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A Short Form of the Financial Exploitation Vulnerability Scale

Rebecca J. Campbell MA[a] and Peter A. Lichtenberg PhD, ABPP[b]

[a]Institute of Gerontology and Department of Psychology, Wayne State University, Detroit, Michigan, USA; [b]Institute of Gerontology, Wayne State University, Detroit, Michigan, USA

ABSTRACT

Objectives: The purpose of the present study was to develop a short form of the Financial Exploitation Vulnerability Scale (FEVS) with good psychometric properties to detect contextual risk exploitation.

Methods: The sample included community volunteers who were 60 years and older, as well as elders who were referred to the SAFE program after being the victim of a financial scam or identity theft. All participants completed the FEVS as part of a larger test battery. Factors analysis was used to explore the underlying structure of the FEVS and eliminate items. ROC analysis and logistic regression were used to evaluate the clinical utility of the Financial Exploitation Vulnerability Scale – Short Form (FEVS-SF) to detect exploitation.

Results: The resulting FEVS-SF was unidimensional, contained nine items, and had comparable internal consistency to the full FEVS. Sensitivity and specificity were good at a cut score of five or greater. FEVS-SF was a better predictor of exploitation than demographic factors and several measures of cognitive functioning.

Conclusions: The FEVS-SF can detect the experience of financial exploitation among older adults better than other known risk factors, and equally as well as a measure of executive functioning.

Clinical Implications: This tool serves a need in many professional settings (e.g., doctor's offices and Adult Protective Services) for a brief, standardized assessment measure of financial exploitation risk. This measure also provides actionable information for professionals to follow up with the standard of care for their clients.

KEYWORDS

Financial exploitation; elder abuse; vulnerability; psychological assessment

The financial exploitation of older adults is an expensive personal and societal problem. The prevalence rate of financial exploitation among older adults varies from 3.5% to 7.3%, depending on the nature of the mistreatment being perpetrated (Acierno et al., 2010; Federal Trade Commission, 2013; Laumann, Leitsch, & Waite, 2008) and the occurrence of such exploitation may be on the rise. For example, reports from the Consumer Financial Protection Bureau (2019) indicate that the number of suspicious activity reports filed by deposit institutions and other financial service businesses quadrupled from 2013 to 2017. Nearly 70% of these reports were for individuals over the age of 60. In the United States, financial exploitation has been estimated to cost older adults about 2.9 USD billion each year (MetLife, 2011), and there is evidence that financial exploitation is significantly underreported (Federal Trade Commission, 2013).

Older adults' risk for financial exploitation is multifactorial, including increased incidence of health concerns and disability, cognitive decline, and psychosocial changes that occur in late life. Elders who require assistance with activities of daily living (ADLs) are significantly more likely to be financially exploited by both family members and strangers (Acierno et al., 2010), even when accounting for demographic factors (Beach, Schulz, Castle, & Rosen, 2010). Even subjective reports of a decline in mental and physical health are related to increased incidence of financial exploitation (Acierno et al., 2010; Laumann et al., 2008; Wood et al., 2016). Additionally, cognitive decline in late life is related to difficulty with decision-making abilities (Boyle, Wilson, Yu, Buchman, & Bennett, 2012, 2013; Han et al., 2015; Marson, 2016), which can lead to turning one's finances over to another person or make the older adult more susceptible to being scammed. Slowed processing speed and greater difficulty with a set-switching task (an aspect of executive functioning) may

CONTACT Rebecca J. Campbell fz9986@wayne.edu Detroit, MI 48202

make older adults particularly vulnerable to exploitation (Wood et al., 2014).

Older adults are also uniquely vulnerable to exploitation due to psychosocial and emotional changes that occur in late adulthood. Socio-emotional selectivity theory proposes that older adults increasingly prioritize emotionally meaningful goals and attend more to positive emotional experiences rather than negative ones (Carstensen, 2006; Carstensen & Mikels, 2005; Mather & Carstensen, 2005). This bias may make older adults more forgiving of friends and family who take advantage of them. This notion is supported by the fact that an elder's siblings and adult children are the most common perpetrators of financial exploitation (Laumann et al., 2008). Further, when socially isolated, older adults may be at increased risk for fraud and financial scams by strangers. In a sample of older adult victims of financial exploitation at the Los Angeles County Elder Abuse Forensic Center, DeLiema (2015) found that about 70% of older adults who were victims of exploitation by a stranger lived alone, and half of all fraud and financial abuse victims had been intentionally isolated from others by the perpetrator. Elders who report being socially isolated and lonely are more likely to be receptive to and potentially victimized by telemarketing fraud (Alves & Wilson, 2008; Lee & Geistfeld, 1999). Social isolation is a two-fold risk factor because older adults who feel isolated may lack a confidante who could prevent financial victimization. Isolated older adults may also continue to engage a perpetrator in a misguided attempt to cultivate social connection (Lachs & Han, 2015).

