The Role of Cognitive, Personality and Trust Factors in Fraud Victimization in Older Adults

By

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A thesis submitted in conformity with the requirements for the degree of Master of Arts
Graduate Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education of the University of Toronto

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Abstract

Older adults are more at risk to become a victim of consumer fraud than any other type of crime, but the research on the psychological profiles of victims is incomplete and understudies. The current study surveyed community-dwelling older adults between 60 and 90 years of age about their experiences with fraud and their various demographic and psychological traits. The results demonstrated that poorer cognitive ability within the normally aging population and lower levels of honesty and humility make individuals more vulnerable to being victimized by fraud. A mediation analysis showed that cognitive abilities had a more direct role regarding frequency of victimization, and explained in part the relationship between honesty and being a victim. Our results supported some previous findings that minority individuals are more vulnerable to fraud and trust is unrelated to being a victim.
Acknowledgments (if any)

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Chapter 1

1 Introduction

The world’s population is greying. The World Bank reports that in 2014, 8% of the world’s population is 65 or older, and this percentage rises to 16% percent for high income countries (World Bank, 2015). The United Nations projects that by the year 2050, there will be approximately 2 billion people in the world over the age of 65 (United Nations, 2002).

Governments and society as a whole need to be able to provide the necessary services to ensure the well-being of such a large portion of the population, responding appropriately to the requirements of this demographic (World Health Organization, 2007). Psychological research must be involved with understanding the positive and negative aspects of aging as we collectively work to ensure older adults’ well-being. While most research revolves around seniors’ health status and behaviours, all areas of older adults’ lives deserve attention. One such area is the issue of being victimized by consumer fraud in old age. Although many studies have examined the various demographic profiles that may make someone vulnerable to being scammed, few have investigated psychological factors contributing to the vulnerability to fraud. This study aimed to bridge this significant gap in the literature. We specifically focused on the cognitive, personality, and trust variables in relation to fraud victimization.

1.1 Consumer Fraud

Consumer fraud is the type of crime that is most likely to be committed against older adults (Carcach et al., 2001). In western countries like Australia for example, older adults are more than twice as likely to be victims of fraud than they are to be a victim of any other type of crime (Carcach et al., 2001). Fraud involves financial losses for the victim stemming from the perpetrator’s intent to deceive or mislead, and differs from elder abuse in that it is perpetrated by strangers (Ross, Grossmann, & Schryer, 2014; Titus, Heinzelmann, & Boyle, 1995). There is currently some debate over whether older adults are more likely to be victims of fraud than younger adults (Ross et al., 2014). Stereotypes and popular opinion suggest that older adults are more likely to be victims because of age-related changes in cognitive, social, and physical domains (Ross et al., 2014), but the research on the issue is mixed. Some studies show that older adults are more likely to be victims (Anderson, 2003; Moore & Lee, 2000; Pak & Shadel, 2011),
while others suggest that those who are younger are more likely to be victims (Carcach et al., 2001; Lichtenberg, Stickney, & Paulson, 2013; Schoepfer & Piquero, 2009; Titus et al., 1995; Van Wyk & Benson, 1997). One study showed that those 65 and older had the lowest chances of victimization, but there was no effect when other demographic variables were controlled for (Anderson, 2004). A more recent study by the Federal Trade Commission showed that those 65 and older had the lowest rates of victimization overall in the United States, but the highest rates when looking specifically at prize/lottery fraud and weight loss product fraud (Anderson, 2013). In Canada, the Canadian Anti-Fraud Centre reported that the most amount of victims are in the 50-59 and 60-69 age ranges (Government of Canada, 2013). The inverted U pattern suggests that the late-middle age and young-old age categories are the most vulnerable (Government of Canada, 2013). Regardless, when looking specifically at seniors, the majority of their experiences with crime involved around consumer fraud (Carcach et al., 2001). So for this demographic, reducing vulnerability to fraud is still a high priority.

The amount of money lost to fraud by seniors is staggering. In 2010, adults aged 60 years and older lost 2.9 billion dollars to fraud and financial abuse in the United States (MetLife, 2011), and accounted for 84% of dollar loss through telemarketing schemes in Canada (Canadian Centre for Justice Statistics, 2007). The Canadian Anti-Fraud Centre reported that in 2013, over 57 million dollars were lost to fraud in total (Government of Canada, 2013). However this only counts those people who complained to the centre. These statistics are likely underestimating the scale of the problem as under-reporting is a considerable issue (Deevy & Beals, 2013). For example when AARP surveyed known fraud victims, only half of known lottery fraud victims admitted victimization and only 27% of known investment fraud victims admitted victimization (Anderson, 2003). When experts were surveyed they indicated that scams and fraud were very common, and that they believed elders are particularly vulnerable (Investor Protection Trust & Investor Protection Institute, 2012). The experts included people from law, gerontology, and financial fields who deal with victimized elderly citizens regularly, and 75% of them reported that they felt consumer fraud against seniors was a serious problem (Investor Protection Trust & Investor Protection Institute, 2012).

It may be particularly damaging for an older person to be a victim as they tend to be on fixed incomes so the dollar loss can be more of a burden (Ross et al., 2014). The financial recovery process takes longer without the opportunity to make-up the money by participating in the work-
force. Individuals can lose their sense of security and worry about being able to keep up with financial obligations and they may feel deep regret if the money lost was supposed to go to children as an inheritance (Ross et al., 2014). There is also the risk of losing their independence if their adult children or a caregiver notices that they are not making safe financial decisions (Ross et al., 2014).

1.2 Existing Findings about Victim Profiles

1.2.1 Demographic profiles

There has been a wealth of research on the demographic profiles of victims. Unfortunately, there is not a clear picture of the type of person who is vulnerable to being victimized. Older research from the 1990s and early 2000s looked at fraud victimization in general, while newer research has tried to look more in depth at various types of fraud (AARP, 1996; Anderson, 2013; Pak & Shadel, 2011). When looking at gender and fraud overall, there is no effect on victimization. However women are more likely to be victims of lottery fraud while men are more likely to be scammed by investment fraud (Anderson, 2003; Pak & Shadel, 2011). Some studies have shown that race is unrelated to victimization (Anderson, 2003; Titus et al., 1995), others point to African-American, Native American, and Non-white Hispanic individuals as being the most at-risk (Anderson, 2004, 2013). For income, large expected changes in financial status (Anderson, 2004) and high perceived debt is related to being victimized (Anderson, 2004; Shadel, Pak, & Sauer, 2014). In terms of education, there has been mixed results once again. Null findings have been reported (Anderson, 2004), and some show lower education being a risk factor (Anderson, 2013), while others have pointed out that those with college educations are more likely to be victimized (Moore & Lee, 2000). The common stereotype of the senior citizen who duped into scams often involves loneliness as a key factor. However, once again there is evidence that both those who live alone and those who live with other people are at risk for different types of fraud (Anderson, 2003). Mixed findings are common throughout the fraud literature in terms of relating demographic variables to vulnerability from education, to gender, to age. It seems to be that one type of person is not vulnerable to all types of fraud, but rather that there are profiles for the various fraud schemes (Deevy, Lucich, & Beals, 2012).
1.2.2 Psychological profiles

While not having been studied as extensively as the demographic variables, there has been some limited research on the psychological factors that could increase vulnerability. One factor that has been looked at often is the occurrence of a major life event. These events are often negative, and often come with substantial changes in the individual’s life (i.e. legal or medical issues). Negative life events have been linked to victimization numerous times (Anderson, 2003, 2013; Consumer Fraud Research Group, 2006; Shadel et al., 2014) although another AARP study found that it was unrelated (Pak & Shadel, 2011). The reasoning behind this finding is that serious negative life events will increase the individual’s stress levels and hinder their effective decision making.

