



## Examining the Validity of the Financial Exploitation Vulnerability Scale

Peter A. Lichtenberg, Maggie Tocco, Juno Moray & Latoya Hall

To cite this article: Peter A. Lichtenberg, Maggie Tocco, Juno Moray & Latoya Hall (2021): Examining the Validity of the Financial Exploitation Vulnerability Scale, Clinical Gerontologist, DOI: [10.1080/07317115.2021.1954124](https://doi.org/10.1080/07317115.2021.1954124)

To link to this article: <https://doi.org/10.1080/07317115.2021.1954124>



Published online: 04 Aug 2021.



Submit your article to this journal [↗](#)



Article views: 10



View related articles [↗](#)



View Crossmark data [↗](#)



## Examining the Validity of the Financial Exploitation Vulnerability Scale

Peter A. Lichtenberg PhD, ABPP<sup>a</sup>, Maggie Tocco MSW<sup>a</sup>, Juno Moray MA<sup>b</sup>, and Latoya Hall MSW<sup>a</sup>

<sup>a</sup>Institute of Gerontology, Wayne State University, Detroit, Michigan, USA; <sup>b</sup>Institute of Gerontology and Department of Psychology, Wayne State University, Detroit, Michigan, USA

### ABSTRACT

**Objectives:** Objectives: Lichtenberg, Campbell, Hall, and Gross used a contextual framework for financial decision-making to create and provide evidence for a new scale to assess risk for financial exploitation, the Financial Exploitation Vulnerability Scale (FEVS). This study examined the criterion validity of self-reported memory complaints and living alone on FEVS risk scores.

**Methods:** Participants were the first 258 individuals reporting as 60 years or older and who completed the FEVS on the <https://olderadultnestegg.com> website between December 2020 and February 2021. Correlations, multiple regression, analysis of variance, and chi-square analyses were conducted to compare groups based on risk scores.

**Results:** FEVS risk scores were significantly correlated with years of education, self-reported memory complaints, and living alone; 18% of unique variance was accounted for by these measures in a regression analysis. The ANOVA indicated that while there was an interaction effect for memory complaints by living alone, the majority of variance accounted for was attributed to the self-reported memory complaints measure.

**Conclusions:** Older adults with memory complaints are in need of perceived financial vulnerability assessment.

**Clinical Implications:** The Financial Exploitation Vulnerability Scale is a valuable self-report tool that clinical gerontologists can use in their intake assessments and follow-ups.

### KEYWORDS

Memory complaints;  
financial exploitation risk;  
financial vulnerability; living  
alone

Understanding the financial susceptibility in older adults – both susceptibility to financial exploitation (FE) and deficits in financial skills (i.e., management and financial decision-making) – is becoming increasingly important, given recent increases in both financial victimization of the older population and its reporting. According to the Consumer Financial Protection Bureau (2019), in only 4 years (2013–2017), both deposit institutions and financial services businesses filed four times as many Suspicious Activity Reports. Almost 70% of these reports were for individuals over age 60, and 33% were for persons over age 80. One of the difficulties in addressing this issue is the lack of explicit recognition of how cognitive decline impacts financial capacity (i.e., financial execution and decision-making). Gamble, Boyle, Yu, and Bennett (2015) reported that while cognitive decline was significantly associated with decreased financial literacy, it was not associated with

decreased confidence in financial knowledge or management. Similarly, Hsu and Willis (2013) noted the contrast in awareness of financial skill decline with cognitive loss between those who suffered cognitive decline and those who did not: Half of those experiencing cognitive decline believed they were exempt from its effects on their finances. This study examines the utility of measuring perceived financial vulnerability by adopting a contextual-based approach to financial decision-making.

### *Literature review: financial capacity, dementia, and financial exploitation risk*

Understanding the risks of financial vulnerability and susceptibility to exploitation must integrate research on early dementia, financial exploitation, and financial decision-making. Nicholas, Langa, Bynum, and Hsu (2021) reported that the

development of subprime credit and missing bill payments increased significantly soon after diagnosis of Alzheimer's disease. The study used Medicare claims data across a 19-year period. Six years before diagnosis, those older adults who went on to be diagnosed with Alzheimer's disease were more likely to develop subprime credit scores than those who were never diagnosed with dementia (7.7% vs. 7.3%). Similarly, Gamble et al. (2015) found that in the absence of dementia, decreased cognition was related to decreased financial literacy and financial decision-making. Financial exploitation has also repeatedly been linked to declining cognition. In a study of confirmed financial exploitation cases, Wood et al. (2014) reported that financial exploitation and eventual prosecution of perpetrators were related to poorer neuropsychological functioning. The intersection of decision-making deficits and cognitive decline was also identified as a significant predictor of financial exploitation by Lichtenberg, Ficker, and Rahman-Filipiak (2016) and Lichtenberg, Gross, and Ficker (2020).