Psychological vulnerability also significantly contributes to the likelihood of financial exploitation. Beach et al. (2010) found that a risk for clinical depression was significantly related to the experience of financial exploitation among older adults, even when controlling for demographic factors. This finding was supported and expanded on by Lichtenberg, Stickney, and Paulson (2013), similarly reported that a greater number of depression symptoms predicted the experience of fraud in a five-year follow-up. However, elders who were the most depressed and also had the lowest social status needs fulfillment (i.e., felt devalued and disrespected by others) had a 226% increase in the prevalence of fraud reported compared to the rest of the sample.

Themes emerge when exploring the age-related factors contributing to vulnerability for financial exploitation, but relatively little attention has been paid to integrating these factors into a conceptual model. The Pinsker, McFarland, and Pachana (2010) model focuses on the interplay of personal competencies (e.g., intellectual functioning, social intelligence, motivation/personality traits, physical functioning), and environmental risk factors that lead to the social vulnerability the older adult to financial exploitation. This model benefits from the breadth of domains it covers and tailoring to the aging process, but does not provide a clear mechanistic explanation for how the factors work together to create vulnerability to financial exploitation. Spreng, Karlawish, and Marson (2016) presented a social cognitive neuroscience conceptualization of how age-related changes in the brain contribute to difficulties with decision-making, thereby increasing financial exploitation risk. This model poses two distinct pathways of decline, cognitive capacity, and social capacity, ultimately leading to financial mismanagement and increased susceptibility to negative social influence. This model benefits from thoroughly exploring the cognitive, social, and neurological changes that happen during aging. However, this broad view of the mechanisms of aging that likely contribute to financial exploitation risk may not be specific enough for identifying individual vulnerabilities.

The available models for conceptualizing contextual vulnerability to financial exploitation do not easily lend themselves to assessing an individual's risk. The assessment tools that exist to evaluate financial exploitation risk attempt to determine it indirectly by assessing cognitive functioning and decisional capacity (Lai et al., 2008; Lichtenberg, Stoltman, Ficker, Iris, & Mast, 2015; Marson, 2016; Marson et al., 2000). In addition to being proxy measures for financial exploitation, these tools often require highly specialized training to administer accurately, and more time than professionals can commit to assessment. Even available measures that directly query exploitation experiences are too lengthy to administer in high-traffic settings. Professionals who regularly work with older adults need brief, standardized tools that they can use to

assess the risk of financial exploitation and provide them with important contextual information about the older adult that assist them in ameliorating any potential problems of financial exploitation.

Identifying this need in the available literature led the current authors to develop the Financial Exploitation Vulnerability Scale (FEVS; Lichtenberg, Campbell, Hall, & Gross, 2020). The items of the FEVS were drawn from the Lichtenberg Financial Decision-Making Rating Scale (LFDRS) which assesses the decision-making process around a real-world financial transaction. The LFDRS is detailed in Lichtenberg, Ficker, and Rahman-Filipiak (2016). Three of the subscales in the LFDRS query for context-related information regarding the environment in which the older adult is making a financial decision. These items were evaluated for their ability to differentiate older adults who reported financial exploitation experiences from those who did not. The resulting 17-item scale was presented as the FEVS, which had good psychometric properties as a measure.

Present study

The present study's purpose was to develop a short form of the FEVS by using exploratory and confirmatory factor analyses. A short form of this self-report measure would allow widespread usage in clinical gerontology settings to assess older adult risk for financial exploitation. Three hypotheses were generated for this study:

1) The scale would be unidimensional and demonstrate adequate internal consistency.
2) The resulting short-form scale would demonstrate good sensitivity and specificity to detect financial exploitation in a ROC curve analysis.
3) The short-form scale score and a cognitive assessment measure of executive functioning would be significant predictors of financial exploitation status, but not measures of global cognitive functioning or proxy measures of educational attainment.

Methods

Participants

Two hundred forty-three participants were included in the study. Participant data were drawn from two sources. First, a sample of older adult volunteers was recruited from the community to participate in the validation study of a broader financial decision-making study (n = 200). Many of these participants were recruited through the Healthier Black Elders Participant Registry, part of the University of Michigan-Wayne State University NIA P30 Resource Center for Minority Aging Research. (Hall et al., 2016). Community-dwelling volunteers were also recruited at several community education events. The second source of participants for this study was individuals self-referred or referred by area professionals after being victims of a scam or identity theft (n = 43). These individuals sought financial coaching and assistance through the Successful Aging through Financial Empowerment (SAFE) program (Lichtenberg, Hall, Gross, & Campbell, 2019), and participated in this study as part of the program. All participants were 60 years of age or older.