Another factor is risk taking, which has been related to fraud victimization (Anderson, 2013; Schoepfer & Piquero, 2009) although an earlier study showed that financial risk taking was related to being approached by fraud schemes but not necessarily victimized (Van Wyk & Benson, 1997). One study used similar risk-taking measurements but referred to the psychological factor as impulsivity which was related to being victimized (Shadel et al., 2014). These studies suggest that those who take risks are more willing to listen to potential scams and more willing to take a chances with their money.

1.3 Potential Psychological Contributors

The present study focused on three major factors that may contribute to vulnerability to fraud victimization, namely, cognitive, personality, and trust.

1.3.1 Cognitive factors

Previous psychological research has suggested that certain declines in old age may contribute to being victimized by fraud, such as declines in memory, processing speed, problem solving, and mathematical skills (Ross et al., 2014). While these seem like plausible sources of vulnerability, the research has primarily been examining age-related differences between younger and older adults and then speculating on how this may make seniors vulnerable (Ross et al., 2014). There are very few studies that look at relationships between being a victim of fraud and factors that may make one vulnerable. There is also the issue of how often Alzheimer’s disease and dementia goes undiagnosed. The current study focuses on normally aging adults who live in the
community. But research shows that half of elderly persons with cognitive impairment have never been clinically evaluated (Kotagal et al., 2015) suggesting that cognitive declines in the normally-aging and independent older adult population may be more advanced than otherwise expected.

Perhaps the most common cognitive decline that is associated with old age is memory. In addition to common perceptions of becoming more forgetful as we age, empirical research has shown robust effects of memory declines (Bopp & Verhaeghen, 2005; Kavilashvili, Kornbrot, Mash, Cockburn, & Milne, 2009). Specifically, declarative long-term memory and working memory see the largest declines (Nyberg & Bäckman, 2001). Organizations such as the AARP have suggested that older adults may be vulnerable due to normal age related declines in memory and processing speed. In addition, research has linked cognitive declines to decreases in financial decision making. Decays in episodic memory and visuospatial skills were related to declines in numeracy, while declines in semantic memory was related to decreased financial literacy (Gamble, Boyle, Yu, & Bennett, 2014). Problems with numeracy skills and decreasing financial knowledge is likely to make an individual vulnerable to being scammed. Some older adults also have difficulties miscommunication resulting from language declines. The issues occur with both expressive and receptive language skills and happen in oral and written communication (C. A. Cohen, 2006; Hannon & Daneman, 2009; Salis, 2011; Thornton & Light, 2006). Finally, empirical research has shown executive functioning declines in old age through behavioural and neurological methods (Buckner, 2004; Ruffman, Henry, Livingstone, & Phillips, 2008; Ruffman, Murray, Halberstadt, & Vater, 2012). The consequences of this are decreased attention span and cognitive flexibility, as well as increased off-target verbosity, impulsivity, and socially inappropriate behaviors (Apfelbaum, Krendl, & Ambady, 2010; Henry, von Hippel, & Baynes, 2009). Put together, older adults who have greater cognitive declines in quantity and magnitude may be especially vulnerable to those who try to deceive them through purposeful miscommunication which may result in confusion or oversharing.

### 1.3.2 Personality

Personality has never been comprehensively measured in related to fraud victimization. It has been suggested that agreeableness, which is characterized by a tendency to cooperate with others (Ashton & Lee, 2009), may be linked to susceptibility to being manipulated and therefore being a victim of fraud (Pinsker, McFarland, & Pachana, 2009) though there is no empirical
evidence of this relationship. Honesty, which can be measured by the honesty-humility personality facet (Ashton & Lee, 2008), may also be related to being victimized by fraud. Research has shown that adults and children who behave more honestly, tend to expect others to behave more honestly, while those who are dishonest tend to expect dishonest behaviour from others (Evans & Lee, 2014; Rotter, 1980). Finally, conscientiousness may have similar findings to that of executive functioning. Conscientiousness is characterized in part by being detailed-oriented and careful to consider the consequences of one’s actions (Ashton & Lee, 2009). Those who are conscientious prefer to plan ahead, rather than act impulsively. Those with declines in executive functioning may have trouble engaging in these behaviours, and those with low levels of this personality trait may both be vulnerable to fraud schemes.

1.3.3 Trust

Only one study has considered trust in relation to fraud. An AARP study reported that trust was significantly lower in lottery victims than it was in the general population, though there was no difference for investment scam victims (Anderson, 2003). This is surprising because common sense would dictate that those who are more trusting would be more at risk. However, recent trust research suggests those who are more trusting are better at differentiating between individuals who are trustworthy or untrustworthy (Carter & Weber, 2010). Despite the obviousness of examining trust in relation to fraud, this variable has been understudied and requires further investigation.

1.4 The Current Study

The purpose of this study was to examine the profile of individuals who become victims of fraud, with a focus on the older adult population and the psychological factors that may make one vulnerable or invulnerable. Beyond demographic questions, elderly participants were asked about their experiences with fraud. The fraud questionnaire included both a broad question about their victimization and 15 specific types of fraud as defined by the Federal Trade Commission and Canadian Anti-Fraud Centre (Anderson, 2013; Government of Canada, 2013). Participants were asked about being approached vs. victimized, amount of money lost, age at victimization, and method of contact (phone, in-person, email or internet). Participants completed a self-report questionnaire on their cognitive abilities measuring language, verbal memory, and attention/concentration (Seidenberg, Haltiner, Taylor, Hermann, & Wyler, 1994).
To measure personality traits, participants completed the HEXACO-PI (Ashton & Lee, 2009). We were specifically interested in the honesty-humility, agreeableness and conscientiousness traits in relation to fraud victimization. Past research shows that honest individuals will expect honest behaviour from others (Evans & Lee, 2014), while the characteristics of a highly agreeable individual and a rather unconscientious individual match up with general notions of who is likely to be defrauded. Trust was measured with a generalized trust question and a series of questions measuring the individual’s trust levels towards various groups of people from a widely used trust scale (World Values Survey Association, 2012).

Due to all the mixed results in the current literature regarding demographic variables and fraud and our focus on psychological factors, there were no hypotheses developed based on these variables alone. Based on cognitive aging research it was hypothesized that better performance on each of these measures and cognitive ability overall would reduce the likelihood of being a victim. It is expected that individuals who are more honest and humble, more agreeable, and/or less conscientious would be more likely to be victimization by fraud. It was hypothesized that higher levels of trust will increase vulnerability to fraud due to the tendency to trust the intentions of a wider variety of people. However if this hypothesis is not supported, it may be due to a recently described pattern of trusting people being better able to discern trustworthiness in others (Carter & Weber, 2010). The study also aimed to explore the various relationships between the profile variables and how they interact to predict vulnerability to fraud, using a mediation analysis.
Chapter 2

2 Method

2.1 Participants

The participants in this study were 172 normally aging older adults recruited from communities in Southern Ontario. Out of these, 12 participants were excluded at the analysis level due to not meeting age requirements or being diagnosed with some form of cognitive impairment, and 4 others were excluded for missing large portions of the questionnaires. An additional 5 were excluded because their reports of fraud victimization occurred before the age of 50. The final analysis was completed with 151 participants ($M = 74.33$ years, $SD = 6.19$, Minimum = 61.6 years, Maximum = 88.9 years). A total of 120 women participated in the study, along with 31 men. The remaining demographic make-up of the sample is displayed in Table 1.

