

Running head: STEREOTYPE THREAT, FINANCIAL DECISIONS AND FRAUD

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Stereotype Threat, Financial Decision Making and Fraud in the Aging Population

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by

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STEREOTYPE THREAT, FINANCIAL DECISIONS AND FRAUD

Abstract

In light of a growing aging population, and increasing numbers of older adults falling victim to financial scams, this thesis aims to investigate: how changes in the cognitive-affective processes of older adults relate to this population's likelihood to be targeted/fall victim to financial scams (Chapter 1); how a social psychological phenomenon known as stereotype threat may interact with these cognitive-affective changes to potentially decrease this population's susceptibility (Chapter 2). The empirical study that is presented in relation to these aims in Chapter 3 specifically explores the effects of stereotype threat on the financial decision making processes of older adults. Fifty-one older adults (37 females, 14 males) between the ages of 60 and 90 were either presented with a positive, negative, or no age-based financial stereotype, and performance was compared across various financial measures (i.e., risk tolerance, financial knowledge/confidence, scam susceptibility etc.). The results showed that although the older adults internalized the positive and negative age-based financial stereotypes, no differences were found between the conditions with regard to: concern about fraud, financial focus on losses or gains, financial knowledge/confidence, and scam susceptibility. However, the threatening negative stereotype was found to alter participants' financial risk tolerances and financial behaviors/attitudes, such that they became more risk averse/conservative. Thereby, although stereotypes may be suggested to play a role in making older adults more cautious/less risk-taking when making financial decisions, more research is needed to determine if stereotypes play a role in a person's susceptibility to actually falling victim to a financial scam.

STEREOTYPE THREAT, FINANCIAL DECISIONS AND FRAUD

Table of Contents

Chapter 1: “Hi Grandma, it’s me!”: Taking advantage of the aging mind	1
Attention	2
Memory.....	3
Decision-Making.....	5
Executive Functioning	6
Age-Related Cognitive-Affective Changes in Relation to Fraud	8
Future Research	11
Chapter 2: Stereotype Threat	13
What is Stereotype Threat?.....	15
“Classic” Stereotype Threat Research	16
Common Mechanisms Underlying Stereotype Threat Effects	18
Exploring the Regulatory Focus Theory in Relation to Stereotype Threat	20
Application to Older Adults’ Financial Decision Making and Scam Susceptibility.....	22
Chapter 3: The Present Study	24
Method	26
Participants.....	26
Materials and Procedure	26
Results.....	31
Manipulation Checks	31
Financial Risk Tolerance	33

STEREOTYPE THREAT, FINANCIAL DECISIONS AND FRAUD

Financial Decision Making	34
Discussion	37
Limitations	43
Future Research	44
Application.....	45
Works Cited	47
Tables and Figures	55
Appendices.....	68

Chapter 1

“Hi Grandma, it’s me!”: Taking advantage of the aging mind

One in five Americans age 65 and older fall victim to financial abuse and, in sum, are robbed of more than \$3 billion a year. In 2008, the Federal Trade Commission reported that people 60 years and older made up 10% of all fraud complaints, the lowest of any age group. Over a short span of four years, however, this percentage rose drastically. By 2012, older adults made up 26% of all fraud complaints, the highest of any age group (Browning, 2013). Unfortunately, there are no signs to suggest that this trend will change in the coming years. In fact, it is speculated that this percentage will continue to rise as the number of persons age 65 and older is expected to more than double by the year 2060 (44.7 million in 2013 to 98.2 million in 2060) (Administration on Aging, Administration for Community Living, & U.S. Department of Health and Human Services, 2014).

Thereby, in light of this growing aging population, and increasing numbers of older adults falling victim to financial scams, it is vital to determine what makes this group so vulnerable. By analyzing what is known about age-related cognitive changes, this chapter: 1) provides a basis for the present study, and 2) aims to motivate future research that can hopefully be applied to decrease the number of older adults who fall prey to financial scams. This is especially critical before this population begins to burgeon.

Of significance, although the elderly population currently only comprises 14% of the U.S. population, it disproportionately holds 34% of the nation’s wealth (AoA, ACL,

& HHS, 2014; Browning, 2013). Coupled with the natural cognitive aging that this group experiences, individuals age 65 and older become prime targets of financial abuse, whether it is by an unknown scammer, or a trusted relative. Older adults generally exhibit age-related changes in certain cognitive functions, namely: attention, memory, decision making, and executive functioning—all of which contribute to a changes in affective processes that lead to increased scam susceptibility.

Attention

With regard to attentional processes in the aging brain, older adults begin to experience difficulty on tasks that require them to divide or switch their attention among multiple inputs or tasks (Glisky, 2007). As a result, they become more inclined to attend to tasks that are personally relevant and meaningful rather than to those that appear unimportant or emotionally irrelevant. This change is often explained by the socioemotional selectivity theory that holds that as people age, they perceive future time to be increasingly limited. As a result, they tend to place a greater emphasis on emotionally meaningful goals than younger individuals (Fung & Carstensen, 2003).

Fung and Carstensen (2003) presented evidence of this goal change theory in a series of studies that examined how older and younger adults respond to advertisements. In their first study, they presented a diverse sample of participants with advertisements for products using three different kinds of appeals (slogans): (1) an emotionally-relevant version in which the product's slogan related to love and caring (i.e., "Capture those special moments"); (2) a knowledge-related version in which the product's slogan emphasized the future (i.e., "Capture the unexplored world"); and (3) a neutral version in

which products were presented without a slogan. The researchers found that older adults rated all of the products presented more positively than younger adults, exhibiting a common positivity bias that will be explained in more detail below (2003). Furthermore, in support of socioemotional selectivity theory, the researchers found that older adults best remembered emotionally meaningful advertisements as compared to knowledge-related and neutral advertisements (Fung & Carstensen, 2003).

Considering these findings, Fung and Carstensen (2003) conducted a second study to examine how time perspective affects advertisement preferences in younger and older adults. As hypothesized, they first found that older adults tended to prefer advertisements with emotionally meaningful appeal, while younger adults preferred advertisements with knowledge-related appeal. However, researchers discovered that this preference could be manipulated in older adults when one's perception of time was extended; when older adults were made to perceive their life expectancy as higher, their inherent preference for emotionally meaningful advertisements decreased to the level generally shown by younger adults (Fung & Carstensen, 2003). Taken together with study one, this supports and points to the effect of the attentional shift associated with aging: as a person grows older, he or she tends to view time as increasingly limited. As a result, emotional information becomes most salient and relied upon, and subsequently affects memory and decision-making processes.

Memory

Memory for information that is relevant to an older individual's emotionally meaningful goals is better preserved than memory for information that is personally or

emotionally irrelevant (i.e., knowledge-related information; Fung & Carstensen, 2003). Although this finding is often supported by the socioemotional selectivity theory described above, brain processes provide an alternative, potentially more substantial explanation for this phenomenon. Specifically, declines in working memory have been found to account for attention deficits and the attentional shift from knowledge-related information to more emotionally relevant information. With age, a person has difficulty actively manipulating, reorganizing, and integrating information from various sources to complete complex everyday tasks (Glisky, 2007). Accordingly, older adults tend to experience reduced information-processing speeds (Salthouse, 1994). Given that this would make it more difficult—requiring extra time and cognitive effort—for new knowledge-related information to be encoded, stored, and recalled, it is then tenable that emotionally relevant information becomes more salient/attended to with age (Glisky, 2007; Salthouse, 1994).

Memory for personally meaningful information, however, may be distorted. As revealed in Fung and Carstensen's (2003) study, older adults are more likely to recall positive information, exhibiting a positivity bias. This is especially evident when older individuals recall previous personal choices/experiences (Mather & Johnson, 2000, as cited in Fung & Carstensen, 2003). This being said, although semantic memory, memory of general world knowledge, remains largely intact, episodic memory, memory of autobiographical events/experiences, is greatly affected. Older adults maintain the "gist" of such memories, but they lack detail, as well as spatial and temporal context (Glisky, 2007). Coupled with a tendency to distort autobiographical memories in a positive

direction (Kennedy, Mather, & Carstensen, 2004, as cited in Mather, 2006), reliance on such memories, or positive emotions in general, may lead older adults to make poor-quality judgments or decisions.

Decision-Making

Some research, however, has suggested that compared to younger adults, the positivity bias most frequently exhibited by older adults may actually enhance decision-making in some situations, leading to more regular and consistent choices (Strough, Mehta, McFall, & Schuller, 2008; Tentori, Osherson, Hasher, & May, 2001). In their study, Strough et al. (2008) examined older and younger adults' decision-making processes in relation to the sunk-cost fallacy: a decision-making bias in which people tend to invest more resources in a situation in which they made an investment, versus a similar situation in which they did not make a personal, emotional, or monetary investment.

Previous research has suggested that "sunk-cost decisions are motivated by loss avoidance" (Frisch, 1993, as cited in Strough et al., 2008, p. 650). In processing information, considering that older adults tend to give more weight to positive information than their younger counterparts who give more weight to negative information (Carstensen & Mikels, 2005), it is posited that older adults are less likely to focus on losses when making decisions as they are more motivated to maximize satisfaction in the here and now (Strough et al., 2008). In support of this, Strough et al. (2008) found that in comparison to younger adults, older adults were less likely to exhibit the sunk-cost fallacy. In fact, older adults were more likely to make more consistent,

normatively correct decisions across the investment and no-investment conditions: the amount of resources that they invested in a situation did not waiver depending on whether they made an investment in the situation or not.

Executive Functioning

The more consistent, effective decisions of older adults have also been said to result from crystallized intelligence, the ability to use well-learned knowledge and experience across the lifespan. It is theorized that the preservation of crystallized intelligence may compensate for a decline in fluid intelligence, the ability to solve new problems with recent learning. The working and long-term memory deficits associated with aging further justify this decline in fluid intelligence, and add support for an overall decline in executive functioning abilities. Executive function plays a role in almost all cognitive processes “that are involved in the planning, organization, coordination, implementation, and evaluation of,” generally, nonroutine, novel tasks (Glisky, 2007). Therefore, with a reduction in executive control, specifically working memory processes, and thus a decline in fluid intelligence and a reliance on experience, older adults have been found to seek out less information than younger adults when faced with novel tasks that require decisions to be made or problems to be solved (Yoon et al., 2005).

For example, in a study conducted by Streufert et al. (1990, as cited in Yoon et al., 2005), older mid-level managers and younger mid-level managers were put into groups and asked to make various group decisions in an all-day decision simulation. Streufert et al. (1990, as cited in Yoon et al., 2005) observed that the group of older managers requested less information throughout the day than the younger group of

managers. These findings suggest that older individuals may compensate for their decline in fluid intelligence with their crystallized intelligence, using “their experience to choose and process relevant information more effectively” (Meyer et al., 1995, as cited in Yoon et al., 2005, p. 436). Therefore, the decline in information search with aging may not necessarily be problematic, in some situations, as this behavior—a reliance on top-down processing—is similar to that used by experts to arrive at equivalent decisions (Meyer, Russo & Talbot, 1995, as cited in Peters, 2010).

However, various studies presented by Kennedy and Mather (2007) suggest that this decline in fluid intelligence and, thus, the tendency for older adults to “generate fewer options, deliberate for less time and seek out and review less information—particularly negative information,” can lead to detrimental errors in everyday decision making (p. 254). For example, a study found that errors in adherence to medication were most frequently due to older individuals not reading all of the information provided by the doctor (Willis, Dolan, & Bertrand, 1999, as cited in Kennedy & Mather, 2007). Additionally, these changes may also lead to negative consequences for older adults with regard to financial decisions: namely, a higher likelihood to make risky financial mistakes (Samanez-Larkin, 2013).

Further, coupled with older adults’ increased motivation to ensure positive feelings and to maximize satisfaction, declines in executive functioning and memory abilities lead older adults to rely on “the affective heuristic” when making decisions. The affective heuristic decision is an intuitive, nonanalytical decision, requiring minimal effort, which is heavily influenced by an individual’s current emotion (Kennedy &

Mather, 2007). In many situations, especially those with time restrictions, reliance on the affective heuristic leads to poorer decision-making (Kennedy & Mather, 2007).

Age-Related Cognitive-Affective Changes in Relation to Fraud

Contemplating the effects of natural cognitive changes on the cognitive and decision-making processes of older adults aids in the investigation of and potential explanation for why the aging population is so vulnerable to financial scams. An overarching theme that emerged in the literature presented in this paper suggests that as the brain ages, there is a decreased dependence on deliberative systems and an increased reliance on affective, emotion processes. Of significance, older adults tend to show a preference for, and better remember, information that is “relevant to emotion-regulatory goals” (Reed & Carstensen, 2012, p. 257). This preference tends to be for more positive information rather than negative because older adults become more motivated to increase positive affect, or maximize satisfaction, as time appears to be increasingly limited. Although this general cognitive shift does not always yield negative decisions in everyday life, this shift forms the basis of many financial scams. Namely, scammers feed off of this population’s newfound reliance on emotion.