Cognitive decline – or even the diagnosis of dementia – is not broad enough to measure the financial vulnerability that can be linked to financial exploitation. In Nicholas et al.'s (2021) data, for example, the difference between those who went on to develop Alzheimer's disease differed from those who did not by only 0.4% in the development of subprime credit (7.7% vs. 7.3%). Even after diagnosis, this difference remained at 0.4% (8.5% vs. 8.1%). Differences in missed payments were only 1% (7.9% vs. 6.9%). Lichtenberg, Stickney, and Paulson (2013) and Lichtenberg, Sugarman, Paulson, Ficker, and Rahaman-Filipiak (2016) examined predictors of self-reported fraud in nationally representative samples of older adults. Their findings were consistent across the two studies, and the strongest finding was for fraud prevalence in those with the highest depression and the lowest social needs fulfillment compared with the rest of the sample. This finding regarding the importance of social needs is consistent with the work of Liu, Wood., Berger, and Wilbur (2017), who found that daily negative interactions within one's social network were a unique and significant predictor of being financially exploited. Other non-cognitive risk factors related to financial exploitation include low performance on measures of

financial skills and numeracy (Wood et al., 2014); less financial satisfaction (Lichtenberg et al., 2013); lower levels of education (Boyle, Wilson, Yu, Buchman, & Bennett, 2012); and lower literacy (James, Boyle, & Bennett, 2014). DeLiema (2018) investigated routine activity theory, which requires the convergence of three factors – an offender, a target, and the absence of others to protect the target – as a context for fraud susceptibility, and found that isolation and a lack of trustworthy friends or family best distinguished those who had been defrauded from those who had not. Other recent research has focused on social contexts that influence exploitation. Quinn, Nerenberg, Navarro, and Wilber (2017) identified diverse ways in which vulnerabilities impact the risk of being unduly influenced, and Ruffman, Murray, Halberstadt, and Vater (2012) found that older adults detected lies less often than younger adults, due to what the authors concluded were changes in emotion recognition.

### ***Living alone with health and cognitive impairments***

Nationally representative data on older adults living alone identified significant heterogeneity in this population with regard to cognitive, physical, and mental health (Park, Smith, Dunkle, Ingersoll-Dayton, and Antonucci (2019)). Only 38% of the sample was rated as healthy in all domains. MacNeill and Lichtenberg (1997) examined the role of cognitive functioning upon a return to living alone across 372 consecutive older medical rehabilitation patients. Cognitive and functional abilities were not the only predictors of an immediate return to living alone; in a follow-up study, both measures were the only significant predictors of 18-month outcomes with respect to living situation (Lichtenberg, MacNeill, Lysack, Bank, & Neufeld, 2003). Portacolone, Johnson, Covinsky, Halpern, and Rubinstein (2018) and Portacolone, Rubinstein, Covinsky, Halpern, and Johnson (2018) used qualitative methods to examine the experience of older adults living alone who had recently been diagnosed with Mild Cognitive Impairment and older adults diagnosed with dementia who live alone. In older adults with MCI, memory difficulties interfered with recalling the information given to them about their

diagnosis – and as time passed, these older adults were unsure how to make changes in their lifestyles. This uncertainty was often associated with considerable distress. For those living alone and experiencing a dementing illness, there was a struggle to maintain independence while feeling tremendous uncertainty. In addition, there was a lack of awareness on the part of many of the live-alone older adults as to the severity of their cognitive decline. These feelings of uncertainty and vulnerability in live-alone older adults are exactly the type of experiences that increase older people's risk for financial exploitation.

### ***Perceived memory complaints***

In an effort to promote awareness of cognitive health, the Healthy Brain Initiative, which is part of the Healthy Aging Program of the National Center for Chronic Disease Prevention and Health Promotion, was launched in 2007 (Anderson, Day, Beard, Reed, & Wu, 2011). The initiative's goal was to supplement the scant information regarding the experience of cognitive decline within the public health sector by measuring the number of persons experiencing perceived cognitive impairment at the state and local levels. Ficker, Lysack, Hanna, and Lichtenberg (2014) used the perceived cognitive impairment measure and found that it was related to a number of areas of vulnerability, including reduced social support, increased depression, number of chronic medical conditions, and mobility problems.