Financial exploitation

Participants' responses to the FEVS were derived from the administration of the LFDRS in a larger test battery (see Lichtenberg et al., 2016 for details) for the validation study of the LFDRS as part of their participation in the SAFE program. The LFDRS contains items that directly query experiences of financial exploitation (e.g., "Has anyone used or taken your money without your permission?"). If the examiner suspected that financial exploitation had occurred, they asked follow-up questions about the transaction's nature. Members of the research team met in a consensus conference style to review the LFDRS interview and other available information to identify occurrences of financial exploitation. Participants recruited from the SAFE program self-reported experiences of financial exploitation, which were validated by examining bank statements, credit card reports, and other financial documents. A total of 79 participants across both recruitment samples reported an experience of financial exploitation.

Measures

Financial exploitation vulnerability scale (FEVS; Lichtenberg et al., 2020)

Using 17 self-report items on financial, psychological, and relationship insecurities around personal finance, we found they could differentiate victims of financial exploitation from those who had not been victimized. We examined whether a Financial Exploitation Vulnerability Scale-Short Form (FEVS-SF) would demonstrate the same psychometric qualities as the 17-item scale.

Wide range achievement test – 4 – word reading subtest (WRAT-4 WR; Wilkinson & Robertson, 2006)

The WRAT-4 WR subtest is a single-word reading measure, which involves word recognition and decoding through letter recognition. It is commonly used as a proxy measure for reading level and quality of education (Sayegh, Arentoft, Thaler, Dean, & Thames, 2014). A higher score on this measure indicates better performance.

Mini-mental state exam (MMSE; Folstein, Folstein, & McHugh, 1975)

The MMSE consists of 11 performance-based questions that estimate cognitive functioning across domains: orientation, verbal memory, attention, language, and graphomotor construction.

Trail making test – part B (TMT-B; Reitan & Wolfson, 1985)

In TMT-B, the examinee is asked to draw a line connecting numbers and letters in an alternating sequence (i.e., 1-A-2-B-3-C) as fast as they can. The number of seconds the examinee requires to complete the task and the number of errors are recorded. Lower scores indicate faster, better performance. The TMT was included as a measure of set-switching, an aspect of executive functioning.

Data analyses

Most data analyses were completed using IBM SPSS Statistics (Version 26). Model fit indices for the confirmatory factor analyses were completed in JASP (Version 0.9.2.0).

Group comparisons

The two participant groups, those who experienced financial exploitation and those who had not, were compared on demographic factors (age, gender, race, and years of formal education), as well as neuropsychological testing and the FEV-SF total score. Independent samples t-tests were used for continuous variables, while chi-square analyses were used for categorical variables (gender and race). Gender and race were coded dichotomously based on the participants' self-identification (Male or Female; Black or White).

Exploratory and confirmatory factor analysis

Exploratory factor analysis with direct oblimin rotation was used to examine the factor structure of the 17 items of the FEVS and to remove extraneous items. The scale was expected to be unidimensional, given that the items were derived based on their ability to detect the experience of financial exploitation. Reliability analysis was used to produce a psychometrically sound scale and examine the item-total correlations of each item. An iterative process was used to remove items one at a time that did not have a factor loading of 0.3 or greater or did not have a corrected item-total correlation of 0.3 or greater (Field, 2013). These liberal criteria were used because the purpose of the exploratory factor analysis was item reduction rather than theoretically based expectations about underlying factors. Model fit was explored using chi-square, RMSEA, and TLI indices. The internal consistency of the final short-form scale (FEVS-SF) was evaluated using Cronbach's alpha.

Clinical utility of FEV-SF

A ROC curve analysis was used to determine how well the FEVS-SF scale could detect the experience of financial exploitation, as well as the sensitivity and specificity of various cut points. The FEVS-SF total score was used to detect the positive state of financial exploitation.

Correlates of FEVS-SF

To determine the strength of the relationship with the new FEVS-SF total score and other collected variables, Pearson's r correlational analyses were employed. Point-biserial correlations were used for dichotomously coded variables (gender and

race). Correlation analyses were run between the FEVS-SF total score, age, gender, race, years of education, WRAT Word-Reading raw score, MMSE, and TMT-B seconds to completion.

Predictors of financial exploitation

All collected variables were entered in a logistic regression to determine their sensitivity as independent predictors of the experience of financial exploitation. Demographic factors (age, gender, race, and formal education), testing performance (WRAT-WR, MMSE, and TMT-B), and the FEVS-SF total score were entered simultaneously as predictors of financial exploitation status.