One such scam, the “grandparent scam” (Sneed, 2015; CBS News, 2014), is a form of identity theft in which a scammer manipulates or evokes certain emotions in an older individual in order to trick him or her into making a hasty, unfavorable decision—which often results in deleterious emotional and financial consequences. In this scam scenario, the scammer targets an older person, generally over the age of 65, and pretends to be a close relative, such as a grandchild, who is in need of immediate monetary

assistance. In a report by CBS News, Carter Evans, a former scammer describes a typical call:

You just say, 'Hey, how are you, hi grandma, hi grandpa... I'm in a little bit of trouble right now. If I tell you, just keep it between us, I'm on vacation, but I got into a little accident, and I was arrested for a DUI.' You tell them, 'Things got out of control, and I need you to send me the money. (2014)

Carter Evans later revealed that this type of scam knows no profession, no education level, because “once you get them [the older individual] emotionally involved, then they’ll do anything for you, basically” (CBS News, 2014). It works off of the idea that older adults are more likely to attend to emotionally relevant information (Fung & Carstensen, 2003) and that they are increasingly motivated to reduce negative feeling states to increase positive ones (Carstensen & Mikels, 2005). In addition, there is an added time pressure involved in the “grandparent scam.” With a slower information-processing speed in the aging brain, this time pressure leads to a reliance on the affective heuristic, which causes the individual to make an impulsive, emotional decision without seeking additional information (Kennedy & Mather, 2007).

A grandmother who fell victim to this financial scam recounted, “You [the victim] are blinded by emotion. Totally blinded. You don’t think rationally when this happens. You know, your family comes first” (CBS News, 2014). Furthermore, she went on to say that falling prey to a scam such as this made her feel embarrassed, “stupid and gullible.” Therefore, to those who fall victim, these scams are about more than just losing money; it evokes mistrust and fear, not only in the victim, but also, in his or her

family, and may lead to decreased or revoked independence. Moreover, these scams have the ability to disrupt family ties. A granddaughter of a victim reported that, since the day her grandfather found out he was scammed, she and he have only spoken twice over the phone. Now, every time she calls, he hangs up in fear that he is being deceived again (Sneed, 2015).

Unfortunately, it is believed that older individuals report only 10% of the frauds that actually occur, and even when these cases are reported, they prove difficult to prosecute (National Council on Aging, n.d.); once the money is gone, it is gone. Other financial scams that the elderly most commonly fall victim to include: Medicare/health insurance fraud, counterfeit prescription drug scams, funeral and cemetery scams, fraudulent anti-aging product scams, various fraudulent telemarketing tactics, internet fraud, investment schemes, homeowner/reverse mortgage scams, and sweepstakes and lottery scams (NCOA, n.d.).

Although currently only one in seven Americans are age 65 and older, this group disproportionately holds 34% of the nation's wealth, making them prime targets for scammers (Administration on Aging, Administration for Community Living, & U.S. Department of Health and Human Services, 2014; Browning, 2013). Additionally, the normal cognitive decline experienced as a result of natural aging affects decision-making and judgment processes, which may lead to decreased financial capacity in certain cases. Specifically, as an older individual begins to perceive time as increasingly limited, there is a cognitive shift that occurs that augments the older adult's reliance on affective processes. It is this increased attention to emotionally salient information, coupled with

age-related declines in working memory, long-term memory, and, overall, executive functioning, that may contribute to an older individual's heightened probability to fall prey to financial abuse. Moreover, the National Institute of Health estimates that "the number of people living with dementia could double in the next 40 years with an increase in the number of Americans who are age 65 or older—from 40 million today to more than 88 million in 2050" (National Institute of Neurological Disorders and Stroke, 2014). The additional cognitive deficits that come along with the development of various kinds of dementia amplify this financial capacity issue and the likelihood of an older individual to be taken advantage of financially.

Future Research

With financial abuse of the elderly becoming the "crime of the 21st century" (NCOA, n.d.), it is critical that future research be directed toward finding a way to help this population protect itself. Based on the conclusions of this review, it is apparent that shifts in the affective processes of older adults play a significant role in their increased susceptibility. For example, older adults are increasingly inclined to prefer positive and ignore negative information as they age. In the context of a financial scam, this tendency could dampen their attention to potential warning signs and make deceiving, too-good-to-be-true messages particularly salient in their minds. Could this motivational tendency, however, be manipulated to increase older adults' attention to negative stimuli in order to make them more cautious when making decisions involving finances? Could these affective changes, thereby, be used to potentially protect this population from financial fraud? In order to explore this question, in the coming chapters, I will introduce and

expound upon a classic social psychological phenomenon, known as stereotype threat, and present an original study regarding its effects on the financial decision making processes of older adults.

Chapter 2

Stereotype Threat

“I felt an awesome responsibility, and I took the responsibility very seriously, of being a role model and opening another door to black Americans, but the important thing is not that I am black, but that I did a good job as a scientist and an astronaut.”

-Guion S. Bluford Jr. (New Mexico Museum of Space History, n.d.)

“People ask me all the time: 'What is it like to be a woman at Google?' I'm not a woman at Google, I'm a geek at Google. And being a geek is just great.”

-Marissa Mayer (Angwin, 2011)

“In 2013, I went to work at a software company called HubSpot. I was 52 years old. The average HubSpot employee was 26. Everyone seemed to be right out of college. The place was like a frat house, with refrigerators stocked with cases of beer and telemarketing sales “bros” drinking at their desks while hammering away on the phones.

Thirty-something employees were considered “old people.””

-Dan Lyons (Lyons, 2016)

Guion S. Bluford Jr.: the first African American to fly into space in 1983.

Marissa Mayer: the first female engineer at Google, and the current president and CEO of Yahoo. Dan Lyons: a novelist, journalist, and a screenwriter for *Silicon Valley*, an HBO comedy series. Apart from their success, what could an African American astronaut, a female engineer/CEO, and an aging screenwriter possibly have in common?

In reviewing the quotes that open this chapter, it is apparent that each of these individuals has grappled with common stereotypes about their race, gender, or age. Through their words, it can be inferred that at some point in their lives and careers they were aware that “a stigmatized aspect of their identity may be used to evaluate their performance” (Barber, Mather, & Gatz, 2015, p. 892). In Guion S. Bluford Jr.’s statement, for example, he clearly recognized that the color of his skin would play a role in the evaluation of his space mission, whether he would want it to or not. He felt the pressure to be successful not only for the sake of being successful, but also for the sake of future black astronauts. Further, in Marissa Mayer’s statement, she acknowledged that her gender often prompts questions about her fit in the male-dominated computer technology industry; and in Dan Lyons’, he similarly admitted that his age often prompts questions about his place in a rapidly advancing technological world dominated by younger people. On their journeys to success, each experienced similar “stereotype-relevant concerns,” often viewed as “burden[s],” that they would otherwise “not need to manage if the stereotypes did not exist and if the stereotypes were not relevant to their group memberships” (Shapiro, Aronson, & McGlone, 2016, p. 88). In social psychology, this idea is referred to as “stereotype threat.”

What is Stereotype Threat?

Stereotype threat is a ubiquitous phenomenon that occurs in situations in which a person must deal with the possibility of doing something that would confirm a societal stereotype held about his or her group. In these situations, it is thought that a person's performance may be negatively affected when he or she believes that his or her ability is being measured in the stereotype-relevant domain, or when a person believes that he or she will be judged stereotypically based on his or her performance (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995; Steele, 1997). This phenomenon has been demonstrated with a variety of different groups and stereotypes: African Americans and intelligence tests (Steele & Aronson, 1995; Thames et al., 2013), women and math tests (Krendl, Richeson, Kelley, & Heatherton, 2008; Spencer et al., 1999), white men and athletic performance (Stone, Lynch, Sjomeling, & Darley, 1999; Stone, Chalabaev, & Harrison, 2012), and more recently, with older adults and memory tests (Hess, Auman, Colcombe, & Rahhal, 2003; Barber & Mather, 2013a; Barber & Mather, 2013b; Mazerolle et al., 2012).

In the following sections, the origins of stereotype threat research, as well as the highly debated processes that underlie the threat itself, will be discussed. Additionally, in relation to the conclusions in Chapter 1 and in order to provide a foundation for the study that will be presented in Chapter 3, the final sections of this chapter will discuss how this phenomenon may be applied to potentially protect the older population from financial fraud.

“Classic” Stereotype Threat Research

In the early 1960's, Steele and Aronson (1995) noted that desegregation prompted research investigating how the intellectual performance of Black students was affected by being integrated into White classrooms. In 1964, Katz, Epps, and Axelson, for example, sought to determine how Black students performed on IQ tests when they thought that their scores would be compared to White students versus when they thought that their scores would be compared to other Black students. Katz et al. (1964) found that Black students performed significantly worse when they believed that their scores would be compared to White students.

In 1965, Katz, Roberts, and Robinson went on to further demonstrate the power of the situation on a person's performance. In this study, the experimenters manipulated the race of the experimenter (Black or White) and the description of what the task was testing (test of motor coordination or intelligence) to then measure the performance of Black college-aged students on an IQ subtest. Of significance, Katz et al. (1965) found that when a White experimenter described the task as a test of intelligence, the Black students performed significantly worse than if the experimenter was Black and described the task in the same way.

In 1995, Steele and Aronson termed this situational predicament “stereotype threat:” “being at risk of confirming, as self-characteristic, a negative stereotype about one's group” (p. 797). In a series of four studies, which have since become known as modern classics (Inzlicht & Schmader, 2012), Steele and Aronson (1995) explored this phenomenon to determine if it could explain the achievement gap between Black and

White students in school. In the process, they also examined potential mechanisms underlying the manifestation of the phenomenon. Given its implications, Steele and Aronson's stereotype threat (1995) has become one of the most "vigorously explored topics of the past decade" in social psychology (Inzlicht & Schmader, 2012, p. 6).

The results of one of Steele and Aronson's (1995) studies suggested that when race was emphasized and Black college students were made aware of negative stereotypes about their intellectual abilities, they tended to underperform on a standardized test as compared to White college students. However, in the condition in which the experimenters made no mention of race, Black college students performed just as well as the White college students. Therefore, in an academic context, a person's performance/behavior can be negatively affected when he or she is aware that his or her abilities are being judged through the lens of racial stereotypes.

In another study, Steele and Aronson found that race need not even be emphasized for stereotype threat to occur. In this study, Steele and Aronson either presented tasks as intellectually diagnostic or nondiagnostic. When a word-fragment task was presented as a test of intelligence, the results indicated that Black students were significantly more likely than their White peers to fill in word fragments such as R_C_ with the word RACE, as opposed to other reasonable words like ROCK or RICE. This suggests that "a cue as simple as the way a task is described can bring the stereotype to mind" (Schmader & Beilock, 2012, p. 36); subsequently, stereotype threat is induced and changes the way a person responds.

This being said, Steele and Aronson (1995) extrapolated that a person must merely be aware—consciously or unconsciously (Schmader & Beilock, 2012)—of the “threat in the air” (Steele, 1997, p. 614) for it to become salient and affect subsequent performance. Situational cues that induce stereotype threat need not be blatant; manipulations can vary in levels of explicitness, and can even be indirect and subtle (Nguyen & Ryan, 2008, as cited in Popham & Hess, 2015a). Research has also suggested that a person need not even “experience long-term feelings of inferiority or lowered self-worth” for stereotype threat to occur (Wheeler & Petty, 2001, p. 804). Taken together, a threat must simply be situationally present and relevant to the self or the group with which a person identifies (Inzlicht & Schmader, 2012; Steele, 1997; Wheeler & Petty, 2001) for it to affect behavior or performance.

Common Mechanisms Underlying Stereotype Threat Effects

Once a stereotype is activated, how does it become a threat to a person’s behavior? What processes potentially underlie the manifestation of stereotype threat? Steele and Aronson (1995) outlined a variety of possibilities that have since been extensively explored: “distraction, narrowed attention, anxiety, self-consciousness, withdrawal of effort, over-effort, and so on” (p. 809). In the time since Steele and Aronson’s (1995) study, two clear mechanisms have emerged in the literature (Popham & Hess, 2015a): one related to evaluative concerns, and the other related to adjustments in motivational foci.

The most predominant stereotype threat explanation relates to evaluative concerns, which have been found to reduce working memory capacity/efficiency

(Mazerolle et al., 2012; Schmader & Johns, 2003, as cited in Schmader & Beilock, 2012). According to the working memory perspective, a threat is thought to mentally overload the individual (Beilock et al., 2007, as cited in Schmader & Beilock, 2012), generally by arousing anxiety, which can be distracting (Steele & Aronson, 1995). With cognitive resources being expended, optimal performance on the stereotype-relevant task at hand becomes less likely and performance decrements ensue (Inzlicht, McKay, & Aronson, 2006, as cited in Schmader & Beilock, 2012).

Another possible explanation for stereotype threat effects relates to situational adjustments in motivational foci. According to the regulatory focus theory proposed by Higgins (1997), all people have a dispositional tendency/motivation “to approach pleasure and avoid pain;” however, people differ in how they approach this goal (p. 1280). Higgins (1997) described that people with a prevention-focus are inclined to concentrate on “safety and responsibilities” (p. 1280); they are motivated to avoid loss/making mistakes in order to avoid negative end-states. People with a promotion-focus, on the other hand, are said to focus on “accomplishments or aspirations” (p. 1280); they are motivated to achieve gains in order to attain positive end-states. Although people may differ in their dispositional inclinations, Higgins (1997) suggested that “momentary situations” might override a person’s dispositional tendency and temporarily induce a prevention or promotion focus (p. 1282). In 2004, Seibt and Förster proposed that one such “momentary situation” is stereotype threat.