2.2 Measures

All participants completed the same 5 measures in the following order:

2.2.1 Demographics

This was an 11-item measure which asked about age, gender, education, location (to examine rural, urban, suburban living), how long they’ve lived in Canada for, living arrangement, English as a first language (or other languages they speak), and average time they spend in a week with various groups (divisions based on closeness and age). Although we did not ask directly about loneliness in any of our questionnaires, the living arrangement (alone or with others) and time spent with others items were asked in order to determine if the amount of time spent alone was related to victimization.

2.2.2 Fraud questionnaire

Following this, they completed a fraud questionnaire developed specifically for this study. The fraud questionnaire begins by asking participants if they’ve ever been a victim of fraud, allowing participants to answer the question with their own definition of fraud in mind. Then participants are asked about 15 different types of fraud, chosen to provide a sample of the most common fraud schemes and those that are specifically targeted to older adults. These 15 fraud types were taken from the Federal Trade Commission reports on fraud, Action Fraud UK, and
the Canadian Anti-Fraud Centre (Anderson, 2013; Government of Canada, 2013; National Fraud & Cyber Crime Reporting Centre, 2011). The 15 scams were as follows: weight loss scam, miracle health product scam, prize or lottery fraud, fraudulent work-at-home programs, charity scam, credit repair fraud, fraudulent business opportunity, advance free loan scam, counterfeit cheque scam, clairvoyant scheme, phishing, inheritance fraud, timeshare scam, emergency or grandparent scam, and fraud where items purchased are never received or are incorrect. All fraud scenarios include questions about whether they have ever been approached by this type of fraud (fraudulent individual or organization made contact with them) and whether they have been a victim. It also included questions about the method of contact (internet/e-mail, telephone, in-person, other), the age they were when the fraud occurred, and the amount of money that they lost.

2.2.3 Multiple Ability Self-Report Questionnaire

The MASQ is a self-report measure which looks at cognitive ability (Seidenberg et al., 1994). The full questionnaire (Cronbach’s alpha = .90) includes 5 scales: language, visual-perceptual ability, verbal memory, visual-spatial memory, and attention/concentration (Seidenberg et al., 1994). For our purposes, only responses on the language, verbal memory, and attention/concentration scales were collected, and had Cronbach’s alphas of .75, .79, and .73 respectively. The measure included questions like “I find myself searching for the right word to express my thoughts”, and “I can keep my mind on more than one thing at a time”. Participants were asked to rate how well these statements described them on a scale from 1 to 5. Some items on the scales were reverse coded prior to analyses, and higher scores indicate greater cognitive ability.

2.2.4 World Values trust survey

Next, participants completed our trust survey, which used 7 items measuring trust from the World Values Survey (World Values Survey Association, 2012). This includes a general trust question where participants were asked if they believed that others are generally trustworthy, or if they believe that they need to be very careful when dealing with others. They were also asked to rate their level of trust from 1-5 for six different groups including family, friends, neighbours, strangers, and people of different religions and nationalities. The Cronbach’s alpha for these six questions was .81, and they were added together to create a total trust score.
2.2.5 HEXACO-PI

The final questionnaire was the 60-item HEXACO Personality Inventory (Ashton & Lee, 2009). It included 6 subscales with the following Cronbach’s alpha for each: honesty-humility (.56), emotionality (.68), extraversion (.71), agreeableness (.65), conscientiousness (.68), and openness to experience (.75). These subscales or domains included 4 facets (Lee & Ashton, 2004). Honesty-humility includes sincerity, fairness, greed avoidance, and modesty, and emotionality is made up of fearfulness, anxiety, dependence, and sentimentality. Extraversion consists of social self-esteem, social boldness, sociability, and liveliness, while agreeableness includes forgiveness, gentleness, flexibility, and patience. Conscientiousness contains the facets of organization, diligence, perfectionism, and prudence and lastly openness to experience comprises of aesthetic appreciation, inquisitiveness, creativity, and unconventionality. The inventory includes statements like “In social situations, I’m usually the one who makes the first move” (extraversion, social boldness) and “If I know that I could never get caught, I would be willing to steal a million dollars” (honesty-humility, fairness). Each domain included 10 statements, and participants rated how true or untrue these statements were of them on a scale from 1-5.

2.3 Procedure

All participants were instructed to begin the study by reading and completing the consent form and then filling out the questionnaires. After completing the questionnaires, all participants read a debriefing letter, explaining why these questions were asked of them and thanking them for their participation. There were some differences in how participants completed the questionnaires however. Approximately two thirds of the participants completed the questionnaires at home, on their own time, and then mailed the completed package back to our lab. The third of the participants completed the study in a group setting with the researchers present. The differing procedures are explained below.

2.3.1 Mail-in surveys

Participants were recruited in one of three ways. The first was through flyers posted at local community centres where senior programming is offered. If the individual was interested, they were invited to call the lab and learn more information at which time we would mail them the questionnaire package. Recruitment also took place through invitations by community centres to
come and speak briefly about our research, and hand out packages to interested individuals. The third method was through an older adult participant database which includes individuals who have expressed interest in being contacted about current research projects. Those who agreed to participate were mailed a questionnaire package. Included in the package were consent forms, the 5 questionnaires, and the debriefing form. We also included an instruction sheet as the first page of the package which guided the participant through the process step by step (i.e. read and complete consent form for the first step). All mailing materials were provided, so we also included an envelope with stamps and labels to mail back to our lab. Our contact information was located throughout the package, and participants were encouraged to call if they had any questions or concerns. When the questionnaire package was received at the lab, participant information was entered on our secure server. Consent forms and questionnaires were separated and stored in a locked filing cabinet. Compensation in the form of a gift card was mailed back to the participant. Confirmation of receiving this compensation was done through e-mail if the participant provided one, or through mail again if there was no e-mail address present.