### ***A contextual approach to financial exploitation vulnerability***

Lichtenberg, Campbell, Hall, and Gross (2020a) tested the contextual variables related to financial decision-making based on Lichtenberg, Stoltman, Ficker, Iris, and Mast's (2015) conceptual framework, which was developed using a concept mapping approach. Lichtenberg, Campbell, et al. (2020a) sought to identify how well contextual subscale questions differentiated those who had been victims of financial exploitation (FE) from those who had not. The study also sought to investigate whether the contextual items that differentiated FE victims from non-victims coalesced in a way that

created a new, internally consistent, scale: the Financial Exploitation Vulnerability Scale. Using a community-based sample of 242 participants (78 of whom had confirmed financial exploitation), 17 contextual items formed the basis of an internally consistent scale that significantly differentiated the exploited from the non-exploited group (area under the curve = .82). While the measure of executive functioning was an independent predictor of group membership (Trail Making Test part B), it did not add significantly in terms of classifying group membership compared with the FEVS alone.

In its 2018 data collection, the Health and Retirement Study used a six-item measure of perceived financial vulnerability as one of their new modules (Lichtenberg, Paulson, & Han, 2020b). While this study did not allow for the prediction of financial exploitation, it did allow for further testing of the construct of contextual financial decision-making. We used 2016 measures on the HRS for mental health, physical health, cognition, and functional abilities to predict 2018 perceived financial vulnerability scores. The results demonstrated a significant ability to predict perceived financial vulnerability scores with demographic, cognitive, physical and mental health, and functional ability measures all being unique and significant predictors. Perhaps most importantly, the study allowed for the collection of normative data across the contextual financial decision-making questions. For example, more than one-quarter of participants reported being unsure or not confident when making big financial decisions; more than one-half wished they had someone to talk with about their finances, and 16% reported often being anxious about their financial decisions.

In December 2020, the FEVS was posted on our Older Adults and Professionals landing page at <https://olderadultnestegg.com>. The FEVS is self-administered on the website, and enables older adults to examine their risk levels for financial exploitation and currently perceived financial vulnerability (The FEVS was renamed on the website as the Financial Vulnerability Survey). A risk score, suggested next steps, and a list of resources are provided to each older adult after completing the FEVS, and a PDF of the report is available for downloading and/or printing.

The use of internet-based survey research is still fairly new and contains strengths and weaknesses, chief of which is the question of how reliable and valid are the data that are obtained (Walter, Seibert, Goring, & O'Boyle, 2019). Benfield and Szlemko (2006) noted that in the decade prior to their publication less than 500 peer-reviewed articles related to social sciences used the internet for data collection. This number has expanded greatly in the past 15 years – especially with online data services, such as m-Turk and others (Walter et al., 2019). What is the credibility of data from online surveys? Conceptually, online surveys offer some significant advantages (Kilinc & Ferat, 2017). Those filling out online surveys are free from influence by the researcher, and thus more independent in their responses. The internet offers convenience and lower costs as well. However, the quality of internet data remains a controversial topic. Walter et al. (2019) published their meta-analytic study that compared online panel data studies to conventional ones. They obtained 90 independent samples. Overall, their findings supported the quality of internet data. Nearly 90% of studies fell within 80% credibility intervals of conventionally sourced data. One hundred percent of online panel data fell within 80% credibility intervals for reliability. No differences were found for online panel data and conventional data for criterion-related validity studies and effect sizes. The authors noted that one way to examine data quality was to compare results on questions pulling for data outliers. In this study, we compare our previous studies with conventional samples of both normative data on three questions and data outlier questions.

### **Study purpose and hypotheses**

The purpose of the study was to examine the use of online data collection to determine the criterion validity for living alone and perceived memory complaints with financial exploitation vulnerability. There is a lack of empirically validated, self-report risk assessment tools older adults can use to better understand their perceived financial vulnerability and risk of exploitation.

Hypothesis 1: Older adults who complete the online version of the FEVS will resemble the population at large based on the three overlapping items from the Health and Retirement Experimental Module.

Hypothesis 2: Those reporting perceived memory complaints will have significantly higher risk scores on the FEVS than those who do not endorse having memory complaints.

Hypothesis 3: Those who experience perceived memory complaints and report living alone will have the highest risk scores on the FEVS of any group of participants.

## **Methods**

### **Participants**

Participants were the first 258 individuals reporting as 60 years or older and who completed the Financial Exploitation Vulnerability Survey (FEVS) on the <https://olderadultnestegg.com> website between December 2020 and February 2021 (FEVS was re-named on the website as the Financial Vulnerability Survey). Participants self-reported their age, gender, and education level.