Using the motivation-based, regulatory focus model of stereotype threat, the type of threat that is induced is said to affect performance strategies, and to change how

people pursue their goals (Seibt & Förster, 2004). Stereotype threat, negative stereotypes, is said to induce a “prevention focus” in which an individual becomes more vigilant, risk averse and conservative in his responses due to an increased concern with avoiding loss and making mistakes (Carr & Steele, 2010; Crowe & Higgins, 1997; Coudin & Alexopoulos, 2010; Seibt & Förster, 2004). In an attempt to avoid confirming the negative self-relevant stereotype, people induced to have a prevention-focus develop a thoughtful, conservative response bias. Thereby, on tasks that demand speed and/or answering the most questions correctly (approaching gains), these individuals will underperform; most classic stereotype threat studies utilize such tasks in which participants implicitly assume or are explicitly told that performance on the task depends on hits (i.e., correct answers, items recalled, etc.).

In contrast to the effects of negative stereotypes, under the regulatory focus model, positive stereotypes are said to induce a “promotion focus” in which an individual more eagerly approaches and insures gains/achievements and minimizes errors of omission (Förster, Higgins, & Taylor Bianco, 2003; Seibt & Förster, 2004). As such, the individual is then thought to develop a less conservative response bias. Thereby, on tasks that demand speed and/or answering the most questions correctly, those in a promotion focus would perform significantly better than those in a prevention focus.

Exploring the Regulatory Focus Theory in Relation to Stereotype Threat

In 2010, Carr and Steele investigated the effect of stereotype threat on the risk aversion behavior in women. More specifically, they wanted to know if implicitly inducing gender stereotypes would make women more cautious on a lottery choice task

in which they were asked to choose between options with differing associated risk. Risk aversion was measured by how many safe, lower-risk options they chose (i.e., chose the 80% chance of winning \$1 over the 20% chance of winning \$4). Carr and Steele (2010) found that identity threatening, negative stereotypes made female participants more risk averse than males and females in the non-threatening condition. Coudin and Alexopoulos (2010) provided additional support for these conclusions in demonstrating that older adults who were reminded of negative age-based stereotypes (i.e., older adults are costly for society) were more risk averse on an everyday life dilemma task than older adults who were reminded of positive ones (i.e., older adults are valued by society). These findings suggested that stereotype threat creates a prevention focus in which people become particularly attuned to losses and become cautious; as such, negative stereotypes can affect people's decision making.

In addition, Carr and Steele (2010) extended their findings to suggest that this increased caution that results from the internalization of negative stereotypes may further explain the underperformance of Black students, for example, on intelligence tests in classic Steele and Aronson (1995) and related studies. This extension has since been supported in a variety of studies. For example, in a study conducted by Barber and Mather (2013a), older adults were found to become more cautious in their responses if they were told prior to a memory test that older people have poorer memory capacities than younger adults; this conservative response bias led individuals to avoid writing down words they were unsure about and thereby, decreased their performance on the overall memory task. Barber and Mather (2013a) suggested that this finding was in line

with the regulatory foci perspective underlying stereotype threat (Seibt & Förster, 2004), in that it pointed to a shift in the threat-group's performance strategy to be more conservative in order to avoid loss.

These studies all suggest that negative stereotypes have deleterious consequences on behavior and performance; however, are there situations in which negative stereotypes can be beneficial? For example, in the case of older adults and their increased likelihood to be targeted and susceptible to financial scams: can negative stereotypes that induce a prevention focus, a conservative response bias, in financial decision making help protect older adults from falling victim?

Application to Older Adults' Financial Decision Making and Scam Susceptibility

In Chapter 1, research suggested that older individuals: are more inclined to attend to tasks/information that are personally relevant and emotional; they give greater attention to and better remember positive information rather than negative information (Carstensen & Mikels, 2005; Fung & Carstensen, 2003); they are motivated to ensure positive feelings and to maximize satisfaction (Strough et al., 2008); and they exhibit slower information processing speeds, tend to review less information, and rely on the affective heuristic when making decisions (Kennedy & Mather, 2007). As a result of these cognitive and affective shifts, older adults are less likely to focus on losses when making decisions (Strough et al., 2008), and in turn, may be more likely to make riskier financial mistakes (Samanez-Larkin, 2013). Taken together, older adults become prime targets for financial scams. Scammers prey on these tendencies and aim to take advantage of their aging minds. What if it were possible to sway these tendencies?

According to the regulatory focus theory, stereotype threat has the ability to momentarily shift the way in which a person pursues his or her goals (Seibt & Förster, 2004). With an increased motivation to attend to positive information and maximize satisfaction in old age (a promotion focus), I suggest that inducing positive stereotypes about aging (i.e., older adults are more wise and experienced, make more rational decisions than younger adults, etc.) could be more damaging for this age group than perpetuating negative stereotypes about aging when considering this group's heightened susceptibility to scams. Given that negative stereotypes motivate individuals to attend to negative stimuli and the presence of potential losses (to be in a prevention focus), I propose that inducing negative age-based stereotypes (i.e., older adults have flawed memory abilities, slower information processing speeds than younger adults, etc.) can potentially decrease older people's susceptibility. Research of this nature is vital in coming years in order to safeguard the future well-being and financial security of the growing aging population. The study presented in Chapter 3 thereby explores this stereotype threat phenomenon in relation to financial decision making in older adults.

Chapter 3

The Present Study

The stereotype threat research presented in Chapter 2 suggests that negative stereotypes are damaging and that they have been found to decrease people's performance in self-stereotype relevant domains. According to the regulatory focus model of this phenomenon, people who are presented with self-relevant negative stereotypes are said to underperform due to a change in focus: people become more conservative and cautious in their responses and in doing so, they perform worse on stereotype-relevant tasks.

However, as proposed in Chapter 2, could this situationally induced prevention focus, which results in increased caution, potentially benefit older adults with regard to financial matters and aid in decreasing their susceptibility to scams? The present study explores how stereotype threat affects the risk preferences and financial decision making processes of older adults (ages 60-90). Further, this study examines how these effects may relate to older individuals' susceptibility to scams.

Based on the regulatory focus theory of stereotype threat, it is predicted that those presented with negative stereotypes about their age group's financial decision making abilities and fraud susceptibility will become prevention-focused, and will thereby appear more risk averse on both a hypothetical and more real-life risk tolerance assessment. Conversely, those who are presented with positive stereotypes about their age group's financial decision making abilities and fraud susceptibility should appear less risk averse on these assessments. For instance, on the more real-life assessment (similar to the one used in Carr and Steele, 2010), participants in the negative, prevention-focused stereotype

condition are predicted to choose more safe bets than those in the promotion-focused, positive stereotype condition, who are predicted to choose more risky/uncertain lotteries that allow for potentially larger pay-outs. Additionally, I suggest that relative to those in the positive and neutral condition, those in the negative condition will report: more conservative financial behaviors/attitudes toward money; focusing on avoiding loss in making financial decisions; more concern about becoming victims of fraud.

I also hypothesize that scores on a financial knowledge test will be affected by inducing positive or negative stereotypic performance expectations. Similar to the intellectual and memory tests commonly completed in much of the work on stereotype threat, the financial knowledge test in this study implicitly creates a gains context—a context in which one must respond to questions correctly to do well on the test (Grimm, Markman, Maddox, & Baldwin, 2009). Given that this test would be less well-suited for the negative stereotype conditions' motivational focus to avoid losses (Grimm et al., 2009; Seibt & Förster, 2004), I hypothesize that the negative stereotype condition will have lower scores and lower confidence in responses on a financial knowledge test than those in the positive and neutral group. Despite having lower scores and confidence on this test, however, I propose that those in the negative group will have lower scam susceptibility as compared to those in the neutral and positive group because of their increased caution/conservatism with regard to financial matters, focus on avoiding loss, and concern about becoming victims of fraud.

Method

Participants

Fifty-six individuals (41 females, 15 males) volunteered to participate in this study; however, only fifty-one older adults (37 females, 14 males) between the ages of 60 and 90 were included in the analyses. One participant was excluded from analyses because of age, and the others were excluded for abnormally low scores on the Shipley “Institute of Living Scale,” a basic vocabulary test (1946). Not all participants responded to every question on the survey, so sample sizes per condition may vary on different tasks.

Participants were recruited from various senior community centers in Madison and Chatham, NJ, and received \$10 for their participation. The average age for the sample was 77-years-old, and the majority of participants were female, had at least some college education, and had high scores on a basic vocabulary test (Table 1). Additionally, participants in this sample were generally retired, had moderate to high incomes when last employed, and had experience and confidence in managing their personal finances (Table 2). Only one individual admitted to falling victim to a financial scam in the past year and only around 24% of participants reported knowing another individual that was his or her age that fell prey.

Materials and Procedure

Participants were randomly assigned to one of the three stereotype conditions: positive stereotype ($n = 17$), negative stereotype ($n = 16$), or no stereotype ($n = 18$). Two versions of the Informed Consent were created to correspond to the stereotype conditions:

those in the positive and negative stereotype conditions completed “Consent Form A” in which the age range for participation was specified (Appendix A); those in the no stereotype condition completed “Consent Form B,” which made no mention of age to ensure that stereotypes about aging were not implicitly elicited (Appendix B). All participants, however, completed a paper survey that was anticipated to take anywhere from 45 minutes to an hour.

Manipulation. Before beginning the survey, those in the positive and negative stereotype conditions were read a paragraph describing the background and motivation for the study. In the positive stereotype group, participants were told:

As an older adult, you probably already know that wisdom and experience contribute to your ability to make smart financial decisions and reduce the likelihood that you will fall victim to a financial scam. In fact, people in your age group actually tend to make good financial decisions in comparison to younger adults, so the purpose of this study is to get more insight into the financial decision making processes of older adults.

In support of this, they were shown, and asked to read aloud, a page of headlines claiming that experience and wisdom can lead to better financial decisions (Appendix C).

In contrast, in the negative stereotype group, participants were told:

As an older adult, you probably already know that forgetfulness and gullibility contribute to your likelihood to make poor financial decisions and make you more susceptible to falling victim to a financial scam. In fact, people in your age group actually tend to make poor financial

decisions in comparison to younger adults, so the purpose of this study is to get more insight into the financial decision making processes of older adults.

In support of this, they were shown, and asked to read aloud, a page of headlines claiming that older adults are highly susceptible to financial fraud and poor financial decisions (Appendix D).

Directly after reading these headlines aloud, on the next page of the survey, participants restated in their own words the take-home message of the headlines. Participants were told that the researchers wanted to “ensure that all participants understood the background and motivation for the study before beginning the survey.” However, for the researchers, this restatement served as a manipulation check, a way to ensure that the stereotype was processed and understood.

Furthermore, at the beginning of each new task, only participants in these positive and negative stereotype conditions were asked to indicate their age; it has been suggested that doing so ensures that the stereotype remains relevant throughout the tasks (Barber, 2016). In contrast to those in the positive and negative conditions, participants in the no stereotype condition received no additional information about the study after consenting and were only asked to indicate their age at the end of the survey.

Financial risk tolerance. All participants completed a 20 multiple-choice question “Hypothetical Risk Assessment” (Grable & Lytton, 1999) that provided insight into financial risk tolerance (Appendix E). Each multiple-choice answer was associated with a number between one and four. Scores were summed and could range between 20-

69. Lower scores were associated with financial risk aversion: participants with lower scores were thought to be less likely to take risks when making financial decisions, while those with higher scores were thought to be more risk-taking.

Following this, although participants were compensated in full upon completion of the study, they were told that they were playing for real stakes in a “Lottery Choice Task” (modified version of Holt, 2007): ten decisions were laid out and, for each, participants were asked to choose between two bets that differed in odds and payouts (Appendix F). This task was included to attain additional insight into participants’ real-life financial risk behaviors. Participants who took more sure, less risky bets were thought to be more risk averse, while those who took less sure, more risky bets were thought to be more risk-taking.

Financial decision making. All participants completed a “Financial Decision Making Questionnaire” (Gamble, Boyle, Yu, & Bennett, 2014; Grable & Lytton, 1999; OECD INFE, 2011; Appendix G). Responses to this questionnaire provided insight into participants’:

- 1) Financial behaviors/attitudes about money (i.e., Before I buy something I carefully consider whether I can afford it)
- 2) Concern about financial fraud
- 3) Financial focus (avoiding losses or maximizing gains)
- 4) Basic financial knowledge (i.e., When interest rates go up, what do bond prices do?) and confidence

- 5) Behaviors that may lead to scam susceptibility (i.e., I answer the phone whenever it rings, even if I do not know who is calling)

Manipulation checks. Immediately after being presented with the stereotype, participants in the positive and negative conditions were asked to restate the gist of their given related headlines; this served as the first manipulation check. Near the end of the survey, participants again restated the headlines for a second and last time to ensure that the manipulation/given stereotype was internalized and still relevant in their mind. Participants in these conditions were then asked to rate their level of agreement with their given article headlines on a five-point likert scale (1 = strongly agree, 5 = strongly disagree).

All participants completed a modified version of the “Perceived Stereotype Threat Questionnaire” (Barber, Mather, & Gatz, 2015) that asked them to rate their perception of negative, financial age-based stereotypes (1 = strongly agree, 5 = strongly disagree; Appendix H). Barber, Mather, and Gatz (2015) originally used this eight-item questionnaire to gain insight into older adults’ perceptions of negative, memory age-based stereotypes. Furthermore, to confirm that the stereotypes were relevant to individuals in this 60 to 90-year-old age group (Popham & Hess, 2015b), participants completed a five-item measure (Barber, Mather, & Gatz, 2015) in which they rated their level of identification with the stereotyped group on a five-point likert scale (1 = Strongly agree, 5 = Strongly disagree).