Results

Demographic information is provided in Table 1 and is the same as was described in our recent article about the full-length FEVS (Lichtenberg et al., 2020). The two exploitation groups were significantly different in years of education, word reading performance (WRAT-WR), estimated cognitive functioning (MMSE), and executive functioning (TMT-B). Those who did not report an experience of financial exploitation had more years of formal education and obtained better scores on the above measures. Black participants were significantly more likely to report the experience of financial exploitation as compared to white participants. The FEVS-SF total score accurately differentiated those who had been exploited from those who had not ($t(237) = -8.37$, $p<.001$, $d= 1.11$). The two exploitation groups did not differ with regard to age or gender.

Exploratory factor analysis with direct oblimin rotation was used to examine the factor structure of the full FEVS and potentially remove extraneous items to create a short form. As hypothesized, the visual examination of the scree determined that the FEVS-SF was a unidimensional scale (see Table 2). There was a precipitous drop in eigenvalues from the first factor (4.55) to the second (1.62). Items were removed one at a time based on low factor loadings and corrected item-total correlations. The resulting scale contained nine items and explained 45.67% of the variance. Internal consistency analysis revealed that Cronbach's alpha = 0.85, which is within the adequate range for internal consistency. This internal consistency is very similar to that reported ($a= 0.82$) for the full-scale FEVS in Lichtenberg et al. (2020). Fit indices fell in the poor range ($\chi2(27) = 125.88$, $p < .001$; RMSEA = 0.10; TLI = 0.87), although this was not unexpected given that the items were selected to differentiate groups, rather than based on theory.

The final nine items of the FEVS-SF, scoring, and response frequencies are shown in Table 3. As can be seen in the table, there is considerable concern around finances and financial health. Sixty-three percent of the sample reported financial strain. Psychological issues around finances were also evident. Over a third of the sample reported worrying about financial decisions they recently made. Forty-three percent reported wishing they had someone to talk to about finances. Forty-five percent of the

Table 1. Sample demographics.

	No Financial Exploitation (n = 164)	Financial Exploitation (n = 78)	Overall Sample (n = 242)	
Age Years M(SD)	71.5 (7.4)	70.0 (7.8)	71.1 (7.6)	t(236) = 1.39, p =.17
Education Years M(SD)	15.4 (2.6)	14.2 (2.3)	15.1 (2.6)	t(235) = 3.35**
Gender Female N(%)	117 (71.3%)	59 (74.7%)	176 (72.4%)	χ2(1) = 1.86, p =.17
Race Black N(%)	81 (49.4%)	51 (64.6%)	132 (54.3%)	χ2(1) = 7.87*
FEVS- SF Score M(SD)	3.3 (3.3)	7.6 (4.3)	4.7 (4.2)	t(237) = −8.37**
WRAT Word Reading Raw Score M(SD)	58.0 (7.5)	54.8 (10.6)	57.0 (8.7)	t(240) = 2.67*
MMSE Raw Score M(SD)	28.7 (1.9)	27.6 (2.6)	28.3 (2.2)	t(240) = 3.44**
TMT- B Seconds M(SD)	100.0 (46.2)	153.9 (76.3)	117.4 (62.8)	t(234) = −6.71**

*p <.05
**p <.001

Table 2. Initial factor loadings for financial exploitation vulnerability scale.

Component Loadings	1	2	3	4	5	6
Overall, how satisfied are you with your finances?	0.797	0.144	0.377	−0.223	0.013	0.311
How often do your monthly expenses exceed your regular monthly income?	0.779	0.128	0.124	−0.233	−0.150	0.185
How worried are you about having enough money to pay for things?	0.715	0.142	0.401	−0.140	0.067	0.318
How often do you feel downhearted or blue about your financial situation or decisions?	0.652	0.171	0.414	−0.164	0.134	0.433
How often do you feel anxious about your financial decisions and/or transactions?	0.571	0.179	0.553	−0.172	0.022	0.573
How often do you wish you had someone to talk to about financial decisions, transactions, or plans?	0.441	0.163	0.510	0.116	−0.017	0.407
How often do you worry about financial decisions you've recently made?	0.383	0.110	0.739	−0.275	−0.219	0.372
How satisfied are you with this (money management) arrangement?	0.381	0.063	0.267	−0.193	−0.493	0.446
How confident are you in making big financial decisions?	0.351	0.098	0.449	−0.013	−0.043	0.455
Have you noticed any money taken from your bank account without your permission?	0.241	0.325	0.117	−0.824	0.055	0.229
Has a relationship with a family member or friend become strained due to finances as you have gotten older?	0.232	0.470	0.165	−0.204	−0.105	0.152
How often do you talk with to visit others on a regular basis?	0.162	−0.084	0.096	−0.149	0.299	0.141
How likely is it that anyone now wants to take or use your money without your permission?	0.154	0.620	0.099	−0.181	−0.074	0.145
Who manages your money day to day?	0.153	0.075	0.019	0.001	−0.123	0.062
Are your memory, thinking skills, or ability to reason with regard to financial decisions or financial transactions worse than a year ago?	0.130	0.174	0.130	−0.126	−0.031	0.581
Do you have a confidante with whom you can discuss anything, including your financial situations and decisions?	0.080	0.094	0.350	0.021	0.065	0.075
Did anyone ever tell you that someone else you know wants to take your money?	0.077	0.605	0.120	−0.019	−0.063	0.156
Cronbach's Alpha	.848					
Area Under the Curve	.786					

