. The fitted model has an R^2-value of 0.0004 and a p-value greater than .77.

Demographic variables were tested individually and simultaneously and there are no significant effects on the overall relationship between GSE and stock-market participation. This suggests that GSE and stock-market participation are not directly related. Regression results are shown in Tables 18 and 19.

Table 18

Whole model test [GSE (IV) and stock-market participation (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	0.04389	1	0.087775	0.7670
Full	99.98070			
Reduced	100.02459			

Table 19

Parameter estimates [GSE (IV) and stock-market participation (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-2.0914841	1.6426525	1.62	0.2029
General self-efficacy	0.01425366	0.0481837	0.09	0.7674

We then added FSE to the model and tested GSE and FSE (IVs) individually on stock-market participation, which yielded an R^2-value of .06 and a significant effect ($p < .001$). Because FSE yielded a significant effect, we then tested GSE and FSE (IVs) simultaneously on stock-market participation (DV). The fitted model has an R^2-value of .0041 and is not significant ($p > .67$).

There are no significant effects with GSE and FSE (IVs) on stock-market participation (DV) ($p > .38$). Regression results are shown in Tables 20-23.

Table 20

Whole model test [GSE and FSE tested individually on stock-market participation (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	5.77012	2	11.54025	0.0031
Full	94.25446			
Reduced	100.02459			

Table 21

Parameter estimates [GSE and FSE (IVs) tested individually on stock-market participation (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	0.272407	1.7510154	0.02	0.8764
General self-efficacy	-0.08576082	0.0531886	2.60	0.1069
Financial self-efficacy	0.1500034	0.0462211	10.53	0.0012

Table 22

Whole model test [GSE and FSE (IVs) tested simultaneously on stock-market participation (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	0.40754	2	0.815083	0.6653
Full	99.61705			
Reduced	100.02459			

Table 23

Parameter estimates [GSE and FSE (IVs) tested simultaneously on stock-market participation (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-2.308988	1.6260217	2.02	0.1556
GSE	0.01889706	0.0473664	0.16	0.6899
(GSE-33.7523)*(FSE-29.0225)	0.00751974	0.0086041	0.76	0.3821

When we removed GSE from the model and tested only FSE on stock-market participation, there is a significant relationship ($p < .004$), with an R^2-value of .04. The model is significant ($p < .003$), which suggests that FSE is related to stock-market participation and is likely an intervening variable for stock-market participation when GSE is added to the model. FSE and each demographic variable were incorporated in the model and tested individually and simultaneously on stock-market participation to detect possible relationships; there are no significant effects. Regression results are shown in Tables 24 and 25.

Table 24

Whole model test [FSE (IV) and stock-market participation (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	4.44091	1	8.881815	0.0029
Full	95.58368			
Reduced	100.02459			

Table 25

Parameter estimates [FSE (IV) and stock-market participation (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-1.80830864	1.1696897	2.39	0.1221
Financial self-efficacy	0.1210969	0.0420055	8.31	0.0039

To determine whether or not there is a direct relationship between GSE and financial information-seeking, we used a nominal logistic regression. We tested GSE (IV) on financial information-seeking (DV). The data suggest that there is a direct relationship between GSE and financial information-seeking ($p < .04$) ($R^2 = .01$), though this relationship is weak. Each demographic variable was tested individually and simultaneously to detect possible relationships between GSE and financial information-seeking; there are no significant effects. Regression results are shown in Tables 26 and 27.

Table 26

Whole model test [GSE (IV) and financial information-seeking (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	2.13323	1	4.266469	0.0389
Full	141.16173			
Reduced	143.29497			

Table 27

Parameter estimates [GSE (IV) and financial information-seeking (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-1.98944898	1.2830607	2.40	0.1210
General self-efficacy	0.0780719	0.0381399	4.19	0.0407

We then added FSE (IV) into the model and tested GSE and FSE (IVs) on financial information-seeking (DV) to determine whether or not there is a relationship among GSE, FSE, and financial information-seeking. There are no significant effects ($p > .70$; $R^2 = .02$). Because there is also direct relationship (and significant effect) between FSE and financial information-seeking alone ($p < .003$; $R^2 = .03$), this suggests that financial information-seeking is likely mediated by FSE (when GSE is a factor). Each demographic variable was incorporated in the model and tested individually and simultaneously on financial information-seeking to detect possible relationships; there are no significant effects. Regression results are shown in Tables 28 and 29.

Table 28

Whole model test [GSE and FSE (IVs) tested simultaneously on financial information-seeking (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	2.20752	2	4.415036	0.1100
Full	141.08745			
Reduced	143.29497			

Table 29

Parameter estimates [GSE and FSE (IVs) tested simultaneously on financial information-seeking (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-2.0980847	1.3199659	2.53	0.1119
General self-efficacy	0.0807146	0.0389521	4.29	0.0383
(General self-efficacy-33.7523)*(Financial self-efficacy-29.0225)	0.0028813	0.0075101	0.15	0.7012

Finally, when seeking to understand how financial information-seeking is related to stock-market participation, we found that there is a direct relationship between financial information-seeking (IV) and stock-market participation (DV) ($p < .003$; $R^2 = .05$). This suggests that seeking financial information is a statistically significant predictor of stock-market investment behavior. GSE, FSE, and each demographic variable were tested individually and simultaneously to detect possible relationships between financial information-seeking and stock-market participation; there are no significant effects on the overall relationship. Regression results are shown in Tables 30 and 31.