Demographics. In order to estimate participants’ verbal ability, all completed a shortened version of the vocabulary portion of Shipley’s “Institute of Living Scale”

(1946; Appendix I). Participants could receive a score between 1-20, and would be excluded from analyses if they scored abnormally low (must score a 12 or higher for inclusion). All then completed a basic demographic survey (i.e., age, gender, education, income), and provided information about their encounters with financial fraud (Gamble, Boyle, Yu, & Bennett, 2014), as well as experience managing personal finances (Appendix J). At the conclusion of the study, participants were debriefed and made aware of any information that was originally withheld (Appendix K).

Results

Manipulation Checks

In order to first determine if the stereotypes presented to participants randomly assigned to the positive and negative stereotype conditions were internalized, the percentage of participants who were able to recall the headlines at time check one and time check two was calculated. The results suggested that approximately 90% of participants in the positive and negative stereotype conditions were able to accurately recall the headlines at time check one, and approximately 80% of participants were also able to do so at time check two; no significant differences were found between the groups at time check one or two (Figure 1). This suggests that the stereotypes were generally processed and understood by participants in the stereotype-relevant conditions. These findings were further supported by participants' level of agreement with the positive or negative stereotype that was presented to them at the beginning of the study (Figure 2). A one-way ANOVA determined that there were no significant differences between the positive and negative stereotype conditions, $F(1, 27) = .921, p = .35$. According to the

means, participants in the positive ($M = 2.25$, $SD = 5.22$) and negative ($M = 2.62$, $SD = 4.09$) stereotype conditions similarly agreed with the stereotypes that were presented to their given conditions.

The results of another one-way ANOVA showed statistically significant differences between the three groups (positive, negative, neutral) with regard to beliefs about negative, financial stereotypes about aging, $F(2, 46) = 4.102$, $p < .05$ (Figure 3). This means that participants' beliefs were swayed depending on the condition that they were in, and suggests that the stereotypes were made salient. According to R^2 , approximately 15.1% of the variance was explained by condition. Further testing using the Tukey HSD indicated that participants in the negative stereotype condition ($M = 3.11$, $SD = .57$) were statistically significantly more likely to believe in negative, financial age-based stereotypes than participants in the neutral, no stereotype condition ($M = 3.71$, $SD = .64$, $p < .05$), and participants in the positive condition ($M = 3.66$, $SD = .71$, $p < .05$).

Finally, no significant differences were found between the three groups with regard to age identification, $F(2, 46) = 1.719$, $p = .19$ (Figure 4). All participants were found to fairly strongly identify ($M = 2.08$, $SD = .78$) with their age group (60-90); therefore, this supports the previous findings by suggesting that the age-based stereotypes would be relevant to the older adults in this study.

With evidence to indicate that the given stereotypes were relevant, salient, and thus internalized by participants, a series of one-way ANOVAs were performed to determine if there were differences between participants in the positive, negative, and no

stereotype groups in their: 1) financial risk tolerance (on both the hypothetical and lottery choice tasks), 2) financial behaviors/attitudes about money, 3) concern about fraud, 4) financial focus, 5) financial knowledge and confidence, and 6) scam susceptibility.

Financial Risk Tolerance

Hypothetical Risk Assessment. Possible scores on the hypothetical assessment could have ranged from 20-69, with lower scores being associated with more financial risk aversion (less risk-taking) and higher scores with less financial risk aversion (more risk-taking). Initial univariate analyses showed that financial risk tolerance scores for the sample of 49 participants ranged from 26-47 ($M = 39.79$, $SD = 4.92$); this range of scores reflects a generally high to moderate risk averse sample.

According to the results of the ANOVA, there were statistically significant differences between the three groups (positive, negative, no stereotype group) in regard to financial risk tolerance, $F(2, 46) = 3.15$, $p = .05$ (Figure 5a). This means that participants' financial risk tolerances depended on their condition. According to R^2 , approximately 12% of the variance in financial risk tolerance was explained by condition.

Further testing using the Tukey HSD indicated that participants in the negative stereotype condition had statistically significantly lower financial risk tolerances than participants in the neutral, no stereotype condition ($p = .04$). This means that those in the negative group were more risk averse, more cautious ($M = 33.69$, $SD = 4.09$) in their financial decisions than those who received no stereotype threat ($M = 37.75$, $SD = 4.80$) at the beginning of the study. No statistically significant differences were detected between

those in the positive stereotype condition ($M = 35.67$, $SD = 5.22$) and those in the negative stereotype condition ($p = .25$) or the neutral condition ($p = .21$).

Lottery Choice Task. A bivariate analysis was first conducted to determine if the hypothetical risk assessment above correlates with a more real-life test of risk aversion—the Lottery Choice task. The results of the analysis indicated that the two measures were not significantly correlated ($p = .20$).

In order to determine if there were differences between participants in the three conditions with regard to risk tolerance as measured by the lottery choice task, a one-way ANOVA was performed. Financial risk tolerance on the Lottery Choice task was calculated by summing the number of safe choices chosen by participants. Possible scores on the task could range from 0-10, with lower numbers indicating less financial risk aversion (more risk-taking), and higher numbers indicating more financial risk aversion (less risk-taking).

Initial univariate analyses showed that financial risk tolerance scores for the sample of 48 participants ranged from 0-10 ($M = 4.96$, $SD = 2.46$); the mean, in this case, reflects a more risk neutral sample. Furthermore, the results of the one-way ANOVA indicated that there were no statistically significant differences between the groups with regard to financial risk tolerance, $F(2, 45) = 1.48$, $p = .24$ (Figure 5b).

Financial Decision Making

Financial behaviors/attitudes about money. Participants rated their level of agreement (1 = Strongly agree, 5 = Strongly disagree) with eight questions related to financial behaviors/attitudes about money; levels of agreement for items four to eight

were reverse-coded. According to the results of a one-way ANOVA, there were statistically significant differences between the conditions in relation to financial behaviors/attitudes about money, $F(2,47) = 6.985, p < .005$ (Figure 6). According to R^2 , approximately 22.9% of the variance in financial behaviors/attitudes about money was explained by condition.

Further testing using the Tukey HSD indicated that participants in the negative stereotype condition had statistically significantly lower scores on the financial behaviors/attitudes about money measure than participants in the neutral, no stereotype condition ($p = .001$). This means that those in the negative group were more conservative in their behaviors/attitudes ($M = 1.89, SD = .32$) than those who received no stereotype ($M = 2.43, SD = .51$). Similarly, participants in the positive stereotype condition ($M = 2.02, SD = .46$) had statistically significantly lower scores on the financial behaviors/attitudes about money measure than participants in the neutral, no stereotype condition ($p = .009$). This means that those in the positive group were also more conservative in their behaviors/attitudes than those who received no stereotype. No other statistically significant differences were detected.

Concerns about financial fraud. Participants reported their level of agreement (1 = Strongly agree, 5 = Strongly disagree) with the statement: “I am concerned about being a victim of fraud.” A one-way ANOVA determined that there were no statistically significant differences between the groups with regard to concern about falling victim to financial fraud, $F(2, 47) = 1.208, p = .31$ (Figure 7). Furthermore, the sample mean (2.48) suggests that participants were relatively neutral about their concern ($SD = 1.31$).

Financial focus. This item was comprised of only one question: “In making financial decisions, are you more focused on: maximizing gains (1) or minimizing losses (0)?” The results of a one-way ANOVA indicated no differences between the groups in relation to financial focus, $F(2, 46) = 1.481, p = .238$ (Figure 8); participants tended to be relatively risk averse or neutral on this measure ($M = .36, SD = .47$).

Financial knowledge/confidence. The financial knowledge measure was comprised of six items. Scores on this item were calculated by summing the number of correct responses for each participant. According to the results of the one-way ANOVA, there were no statistically significant differences between the groups with regard to financial knowledge, $F(2, 46) = 1.567, p = .22$ (Figure 9a). Initial univariate analyses further indicated that the financial knowledge scores for the sample of 49 participants ranged from 17-100% ($M = .82, SD = .18$).

For each of the six items on the financial knowledge measure, participants rated their confidence in their responses on a four-point likert scale (1 = Extremely confident, 4 = Not at all confident). The results of the one-way ANOVA suggested that there were no statistically significant differences between the groups with regard to their confidence in their responses to basic financial knowledge questions, $F(2, 46) = .337, p = .715$; participants generally reported being fairly confident in their responses ($M = 1.88, SD = .65$; Figure 9b).

Scam susceptibility. Participants rated their level of agreement (1 = Strongly agree, 5 = Strongly disagree) with four questions related to behaviors that influence scam susceptibility; level of agreement for items one to three were reverse-coded. A one-way

ANOVA determined that there were no statistically significant differences between the groups with regard to scam susceptibility, $F(2, 47) = 1.161, p = .32$; the results suggested that the sample was low on susceptibility ($M = 1.78, SD = .72$; Figure 10). Moreover, a series of bivariate analyses (Table 3) determined that scam susceptibility was not related to any of the measures mentioned above (financial risk tolerance, financial behaviors/attitudes about money, concern about fraud, financial focus, financial knowledge and confidence) ($ps > .05$).

Discussion

There was evidence to suggest that the stereotype manipulations were remembered and perhaps internalized. First, participants tended to accurately recall the positive or negative stereotype that they were presented with at time check one (after the manipulation) and at time check two (near the end of the study) (Figure 1). Secondly, no significant differences were found between participants in the positive and negative stereotype conditions in relation to their level of agreement with their corresponding stereotypes. Participants in the negative stereotype group generally agreed with the stereotype that older adults are forgetful and gullible, which leads to poorer financial decisions and increased vulnerability to financial scams. Participants in the positive stereotype group similarly agreed with the contrasting stereotype presented to them (Figure 2). This suggests that both stereotypes are held by this older age group and that belief in one over the other may be swayed.

Contrasting levels of agreement with financial age-based negative stereotypes further supported these findings. In line with the negative stereotype presented, those in

the negative stereotype condition were more likely to agree, for example, that the researcher expected younger adults to perform better than older adults on the financial tasks. Those in the positive stereotype condition, however, were more likely to disagree with the same statement (Figure 3). Also notable, similar to those in the positive stereotype condition, those in the no stereotype condition were more likely to disagree with these negative age-based financial stereotypes. In relation to the information presented in Chapter 1, this supports that idea that older adults become increasingly motivated to focus on positive information and avoid negative thoughts relating to potential losses. Further, given that those in the negative stereotype condition were more likely to agree with these negative stereotypes, this may suggest that the situationally induced prevention-focus reduced their typical positivity bias, making them more attuned to negative information.

In relation to participants' level of age identification, there were no differences between the conditions (Figure 4)—all participants relatively highly identified as members of the older age group. Taken together thus far, the age-based stereotypes presented were relevant to the participants in this study and contrasting stereotypes were made, and remained, salient to participants in the positive and negative stereotype conditions throughout the course of the study.

With regard to the effect of these stereotypes on older adults' performance on financial tasks, the majority of the results were inconsistent with the initial hypotheses. Using the regulatory focus model of stereotype threat (Higgins, 1997; Seibt & Förster, 2004), those reminded of the negative, age-based financial stereotypes were predicted to:

make more cautious, risk averse decisions in the risk assessment tasks (Figure 5a & b); exhibit more conservative financial behaviors/attitudes toward money (Figure 6); be more concerned about fraud (Figure 7); report focusing on avoiding loss in making financial decisions (Figure 8); have lower scores and report less confidence on the financial knowledge assessment (Figure 9a & b); show less scam susceptible behaviors (Figure 10). Conversely, those reminded of the positive stereotype were predicted to do the exact opposite. Partially consistent with initial hypotheses, older adults in the threatening, negative stereotype condition were more risk averse on the hypothetical risk assessment than the older adults in the no stereotype conditions. This suggests that the negative stereotype induced a prevention focus that made older individuals more cautious. However, no differences were found between the negative and positive groups suggesting that the positive stereotype may not have had its hypothesized effect on financial tasks. In fact, the positive and negative condition did not significantly differ on any financial measures.

The significant differences that were found on the Hypothetical Risk Assessment were not found on the more real-life behavior, Lottery Choice Task. Further, the average score for participants on the Hypothetical Risk Assessment suggested a more risk averse sample, while the average score for participants on the Lottery Choice Task suggested a more risk neutral sample. These results potentially suggest that these two measures might not be measuring the same thing—perhaps different aspects of risk tolerance. However, due to the sample sizes being less than 30 in each group, it is difficult to dig much deeper into these hypotheses and to draw any conclusions. Despite no relationship

between these two measures, it is notable to mention that on both, those in the negative stereotype condition showed the most risk averse behaviors (lowest scores on the hypothetical task, and most safe bets on the lottery task).

The only other result that was partially consistent with initial regulatory foci hypotheses is that those in the negative stereotype condition reported more conservative financial behaviors/attitudes about money than those in the no stereotype condition. However, inconsistent with initial hypotheses and similar to the findings of the Hypothetical Risk Assessment, the positive condition also displayed more conservative behaviors/attitudes in relation to those in the no stereotype condition. Thus, although previous findings indicated that those in the positive stereotype condition became more attuned to positive information, this focus did not seem to make these individuals more risk-taking than those in the negative stereotype condition with regard to financial matters.