### **Procedures**

In December 2020, an Older Adults landing page was launched on the Olderadultnestegg.com website. Marketing efforts for the site included interviews of the scale's authors and Google ads aimed at increasing awareness of the site among older adults. The landing page featured the 17-item self-report Financial Exploitation Vulnerability Survey. Anonymous data were abstracted from the website database using administrative tools available to the website's creators. We compared responses on questions where we have nationally representative data (see results section and hypothesis 1). We also examined outlier questions for convenience samples where we collected data in person. Questions 3, 16, and 17 (who manages your money day to day?; Did anyone ever tell you that someone else you know wants to take your money?; How likely is it that anyone now wants to take or use your money



without your permission?) had low rates of affirmative responses to taking one's money or having someone else manage one's money (6–10%). While the response frequencies were slightly higher for this sample (8–15%), these three questions had the lowest rate of affirmative responses compared to the other questions. These checks on patterns of responses gave us confidence that the online data collected are meaningful data. Only fully completed scales were used in this study.

## Measures

Demographic measures of age, level of education, race, and gender were self-reported. Self-reported memory complaints were measured by the question, “Is your memory less reliable than one year ago? (yes/no),” and living alone was captured by the question, “Do you live alone? (yes/no).”

### Financial exploitation vulnerability survey

Participants in the Lichtenberg Financial Decision Rating Scale validation study and the Successful Aging after Financial Exploitation program completed the full 68-item Lichtenberg Financial Decision Rating Scale structured interview, which was designed to assess financial decision-making abilities (details can be found in Lichtenberg et al. (2017) and Lichtenberg, Hall, Gross, & Campbell, 2019). Of the 68 items, 34 ask about the context in which an older adult is making a financial decision, including their financial circumstances (e.g., “How often do your monthly expenses exceed your regular monthly income?”) and the impact of their finances on their social and psychological health (e.g., “Has your relationship with a family member or friend become strained due to finances?” and “How often do you worry about financial decisions you have recently made?”). In a recent study, we found that 17 of the contextual items successfully differentiated older adults who had experienced financial exploitation from those who had not. We assembled those items as a new scale (the FEVS) in Lichtenberg et al. (2020a). The scale was found to have good internal consistency (Cronbach's alpha = 0.82) and was able to detect financial exploitation (AUC = 0.82). The 17 items on the FEVS have a risk score that ranges from 0 to 2

points or 0 to 3 points, depending on the number of response options. The total score range is 0–46, with higher scores being related to a higher risk of financial exploitation. The low-, moderate-, and high-risk groups were based on the FEVS mean and standard deviation for the sample in our Context Matters paper. Lower than the mean was classified as low risk, between the mean and one standard deviation was classified as moderate risk, and above one standard deviation was classified as high risk.

## Statistical procedures

Statistical analyses were conducted using SPSS Statistics 27. To examine potential differences in demographics (age, sex, and education) across increasing levels of financial vulnerability, we performed One Way Anovas for age and chi-square analyses for the remaining categorical data. The total FEVS score was collapsed into low (0–5), moderate (6–9), and high (10 or greater) risk groups for these analyses. We also examined Chi Square analyses across FEVS risk groups for living alone and reporting memory complaints.

Correlational analyses were used to examine relationships between the raw total score of the FEVS and demographic information, as well as memory complaints and live-alone status. Point-biserial correlations were used between dichotomous and continuous variables. Spearman correlations were used between two dichotomous variables. A linear regression analysis was conducted to determine how well demographic information, living alone, and memory complaints predicted the FEVS total score.

A 2 × 2 factorial ANOVA was used to explore the interaction and main effects of memory complaints and living alone on the FEVS total score. For descriptive purposes, the frequencies of low-, moderate-, and high-risk scores on the FEVS were also reported for participants who lived alone, had memory difficulties, or both.

## Results

The demographic makeup of the sample is reported in Table 1. The mean age was 72 years, with approximately one-half male and one-half female.

