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Profiles of Vulnerability to Financial Exploitation in the Degenerative Dementias

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ABSTRACT

Objective: *Financial decisions are necessary for independent living. There is evidence that dementia and cognitive impairment can impair the ability to pursue financial skills and lead to vulnerability to financial exploitation. Frontotemporal dementia (FTD) and to a lesser extent Alzheimer's disease (AD) promote susceptibility to deception. There is little evidence for other forms of degenerative dementia. To explore this topic, we developed a questionnaire that assesses financial behavior in four dementias: Alzheimer's disease (AD), behavioral variant Frontotemporal Dementia (bvFTD), semantic variant of Primary Progressive Aphasia (svPPA), and dementia with Lewy bodies (LBD).* ***Design, Setting, Participants:*** *Participants were 166 consecutive patients with dementia (78 AD, 34 bvFTD, 22 svPPA, 32 LBD) involved in a cross-sectional study exploring financial frailty.* ***Measurements:*** *An experimental questionnaire, the Financial Frailty Battery (FFB), was administered to caregivers who were asked to report any behavioral changes after the onset of dementia in five domains related to financial behavior:* Trust, Susceptibility to Scams, Behavioral Tendencies, Financial Management *and* Use of Money. ***Results:*** *bvFTD showed alterations in all domains explored and was the only group prone to scams. AD and svPPA showed a greater tendency to trust people, exhibit certain behavioral tendencies, and engage in financial mismanagement, but no increased susceptibility to scams. LBD showed deficits in financial management and use of money, with preserved trust and no susceptibility to scams.* ***Conclusion:*** *The presence of specific profiles regarding financial behavior in different forms of degenerative dementia may be useful to creating tailored protection strategies in clinical settings.* (Am J Geriatr Psychiatry 2025; 33:1290–1300)

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Highlights

- **What is the primary question addressed by this study?**
  The central question guiding this study is whether there is a discrepancy in financial vulnerability across different forms of dementia.
- **What is the main finding of this study?**
  The forms of dementia under investigation have been found to demonstrate varying profiles with regarding to financial vulnerability. This phenomenon is also contingent upon the cognitive deficits characteristic of each respective dementia.
- **What is the meaning of the finding?**
  The questionnaire could assist clinicians in advising caregivers to put protective measures in place.

INTRODUCTION

Making informed financial decisions is crucial for a financially independent life. Financial decision making is a generic and rather broad concept, requiring practical skills (such as counting coins), and conceptual and reasoning skills.[1]

Similar to driving, motor skills, and decision-making, financial ability is a key aspect of functional autonomy[2]; difficulties in this area can result in financial insecurity or financial abuse. Therefore, early detection of impairment of financial abilities is crucial.[3]

It is known that older adults, and particularly people with dementia, are likely to be more dependent on others for care, and cognitive impairment may make them particularly vulnerable to abuse.[4]

Several factors associated with age-related cognitive, social, and physical conditions can contribute to a considerable degree of vulnerability.[5–8] In the United States, as indicated in the 2023 IC3 report, there has been an 14% increase in the number of scams perpetrated against individuals over the age of 60 when compared to the previous year.

In people with dementia, cognitive deficits can lead to increased vulnerability and make them victims of abuse and deception.

Financial capabilities are often the earliest activities of daily living to be affected in individuals with dementia.[9]

Individuals with Alzheimer's Disease (AD) frequently demonstrate impaired financial decision-making and deficits in financial management, which may further heighten their susceptibility to financial exploitation and mismanagement.[10] The propensity to be defrauded appears to be an early manifestation of AD.[11] Indeed, there is a correlation between this susceptibility and amyloid deposition and tangles at their primary site of accumulation.[12]

Behavioral variant of Frontotemporal Dementia (bvFTD) exhibits greater impairment in financial decision-making skills when compared to Alzheimer's Disease.[13,14] This suggests that patients with bvFTD may demonstrate a greater dysfunction of social-emotional skills and less sensitivity to potential adverse events.

However, the role of the frontal lobes in financial exploitation vulnerability (FEV) remains questionable. Some authors[15] did not find correlations between executive functions and the susceptibility to fraud among subjects with cognitive impairment.

Financial impairment has been investigated in Primary Progressive Aphasia (PPA); financial errors made by the PPA group were not different from AD group. Notably, the three variants of PPA were analyzed collectively, thus no data is available for each variant.

Regarding other forms of dementia, including dementia with Lewy bodies, FEV has not been investigated.

Given that the processes underlying financial capability are culture-specific,[16] there is no consensus on the most appropriate measurement tool.

Another key issue is whether patients with different dementias are subjected to the same forms of deception and exploitation as their healthy elderly counterparts.

It is therefore necessary to develop instruments that measure the extent to which a patient with dementia may be vulnerable to exploitation.

Most existing literature focuses on cognitive deficits and the extent to which reduced arithmetic

ability, executive functions and verbal memory lead to an inability to manage financial resources.[17] From our perspective, these impairments alone may not fully account for an individual's susceptibility to abuse and fraud, because behavioral alterations may play a critical and under-recognized role in increasing vulnerability. Additionally, it would be of value to investigate the extent to which other domains not strictly pertaining to financial skills, such as trust placed in others, may determine the potential predisposition to abuse.