Additionally, as aforementioned, the positive and negative condition did not significantly differ on any financial measures. Coupled with the fact that no details were provided to participants who were randomly assigned to the positive or negative stereotype conditions about what constitutes “smart” or “poor” financial decisions, these findings might suggest that older adults associate smarter financial decisions with more risk averse behaviors. Although no statistically significant differences were found on the financial focus measure, given that the positive and negative conditions had lower scores, indicating more of a focus on avoiding losses, relative to those in the no stereotype

condition, perhaps the suggested explanation is valid; this again, however, would require larger sample sizes in each group in order to draw any conclusions.

No other differences between conditions were found on any of the other financial measures. Most surprising, confidence in financial knowledge was not altered by the internalization of a positive or negative stereotype. Given that there were also no differences between participants' scores on the financial knowledge test, perhaps it can be suggested that general financial knowledge becomes crystallized over a person's life. This may be supported by evidence presented in Chapter 1 that suggested that crystallized intelligence, the ability to use well-learned knowledge and experience across the lifespan, is preserved in healthy aging. Coupled with the fact that participants in this sample all generally had experience and confidence in managing their personal finances (Table 2), this explanation becomes more convincing.

Another note-worthy measure that displayed no differences between conditions was the concern about financial fraud measure. Because the stereotype manipulations directly stated that older adults were more or less likely to fall victim to financial scams, one would imagine there would have been distinct differences between the groups; however, this was not the case, and the overall sample was relatively neutral on the matter. This could suggest that although individuals' beliefs about financial age-based stereotypes appeared to be swayed in the direction of their presented stereotype, individuals' personal concerns about actually becoming a victim of fraud were not. However, this is difficult to conclude, as: despite no significant differences, when reviewing the individual sample means, the negative condition ($M = 2.13$) appeared to

report the most agreement with the statement “I am concerned about being a victim of fraud,” followed by the positive ($M = 2.41$), and then the neutral group ($M = 2.83$; 1 = Strongly agree, 5 = Strongly disagree). This trend seems to be in line with the previously discussed results: simply bringing up stereotypes about aging, negative *or* positive, increases caution/conservatism. With regard to scam susceptibility, however, no relationships were found between people's level of concern about financial fraud, or people's increased caution/conservatism with regard to financial matters, and behaviors that may make them more or less susceptible to a scam. Even more suspicious, none of the measures in this study related to scam susceptibility. Reviewing the four-items that make up the scam susceptibility measure, however, raises the question as to whether this measure truly encompasses the behaviors that make individuals increasingly susceptible to falling victim to financial scams.

In review, despite the findings that suggested that the stereotype manipulations were relevant, salient, and internalized, only two measures were found to have statistically significant differences between conditions with regard to financial matters (Hypothetical Risk Assessment and Financial Behaviors/Attitudes about Money). Significant differences on these measures, however, were not detected between the positive, promotion-focused and negative, prevention-focused stereotype conditions as expected. In fact, in these contrasting conditions, participants generally appeared more cautious/conservative than those in the neutral, no stereotype condition. From this, it may be speculated the promotion and prevention-focused groups associated “smarter” financial decision making in old age with caution. Further, this result and potential

explanation may suggest that financial age-based stereotypes, despite their valence, may promote more caution and conservatism with regard to financial behaviors. This increased caution, however, was not related to a person's susceptibility to falling victim to a financial scam. Thereby, although stereotypes may make older individuals potentially more cautious with regard to financial matters, this increased caution may not necessarily decrease an older adults' scam susceptibility. It is important to acknowledge, however, that this study presents a variety of limitations.

Limitations

The scam susceptibility measure, in particular, presents a major issue. As aforementioned, the measure only consists of four fairly simple questions that almost all have to do with telemarketing/phone etiquette; thus, the concern becomes whether or not this measure truly taps into scam susceptibility. This is a limitation not only in the present study, but also in the limited body of research that looks to explore scam susceptibility. How can researchers fully tackle this issue empirically without putting people in unsuspecting situations in which they may fall victim to a mock scam? This is possibly the most challenging obstacle that researchers must circumvent in attempting to accurately, directly, and ethically measure a person's likelihood to fall prey to a scam and in determining what factors contribute to his or her susceptibility. Moreover, the empirical research that has attempted to tackle these obstacles is wrought with limitations. For example, data that is collected from police records to determine the characteristics of the common fraud victim is thought to be inaccurate due to the elderly population's known likelihood to under report victimization (James, Boyle, & Bennett,

2014). In addition, collecting information from known fraud victims (i.e., by sampling from fraud hotlines) also has its limitations as the findings “could reflect reporting errors or biases,” and may only “reflect the makeup of the sampled population” (James, Boyle, & Bennett, 2014, p. 108).

Aside from this specific empirical issue, other major limitations of the present study include: small sample sizes within the three conditions, and the makeup of the sample itself. With less than 30 participants in each condition, and the exclusion of participants on different measures due to missing responses, it is difficult to draw substantive conclusions from the results presented here. Furthermore, the majority of the participants were affluent females on the older end of the age range ($M = 77$). Research has suggested that aging stereotypes may be more relevant and internalized by the young-old (i.e., ages 60-74) than the old-old (i.e., ages 75-90) due to the increased salience of the “old-age label;” consequently, aging stereotypes have been found to affect the behaviors/performance of the young-old more so than those of the old-old (Hess, Hinson, & Hodges, 2009). In relation to the present study, it is therefore hypothesized that aging stereotypes could more greatly affect the young-olds’ financial behaviors/knowledge. The present study's sample did not include enough young-old to note any significant differences in the effect of age-based financial stereotypes.

Future Research

A follow-up study should be conducted to obtain a larger, more diverse, age-controlled sample to more substantively determine if stereotype threat can positively affect the financial decision making processes of older adults in order to decrease this

population's susceptibility to financial scams. Further, with this sample, it is recommended that potential differences between the young-old and the old-old be explored, such that this may provide insight into who is most impressionable to aging stereotypes. Before this follow-up is conducted, however, it is critical that a more expansive and valid scam susceptibility measure be developed. More research in general should be directed towards finding ways to protect individuals—namely older individuals due to their increased vulnerability—from financial fraud as it becomes the “crime of the 21st century” (NCOA, n.d.).

Additionally, stereotype threat research has classically focused on domains such as race and gender; age-based stereotype threat is relatively underexplored. Given the implications that age-based stereotype threat research may have on domains such as financial decision making and fraud susceptibility, it is important to continue exploring this phenomenon in other fields. For example, in the field of industrial/organizational psychology, it may be interesting to examine how aging stereotypes in the workplace affect company climate, team productivity, individual performance, motivation, job satisfaction, well-being, etc. As the retirement age rises and a larger number of older adults remain in the workforce until older ages, such research may lend to bridging this increasingly larger age gap in the workplace in order to maintain/improve efficiency and performance, and to promote healthy, active workers.

Application

Aside from empirical research, it is vital that more educational programs are developed to: raise awareness about the prevalence of scams; keep local communities up-

to-date with information about common scams in their areas; teach individuals ways to may protect themselves, their neighbors, friends, and loved ones from these financially and emotionally damaging crimes; and to inform people about who to notify if they or someone they know believes that they have fallen victim. Such programming may benefit every individual in a given community, as members are encouraged to look out for one another. As a reader of this document, you yourself may even take steps starting today to help protect your friends, family, and community: share articles on Facebook; Tweet/create a hashtag about a recent scam; download a free presentation and present it to your class, at your local library, senior center, etc. To make an even larger impact, contact your local police department, bank, or a professional fraud investigation service to provide educational materials/programs to your community.

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Table 1

Demographics

<u>Condition</u>	<u>N</u>	<u>Age</u>	<u>% Male</u>	<u>Years of Education</u>	<u>Shipley (/20)</u>
Positive	17	77.2	23.5	14.9	17.9
Negative	16	78.4	31.3	16.5	18.0
Neutral	18	75.6	27.8	16.2	18.9
Totals	51	77.0	27.5	15.8	18.3

Table 2

Demographics continued

<u>Condition</u>	<u>Employment Status (% Retired)</u>	<u>Last Annual Income (\$)</u>	<u>% Managing Finances</u>	<u>Confidence in Managing Finances</u>
Positive	82.4	50-74,999	94.1	1.75
Negative	56.3	75-99,999	93.3	1.64
Neutral	77.8	50-74,999	83.3	2.00
Totals	72.5	50-74,999	90.0	1.80 (fairly)

Table 3

Bivariate Correlations between Scam Susceptibility and Other Main Independent Variables of the Study

	1
1 Scam Susceptibility	
2 Hypothetical Risk Assessment	.116
3 Lottery Choice Risk Assessment	.269
4 Financial Behaviors/Attitudes About Money	.726
5 Concern About Fraud	.165
6 Financial Focus	.658
7 Financial Knowledge	.748
8 Confidence in Financial Knowledge	.174

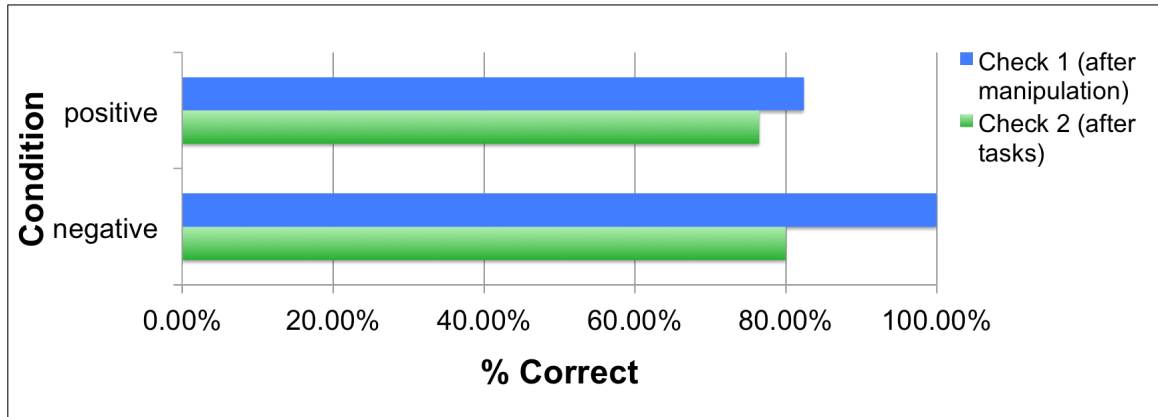


Figure 1. Manipulation checks at time one and time two for those in the positive and negative stereotype conditions.

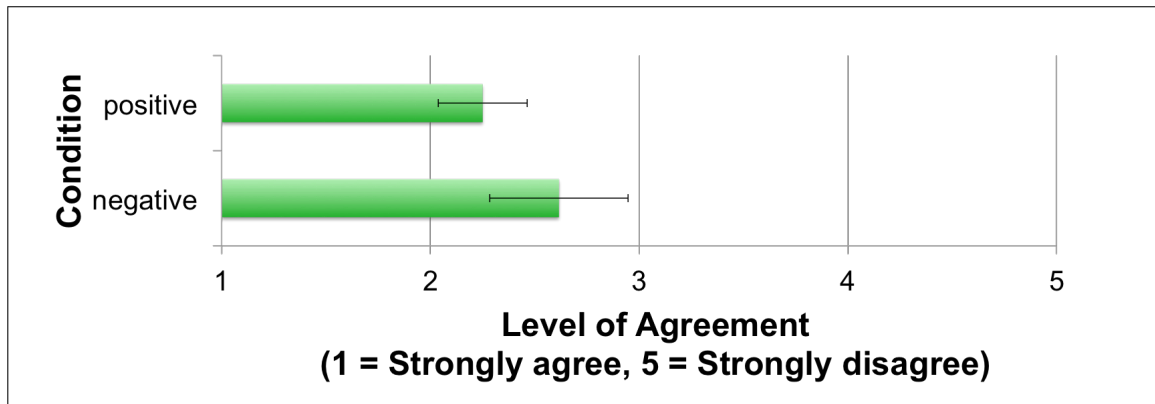


Figure 2. The positive conditions' level of agreement with the positive age-based financial stereotype, and the negative conditions' level of agreement with the negative age-based financial stereotype.

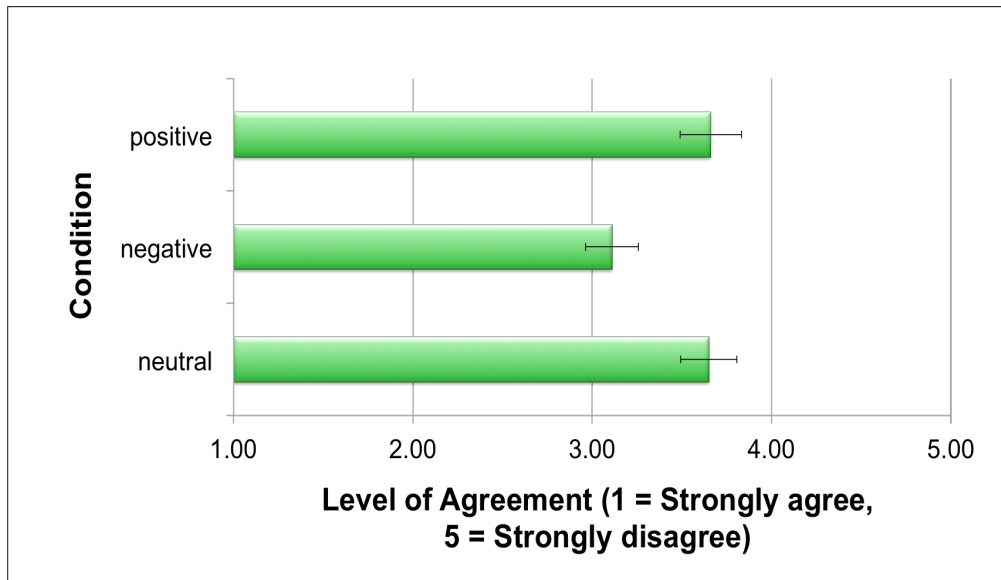


Figure 3. Level of agreement with statements that suggest a belief in the negative age-based financial stereotype by condition.