2.3.2 Community-centre surveys

Interested community centres scheduled a date and time with our lab to come in and conduct the survey. Some requested a brief presentation about why fraud is an important issue in conjunction with the research study. The organizers at the community centres advertised the study date through flyers and managed the sign-up of interested older adults. Groups ranged from 10-20 participants. Since the participants were completing the study in large groups and in close proximity to one another, table-top carrels were used to ensure privacy. At each session, 2-3 researchers were present to field questions and make sure the session ran smoothly. The packages given to these participants included consent forms, 5 questionnaires, and the debriefing form. Instructions were given orally, and participants were encouraged to ask questions about the consent process before and during the session. When participants finished, the compensation and confirmation process took place immediately. To transport the packages, consent forms and questionnaires were separated and placed in a locked brief case that was brought directly to the lab.
Table 1. *Participant Characteristics as Percentages of the Sample*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Sample (n = 150)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>22.5</td>
</tr>
<tr>
<td>College diploma or bachelor’s degree</td>
<td>32.5</td>
</tr>
<tr>
<td>Post-graduate degrees or diplomas</td>
<td>13.9</td>
</tr>
<tr>
<td>Missing responses</td>
<td>31.1</td>
</tr>
<tr>
<td>Years in Canada</td>
<td></td>
</tr>
<tr>
<td>Under 50 years</td>
<td>34.7</td>
</tr>
<tr>
<td>50 years and more</td>
<td>62.7</td>
</tr>
<tr>
<td>Missing responses</td>
<td>2.6</td>
</tr>
<tr>
<td>First Language</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>63.6</td>
</tr>
<tr>
<td>Other</td>
<td>21.9</td>
</tr>
<tr>
<td>Missing responses</td>
<td>14.6</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Aboriginal</td>
<td>.7</td>
</tr>
<tr>
<td>Black</td>
<td>4.6</td>
</tr>
<tr>
<td>East Asian</td>
<td>6.0</td>
</tr>
<tr>
<td>Latin American</td>
<td>2.0</td>
</tr>
<tr>
<td>South Asian</td>
<td>4.6</td>
</tr>
<tr>
<td>South East Asian</td>
<td>4.6</td>
</tr>
<tr>
<td>Caucasian</td>
<td>73.5</td>
</tr>
<tr>
<td>Other (Mixed)</td>
<td>3.3</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>.7</td>
</tr>
<tr>
<td>Living Arrangement</td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>51.0</td>
</tr>
<tr>
<td>With family</td>
<td>23.2</td>
</tr>
<tr>
<td>With significant other</td>
<td>21.9</td>
</tr>
<tr>
<td>In a retirement residence (independent)</td>
<td>3.3</td>
</tr>
<tr>
<td>Other</td>
<td>.7</td>
</tr>
<tr>
<td>Living Environment</td>
<td></td>
</tr>
<tr>
<td>Small Town</td>
<td>4.0</td>
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<tr>
<td>Mid-Large Town</td>
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<tr>
<td>Small City</td>
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<tr>
<td>Mid-Large City</td>
<td>72.8</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>4.6</td>
</tr>
</tbody>
</table>

*Note. 47 missing responses from education variable due to procedural error.*
3 Results

3.1 Demographic Characteristics of Victims and Non-Victims

Out of the sample of 150 participants, 51 individuals (34%, \(M_{\text{age}} = 73.47, SD = 5.25\)) had been victimized by fraud. The demographic characteristics of the victim and non-victim groups are displayed in Table 2. The demographic differences were compared for these two groups of participants, and the only significant variable was ethnicity, \(t(71.63) = -2.04, p = .045, 95\% \text{ CI} [-1.23, -.02]\). The Levene’s test for equality of variances was significant \(F = 17.34, p < .001\) and therefore equal variance was not assumed. As shown in Table 2, there were more visible minorities in the victim group (31%) than in the non-victim group (23%). No other demographic variables were significantly different between the two groups including, age, gender, years in Canada, first language, education, living arrangement (as a proxy for loneliness), and living environment.

3.2 Psychological Characteristics of Victims and Non-Victims

Independent samples t-tests were run to compare the differences between victims and non-victims on the psychological variables. The significant differences are shown in Table 3. Cognitive ability over all was significantly higher in non-victims than in victims, supporting our hypothesis. This significant difference was present at all levels of the cognitive measure, with language, verbal memory, and attention scores all significantly higher in the non-victim group compared to the victim group. The only personality trait to display a significant difference was honesty-humility. The results showed that victims were significantly more honest and humble than non-victims, contradicting our original hypothesis.

There were no significant differences between the victims and non-victims on generalized trust or the composite trust score. There were also no significant differences for any of the other five personality traits, including agreeableness and conscientiousness which were particular traits of interest. These null findings do not support our original hypotheses.

3.3 Predicting Fraud Victimization

A major goal of this study was to examine the relationships between the psychological variables in relation to fraud victimization. A mediation analysis was performed to examine how honesty
and cognitive ability may interact in predicting vulnerability to fraud. For this analysis, a continuous measure of victimization was used as the predicted variable. It counted the number of times a person had been a victim (Minimum = 0, Maximum = 7). Honesty-humility, cognitive ability overall, and victimization were all correlated with one another (see Table 4). Victimization was negatively correlated with honesty-humility and overall cognitive ability. Those who had never been victimized (or victimized less) show higher levels of honesty and humility, and higher levels of cognitive ability. Honesty-humility was positively correlated with cognitive ability, so the more honest and humble individual people had better cognitive ability overall.

In light of the significant correlations between cognitive ability, trust, and victimization frequency, we conducted a mediation analysis. First we ran a hierarchical linear regression with the continuous victimization measure as the dependent variable (see Table 5). Age and gender were entered into the first step as covariates, \( \Delta R^2 = .01, \Delta F(2,118) = .36, p = .701 \). Education and English as a first language were not entered as covariates due to the number of missing responses, and ethnicity was not entered due to the unequal number of Caucasian vs. visible minority participants.

For the mediation analysis, a Sobel test was performed (Baron & Kenny, 1986) and a partial mediation was found, \( z = -2.56, p = .010 \). Honesty-humility was entered and the model was significant, \( \Delta R^2 = .04, \Delta F(1,117) = 4.61, p = .034 \). The honesty-humility personality trait accounted for 4% of the variance in likelihood of victimization above and beyond the contributions of the control variables, \( b_{honesty-humility} = -.03, SE = .01, t(117) = -2.15, p = .034, 95\% CI [-.06, -.00], r_{part} = -.19 \). This was followed by cognitive ability as the mediating variable in the third step which was also significant, \( \Delta R^2 = .12, \Delta F(1,116) = 16.25, p < .001 \). Cognitive ability accounted for 12% of the variance in likelihood of victimization above and beyond the contributions made in model 2, \( b_{cognitive} = -.03, SE = .01, t(116) = -4.03, p < .001, 95\% CI [-.04, -.01], r_{part} = -.34 \). Honesty and humility uniquely and significantly predicted fraud victimization in the second step, but was insignificant when cognitive ability was added to the model (see Figure 1). The mediation analysis showed that those who were more humble and honest were less likely to be victims, and that this was due to their higher overall cognitive ability.
Table 2. Characteristics of Victim and Non-Victim Groups as Percentages of the Sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Victims (n = 50)</th>
<th>Non-Victims (n = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>78.4</td>
<td>80.0</td>
</tr>
<tr>
<td>Male</td>
<td>21.6</td>
<td>20.0</td>
</tr>
<tr>
<td>Education</td>
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<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>21.6</td>
<td>23.0</td>
</tr>
<tr>
<td>College diploma or bachelor’s degree</td>
<td>33.3</td>
<td>32.0</td>
</tr>
<tr>
<td>Post-graduate degrees or diplomas</td>
<td>15.7</td>
<td>13.0</td>
</tr>
<tr>
<td>Missing responses</td>
<td>29.4</td>
<td>32.0</td>
</tr>
<tr>
<td>Years in Canada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 50 years</td>
<td>42.0</td>
<td>30.9</td>
</tr>
<tr>
<td>50 years and more</td>
<td>56.0</td>
<td>66.1</td>
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<td>Missing responses</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>First Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>62.7</td>
<td>64.0</td>
</tr>
<tr>
<td>Other</td>
<td>21.6</td>
<td>22.0</td>
</tr>
<tr>
<td>Missing responses</td>
<td>15.7</td>
<td>14.0</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aboriginal</td>
<td>2.0</td>
<td>-</td>
</tr>
<tr>
<td>Black</td>
<td>5.9</td>
<td>4.0</td>
</tr>
<tr>
<td>East Asian</td>
<td>11.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Latin American</td>
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<td>1.0</td>
</tr>
<tr>
<td>South Asian</td>
<td>2.0</td>
<td>6.0</td>
</tr>
<tr>
<td>South East Asian</td>
<td>3.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Caucasian</td>
<td>66.7</td>
<td>77.0</td>
</tr>
<tr>
<td>Other (Mixed)</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>2.0</td>
<td>-</td>
</tr>
<tr>
<td>Living Arrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>49.0</td>
<td>52.0</td>
</tr>
<tr>
<td>With family</td>
<td>25.5</td>
<td>22.0</td>
</tr>
<tr>
<td>With significant other</td>
<td>23.5</td>
<td>21.0</td>
</tr>
<tr>
<td>In a retirement residence (independent)</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>1.0</td>
</tr>
<tr>
<td>Living Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Town</td>
<td>3.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Mid-Large Town</td>
<td>-</td>
<td>4.0</td>
</tr>
<tr>
<td>Small City</td>
<td>13.7</td>
<td>17.0</td>
</tr>
<tr>
<td>Mid-Large City</td>
<td>80.4</td>
<td>69.0</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>2.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Note. 47 missing responses from education variable due to procedural error.
Table 3. **Significant Psychological Differences between Victims and Non-Victims**