**Table 1.** Sample demographics across financial vulnerability risk levels.

	Total	Low	Moderate	High	Statistic
Age	71.9 (6.7)	71.5 (5.9)	72.6 (7.8)	73.2 (8.8)	$F(2,255) = 1.12$
Gender					
Male	124 (48.1%)	91 (73.4%)	21 (16.9%)	12 (9.7%)	$\chi^2(2) = 1.87$
Female	134 (51.9%)	88 (65.7%)	28 (20.9%)	18 (13.4%)	
Education					
Bachelor's and below	127 (49.2%)	84 (66.4%)	25 (19.7%)	18 (14.2%)	$\chi^2(2) = 2.43$
Graduate Education	129 (50.0%)	95 (73.6%)	23 (17.8%)	11 (8.5%)	
<b>Living Alone</b>					
<b>Yes</b>	<b>98 (38.0%)</b>	<b>61 (62.2%)</b>	<b>19 (19.4%)</b>	<b>18 (18.4%)</b>	$\chi^2(2) = 7.35^*$
<b>No</b>	<b>160 (62.0%)</b>	<b>118 (73.8%)</b>	<b>30 (18.8%)</b>	<b>12 (7.5%)</b>	<b>= 0.17</b>
<b>Memory Complaints</b>					
<b>Yes</b>	<b>99 (38.4%)</b>	<b>53 (53.5%)</b>	<b>25 (25.3%)</b>	<b>21 (21.2%)</b>	$\chi^2(2) = 21.82^{**}$
<b>No</b>	<b>159 (61.6%)</b>	<b>126 (79.2%)</b>	<b>24 (15.1%)</b>	<b>9 (5.7%)</b>	<b>= 0.29</b>

\*Comparison is significant at the 0.05 level.

\*\*Comparison is significant at the 0.001 level.

Compared with Lichtenberg et al.'s (2020a) study, the educational level of the current sample was much higher, with one-half reporting graduate education. Thirty-eight percent reported living alone, and 38% reported that their memory was less reliable than 1 year ago. Those living alone were more likely to report high-risk scores on the FEVS compared with those not living alone (18% vs. 7%); similarly, those with reported memory complaints were more likely to report high-risk scores on the FEVS compared with those without memory complaints (21% vs. 6%).

To examine the first hypothesis, regarding how representative the online sample is compared with a national sample in terms of financial vulnerability, we compared the results with the three overlapping items from the Health and Retirement Study (Lichtenberg, Paulson, & Han, 2020b). In terms of confidence in making financial decisions 73% of the national sample stated, they were confident, as did 65% of the online sample. Six percent of both groups reported that they were not confident. With regard to wishing one had someone to talk to about finances, 55% of the national sample reported "sometimes" or "often" and 52% of the online sample. Finally, in terms of feeling anxious about finances, 64% of the national sample answered "sometimes" or "often" and 42% of the online sample. In sum, the results of this study match well with the national sample.

Tables 2 and 3 report the correlational and regression data that examine hypothesis 2, regarding the relationship of perceived memory

**Table 2.** Correlations among demographic variables and financial vulnerability.

	Age	Gender	Education	Living Alone	Memory Complaints
Gender	0.086				
Education	0.078	−0.008			
Living Alone	.163**	.273**	−0.006		
Memory Complaints	.301**	0.041	0.018	0.006	
<b>FEVS</b>	<b>0.082</b>	<b>0.077</b>	<b>−.124*</b>	<b>.207**</b>	<b>.351**</b>

Gender, Education, Living Alone, and Memory are dichotomous variables.

\*\*Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

**Table 3.** Regression of demographic variables predicting FEVS score.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.362	2.615		2.432	0.016
Age	−0.044	0.037	−0.072	−1.179	0.239
Gender	0.001	0.474	0.000	−0.001	0.999
Education	−0.983	0.457	−0.124	−2.149	0.033
Living Alone	1.673	0.493	0.204	3.391	0.001
Memory Complaints	3.004	0.491	0.367	6.117	<0.001

complaints with financial vulnerability. As can be seen in Table 2, the total score for the FEVS was significantly related to education ( $r = -.12$ ;  $p < .05$ ), living alone ( $r = .20$ ;  $p < .05$ ), and memory complaints ( $r = .35$ ;  $p < .05$ ). All three measures were independently associated with the FEVS in the

**Table 4.** Factorial ANOVA for FEVS.

	Living Alone	
Memory Complaints	Yes (n= 98)	No (n= 160)
<b>Yes (n= 99)</b>	<b>8.26 (5.46, n= 38)</b>	<b>5.20 (3.71, n= 61)</b>
No (n= 159)	3.97 (2.99, n= 60)	3.07 (3.36, n= 99)

**Table 5.** Frequencies of FEVS risk scores.

	Concern Type			Total
	Low	Moderate	High	
Living Alone and Memory Problem	15 39.47%	8 21.05%	15 39.47%	38 100.00%
Living Alone Only	46 76.67%	11 18.33%	3 5.00%	60 100.00%
Memory Problem Only	38 62.30%	17 27.87%	6 9.84%	61 100.00%
Neither	80 80.81%	13 13.13%	6 6.06%	99 100.00%
Total	179 69.38%	49 18.99%	30 11.63%	258 100.00%

multiple regression equation and accounted for 18% of FEVS variance ( $F(5,250) = 10.73, p < .001, r^2 = 0.18$ ).