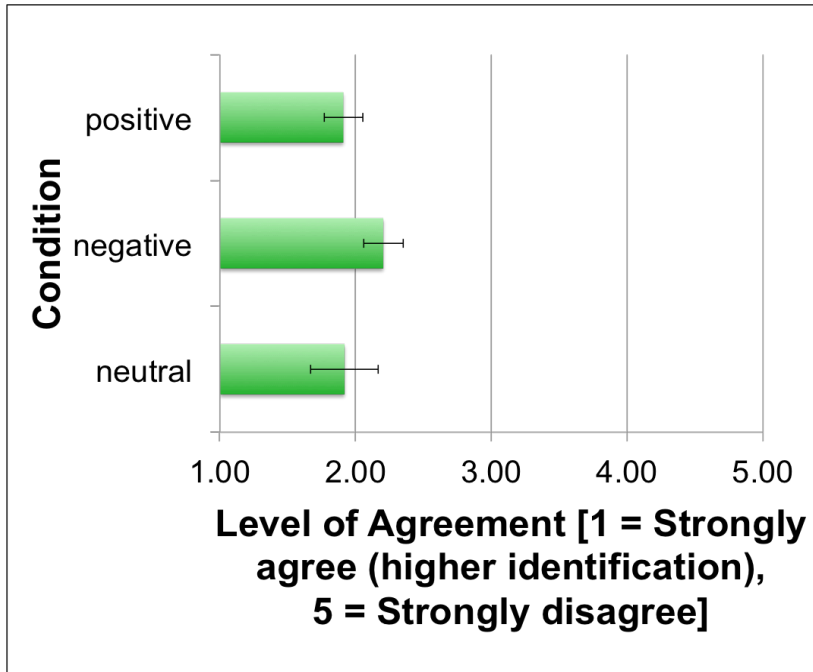


Figure 4. Level of identification with age group (60-90) by condition.

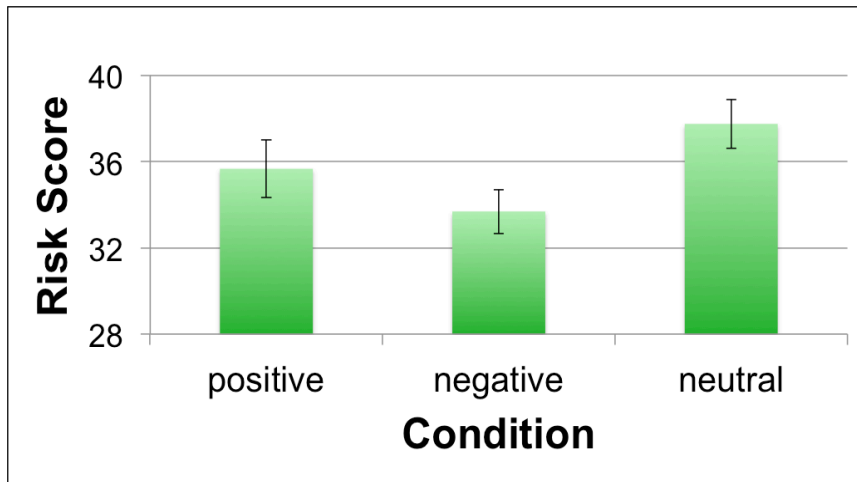


Figure 5a. Hypothetical risk tolerance by condition.

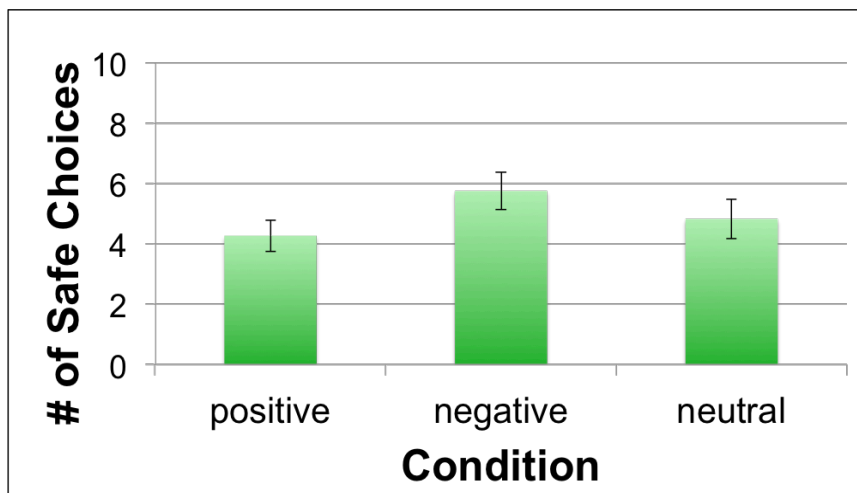


Figure 5b. Lottery Choice Task assessing risk tolerance by condition.

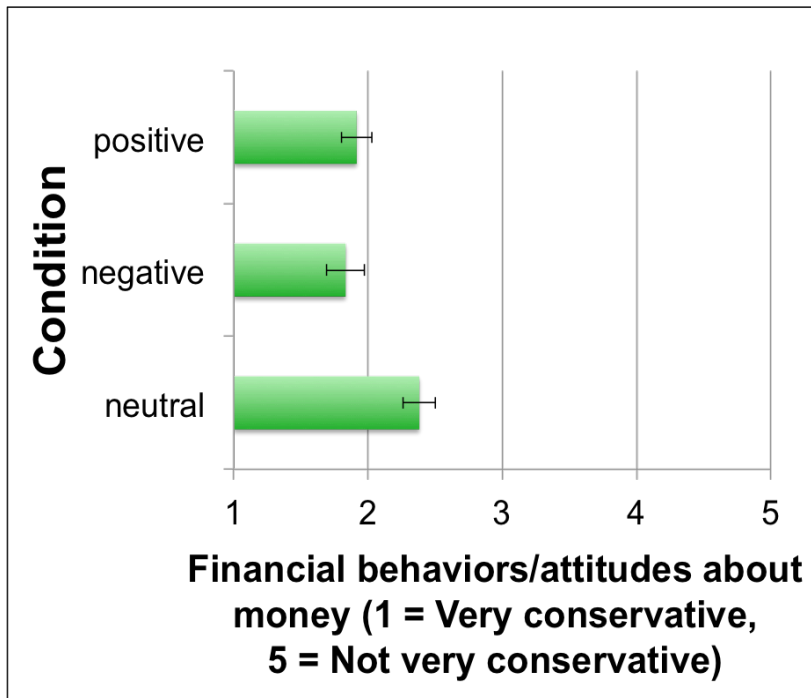


Figure 6. Financial behaviors/attitudes about money by condition.

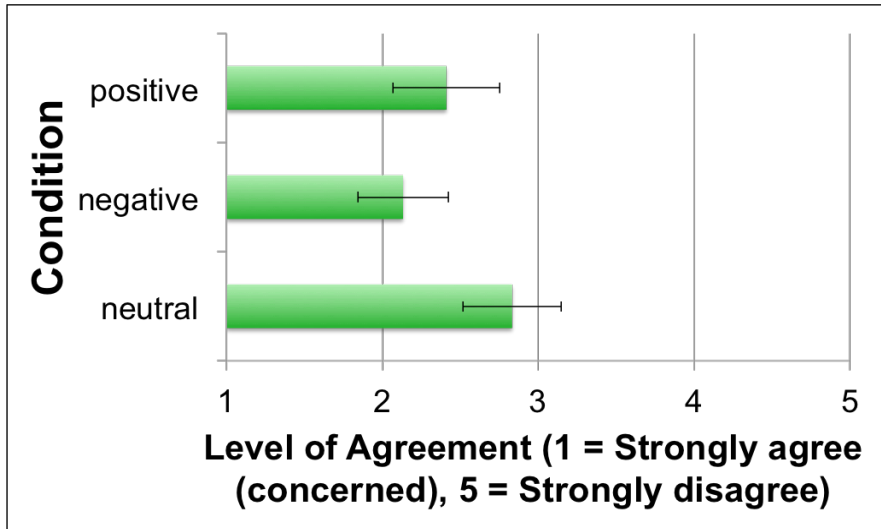


Figure 7. Concern about fraud by condition.

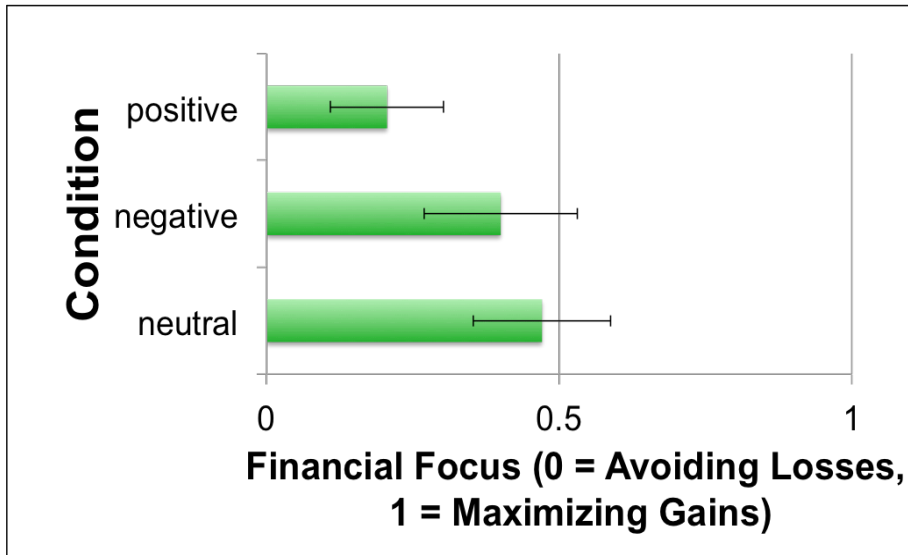


Figure 8. Financial focus by condition.

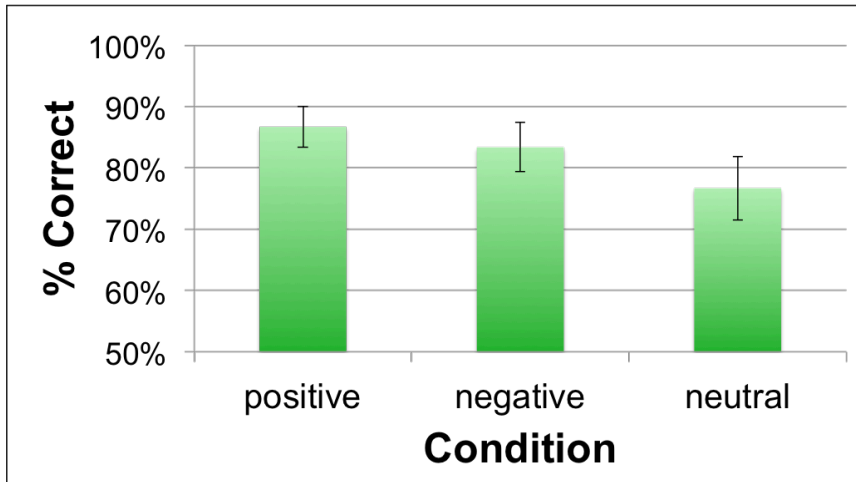


Figure 9a. Financial knowledge by condition.

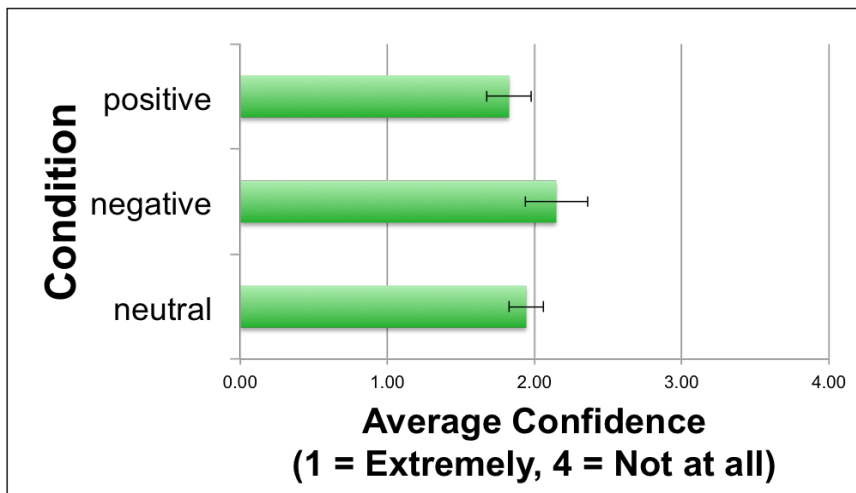


Figure 9b. Confidence in financial knowledge by condition.