<table>
<thead>
<tr>
<th></th>
<th>Victim</th>
<th>Non-Victim</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Cognitive Ability</td>
<td>88.51</td>
<td>9.68</td>
<td>94.94</td>
</tr>
<tr>
<td>Language</td>
<td>31.59</td>
<td>4.23</td>
<td>33.64</td>
</tr>
<tr>
<td>Verbal Memory</td>
<td>25.86</td>
<td>3.35</td>
<td>28.10</td>
</tr>
<tr>
<td>Attention/Concentration</td>
<td>31.67</td>
<td>3.60</td>
<td>33.14</td>
</tr>
<tr>
<td>Honesty-Humility</td>
<td>38.15</td>
<td>4.87</td>
<td>40.02</td>
</tr>
</tbody>
</table>

*Note. *p* < .05. **p** < .01. Overall cognitive ability ranges from 24 to 120. Cognitive subscales range from 8 to 40. Honesty-humility score ranges from 10 to 50.*

Table 4. **Pairwise Correlations for Mediation Analysis**

<table>
<thead>
<tr>
<th></th>
<th>Honesty-Humility</th>
<th>Cognitive Ability</th>
<th>Victimization (continuous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honesty-Humility</td>
<td>-</td>
<td>.30**</td>
<td>-.27**</td>
</tr>
<tr>
<td>Cognitive Ability</td>
<td>-</td>
<td></td>
<td>-.31***</td>
</tr>
<tr>
<td>Victimization (continuous)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. **p** < .01. ***p** < .001.*
Table 5. Hierarchical Multiple Regression Predicting Victimization from Personality and Cognitive Ability

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\Delta R^2$</th>
<th>$\beta$</th>
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<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>-.05</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>-.06</td>
</tr>
<tr>
<td>Step 2</td>
<td>.04*</td>
<td>-.19*</td>
</tr>
<tr>
<td>Honesty-Humility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>.12***</td>
<td>-.37***</td>
</tr>
<tr>
<td>Cognitive Ability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. *$p < .05$. **$p < .01$. ***$p < .001$. |

Figure 1. Mediation Analysis for Predicting Victimization

*Note. *$p < .05$. **$p < .01$. ***$p < .001$. |
Chapter 4

4 Discussion

4.1 Summary and Discussion of Findings

The present study examined the role of cognitive, personality, and trust factors in fraud victimization among older adults. Overall, cognitive ability, and honesty and humility were lower in victims than non-victims, consistent with the hypotheses. A mediation analysis showed that cognitive ability can in part explain the relationship between honesty and humility and vulnerability to fraud. Other personality traits and trust towards others was not significantly related to fraud victimization. In addition, the demographic analysis added further support to previous findings that visible minorities are at greater risk of being victimized (Anderson, 2004, 2013). Below we will discuss these major findings.

Cognitive ability was shown to be lower in victims than non-victims, and this was true overall as well as for each of the three subscales; language, verbal memory, and attention/concentration. Declines in cognitive functioning may increase the likelihood that an individual will be targeted by those who notice signs of confusion (MetLife, 2011). Difficulties comprehending language or remembering agreement or contract details could lead individuals to be taken advantage of. Attention lapses and difficulty concentrating can result in victims misunderstanding the scheme they are getting into. In addition, these cognitive declines may be embarrassing to the individual and so they may go along with a fraudulent scheme in order to appear cognitively competent. While there is no existing literature on the relationship between cognition and fraud victimization, these results align with what is known about normal age-related cognitive declines in general. Compared to younger adults, older adults experience declines in a wide variety of cognitive domains, including language comprehension, memory, inhibitory control, attention, and cognitive flexibility (Bopp & Verhaeghen, 2005; G. Cohen, 1979; Foos & Clark, 2000; Jansen, 2006; Karbach & Verhaeghen, 2014; Slessor, Phillips, & Bull, 2008; Thornton & Light, 2006). Not only is cognitive decline a risk factor for fraud victimization, but it is also related to physical and mental health problems and decreased well-being overall due to increased difficulty completing every-day tasks (Dolan, 1998; Jansen, 2006). Therefore, it is not surprising that our study showed increased vulnerability for older adults who are experiencing greater cognitive declines than their peers. Cognitive declines have also been related to poor
capability in making financial decisions (Gamble et al., 2014). Episodic memory, which would be tapped into with items on the MASQ such as “I forget important events which occurred over the last month” has been linked to declines in numeracy (Gamble et al., 2014). Numeracy ability involves comprehending basic but fundamental mathematical operations, and has been linked to risky decision making in the health (Reyna, Nelson, Han, & Dieckmann, 2009) and financial domains (Banks, O’Dea, & Oldfield, 2010). The scale also measures some forms of semantic memory, through items like “I find myself calling a familiar object by the wrong name”. Semantic memory declines have been shown to be related to decreases in financial knowledge (Gamble et al., 2014), which in turn has been related to lottery fraud victimization (Consumer Fraud Research Group, 2006).

There were no differences between victims and non-victims on five out of the six personality traits. It had been hypothesized that individuals who are more conscientious would be more careful in making financial decisions and would be more likely to avoid victimization. It was also hypothesized that individuals high in agreeableness would be more likely to comply with fraudster’s requests and become victimized. Both of these traits showed no relationship to the frequency of victimization. The examination of emotionality, extraversion, and openness to experience was exploratory, and resulted in no significant findings as well.

However the honesty and humility personality domain was different between victims and non-victims. Non-victims scored higher in honesty and humility compared to non-victims, which is the opposite pattern to what was hypothesized. Honest and humble individuals are less likely to become victims of fraud, possibly due to their tendency to engage in fair behaviours. If they are confronted with a potential way to earn extra money, pay less interest, etc., they would be less likely to agree and more likely to stick with a financial plan that is adopted by a majority of people. They may be more sensitive to other people acting in devious or unfair ways, as they try to avoid these behaviours themselves.