Results of the ANOVA used to address hypothesis 3 can be found in Table 4. Fifteen percent of the total sample reported both living alone and having self-reported memory complaints. The interaction term on the ANOVA for living alone x memory complaints was significant for the FEVS score ( $F(1,254) = 4.84, p = .029, \eta^2 = 0.019$ ). This indicates that only 2% of the variance was explained by the interaction term, whereas 14% of the variance was explained by memory complaints alone. In Table 5, the response frequencies render this finding even clearer. Whereas only 23% of those living alone without memory complaints scored in the moderate or high-risk range on the FEVS, 38% of those with memory complaints who were living with others scored in the higher risk ranges on the FEVS. Sixty percent of those living alone and with memory complaints also scored in the higher risk ranges. Hypothesis 3 was thus supported, in that the highest risk group contained those living alone who also reported memory complaints.

## Discussion

The main finding of this study is the evidence for the criterion validity of the importance of contextual aspects of financial decision-making. The FEVS measures 17 contextual items that encompass financial strain, self-efficacy, financial behaviors, psychological vulnerability with respect to finances, and conflicts and relationship strain related to finances. In our initial validation study, these items proved useful in differentiating who had been a victim of financial exploitation and who had not. The FEVS was used in this study to

determine a risk score for perceived financial vulnerability, with higher scores indicating higher risk.

Using a web-based method of collecting anonymous self-report data, education level, self-reported memory complaints, and living alone were all significantly correlated with a higher risk score on the FEVS. When put into a regression equation, only self-reported memory complaints and living alone remained significant predictors. ANOVA was conducted to examine the interaction between self-reported memory complaints and living alone, and showed that while self-reported memory complaints was the best predictor of higher risk scores, the interaction was also significant. Thirty-eight percent of those with self-reported memory complaints were living alone, and their risk scores were the highest, followed by self-reported memory complaints among those not living alone. Living alone without self-reported memory complaints was not associated with higher risk scores than those living with others and not reporting memory complaints. Self-reported memory complaints entailed a 37% risk of higher risk scores on the FEVS.

The FEVS and its focus on contextual issues represent a much different way to examine financial vulnerability. The FEVS was created when we asked the question “how much does context matter when it comes to financial exploitation vulnerability?” Gerontology research in financial vulnerability has traditionally focused on issues of competency across financial domains, financial literacy, as well as on behaviors that make older persons susceptible to scams (see Lichtenberg, Campbell, et al., 2020a for more thorough exploration of this research). In contrast, the FEVS focuses on the influence of context, one's own perception of one's financial vulnerabilities. The FEVS offers both a way to make a risk assessment or risk screening for financial exploitation vulnerability, and a clinical tool in which items can be followed up on to gain a clearer understanding of a person's current struggles with financial vulnerability. Being comfortable with the parameters of one's financial situation, being healthy psychologically about finances, and having no or low relationship strain and conflict about finances, or the reverse, impacts an older person's vulnerability to exploitation. This study extends our ability to examine financial vulnerability through an online



system that is available to all older persons who are able to access the internet. Discussing financial vulnerability is a topic that most older persons find difficult and yet older persons are concerned about their finances; over half wish they had someone to talk to about finances. Using our internet-based system allows older persons to find out about their own financial vulnerability risk level, and to get ideas for next steps and other resources. This study furthers our program of research by demonstrating the ability to collect usable and valid data from an internet-based system. This will allow us to collect much larger sample sizes and to examine even more closely the relationship of memory complaints to financial vulnerability.

The study has several limitations. Data were self-reported and anonymous, and thus could not be verified. The sample was a convenient sample of those who became aware of our website <https://olderadultnestegg.com> and went on to complete the scale and enter demographic information. Memory complaints were self-reported, and there were no objective measures of memory complaints; living alone was broadly characterized, with no data on how much support an individual received. Despite these limitations, the study has important implications. First, the higher-educated sample in this study contrasts with our original validation study of the FEVS and provides evidence for the validity of the scale in this higher-educated group. Second, it is increasingly important to identify perceived financial vulnerability, given the prevalence of memory problems among older adults and the growing problem of the financial exploitation of older adults. The FEVS, based on a conceptual framework that measures how important context is in financial decision-making, is an easy-to-use and score tool for risk assessment – something sorely needed across health, mental health, financial, case manager, and other services for older adults.