Principal axis factoring with direct oblimin rotation. Cronbach's alpha and AUC provided for final FEVS-SF.

Table 3. FEVS-SF item response frequencies.

Item	Response 1 *Not at all worried (0)*	Response 2 *Somewhat worried (1)*	Response 3 *Very worried (2)*
How worried are you about having enough money to pay for things?	88(36.8%)	117 (49.0%)	34 (14.2%)
	Satisfied (0)	*Neither (1)*	*Dissatisfied (2)*
Overall, how satisfied are you with your finances?	123 (51.5%)	65 (27.2%)	49 (20.5%)
	Satisfied (0)	*Neither (1)*	*Dissatisfied (2)*
(Who manages your finances day-to-day?) * How satisfied are you with this money management arrangement?	207 (86.6%)	22 (9.2%)	10 (4.2%)
	Confident (0)	*Unsure (1)*	*Not confident (2)*
How confident are you in making big financial decisions?	164 (68.6%)	56 (23.4%)	17 (7.1%)
	Never (0)	*Sometimes (1)*	*Often (2)*
How often do you worry about financial decisions you've recently made?	156 (65.3%)	50 (20.9%)	33 (13.8%)
	Never or rarely (0)	*Some of the time (1)*	*Most of the time (2)*
How often do your monthly expenses exceed your regular monthly income?	162 (67.8%)	40 (16.7%)	37 (15.5%)
	None of the time (0)	*Some of the time (1)*	*A lot of the time (2)*
How often do you wish you had someone to talk to about financial decisions, transactions, or plans?	136 (56.9%)	74 (31.0%)	29 (12.1%)
	Never or rarely (0)	*Sometimes (1)*	*Often (2)*
How often do you feel anxious about your financial decisions and/or transactions?	132 (55.2%)	77 (32.2%)	30 (12.6%)
	None of the time (0)	*Some of the time (1)*	*Most of the time (2)*
How often do you feel downhearted or blue about your financial situation or decisions?	129 (54.0%)	93 (38.9%)	17 (7.1%)

"Who manages your finances day-to-day?" is not scored, but is a necessary query before the scored item "How satisfied are you with this money management arrangement?"

sample reported that they felt anxious or downhearted about financial decisions and their financial situation. Finally, 40% lacked confidence in making big financial decisions. These financial vulnerabilities are not due to this being a convenience sample. In a population-based substudy of the Health and Retirement Study of over 1100 older adults, the prevalence of financial anxiety and wishing to have someone to talk with about finances, for example, exceeded the percentage of this sample reporting these issues (Lichtenberg, Paulson, & Han, 2020).

ROC curve analysis demonstrated that the FEVS-SF had a good ability to differentiate those who were victims of financial exploitation from those who were not (AUC = 0.79; CI95%: 0.72– 0.85), which

supports our hypothesis that this short form would have good clinical utility for the detection of financial exploitation. This new AUC is within the confidence interval of the previously reported full FEVS (AUC = 0.82, 95% CI =0.76–0.87), though it contains almost half as many items. A cut score of five or greater maximizes the sum of sensitivity and specificity (see Table 4). While sensitivity and specificity indicators are good at this cut point, and negative predictive power is excellent, positive predictive power is only 0.53. Scores over the cutoff point are not intended to be interpreted as proof of financial exploitation, but rather a good starting point to follow up with standards of care within a given professional setting, such as further evaluation and referral to additional services. Depending on their circumstances, clinicians can use Table 4 to guide them for more or less conservative risk cut scores.

Similar to the correlational analyses reported for the full FEVS total score, the FEVS-SF was significantly related to age, race, education, word reading ability, and executive functioning (Table 5). Younger age and lower educational attainment were related to greater contextual risk on the FEVS-SF. Black race was also related to increased contextual risk. Poorer performances on a word reading measure (WRAT-WR) and timed set-shifting task (TMT-B) were related to greater risk as well. As was expected, the FEVS-SF is not correlated with the MMSE total score, differentiating this construct of contextual risk for financial exploitation from cognitive aspects of risk. The FEVS-SF score is strongly correlated with the full FEVS score (r = 0.96, $p < .001$).