Contrary to the original hypotheses, there was no relationship between trust and victimization in any form. We reasoned that highly trustful people would tend to believe potential fraudsters by default and take their word at face value While it may seem intuitive that highly trustful people would put themselves at risk of victimization, the null findings in our study combined with the mixed findings from Anderson (2003) suggest that trust level are unrelated to victimization. Recent research on trust outside of the fraud literature has suggested that highly trusting people
are better at differentiating between trustworthy and untrustworthy others (Carter & Weber, 2010). This alternative hypothesis however, does not seem to be supported in relation to fraud.

Because cognitive factors and a single personality factor were significantly different between victims and non-victims, we used mediation analyses to examine the relationship between these variables to see how they may influence vulnerability to fraud. Honesty and humility significantly predicted the frequency of fraud victimization after controlling for age and gender, but this relationship became non-significant when cognitive ability was entered into the model. This finding suggested that cognitive ability has a more direct role in fraud vulnerability than honesty and humility. The honest individuals were less likely to be victims of fraud due to their heightened cognitive ability which allows them to make the effort to engage in fair behaviour and inhibit unfair but self-serving behaviour.

4.2 Limitations and Future Research

This study demonstrated relationships between cognitive ability, honesty and humility, and vulnerability to fraud victimization. However, the analysis could have benefited from a larger sample size with more representation of males and various ethnicities. The analysis was also limited by a procedural error whereby many participants did not provide education information, as well as many missing responses on the language question.

The cognitive measure we used only looked at three cognitive variables. Future research should also consider experimental and behavioural methods of examining psychological profiles in relation to fraud. For example, behavioural rather than questionnaire methods can be used to measure cognitive functioning. These behavioural methods should also include other cognitive domains such as information processing and inhibition. Self-report measures are often plagued by problems due to the participants’ perception of their question and their own behaviours, social desirability bias, and question ordering to name a few. Behavioural methods would provide more objective data. However, using self-report measures brings about another topic that is worth further exploration in this field of research. There is evidence that older adults who experience cognitive declines do not report decreased confidence in making financial decisions, even though they often report lower self-confidence over all in their abilities due to these cognitive declines (Gamble et al., 2014). Subsequent research on this topic should consider
measuring cognitive ability and confidence in financial decision making in people who have been previously victimized by fraud.

Reliability on the HEXACO personality inventory was subpar, with Cronbach’s alpha values below .7. These low values could be due to the nature of the data collection methods. The short 60-item version of the personality scale was used rather than the 100-item version, and questionnaires were often completed at participants’ homes away from researchers. Although participants were encouraged to call the lab for clarification, these phone calls were rare. In the group settings however, questions and comments from participants were quite common. Future research should consider alternative methods for conducting psychological research on fraud with this population, including face-to-face or telephone interview methods which would encourage more detail from participants and opportunities for clarifications when participants are not sure about a certain questionnaire item. By using the 60-item measure, we were unable to complete analyses examining the individual facets of each personality domain. Of particular interest is the facet of fairness. Future research on the topic should use a longer questionnaire version to examine fairness within this personality trait or use an independent and comprehensive fairness measure to examine this relationship further.

Prospective studies on the topic of trust levels and fraud should examine trust among a large number of victims from a wide variety of fraud types. Our sample size did not allow for within-victim comparisons, as our participants’ victimization varied widely by fraud scheme. It may also be worthwhile to examine trust towards institutions and those with authority in relation to vulnerability to fraud. The current study inquired about trust towards different groups of people, such as friends or strangers. Consumer fraud is perpetrated by strangers, often by those pretend to be from a legitimate business, so trust in authority would be an interesting factor to explore.

4.3 Conclusion

The present study showed that lower cognitive ability within the normally aging population and lower levels of honesty and humility make individuals more vulnerable to being victimized by fraud with cognitive abilities to play a more important role. Our results supported some previous findings that minority individuals are more vulnerable to fraud and trust is unrelated to being a victim. The present findings lay an important foundation for more comprehensive and in depth studies on this theoretical and practical important issue. These future studies should advance
significantly our understanding of the relation between psychological factors and fraud vulnerability and help develop policies and practices to prevent fraud victimization in older individuals.
References


   Washington, DC: US Department of Justice, Office of Justice Programs, and the AARP Foundation.


doi:10.1377/hlthaff.28.1.14


Shadel, D., Pak, K., & Sauer, J. H. (2014). Caught in the scammer’s net: Risk factors that may lead to becoming an internet fraud victim. AARP.


Appendix A

Ethics Approval Letter

PROTOCOL REFERENCE # 30959
November 21, 2014

Dr. Kang Lee
DEPT OF APPL. PSYCHOLOGY & HUMAN
DEVEL.
OISE/UT

Ms. Rebecca Judges
DEPT OF APPL. PSYCHOLOGY & HUMAN
DEVEL.
OISE/UT

Dear Dr. Lee and Ms. Rebecca Judges,

Re: Your research protocol entitled, “Older adults and vulnerability to fraud”

ETHICS APPROVAL

<table>
<thead>
<tr>
<th>Original Approval Date:</th>
<th>November 21, 2014</th>
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</thead>
<tbody>
<tr>
<td>Expiry Date:</td>
<td>November 20, 2015</td>
</tr>
<tr>
<td>Continuing Review Level:</td>
<td>1</td>
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We are writing to advise you that the Social Sciences, Humanities, and Education Research Ethics Board (REB) has granted approval to the above-named research protocol under the REB’s delegated review process. Your protocol has been approved for a period of one year and ongoing research under this protocol must be renewed prior to the expiry date.

Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unanticipated events in the research should be reported to the Office of Research Ethics as soon as possible.

Please ensure that you submit an Annual Renewal Form or a Study Completion Report 15 to 30 days prior to the expiry date of your current ethics approval. Note that annual renewals for studies cannot be accepted more than 30 days prior to the date of expiry.

If your research is funded by a third party, please contact the assigned Research Funding Officer in Research Services to ensure that your funds are released.

Best wishes for the successful completion of your research.

Yours sincerely,

Sarah Wakefield, Ph.D.
REB Chair

Dean Sharpe
REB Manager
Appendix B

Ethics Amendment Approval Letter

PROTOCOL REFERENCE # 30959
April 29, 2015

Dr. Kang Lee  
DEPT OF APPL. PSYCHOLOGY & HUMAN  
DEVEL.  
OISE/UT

Ms. Rebecca Judges  
DEPT OF APPL. PSYCHOLOGY & HUMAN  
DEVEL.  
OISE/UT

Dear Dr. Lee and Ms. Rebecca Judges,

Re: Your research protocol entitled, "Older adults and vulnerability to fraud"

We are writing to advise you that a member of the Social Sciences, Humanities, and Education Research Ethics Board (REB) has granted approval to an amendment (Received April 17, 2015) to the above-referenced research protocol under the REB's delegated review process. This amendment approval letter only applies to what was outlined in the request form under section 5.3) or otherwise marked in the revised protocol.

Any changes to the approved protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unanticipated events should be reported to the Office of Research Ethics as soon as possible.

Best wishes for the successful completion of your research.