### Clinical implications

- Older adults with memory complaints are in need of perceived financial vulnerability assessment, since wealth is vulnerable among those with memory complaints.

- The Financial Exploitation Vulnerability Scale is a valuable self-report tool that clinical gerontologists can use in their intake assessments and follow-ups.
- Clinical gerontologists must better assess and integrate financial management and vulnerability concerns into their practices.

### Disclosure statement

No potential conflict of interest was reported by the author(s).

### Funding

National Institutes of Health P30 AG015281, Michigan Center for Urban African American Aging Research, American House Foundation, Retirement Research Foundation 2014-024, Michigan Alzheimer's Center Core grant #P30AG053760. State of Michigan Department of Health and Human Services and the Michigan Health Endowment Fund.

### References

- Anderson, L. A., Day, K. L., Beard, R. L., Reed, P. S., & Wu, B. (2011). The public's perceptions about cognitive health and Alzheimer's disease among the U.S. population: A national review. *Gerontologist*, 49(S1), S3–S11. doi:10.1093/geront/gnp088
- Benfield, J. A., & Szlemko, W. J. (2006). Internet-based data collection: Promises and realities. *Journal of Research Practice*, 2. <http://jrp.icaap.org/index.php/jrp/article/view/30/51>
- Boyle, P. A., Wilson, R. S., Yu, L. Y., Buchman, A. S., & Bennett, D. A. (2012). Poor decision making is a consequence of cognitive decline among older persons without Alzheimer's disease or mild cognitive impairment. *PLOS One*, 7, 1–5. doi:10.1371/journal.pone.0043647
- Consumer Financial Protection Bureau. (2019). *Suspicious activity reports on elder financial exploitation: Issues and trends*. Washington, DC: CFPB.
- DeLiema, M. (2018). Elder fraud and financial exploitation: Application of routine activity theory. *Gerontologist*, 58, 706–718. doi:10.1093/geront/gnw258
- Ficker, L. J., Lysack, C. L., Hanna, M., & Lichtenberg, P. A. (2014). Perceived cognitive impairment among African American elders: Health and functional impairments in daily life. *Journal of Aging and Mental Health*, 18, 471–480. doi:10.1080/13607863.2013.856859
- Gamble, K. J., Boyle, P. A., Yu, L., & Bennett, D. A. (2015). How does aging affect financial decision making? *Center for Retirement Research*, 15, 1–7.
- Hsu, J. W., & Willis, R. J. (2013). Dementia risk and financial decision making by older households: The impact of information. *SSRN Electronic Journal*. doi:10.2139/ssrn.2339225