To address these issues, we created a questionnaire aimed at investigating several aspects of financial behavior including factors that may influence financial decision-making, such as trust. The questionnaire was applied to four degenerative dementias: AD, bvFTD, semantic variant of PPA (svPPA) and LBD. The questionnaire we designed is structured to be administered to caregivers of patients with dementia and includes two scales that investigate the presence of certain characteristics of the profile prior to and following the onset of dementia, since some of the aspects investigated are not necessarily absent in a normal subject (for example, the possibility of being defrauded). Furthermore, in accordance with what has already been demonstrated in the literature,[14] the patient with dementia, even if in a mild phase, may not be aware of the change in some aspects related to the financial sphere.

We hypothesize that, according to the different cognitive profiles of each dementia, the typology of alterations inherent financial aspects may show a differential profile. We hypothesize that broader domains relying on working memory, attention and executive functions, such use of money and financial behavior management could be altered in all dementia groups, while the tendency to be cheated, and changed behavioral tendencies are expected to be altered in FTD, which is characterized by behavioral problems with altered emotions, impulsivity, impaired social cognition, and disinhibition.

MATERIALS AND METHOD

Participants

Subjects were recruited on a consecutive basis from patients attending the Cognitive and Behavioral Neurology Unit at the University Hospital of Marche. The experimental battery, the Financial Frailty Battery (FFB) was administered exclusively to the caregivers, given that the subjects with dementia may exhibit lack of awareness and altered analysis of reality. All subjects, patients and caregivers, were required to provide informed consent prior to participation in the study. The study was approved by the relevant ethic committee (CET-M -Ethic Committee of the Marche region) (protocol number 66/2024).

166 consecutive patients with dementia were enrolled: 78 subjects with AD,[18] 34 subjects with bvFTD,[19] 22 individuals with svPPA[20] and 32 individuals with LBD.[21] Demographic characteristics of the subjects are shown in Table 1.

The caregivers of the patients involved in the study were predominantly spouses/partners (68%) and, in a smaller percentage of cases, children (32%). Specifically, caregivers identified as spouses/partners were 112 (65 men/47 women), with an average age of 74.9 years, while caregivers identified as children were 54 (23 men/31 women) with an average age of 49.3 years. Subjects with caregivers with whom they did not live together or whose knowledge was recent or superficial were excluded from the study.

MATERIALS

The Financial Frailty Battery (FFB) is a new battery that we have developed, taking inspiration, for some items, from some scales already validated in literature, such as the Social Vulnerability Scale (SVS-15).[8] The FFB explores cognitive, behavioral, and social elements that contribute to vulnerability to financial exploitation.[17]

Five sections comprise the FFB, each targeting a specific domain (see Appendix):

1) *Trust*, 2) *Susceptibility to scams*, 3) *Behavioral tendencies*, 4) *Financial management*, and 5) *Use of money*

In the section about *Trust*, inquiries are posed regarding the patient's approach to unfamiliar individuals and those with whom they have established a relationship. The questionnaire includes questions with financial implications, such as assessing the subject's willingness to lend money to individuals with whom they have limited or no prior familiarity. It also includes questions with social implications, such

TABLE 1. Demographic Characteristics and Background Neuropsychological Examination With Means and Standard Deviations