Further, in a logistic regression to examine predictors of financial exploitation, only FEVS-SF [B = 0.206, Wald $\chi2(1) = 18.50$, $p< .001$] and TMT-B [B = 0.015, Wald $\chi2(1) = 13.34$, $p< .001$] were significant predictors of financial exploitation (see Table 6). This finding was in line with our expectation that the FEVS-SF score and a measure of executive functioning would be meaningful predictors of exploitation, but that estimates of global cognition (MMSE) and reading ability (WRAT-WR) would not be. The overall concordance rate between the exploitation status probabilities predicted by the logistic regression (cut value = 0.5) and observed exploitation status was 78.4%. This decrease is negligible from the concordance rate of 80.6% reported for the full-scale FEVS. In Lichtenberg et al. (2020), the logistic regression for the full FEVS showed that the total score was a significant predictor, along with executive functioning and age. In the present logistic regression for the short-form scale, age is no longer a significant independent predictor of financial exploitation but remains trending.

The probabilities predicted by the FEVS-SF score and TMT-B time to completion score from the logistic regression were used in a follow-up ROC curve analysis to determine the combined ability of these measures to detect exploitation. Together, these two factors slightly improved the detection of financial exploitation from the FEVS-SF score alone (AUC = 0.81, 95% CI: 0.75–0.87). However, this AUC value is within the 95% confidence interval of the

Table 4. Sensitivity and specificity for FEVS-SF cut scores.

Cut point	Sensitivity	Specificity	PPP	NPP
One or greater	0.96	0.24	0.37	0.93
Two or greater	0.91	0.41	0.41	0.91
Three or greater	0.85	0.51	0.44	0.88
Four or greater	0.83	0.58	0.47	0.88
*Five or greater**	0.75	0.70	0.53	0.86
Six or greater	0.67	0.77	0.57	0.84
Seven or greater	0.60	0.83	0.62	0.82
Eight or greater	0.51	0.88	0.66	0.80
Nine or greater	0.44	0.92	0.70	0.78
Ten or greater	0.32	0.93	0.69	0.75

*Indicates the suggested cut score with the maximum sum of sensitivity and specificity

Table 5. Correlation among demographics, neuropsychological testing, and FEVS-SF.

	FEVS-SF	Age	Gender	Race	Education	WRAT	MMSE
Age	−.196**						
Gender	−0.096	0.068					
Race	.209**	−.283**	−.274**				
Education	−.304**	0.022	0.070	−.212**			
WRAT-WR	−.231**	0.082	0.071	−.279**	.549**		
MMSE	−0.084	−.177**	−0.127	−.147*	.282**	.504**	
TMT-B	.328**	.184**	0.039	.266**	−.376**	−.542**	−.589**

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Table 6. Logistic regression of demographics, neuropsychological testing, and FEVS-SF items predicting financial exploitation.

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	−0.049	0.028	3.117	1	0.08	0.952
Gender	0.665	0.436	2.333	1	0.13	1.945
Race	0.125	0.402	0.097	1	0.76	1.134
Education	−0.021	0.083	0.067	1	0.80	0.979
WRAT-WR	0.050	0.030	2.826	1	0.09	1.051
MMSE	−0.107	0.107	0.989	1	0.32	0.899
TMT-B	0.015	0.004	13.344	1	<0.001	1.015
FEVS-SF	0.206	0.048	18.504	1	<0.001	1.228
Constant	−0.328	3.746	0.008	1	0.93	0.720

ROC produced by the FEV-SF raw score, so the utility of giving both measures in clinical settings is limited.

Discussion

Nine of the 17 items from the original FEVS loaded onto a unidimensional scale. The fit indices for this model were less than ideal. However, this scale was not theoretically driven, but rather the items were empirically derived based on their ability to detect exploitation. These nine items have good internal consistency and clinical utility to detect the occurrence of financial exploitation. Thus, we present these nine items as a new scale, the Financial Exploitation Vulnerability Scale – Short Form (FEVS-SF). This scale meets an important need for professionals who work with older adults in high-traffic settings (e.g., doctor's offices, APS, financial institutions). Many of the available tools to assess vulnerability to financial exploitation are inaccessible to professionals who work with older adults because they require more time to administer than is feasible in many professional settings, or they require extensive, specialized training to administer accurately. The FEVS-SF is a brief, standardized tool that can detect the experience of financial exploitation among older adults and provides important contextual information that professionals can follow up on with the relevant standard of care in their setting. For example, an older adult who endorsed significant emotional distress about their financial situation while at a medical appointment could be referred to a psychologist for further evaluation of their mood, financial decision-making, and possibly financial exploitation. An older adult who reported that they were repeatedly exceeding their monthly budget could be referred to financial coaching and education services. The FEVS-SF relies on self-report from the older adult, so it can also be administered in waiting rooms and before appointments. The measure can also be provided in an interview-style by a clinician.