Table 30

Whole model test [Financial information-seeking (IV) and stock-market participation (DV)]

Model	-LogLikelihood	DF	ChiSquare	Prob>ChiSq
Difference	4.55706	1	9.114128	0.0025
Full	95.46752			
Reduced	100.02459			

Table 31
Parameter estimates [Financial information-seeking (IV) and stock-market participation (DV)]

Term	Estimate	Std Error	ChiSquare	Prob>ChiSq
Intercept	-1.5340249	0.1842064	69.35	<.0001
Financial information-seeking	0.55319568	0.1842064	9.02	0.0027

Conclusion

The results from the data analysis suggest that the general self-efficacy (GSE) construct is a correlate of financial self-efficacy (FSE), and that FSE is a statistically significant predictor of stock-market participation intention and financial information-seeking. In addition, the data indicate that the FSE scale is a reliable tool for measuring an individual's confidence in his or her financial investment and stock-market navigation abilities. Measuring an individual's FSE is particularly relevant for this investigation because the data suggest that FSE is likely an intervening variable for stock-market participation and financial information-seeking in individuals.

The vast majority of survey participants are familiar, somewhat comfortable, and somewhat positive or optimistic about the stock market. However, all little over half of all survey participants are somewhat fearful or anxious about investing a portion of their income in the stock-market. Though somewhat fearful or anxious, however, a majority of survey participants listed that they plan to invest in the stock market now or in the future, which suggests that fear or anxiety are not (strong) deterrents of stock-market intention and subsequent participation. This has particularly

interesting research implications because this demonstrates that individuals, though somewhat fearful or anxious, are generally positive or optimistic about the stock market and plan to invest a portion of their income in the stock market.

Because African-American participants account for approximately 71% of the total survey population, possible relationships with African-American participants and GSE, FSE, stock-market participation intention, stock-market participation, and financial information-seeking were worth noting. However, as the data suggest, there are no significant relationships among African-American participants and GSE, FSE, stock-market participation intention, stock-market participation, and financial information-seeking.

This study measures the effects of GSE and FSE on stock-market participation intention, actual stock-market participation, and financial information-seeking and is not without limitations. Though this study focuses on correlations among GSE, FSE, stock-market participation intention, actual stock-market participation, and financial information-seeking, this study does not explore how varying levels of GSE and FSE influence behavior, or how varying levels of GSE and FSE influence behavior among various demographic groups. In addition, because the African-American population is over-sampled, it is difficult to compare adequately the responses of the various demographic groups, find correlations, and draw meaningful conclusions that could broaden research in the field of communication, economics, and social psychology.

Chen, Duckworth, and Chaiken's (1999) research on motivated heuristic and systematic processing could serve as a theoretical guidepost for future research in better understanding the relationships among GSE, FSE,

and financial information-seeking. The Chen, Duckworth, and Chaiken model suggests that social judgments can be created by more and less thoughtful cognition, and by dual-process modes: heuristic and systematic (Chen, Duckworth, & Chaiken, 1999).

Heuristic processing involves judgmental rules which are learned and stored in memory. Judgments formed by heuristic processing reflect easily processed heuristic cue information (e.g., financial information-source expertise) rather than specific information and requires minimal cognitive effort. Heuristic processing is constrained by knowledge activation and use and requires that information is stored in memory, retrieved from memory, and is relevant for the judgment created (Chen, Duckworth, & Chaiken, 1999). Systematic processing explores judgment-relevant information and higher levels of cognitive abilities and capacities. Judgments formed by systematic processing require in-depth investigation of judgment-relevant information and are responsive to the semantic content of this information (Chen, Duckworth, & Chaiken, 1999). Heuristic and systematic processing may occur individually or simultaneously. Motivation plays a key role in this model and predicts whether heuristic or systematic forms of cognition will predominate in a given judgment.

This research has interesting self-efficacy and financial information-seeking implications in that it could uncover possible relationships among individuals who have greater motivation to seek financial information and the either singular or dual-process modes by which they judge the credibility, accessibility, and relevance of the information sought. Moreover, it could shed light on how individuals who are highly motivated seek and process information differently than individuals who are less (or not) motivated

because they believe that they do not have the resources or capabilities that they need to seek and process this information.

This study is a relevant precursor to potential inducement studies that might rely heavily on individuals' attitudes, beliefs, and opinions of their financial self-efficacy, their risk tolerance, and their perception of stock-market strength and stability. Future research in this area could focus on educating individuals about the stock market and possible paths to their long-term financial security. Future research could also focus on inducing stock-market participation in individuals, as well as inducing their investment(s) in financial tools such as mutual funds, individual stocks, bonds, 401 (k) plans, and 403 (b) plans.

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