- James, B. D., Boyle, P. A., & Bennett, D. A. (2014). Correlates of susceptibility to scams in older adults without dementia. *Journal of Elder Abuse and Neglect*, 26, 107–122. doi:10.1080/08946566.2013.821809
- Kilinc, H., & Ferat, M. (2017). Opinions of expert academicians on online data collection and voluntary participation in social sciences research. *Education Sciences: Theory and Practice*, 17, 1461–1486. doi:10.12738/estp.2017.5.0261
- Lichtenberg, P., Stoltman, J., Ficker, L., Iris, M., & Mast, B. (2015). A person-centered approach to financial capacity assessment: Preliminary development of a new rating scale. *Clinical Gerontologist*, 38, 49–67. doi:10.1080/07317115.2014.970318
- Lichtenberg, P. A., Campbell, R., Hall, L., & Gross, E. (2020a). Context matters: Financial, psychological and relationship insecurities around personal finances is associated with financial exploitation. *Gerontologist*, 60, 1040–1049. doi:10.1093/geront/gnaa020
- Lichtenberg, P. A., Ficker, L. J., & Rahman-Filipiak, A. (2016). Financial decision-making abilities and financial exploitation in older African Americans: Preliminary validity evidence for the Lichtenberg Financial Decision Rating Scale (LFDRS). *Journal of Elder Abuse and Neglect*, 28, 14–33. doi:10.1080/08946566.2015.1078760
- Lichtenberg, P. A., Gross, E., & Ficker, L. J. (2020). Quantifying risk of financial incapacity and financial exploitation in community-dwelling older adults: Utility of a scoring system for the Lichtenberg Financial Decision Making Rating Scale. *Clinical Gerontologist*, 43, 266–280. doi:10.1080/07317115.2018.1485812
- Lichtenberg, P. A., Hall, L., Gross, E., & Campbell, R. (2019). Providing assistance to older adult financial exploitation victims: Implications for clinical gerontologists. *Clinical Gerontologist*, 42, 435–442. doi:10.1080/07317115.2019.1569190
- Lichtenberg, P. A., MacNeill, S. E., Lysack, C. L., Bank, A. L., & Neufeld, S. W. (2003). Predicting discharge and long-term outcome patterns for frail elders. *Rehabilitation Psychology*, 48, 37–43. doi:10.1037/0090-5550.48.1.37
- Lichtenberg, P. A., Paulson, D., & Han, D. (2020b). Examining health and wealth correlates of perceived financial vulnerability: A normative study. *Innovation in Aging*, 4, 1–10. doi:10.1093/geroni/igaa039
- Lichtenberg, P. A., Stickney, L., & Paulson, D. (2013). Is psychological vulnerability related to the experience of fraud in older adults? *Clinical Gerontologist*, 36, 132–146. PMID: PMC3755896. doi:10.1080/07317115.2012.749323
- Lichtenberg, P. A., Sugarman, M. A., Paulson, D., Ficker, L. J., & Rahman-Filipiak, A. (2016). Psychological and functional vulnerability predicts fraud cases in older adults: Results of a longitudinal study. *Clinical Gerontologist*, 39 (1), 48–63. doi:10.1080/07317115.2015.1101632
- Lichtenberg, P. A., Ocep Welison, K., Ficker, L. J., Gross, E., Rahman-Filipiak, A., & Teresi, J. (2017). Empirical and conceptual approaches to financial decision making by older adults: Results from a financial decision making scale. *Clinical Gerontologist*, 41, 42–65. doi:10.1080/07317115.2017
- Liu, M., Wood, S., Berger, D., & Wilbur, K. (2017). Examining the role of social support in Elder financial exploitation using a community sample. *Innovations in Aging*, 1–11. doi:10.1093/geroni/igx016
- MacNeill, S. E., & Lichtenberg, P. A. (1997). Home alone: The role of cognition in return to independent living. *Archives of Physical Medicine and Rehabilitation*, 78, 755–758. doi:10.1016/S0003-9993(97)90085-X
- Nicholas, L. H., Langa, K. M., Bynum, J. P., & Hsu, J. W. (2021). Financial presentation of Alzheimer's disease and related dementia. *JAMA Internal Medicine*, 181, 220–227. doi:10.1001/jamainternmed.2020.6432
- Park, S., Smith, J., Dunkle, R. E., Ingersoll-Dayton, B., & Antonucci, T. C. (2019). Health and social-physical environment profiles among older adults living alone: Associations with depressive symptoms. *Journals of Gerontology: Social Sciences*, 74, 675–684. doi:10.1093/geronb/gbx003
- Portacolone, E., Johnson, J. K., Covinsky, K. E., Halpern, J., & Rubinstein, R. L. (2018). The effects and meanings of receiving a diagnosis of Mild Cognitive Impairment or Alzheimer's Disease when one lives alone. *Journal of Alzheimer's Disease*, 61, 1517–1529. doi:10.3233/JAD-170723
- Portacolone, E., Rubinstein, R. L., Covinsky, K. E., Halpern, J., & Johnson, J. K. (2018). The precarity of older adults living alone with cognitive impairment. *Gerontologist*, 59, 271–280. doi:10.1093/geront/gnx193
- Quinn, M. J., Nerenberg, L., Navarro, A. E., & Wilber, K. H. (2017). Developing an undue influence screening tool for Adult Protective Services. *Journal of Elder Abuse and Neglect*, 29, 157–185. doi:10.1080/08946566.2017.1314844
- Ruffman, T., Murray, J., Halberstadt, J., & Vater, T. (2012). Age-related differences in deception. *Psychology and Aging*, 27, 543–549. doi:10.1037/a0023380
- Walter, S. L., Seibert, S. E., Goring, D., & O'Boyle, E. H. (2019). A tale of two sample sources: Do results from an online panel data and conventional converge? *Journal of Business and Psychology*, 34, 425–452. doi:10.1007/s10869-018-9552-y
- Wood, S., Rakela, B., Lui, P., Navarro, A., Bernatz, S., Wilber, K. H., . . . Homier, D. (2014). Neuropsychological profiles of victims of financial exploitation at the Los Angeles County Elder Abuse Forensic Center. *Journal of Elder Abuse & Neglect*, 26, 414–423. doi:10.1080/08946566.2014.881270