Study limitations and future directions

While this study benefitted from a robust sample of older adults (n = 242), the sample was nonrandom and may be limited in generalizability. These findings need to be cross-validated in a new sample. The present study is also cross-sectional, and a longitudinal study would be required to determine if the FEVS-SF can accurately predict the experience of financial exploitation before it occurs. Multiples types of financial exploitation (e.g., identity theft, fraud, and abuse by family and friends) were combined in this study, so the findings are nonspecific to any one type of exploitation. It would be worthwhile to evaluate the implementation of this scale in professional settings in order to determine the feasibility, acceptability, accuracy of administration, and clinical use of the scale by other professionals.

Clinical implications

- The FEVS-SF serves a need in many professional settings for a brief, standardized screening measure of contextual financial exploitation risk.
- Similar to a depression or anxiety screening measure, the FEVS-SF can serve as a launching point for more in-depth conversations about financial health and the presence of financial exploitation.
- The FEVS-SF detects financial exploitation better than several commonly used cognitive measures, with little benefit added by including a measure of executive functioning.

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References

Acierno, R., Hernandez, M. A., Amastader, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G.

(2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The national elder abuse mistreatment study. *American Journal of Public Health*, *100*(2), 292–297. doi:10.2105/AJPH.2009.163089

Alves, L. M., & Wilson, S. R. (2008). The effects of loneliness on telemarketing fraud vulnerability among older adults. *Journal of Elder Abuse & Neglect*, *20*(1), 63–85. doi:10.1300/J084v20n01_04

Beach, S. R., Schulz, R., Castle, N. G., & Rosen, J. (2010). Financial exploitation and psychological mistreatment among older adults: Differences between African Americans and Non-African Americans in a population-based survey. *The Gerontologist*, *50*(6), 744–757. doi:10.1093/geront/gnq053

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*(8), 1–5. doi:10.1371/journal.pone.0043647

Boyle, P. A., Wilson, R. S., Yu, L. Y., Buchman, A. S., & Bennett, D. A. (2013). Poor decision making is associated with an increased risk of mortality among community-dwelling older persons without dementia. *Neuroepidemiology*, *40*(4), 247–252. doi:10.1159/000342781

Carstensen, L. L. (2006). The influence of a sense of time on human development. *Science*, *312*(5782), 1913–1915. doi:10.1126/science.1127488

Carstensen, L. L., & Mikels, J. A. (2005). At the intersection of emotion and cognition: Aging and the positivity effect. *Current Directions in Psychological Science*, *14*(3), 117–121. doi:10.1111/j.0963-7214.2005.00348.x

Consumer Financial Protection Bureau. (2019). *Suspicious activity reports on elder financial exploitation: Issues and trends*. Washington, D.C.: CFPB.

DeLiema, M. (2015). *Using mixed methods to identify the characteristics of older fraud victims* (Publication No. 3704229) (Doctoral dissertation). University of Southern California. ProQuest Dissertations Publishing.

Federal Trade Commission. (2013). *Consumer fraud in the United States, 2011: The third FTC survey* [Staff Report]. Retrieved from https://www.ftc.gov/sites/default/files/documents/reports/consumer-fraud-united-states-2011-third-ftc-survey/130419fraudsurvey_0.pdf

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications.

Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-mental state: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, *12*(3), 189–198. doi:10.1016/0022-3956(75)90026-6

Hall, L. N., Ficker, L. J., Chadiha, L. A., Green, C. R., Jackson, J. S., & Lichtenberg, P. A. (2016). Promoting retention: African American older adults in a research volunteer registry. *Gerontology and Geriatric Medicine*, *2*(1–9). doi:10.1177/2333721416677469

Han, S. D., Boyle, P. A., James, B. D., Yu, L. Y., Barnes, L. L., & Bennett, D. A. (2015). Discrepancies between cognition and decision making in older adults. *Aging—Clinical and Experimental Research*, *28*(1), 99–108. doi:10.1007/s40520-015-0375-7

Lachs, M. S., & Han, S. D. (2015). Age-associated financial vulnerability: An emerging public health issue. *Annals of Internal Medicine*, *163*(11), 877–878. doi:10.7326/M15-0882