Yours sincerely,

Sarah Wakefield, Ph.D.  
REB Chair

Dean Sharpe  
REB Manager

OFFICE OF RESEARCH ETHICS  
McMurrich Building, 12 Queen's Park Crescent West, 2nd Floor, Toronto, ON M5S 1S8 Canada  
Tel: +1 416 946-3273  
Fax: +1 416 946-3763  
ethics.review@utoronto.ca  
http://research.utoronto.ca/researchers/administration/ethics
Appendix C

Information Letter

252 Bloor Street West,
Toronto, Ontario, Canada, M5S1V6
Telephone: 416-934-4503
rebecca.judges@mail.utoronto.ca

Dear Participant,

We invite you to take part in a research study with the University of Toronto in collaboration with Ryerson University. This study involves questionnaires which will take approximately 45 minutes to complete. Our goal is to learn more about the factors that may be related to older adults being victimized by fraud. We would like you to know that taking part in this study is voluntary and you may withdraw at any time.

The study will consist of one session lasting approximately 45 minutes. During this time, you will complete a series of questionnaires answering questions about yourself. This includes some basic demographic information and a survey about your experiences of fraud. We would also like to have participants both who have been victims of fraud, and those who have never been victims. You will also answer questions about your cognitive ability, and some questions about social factors like trust and personality. Only participants who manage their own finances (i.e. paying bills), and who are psychologically and neurologically healthy can participate. If you have a history of a serious mental disorder (i.e. dementia) then this study will not be appropriate for you.

Participation in this research is voluntary. You are not required to answer any questions you don’t want to and you can withdraw from the study at any time, even after giving consent. You will receive a $10 gift card to your choice of either Tim Hortons or Wal-Mart as compensation for your efforts. You can complete the study at home, on your own time. We will mail you the questionnaires and provide mailing materials for you to send the questionnaires back to us. The gift card will be mailed to you once we have received the completed questionnaires.

The information gathered for the study is confidential, except as required by law and is secured at the Ontario Institute for Studies in Education. All gathered information will be combined with data collected from other participants and only group norms will be reported. Please feel free to call Dr. Kang Lee at 416-934-4597 at the University of Toronto or Dr. Lixia Yang at 416-979-5000 x6522 at Ryerson University if you have any questions about the study. You may also call the Ethics Review Office at 416-946-3273 to inquire about your rights as a research participant, or to report research-related problems.

If you are interested in participating, please contact the Deception Lab at the University of Toronto at 416-934-4503 or contact the Cognitive Aging Lab at Ryerson University at 416-979-5000 ext. 4987.

Thank you for your interest in this project.

Sincerely,

Dr. Kang Lee
Professor & Director
OISE/University of Toronto
416-934-4597
kang.lee@utoronto.ca

Rebecca Judges
Graduate Researcher
OISE/University of Toronto
416-934-4503
rebecca.judges@mail.utoronto.ca

Dr. Lixia Yang
Professor & Collaborator
Ryerson University
416-979-5000 x6522
lixiay@psych.ryerson.ca
Appendix D

Participant Consent Form

Older Adults and Vulnerability to Fraud – Consent Form

Description of the Research: The study will consist of one session lasting approximately 45 minutes. During this time, you will complete a series of questionnaires including demographic information and a survey about your experiences of fraud. You will answer questions about your cognitive ability, interpersonal trust, and personality. We are interested to see what factors relate to being a victim of fraud, and what factors may contribute to successfully fending off fraud attacks.

Potential Harms: There are no known harms associated with participation in this study. However, the questionnaires may include some questions that may ask about potentially negative experiences relating to fraud. Participants can skip any questions and can withdraw from the study at any time. To report fraud to the Canadian Anti-Fraud Centre visit https://www.antifraudcentre-centreantifraude.ca or call the toll free number 1-888-495-8501. If you have any negative thoughts regarding this study or your experiences with fraud, you can visit http://www.mentalhealthhelpline.ca/ or call 1-866-531-2600. Participating in this study may benefit you by increasing your awareness of different types of fraud. The knowledge we expect to gain from this study will benefit others as well.

Confidentiality: Any information obtained during this study will be kept strictly confidential. Any research data obtained in this study will be labeled using a numerical system so that it cannot be linked with any information about your identity. No information that discloses your identity will be released or published. The data produced from this study will be stored in a secure location at the Ontario Institute for Studies in Education and only members of the research team will have access to it. All data will be analyzed as a group and individual data will not be reported. All contact information will be stored in the Ryerson Senior Participant Pool, a secure database for all our participant information. If you have any questions or concerns, please contact the Deception Lab at 416-934-4503 or e-mail rebecca.judges@mail.utoronto.ca. You can also contact the Cognitive Aging Lab at 416-979-5000 ext. 4987 or e-mail us at RSPP@psych.ryerson.ca. You may also call the Ethics Review Office at 416-946-3273 to inquire about your rights as a participant, or to report research problems.

Participants: Participation in this research is voluntary. You do not have to answer any questions that you do not want to and you can withdraw from the study at any time, even after giving consent. You will receive a $10 gift card to your choice of either Tim Hortons or Wal-Mart as compensation for your time and efforts. Additionally, if you travel to our lab to participate in the study you will be compensated for travel on the TTC, or for parking.

Conditions: To participate in this study, you must be independently in charge of your finances. This means that you have completely free access to your bank accounts or lines of credit, and pay your own bills. People in charge of their finances may seek financial advice from others, but have the freedom and authority to make their own decisions. In addition, participants must be cognitively healthy. There must be no history of serious neurological disorders, namely dementia.

Consent: I acknowledge that the research procedures described above have been explained to me. I have been informed of the right to withdraw without any penalty. The potential harms and benefits have been explained to me. I may ask any questions I have about the study or the research procedures. I understand records will be kept confidential and no information will be released that would disclose personal identity without my permission, unless required by law. This project has been received ethics approval from the University of Toronto and Ryerson University. I may contact the project director or the Ethics Review Office, regarding any concerns about my involvement in the study.
Please check the boxes if the following statements are true:

☐ I am independently in charge of my own finances
☐ I am cognitively healthy – I have no history of a serious psychological or neurological disorder (i.e. dementia)

Please Print Clearly

Name __________________________ Date of Birth_____________________________

(DD/MM/YY)

Signature______________________ Today’s Date __________________________

(DD/MM/YY)

Mailing address ___________________________________________________________

________________________________________________________________________

E-mail address ______________________________________________________________

Phone Number ______________________________________________________________

Which $10 gift card would you like to receive as compensation?

☐ Tim Hortons     ☐ Wal-Mart

Would you be willing to have us contact you at a later time for related research?

☐ YES  ☐ NO

Would you like a summary of the results at the completion of the study?

☐ YES  ☐ NO
Appendix E

Organization Consent Form

Older Adults and Vulnerability to Fraud

We invite your organization to take part in a research study at the Ontario Institute for Studies in Education at the University of Toronto. Our goal is to learn more about the factors that may be related to older adults being victimized by fraud.

Description of the Research: The study will consist of one session lasting approximately 45 minutes. During this time, participants will complete a series of questionnaires answering questions about themselves. This includes some basic demographic information, a survey about their experiences of fraud, answering questions about their cognitive ability, and about social factors like trust and personality. We would like to have participants both who have been victims of fraud, and those who have never been victims. We are looking for participants who are in charge of their personal finances, and who have no history of serious psychological or neurological disorders (i.e. dementia). Organizations that are involved in recruitment will post flyers in common areas at their location. At any point in time, organizations can withdraw from the recruiting process with no penalty.