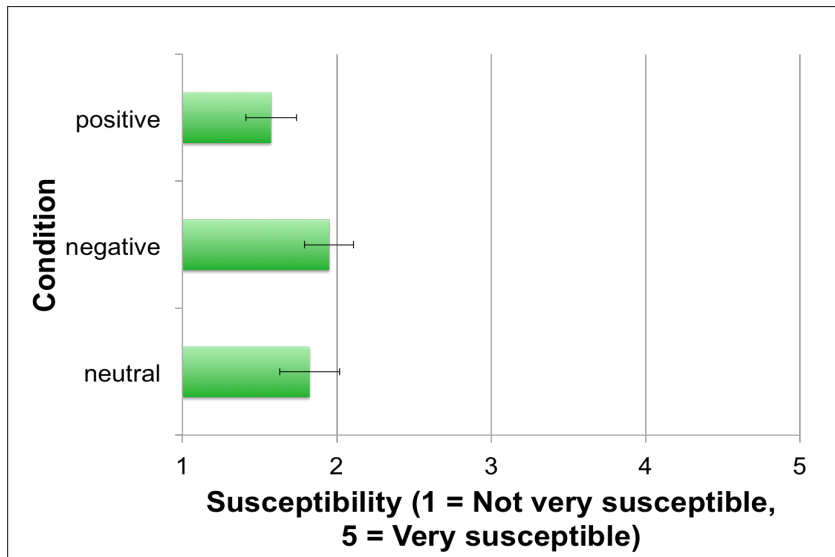


Figure 10. Scam susceptibility by condition.

Appendix A

Consent Form A: For Positive and Negative ConditionsFINANCIAL KNOWLEDGE AND DECISION MAKING IN OLDER ADULTS
CONSENT FORM**1. INTRODUCTION**

You are invited to be a participant in a research study about the financial knowledge and financial decision making abilities of older adults. The study is being conducted by Samantha Lacey, an undergraduate psychology student at Drew University and Professor Patrick Dolan. You were selected as a possible participant because you are between the ages of 60-90. We ask that you read this document and ask any questions you may have before agreeing to be in the study. This study is being conducted by a student and faculty member in Drew University's Department of Psychology.

2. BACKGROUND

The purpose of this study is learn more about older adults' financial knowledge and financial decision making processes.

3. DURATION

The length of time you will be involved with this study is approximately an hour.

4. PROCEDURES

If you agree to be in this study, we will ask you to do the following things: You will be asked questions dealing with a variety of financial matters and will have the opportunity to win up to \$10 for your participation. You may elect to skip questions if you prefer not to answer, and you may end your participation in this study at any time without consequence or penalty.

5. RISKS/BENEFITS

This study poses minimal risk. For your participation, you will have a chance to win up to \$10.

6. CONFIDENTIALITY

All personal identifying information will not be associated with your responses. No names will be attached to any other material you submit, making it impossible to trace anything back to you. Any materials containing your name (e.g., consent form) will be kept in a separate file. Further, all records of this study will be kept secured in locked room at Drew University. In any sort of report that is published or presentation that is given, no individual responses will be reported, only group averages.

7. VOLUNTARY NATURE OF THE STUDY

Your decision whether or not to participate in this research will not affect your current or future relations with Drew University. If you decide to participate in this study, you are free to withdraw from the study at any time without affecting those relationships and without penalty.

8. CONTACTS AND QUESTIONS

After you complete the study, you will receive a statement that fully outlines the purpose of the study, its methods, as well as the study hypotheses. The researchers conducting this study are Samantha Lacey and Professor Patrick Dolan. You may ask any questions you have right now or in the future by contacting Samantha Lacey (slacey@drew.edu) or Patrick Dolan (973-408-3558/pdolan@drew.edu). If you have questions or concerns regarding this study and would like to speak with someone other than the researchers, you may contact Kate Ott, chair of Drew Institutional Review Board for research, kott@drew.edu.

9. STATEMENT OF CONSENT

The procedures of this study have been explained to me and my questions have been addressed. I understand that my participation is voluntary and that I may withdraw at any time without penalty. If I have any concerns about my experience in this study (e.g., that I was treated unfairly or felt unnecessarily threatened), I may contact the Chair of the Drew Institutional Review Board regarding my concerns.

Participant
signature _____

Date _____

Appendix B

Consent Form B: For Neutral Condition (*Differences Italicized*)*FINANCIAL KNOWLEDGE AND DECISION MAKING*
CONSENT FORM**1. INTRODUCTION**

You are invited to be a participant in a research study *about financial knowledge and financial decision making*. The study is being conducted by Samantha Lacey, an undergraduate psychology student at Drew and Professor Patrick Dolan. You were selected as a possible participant *because you have stated that you're interested in participating*. We ask that you read this document and ask any questions you may have before agreeing to be in the study. This study is being conducted by a student and faculty member in Drew University's Department of Psychology.

2. BACKGROUND

The purpose of this study is learn more about *people's financial knowledge and financial decision making processes*.

[ALL OTHER SECTIONS OF CONSENT FORM B ARE THE SAME AS IN CONSENT FORM A]

Appendix C

Positive Condition Headlines

Please read the following headlines aloud:

Older Is Wiser, At Least Economically: Brains of old people are slowing, but experience
more than makes up for the decline, study finds
University of California, Riverside, Sean Neilson, 9/24/2013

Wisdom really does come with age: Older people's knowledge and experience means
they make better decisions
Daily Mail, Emma Innes, 9/25/2013

Older adults are better at decision-making than young adults
Association for Psychological Science, 2011

Why Older Minds Make Better Decisions
Forbes, Dawn Carr, 4/29/2013

5 Reasons Retirees Make Better Financial Decisions: New evidence suggests the older
you get, the smarter you are with your money.
U.S. News & World Report: Money, Tom Sightings, 10/8/2013

Appendix D

Negative Condition Headlines

Please read the following headlines aloud:

Older but Not Wiser? The Psychology Behind Seniors' Susceptibility to Scams
New studies help explain why, despite having more experience, senior citizens often
make unprofitable financial choices

Scientific American, Valerie Ross, 11/18/2010

Financial Scammers Increasingly Target Elderly Americans

The Wall Street Journal, E.S. Browning, 12/23/2013

As Cognition Slips, Financial Skills are Often the First to Go

The New York Times, Tara Siegel Bernard, 4/24/2015

Scientists Say Elderly Get Scammed More Because Their Gullibility Detectors Wear
Down With Age

The Consumerist, Mary Beth Quirk, 8/20/2012

Financial exploitation cases burden seniors

Indy Star, Marisa Kwiatkowski, 1/17/2016

Appendix E

Hypothetical Risk Assessment (Grable & Lytton, 1999)

1. In general, how would your best friend describe you as a risk taker?
 - a. A real gambler
 - b. Willing to take risks after completing adequate research
 - c. Cautious
 - d. A real risk avoider

2. You are on a TV game show and can choose one of the following. Which would you take?
 - a. \$1,000 in cash
 - b. A 50% chance at winning \$5,000
 - c. A 25% chance at winning \$10,000
 - d. A 5% chance at winning \$100,000

3. You have just finished saving for a “once-in-a-lifetime” vacation. Three weeks before you plan to leave, you lose your job. You would:
 - a. Cancel the vacation
 - b. Take a much more modest vacation
 - c. Go as scheduled, reasoning that you need the time to prepare for a job search
 - d. Extend your vacation, because this might be your last chance to go first-class

4. How would you respond to the following statement? “It’s hard for me to pass up a bargain.”
 - a. Very true
 - b. Sometimes true
 - c. Not at all true

5. If you unexpectedly received \$20,000 to *invest*, what would you do?
 - a. Deposit it in a bank account, money market account, or an insured CD
 - b. Invest it in safe high quality bonds or bond mutual funds
 - c. Invest it in stocks or stock mutual funds

6. In terms of experience, how comfortable are you investing in stocks or stock mutual funds?

- a. Very comfortable
 - b. Somewhat comfortable
 - c. Not at all comfortable
7. Which situation would make you the happiest?
- a. You win \$50,000 in a publisher's contest
 - b. You inherit \$50,000 from a rich relative
 - c. You earn \$50,000 by risking \$1,000 in the options market
 - d. Any of the above—after all, you're happy with the \$50,000
8. When you think of the word "risk" which of the following words comes to mind first?
- a. Loss
 - b. Uncertainty
 - c. Opportunity
 - d. Thrill
9. You inherit a mortgage-free house worth \$80,000. The house is in a nice neighborhood, and you believe that it should increase in value faster than inflation. Unfortunately, the house needs repairs. If rented today, the house would bring in \$600 monthly, but if updates and repairs were made, the house would rent for \$800 per month. To finance the repairs you'll need to take out a mortgage on the property. You would:
- a. Sell the house
 - b. Rent the house as is
 - c. Remodel and update the house, and then rent it
10. In your opinion, is it more important to be protected from rising consumer prices (inflation) or to maintain the safety of your money from loss or theft?
- a. Much more important to secure the safety of my money
 - b. Much more important to be protected from rising prices (inflation)
11. You've just taken a job at a small fast growing company. After your first year you are offered the following bonus choices. Which one would you choose?
- a. A five year employment contract
 - b. A \$25,000 bonus
 - c. Stock in the company currently worth \$25,000 with the hope of selling out later at a large profit

12. Some experts are predicting prices of assets such as gold, jewels, collectibles, and real estate (hard assets) to increase in value; bond prices may fall, however, experts tend to agree that government bonds are relatively safe. Most of your investment assets are now in high interest government bonds. What would you do?
- Hold the bonds
 - Sell the bonds, put half the proceeds into money market accounts, and the other half into hard assets
 - Sell the bonds and put the total proceeds into hard assets
 - Sell the bonds, put all the money into hard assets, and borrow additional money to buy more
13. Assume you are going to buy a home in the next few weeks. Your strategy would probably be:
- To buy an affordable house where you can make monthly payments comfortably.
 - To stretch a bit financially to buy the house you really want
 - To buy the most expensive house you can qualify for
 - To borrow money from friends and relatives so you can qualify for a bigger mortgage
14. Given the best and worst case returns of the four investment choices below, which would you prefer?
- \$200 gain best case; \$0 gain/loss worst case
 - \$800 gain best case; \$200 loss worst case
 - \$2,600 gain best case; \$800 loss worst case
 - \$4,800 gain best case; \$2,400 loss worst case
15. Assume that you are applying for a mortgage. Interest rates have been coming down over the past few months. There's the possibility that this trend will continue. But some economists are predicting rates to increase. You have the option of locking in your mortgage interest rate or letting it float. If you lock in, you will get the current rate, even if interest rates go up. If the rates go down, you'll have to settle for the higher locked in rate. You plan to live in the house for at least three years. What would you do?
- Definitely lock in the interest rate
 - Probably lock in the interest rate
 - Probably let the interest rate float
 - Definitely let the interest rate float

16. In addition to whatever you own, you have been given \$1,000. You are now asked to choose between:

- a. A sure gain of \$500
- b. A 50% chance to gain \$1,000 and a 50% chance to gain nothing

17. In addition to whatever you own, you have been given \$2,000. You are now asked to choose between:

- a. A sure loss of \$500
- b. A 50% chance to lose \$1,000 and a 50% chance to lose nothing

18. Suppose a relative left you an inheritance of \$100,000, stipulating in the will that you invest ALL the money in ONE of the following choices. Which one would you select?

- a. A savings account or money market mutual fund
- b. A mutual fund that owns stocks and bonds
- c. A portfolio of 15 common stocks
- d. Commodities like gold, silver, and oil

19. If you had to invest \$20,000, which of the following investment choices would you find most appealing?

- a. 60% in low-risk investments 30% in medium-risk investments 10% in high-risk investments
- b. 30% in low-risk investments 40% in medium-risk investments 30% in high-risk investments
- c. 10% in low-risk investments 40% in medium-risk investments 50% in high-risk investments

20. Your trusted friend and neighbor, an experienced geologist, is putting together a group of investors to fund an exploratory gold mining venture. The venture could pay back 50 to 100 times the investment if successful. If the mine is a bust, the entire investment is worthless. Your friend estimates the chance of success is only 20%. If you had the money, how much would you invest?

- a. Nothing
- b. One month's salary
- c. Three month's salary
- d. Six month's salary

Appendix F

Lottery Choice Instructions and Task (modified version of Holt, 2005)

You will now be given a chance to win up to \$10.

Your decision sheet on the next page shows ten decisions listed in the left column. Each decision is a paired choice between "Option A" and "Option B." You will make ten choices and record these in the far right column, but only one of them will be used in the end to determine your earnings. Before you start making your ten decisions, please let me explain how these choices will affect your earnings, which will be real.

Here is a ten-sided die that will be used to determine payoffs; the faces are numbered from 1 to 10 (the "0" face of the die will serve as 10.) After you have made all of your choices, I will throw this die twice, once to select one of the ten decisions to be used, and a second time to determine what your payoff is for the option you chose, A or B, for the particular decision selected. Even though you will make ten decisions, only one of these will end up affecting your earnings, but you will not know in advance which decision will be used. Obviously, each decision has an equal chance of being used in the end.

Now, please look at Decision 1 at the top. Option A pays \$6.50 if the throw of the ten sided die is 1, and it pays \$4.00 if the throw is 2-10. Option B yields \$10.00 if the throw of the die is 1, and it pays \$1.00 if the throw is 2-10. The other decisions are similar, except that as you move down the table, the chances of the higher payoff for each option increase. In fact, for Decision 10 in the bottom row, the die will not be needed since each option pays the highest payoff for sure, so your choice here is between \$6.50 and \$10.00.