Lai, J. M., Gill, T. M., Cooney, L. M., Bradley, E. H., Hawkins, K. A., & Karlawish, J. H. (2008). Everyday decision-making ability in older persons with cognitive impairment. *The American Journal of Geriatric Psychiatry*, *16*(8), 693–696. doi:10.1097/JGP.0b013e31816c7b54

Laumann, E. O., Leitsch, S. A., & Waite, L. J. (2008). Elder mistreatment in the United States: Prevalence estimates from a nationally representative study. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *63*(4), S248–S254. Retrieved from http://psychsocgerontology.oxfordjournals.org/

Lee, J., & Geistfeld, L. V. (1999). Elderly consumers' receptiveness to telemarketing fraud. *Journal of Public Policy & Marketing*, *18*(2), 208–217. doi:10.1177/074391569901800207

Lichtenberg, P. A., Campbell, R., Hall, L., & Gross, E. Z. (2020). Context matters: Financial, psychological, and relationship security around personal finance is associated with financial exploitation. *The Gerontologist*, *60*(6), 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 & Neglect*, *28*(1), 14–33. doi:10.1080/08946566.2015.1078760

Lichtenberg, P. A., Hall, L., Gross, E., & Campbell, R. (2019). Providing assistance for older adult financial exploitation victims: Implications for clinical gerontologists. *Clinical Gerontologist*, *42*(4), 435–443. doi:10.1080/07317115.2019.1569190

Lichtenberg, P. A., Paulson, D., & Han, D. (2020). Examining health and wealth correlates of perceived financial vulnerability: A normative study. *Innovation in Aging*, *4*(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*(2), 132–146. doi:10.1080/07317115.2012.749323

Lichtenberg, P. A., Stoltman, J., Ficker, L. J., Iris, M., & Mast, B. (2015). A person-centered approach to financial capacity assessment: Preliminary development of a new rating scale. *Clinical Gerontologist*, *38*(1), 49–67. doi:10.1080/07317115.2014.970318

Marson, D. (2016). Conceptual models and guidelines for clinical assessment of financial capacity. *Archives of Clinical Neuropsychology*, *31*(6), 541–553. doi:10.1093/arclin/acw052

Marson, D. C., Sawrie, S. M., Snyder, S., McInturff, B., Stalvey, T., Boothe, A., … Harrell, L. E. (2000). Assessing financial capacity in patients with Alzheimer's disease: A conceptual model and prototype instrument. *Archives of Neurology*, *57*(6), 877–884. doi:10.1001/archneur.57.6.877

Mather, M., & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Sciences*, *9*(10), 496–502. doi:10.1016/j.tics.2005.08.005

National Committee for the Prevention of Elder Abuse. (2011). *The Metlife study of elder financial abuse: Crimes of occasion, desperation, and predation against America's elders*. Westport, CT: Virginia Tech Metlife Mature Market Institute.

Pinsker, D. M., McFarland, K., & Pachana, N. A. (2010). Exploitation in older adults: Social vulnerability and personal competence factors. *Journal of Applied Gerontology*, *29*(6), 740–761. doi:10.1177/0733464809346559

Reitan, R. M., & Wolfson, D. (1985). *The Halstead–Reitan neuropsychological test battery: Therapy and clinical interpretation*. Tucson, AZ: Neuropsychological Press.

Sayegh, P., Arentoft, A., Thaler, N. S., Dean, A. C., & Thames, A. D. (2014). Quality of education predicts performance on the wide range achievement test-word reading subtest. *Archives of Clinical Neuropsychology*, *29*(8), 731–736. doi:10.1093/arclin/acu059

Spreng, R. N., Karlawish, J., & Marson, D. C. (2016). Cognitive, social, and neural determinants of diminished decision-making and financial exploitation risk in aging and dementia: A review and new model. *Journal of Elder Abuse & Neglect*, *28*, 320–344. doi:10.1080/o8946566.2016.1237918

Wilkinson, G. S., & Robertson, G. J. (2006). *WRAT4 wide range achievement test professional manual* (4th ed.). Lutz, FL: Psychological Assessment Resources.

Wood, S., Rakela, B., Liu, P. J., Navarro, A. E., Bernatz, S., Wilber, K. H., … Homier, D. (2014). Neuropsychological profiles of victims of financial elder exploitation at the Los Angeles county elder abuse forensic center. *Journal of Elder Abuse & Neglect*, *26*(4), 414–423. doi:10.1080/08946566.2014.881270

Wood, S. A., Liu, P. J., Hanoch, Y., & Estevez-Cores, S. (2016). Importance of numeracy as a risk factor for elder financial exploitation in a community sample. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *71*(6), 978–986. doi:10.1093/geronb/gbv041