Potential Harms (Injury, Discomforts, Inconvenience): There are no known harms associated with participation in this study. However, the questionnaires may include some questions that ask about potentially negative experiences relating to fraud. If there are any issues relating to fraud after the study, there are resources available. To report fraud to the Canadian Anti-Fraud Centre you can visit https://www.antifraudcentre-centreantifraude.ca ; or call the toll free number 1-888-495-8501. If there are any negative feelings regarding this study, participants can visit http://www.mentalhealthhelpline.ca/ or call 1-866-531-2600. Participating in this study may potentially benefit the participants by increasing their awareness of different types of fraud. The knowledge we expect to gain from this study will benefit others as well.

Confidentiality: Any information obtained during this study will be kept strictly confidential. Any research data obtained in this study will be labeled using a numerical system so that it cannot be linked with any information about your identity. The data produced from this study will be stored in a secure location at the Ontario Institute for Studies in Education and only members of the research team will have access to it. All data will be analyzed as a group and individual data will not be reported. All contact information will be stored in the Ryerson Senior Participant Pool, a secure database for all our participant information. If you have any questions or concerns, please contact the Deception Lab at 416-934-4503 or e-mail rebecca.judges@mail.utoronto.ca. You can also contact the Cognitive Aging Lab at 416-979-5000 ext. 4987 or e-mail us at RSPP@psych.ryerson.ca. You may also call the Ethics Review Office at 416-946-3273 to report research-related problems.
Participants: Participation in this research is voluntary. Participants do not have to answer any questions that they do not want to and they can withdraw from the study at any time, even after giving consent. They will receive a $10 gift card to their choice of either Tim Hortons or Wal-Mart as compensation for their time and efforts.

Organizational Consent: We as an organization acknowledge that the research procedures described above have been explained to us. We have been informed of the participants’ alternatives to participation in this study, including the right to withdraw without any penalty. As well, the potential harms and discomforts have been explained to us and we have been told the benefits of participating in the research study. We have been assured that records relating to the participants will be kept confidential and that no information will be released or printed that would disclose personal identity without my permission, unless required by law. This project has been reviewed and receives ethics approval from the University of Toronto and Ryerson University. I have been told that I may contact the project director or the Ethics Review Office, regarding any concerns.

Organization Name _______________________________________________________

Name ___________________________ Position ___________________________

Signature_________________________ Date______________________________

(DD/MM/YY)

Would you be willing to have us contact you at a later time for related research?

☐ YES    ☐ NO
Appendix F
Debriefing Form

Older Adults and Vulnerability to Fraud

Thank you for participating in our study! The purpose of the study in which you participated is to investigate how social and cognitive factors may be related to being a victim of fraud. Once we have received your completed questionnaires, we will mail you your $10 gift card.

Previous research has shown that the crime most likely to be committed against older adults is fraud. In 2010 MetLife reported that Americans aged 60 years and older lost 2.9 billion dollars to fraud and financial abuse, while Statistics Canada stated adults aged 60 years and older accounted for 84% of the dollar loss through telemarketing. The over 65 age demographic is growing rapidly in Canada, so this is becoming an increasingly important issue to research. Fortunately, there are many resources available to help identify if you have been a victim of fraud, what to do if you are a victim, and how to protect yourself from future scams.

Previous research has not looked comprehensively at a variety of factors that may be related to being victimized by fraudsters. We expected that lower performance on the cognitive measure – the one where you were asked about being able to hold conversations, or if you were able to pay attention to your favourite TV shows – would be related to being a victim of fraud. Based on previous research, adults who perform poorly on such measures are less able to inhibit behaviour or speech. This leads us to believe that those individuals may be more likely to give out personal information even if they know they shouldn’t. We also expect that those who trust other people more will be more likely to be victims of fraud. Individuals who are more trusting may believe a stranger’s claims more easily without sufficient evidence. On the other hand, some research has shown that those who are more trusting are better at identifying others as trustworthy or untrustworthy. So we may see the opposite effect where more trusting individuals are less likely to be victims of fraud. Finally, we expect that those who are high in the personality factors of honesty-humility and agreeableness and low in conscientiousness will be more likely to be victims. Honest individuals may be more likely to expect honest behaviour from others, and agreeable people may be more likely to cooperate with others’ requests or demands. Those low in conscientiousness may be more likely to think less carefully before making financial decisions.
Your participation is very much appreciated. Your responses will help us to determine if our expectations are correct, or if there are any relationships between factors that we did not expect! As mentioned on the consent form, if you want to report an instance of fraud please visit https://www.antifraudcentre-centreantifraude.ca; or call the Canadian Anti-Fraud Centre at their toll free number 1-888-495-8501. If you have any negative feelings or thoughts regarding this study or your experiences with fraud, you can visit http://www.mentalhealthhelpline.ca/ or call 1-866-531-2600. The mental health helpline offers a free and anonymous person to talk to who can offer advice, or connect you with additional services. If you have any questions or concerns, please contact the Deception Lab at 416-934-4503 or e-mail rebecca.judges@mail.utoronto.ca. You can also contact the Cognitive Aging Lab at 416-979-5000 ext. 4987 or e-mail us at RSPP@psych.ryerson.ca. You may also call the Ethics Review Office at 416-946-3273 to inquire about your rights as a participant, or to report research problems.

Please contact the Deception Lab at 416-934-4503 or the Cognitive Aging Lab at 416-979-5000 ext. 4987 if you have any questions in regards to this study.

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Thank you for taking part in our study! Please use this instruction sheet to guide you through the research process. If you have any questions, do not hesitate to call us at 416-934-4503. You can call at any time, but we guarantee there will be someone who can answer your questions from 10:00-1:00 on Mondays and Fridays, or from 1:00-4:00 on Tuesdays and Thursdays. When you call, please say that you are calling about the Fraud Study and you will be connected with someone working on this project. Now let’s get started!

Step 1: Take out all questionnaires and the envelope included in your package, and place on a table or other flat surface. You will need a pen and possibly a calculator for this study.

Step 2: The first two sheets are the consent forms. There are two copies, one you will keep and one will be returned to us. Please read and complete both sides of both forms. Place one completed copy in the envelope to mail back to us.

Step 3: The first questionnaire is called “Demographics”. A few questions ask about the number of hours you spend each week with different people. Your best guess is good enough for these questions, but you are welcome to use a calculator if it helps. Place the questionnaire in the envelope once you are done.

Step 4: The next questionnaire is called “Fraud Questionnaire”. Most questions in this survey will not need to be answered unless you have been a target of the specific scam each page asks about. Place the questionnaire in the envelope once you are done.

Step 5: The next questionnaire is called “Multiple Ability Self-Report Questionnaire”. Place the questionnaire in the envelope once you are done.

Step 6: The next questionnaire is called “Interpersonal Trust Questionnaire”. Place the questionnaire in the envelope once you are done.

Step 7: The final questionnaire is called “HEXACO PI-R” (Personality Inventory). Place the questionnaire in the envelope once you are done.

Step 8: The last page of your package tells you a little bit more about our study. Take a minute to read through, and feel free to contact us with any further questions.

Step 9: Once the entire questionnaire has been completed and placed in the envelope, please drop this off at your local mailbox or post office. Stamps and the mailing address have already been included on the envelope. Once we have received the completed questionnaire, we will mail you your $10 gift card. Thank You