To summarize, you will make ten choices: for each decision row you will have to choose between Option A and Option B. When you are finished, I will throw the ten-sided die to select which of the ten Decisions will be used, i.e. which row in the table will be relevant. Then I will throw the die again to determine your money earnings for the Option you chose for that Decision.

	Option A	Option B	Your Choice (A or B)
Decision 1	\$6.50 if throw of die is 1, \$4.00 if throw of die is 2-10	\$10.00 if throw of die is 1, \$1.00 if throw of die is 2-10	
Decision 2	\$6.50 if throw of die is 1-2, \$4.00 if throw of die is 3-10	\$10.00 if throw of die is 1-2, \$1.00 if throw of die is 3-10	
Decision 3	\$6.50 if throw of die is 1-3, \$4.00 if throw of die is 4-10	\$10.00 if throw of die is 1-3, \$1.00 if throw of die is 4-10	
Decision 4	\$6.50 if throw of die is 1-4, \$4.00 if throw of die is 5-10	\$10.00 if throw of die is 1-4, \$1.00 if throw of die is 5-10	
Decision 5	\$6.50 if throw of die is 1-5, \$4.00 if throw of die is 6-10	\$10.00 if throw of die is 1-5, \$1.00 if throw of die is 6-10	
Decision 6	\$6.50 if throw of die is 1-6, \$4.00 if throw of die is 7-10	\$10.00 if throw of die is 1-6, \$1.00 if throw of die is 7-10	
Decision 7	\$6.50 if throw of die is 1-7, \$4.00 if throw of die is 8-10	\$10.00 if throw of die is 1-7, \$1.00 if throw of die is 8-10	
Decision 8	\$6.50 if throw of die is 1-8, \$4.00 if throw of die is 9-10	\$10.00 if throw of die is 1-8, \$1.00 if throw of die is 9-10	
Decision 9	\$6.50 if throw of die is 1-9, \$4.00 if throw of die is 10	\$10.00 if throw of die is 1-9, \$1.00 if throw of die is 10	
Decision 10	\$6.50 if throw of die is 1-10	\$10.00 if throw of die is 1-10	

Appendix G

Financial Decision Making Questionnaire (Gamble, Boyle, Yu, & Bennett, 2014; Grable & Lytton, 1999; OECD INFE, 2011)

[Financial Behaviors/Attitudes About Money (OECD INFE, 2011)]

DIRECTIONS: I now have some more general questions about money. Remember that there are no particular wrong or right answers; everyone has their own way of doing things (OECD INFE, 2011).

Answer choices: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. Before I buy something I carefully consider whether I can afford it.
2. I tend to live for today and let tomorrow take care of itself.
3. I find it more satisfying to spend money than to save it for the long term.
4. I pay my bills on time.
5. I am prepared to risk some of my own money when saving or making an investment.
6. I keep a close personal watch on my financial affairs.
7. I set long term financial goals and strive to achieve them.

[Concern about Fraud (OECD INFE, 2011)]

Answer choices: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. I am concerned about being a victim of fraud.

[Financial Focus]

1. In making financial decisions, are you more focused on: maximizing gains or minimizing losses?

[Financial Knowledge and Confidence Questions (Questions from Gamble, Boyle, Yu, & Bennett, 2014)]

Note: Each financial knowledge question is followed by the same confidence question below. How confident are you that you answered that question correctly?

Confidence choices: Extremely Confident, Fairly Confident, A Little Confident, Not At All Confident.

1. A mutual fund is an investment that holds what---only stocks, only bonds, or stocks AND bonds?
2. When interest rates go up, what do bond prices do: go down, go up, or stay the same?
3. True or False. An older person with \$100,000 to invest should hold riskier financial investments than a younger person with \$100,000 to invest.
4. True or False. Using money in a bank account to pay off credit card debt is usually wise.
5. True or False. To make money in the stock market, you have to buy and sell stocks often.
6. True or False. Stocks and mutual funds generally produce higher average returns above inflation compared to fixed-income investments such as bonds.

[**Scam Susceptibility** (Gamble, Boyle, Yu, & Bennett, 2014)]

DIRECTIONS: I would like to know how much you agree or disagree that each of the statements applies to you, personally (as cited in OECD INFE, 2011).

Answer choices: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. I answer the phone whenever it rings, even if I do not know who is calling.
2. I have difficulty ending a phone call, even if the caller is a telemarketer, someone I do not know, or someone I did not wish to call me.
3. If something sounds too good to be true, it usually is.
4. If a telemarketer calls me, I usually listen to what they have to say.

Appendix H

Perceived Stereotype Questionnaire (modified version of Barber, Mather, & Gatz, 2015)

Answer choices: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. Some people feel I have poorer financial decision making abilities because of my age.
2. Based on my age, people often underestimate my financial decision making abilities.
3. I often feel that I have to prove to others that their perceptions of my financial decision making abilities are wrong.
4. The experimenter expected me to do poorly because of my age.
5. In these types of experiments, people my age often face biased evaluations.
6. I am concerned that the researcher will judge older adults, as a whole, based on my performance on the tests.
7. The researcher will think that older adults, as a whole, have poorer financial decision making abilities if I did not do well on these tests.
8. The researcher expects younger people to perform better than older people the tests that you just completed.

Age-Identification Questionnaire (modified version of Barber, Mather, & Gatz, 2015)

In general, people between 18-25 are considered to belong to the young adult age group, people between 35-50 are considered to belong to the middle-aged adult age group, and people 60 and over are considered to belong to the older adult age group. For each of the following statements, please identify if you: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. I like being a member of my age group.
2. I am proud to be a member of my age group.
3. My age group membership is central to who I am.
4. I believe that being a member of my age group is a positive experience.
5. I have a clear sense of my age identity and what it means to me.

Appendix I

Shipley Vocabulary Test (condensed version of Shipley, 1946)

In the test below, the first word in each line is printed in capital letters. Opposite it are four other words. Circle the one word which means the same thing, or most nearly the same thing as the first word. A sample has been worked out for you. If you don't know, guess. Be sure to circle the one word in each line that means the same thing as the first word.

Sample

LARGE	red	big	silent	wet
-------	-----	-----	--------	-----

Begin here

1. TALK	draw	eat	speak	sleep
2. PARDON	forgive	pound	divide	tell
3. REMEMBER	swim	recall	number	defy
4. HIDEOUS	silvery	tilted	young	dreadful
5. EVIDENT	green	obvious	skeptical	afraid
6. MERIT	deserve	distrust	fight	separate
7. INDICATE	defy	excite	signify	bicker
8. FORTIFY	submerge	strengthen	vent	deaden
9. NARRATE	yield	buy	associate	tell
10. HILARITY	laughter	speed	grace	malice
11. SQUANDER	tease	belittle	cut	waste
12. FACILITATE	help	turn	strip	bewilder
13. APPRISE	reduce	strew	inform	delight
14. DENIZEN	senator	inhabitant	fish	atom
15. AMULET	charm	orphan	dingo	pond
16. SERRATED	dried	notched	armed	blunt
17. MOLLIFY	mitigate	direct	pertain	abuse
18. ORIFICE	brush	hole	building	lute
19. PARIAH	outcast	priest	lentil	locker
20. TEMERITY	rashness	timidity	desire	kindness

Appendix J

Demographics

Age:

Gender:

- a) Male
- b) Female

Level of education:

- a) Advanced degree
- b) College
- c) Some college
- d) High school
- e) Some high school

Employment status:

- a) Employed
- b) Unemployed
- c) Retired; if so, for how long?

Annual income when last employed:

- a) Less than \$20,000
- b) \$20,000-\$34,999
- c) \$35,000-\$49,999
- d) \$50,000-\$74,999
- e) \$75,000-\$99,999
- f) \$100,000-\$149,999
- g) \$150,000-\$199,999
- h) More than \$200,000

Marriage status:

- a) Married
- b) Single
- c) Separated/Divorced
- d) Living with partner
- e) Widowed

Do you manage the finances in your home?

- a) If yes, please rate your confidence in your abilities (extremely confident, fairly confident, a little confident, not confident at all).
- b) If no, who manages your finances?

How do you describe your knowledge of investments?

- a) None
- b) Limited
- c) Good
- d) Extensive

Have you purchased stocks or mutual funds in the past?

- a) If yes, how often?
- b) No

Financial Fraud Questions (Gamble, Boyle, Yu, & Bennett, 2014)

1. In the past year, were you a victim of financial fraud?
2. (Addition) In the past year, have you known someone your age who was victim of financial fraud?
3. Are you listed on the national do not call registry? Yes or No?

Appendix K

STEREOTYPE THREAT AND FINANCIAL DECISION MAKING IN OLDER
ADULTS
DEBRIEFING FORM**1. PURPOSE OF THE STUDY**

The study in which you just participated was designed to examine the effects of how positive and negative stereotypes associated with aging affect the financial decision making abilities of older adults. This study is important because one in five Americans age 65 and older fall victim to financial abuse and, in sum, are robbed of more than \$3 billion a year.

2. METHODOLOGY

In this study you were randomly assigned to one of three conditions: the no stereotype group, the positive stereotype group, or the negative stereotype group. If you were in the no stereotype group, you were told that, “The purpose of this study is to learn more about people’s financial knowledge and financial decision making processes.” We intentionally did not mention anything about aging or stereotypes as it may have changed your subsequent responses.

If you were in the positive stereotype group, you were told that:

As an older adult, you probably already know that wisdom and experience contribute to your ability to make smart financial decisions and reduce the likelihood that you will fall victim to a financial scam. In fact, people in your age group actually tend to make good financial decisions in comparison to younger adults, so the purpose of this study is to get more insight into the financial decision making processes of older adults.

You were then shown a series of newspaper headlines having to do with wiser financial decisions in aging. We think that planting this notion in your mind could actually inflate your confidence and make you more vulnerable to bad financial decisions.

In contrast, if you were in the negative stereotype group, you were told that:

As an older adult, you probably already know that forgetfulness and gullibility contribute to your likelihood to make poor financial decisions and make you more susceptible to falling victim to a financial scam. In fact, people in your age group actually tend to make poor financial decisions in comparison to younger adults, so the purpose of this study is to get more insight into the financial decision making processes of older adults.

You were then shown a series of newspaper headlines having to do with financial fraud and aging. We think that making you aware of this threat could make you a better, more cautious financial decision maker.

It was important for the validity of this research that you were unaware of the purpose of this study as it could have changed your natural responses. Additionally, it was necessary to hide this information because only one-third of the participants in this study were exposed to a stereotype.

After being assigned to the positive, negative, or no stereotype group, you completed a risk tolerance assessment and took part in a lottery choice task. Initially, you were told that you would have a chance to win *up to* \$10 in this task; however, as you know, you left with the full \$10 anyway. It was necessary to make you think that you were playing for real stakes in the lottery choice task in order to get better insight into your financial risk tolerance. Next, you answered a battery of questions that provided insight into your experience with financial fraud and money handling, as well as questions that tested your numeracy skills and general knowledge of financial matters. Finally, you completed a shortened version of the Shipley Vocabulary Test, a simple verbal assessment. If you were in the positive or negative stereotype group, you were additionally asked to briefly describe the news headlines that you read at the start of the study in order for researchers to see if the stereotype stuck with you over the course of the study.

We ask you *not* to discuss this study with anyone else until all those participating at this location have completed it.

Thank you for your anticipated cooperation!

3. ADDITIONAL RESOURCES

For more information on the topic of this research,

A profile of older Americans: 2014 (2014). *Administration on Aging (AoA), Administration for Community Living (ACL), & U.S. Department of Health and Human Services (HHS)*. Retrieved from http://www.aoa.acl.gov/Aging_Statistics/Profile/2014/docs/2014-Profile.pdf

Barber, S.J., & Mather, M. (2014). Stereotype threat in older adults: When and why does it occur and who is most affected. In P. Verhaeghen and C. Hertzog (Eds.), *The Oxford Handbook of Emotion, Social Cognition, and Everyday Problem Solving during Adulthood* (pp.302-320). Oxford, UK: Oxford University Press.

Browning, E.S. (2013, December 23). Financial scammers increasingly target elderly Americans. *The Wall Street Journal*. Retrieved from

<http://www.wsj.com/articles/SB10001424052702303330204579248292834035108>

Gamble, K.J., Boyle, P., Yu, L., & Bennett, D. (2014, August). *The Causes and Consequences of Financial Fraud Among Older Americans*. Prepared for the 16th Annual Joint Meeting of the Retirement Research Consortium, Washington, DC.

Yoon, C., Laurent, G., Fung, H.H., Gonzalez, R., Hedden, T., Lambert-Pandraud, R., ... Skurnik, I. (2005). *Cognition, persuasion and decision making in older consumers*. *Marketing Letters*, 16(3/4): 429-441.

For more information and tips on avoiding scams, see:

<https://www.ncoa.org/resources/savvy-saving-seniors-avoiding-scams-facilitators-guide/>

Additionally, we invite you to participate in a “Senior Scams” workshop at the Chatham Senior Center on Monday, March 6, 2017 at 12:30pm. At this event, two local private investigators/former FBI agents specializing in white-collar crime will discuss: why seniors are targeted, how to protect yourself, and who to notify if you think you’ve been the victim of a scam. Program is open to the public, feel free to bring a friend!

4. CONTACT INFORMATION

If you are interested in learning more about the research being conducted, or the results of the research of which you were a part, please do not hesitate to contact Samantha Lacey at slacey@drew.edu or Professor Patrick Dolan at pdolan@drew.edu.

Thank you for your help and participation in this study.