	AD	bvFTD	svPPA	LBD
Demographics:				
Number of patients	78	34	22	32
Sex (Males/Females)	22/56	17/17	12/10	17/15
Age	76.7 (6.9)	72.1 (7.6)	75.2 (4.8)	79.6 (5.1)
Education	8.2 (3.7)	11.3 (3.8)	10.8 (3.3)	9.9 (4.4)
Neuropsychology:				
General abilities				
MMSE (30)	20.2 (4.2)	20.9 (4.5)	22.4 (6.9)	20.2 (5.3)
Raven's progressive matrices (36)	20.1 (6.3)	17.6 (7.4)	26.6 (5.4)	20 (6.3)
Memory				
Verbal span	4.6 (0.9)	4.1 (1)	4.8 (0.9)	4.5 (0.9)
Corsi's blocks	3.8 (0.6)	4.1 (0.9)	4.5 (0.6)	3.9 (0.8)
ROCF B: immediate recall (31)	9.4 (5.3)	13.4 (7.4)	19.2 (6.8)	10.2 (5.7)
ROCF B: delayed recall (31)	4.1 (4.6)	9.8 (7.9)	14.3 (9.2)	8.5 (5.8)
RAVLT: immediate recall (75)	20 (6.3)	19.4 (6.7)	26.6 (9.2)	20.4 (8.5)
RAVLT: delayed recall (15)	0.9 (1.4)	2.2 (2)	2.5 (2.2)	2 (2.3)
Executive functions				
FAB (18)	11.3 (3.9)	7.5 (3.7)	15.5 (2.1)	8.9 (3.2)
Luria's motor sequences (50)	27.7 (18.9)	29.3 (17.3)	36.3 (16.6)	27.4 (19.7)
Stroop test				
Time 1	56.7 (25)	46.7 (18.7)	34.5 (6.8)	57.8 (29.2)
Time 2	126.4 (46.3)	147.2 (91.7)	83.8 (23.3)	141.8 (50.1)
Errors 1	1.9 (3.3)	0.5 (0.9)	0.1 (0.5)	0.8 (1.6)
Errors 2	11.5 (8.3)	13.4 (12.6)	3.5 (3.3)	12.9 (12.5)
Constructional praxis				
ROCF B copy (31)	27.7 (3.4)	26.6 (4.6)	29.3 (2.6)	27.3 (3.2)
Ideomotor praxis				
Right upper limb (20)	18.9 (4.4)	19.8 (0.8)	20 (0)	20 (0)
Left upper limb (20)	18.9 (4.4)	19.5 (1.2)	20 (0)	19.9 (0.4)
Perceptuo-spatial skills				
L.Ghent overlapping figures (9)	7.3 (1.6)	7.7 (1.2)	8 (1.4)	6.9 (1.6)
VOSP				
Shape detection test (20)	19.7 (0.6)	19 (1.2)	19.8 (0.4)	17.8 (1.7)
Incomplete letters (20)	17.3 (2.7)	13.9 (5.6)	19.4 (0.7)	13.5 (5.9)
Silhouettes (30)	15.6 (4)	11 (5.6)	12.1 (3.7)	13.5 (4.3)
Object decision (20)	12.2 (2.5)	10.3 (2.6)	13.7 (2.9)	14.3 (2.8)
Dot counting (10)	9.8 (2.9)	8.8 (1)	9.7 (0.7)	9.4 (0.9)
Position discrimination (20)	19.2 (1.3)	17.4 (1.3)	18.6 (1.6)	17 (3.7)
Number location (10)	6.2 (3.3)	7.3 (2)	7.8 (2.6)	8.2 (3)
Cube analysis (10)	7.2 (1.9)	6.2 (3.8)	8.6 (1.3)	6.1 (2.5)
Language				
Naming (40)	31.9 (4.5)	35.3 (3.1)	29.4 (3.8)	34.4 (4.7)
Phonemic fluency (FAS)	19.5 (9.4)	9.8 (6.8)	26.3 (16.5)	18.5 (9.5)
Category fluency	28 (7.8)	18.4 (8.3)	27.5 (10.2)	26.5 (6.2)

FAB: frontal assessment battery; MMSE: mini mental state examination; RAVLT: rey auditory verbal learning test; ROCF B: Rey-Osterrieth figure B; VOSP: visual object and space perception battery.

as whether the subject believes that most individuals can be trusted.

The second section, *Susceptibility to Scams*, explores the tendency to be a victim of scams. The caregiver is asked whether the patient has ever been a victim of a scam and, if the answer is affirmative, the caregiver is asked to provide details about the type of scam in which the patient has been involved. The questions illustrate the most prevalent scams, for example, "Has the person been persuaded to provide cheques, bank details or credit card numbers to strangers?"

The third section addresses *Behavioral Tendencies*, which pertain to the subject's conduct in both social and economic domains. For instance, it may be pertinent to inquire whether the subject exhibits a proclivity to make purchases without assessing their financial feasibility.

The fourth section pertains to the concept of *Financial Management*, which encompasses the

knowledge and abilities that are instrumental in making informed financial decisions, for example, the capacity to calculate discounts without external assistance.

The fifth section, *Use of Money*, delineates the financial capabilities of the subject, including the ability to independently manage financial transactions such as bill payment and shopping.

Each section consisted of a series of structured questions. A total of ten questions are posed for each domain. The answers to the questions are scored on a Likert scale (0−4). In particular, a score of 0 indicates that the action or behavior is never observed; a score of 1 implies that it is rarely observed; a score of 2 means that it is sometimes observed; a score of 3 indicates that it is often observed, and a score of 4 denotes that it is consistently and frequently observed. The scoring method is consistent across all sections of the questionnaire, enabling the assignment of a score within the range of 0−40 for each domain (total range of 0−200, with 0−40 points assigned to each of the five domains).

The questionnaire was administered to the caregiver on behalf of the person with dementia. For each question, the caregiver was asked to provide a score question according to the patient's behavior as they were before the clinical onset of dementia (BoD) and after the onset of dementia (AoD).

According to the literature, we believe this approach allows for a more ecological evaluation of the potential alteration of financial behaviors respect to a comparison with a reference population. Indeed, some behaviors or tendencies (i.e., the tendency to play games) can be present also in healthy subjects and may be considered as part of their habits, by contrast, the emergence or modification of financially relevant behaviors following the onset of cognitive impairment adds insight about the behavioral alterations consequent to the disease. The participants were informed that the questionnaire was intended for research purposes only and had no application in legal or judicial contexts. This was done to ensure that caregivers did not use the questionnaire as a pretext to take advantage of the situation in the presence of particularly vulnerable patients.

All patients underwent a background comprehensive neuropsychological assessment exploring in detail the main cognitive domains (Table 1).

Statistical analyses

A power analysis was conducted to assess the sensitivity of the GLM model to determine the minimum sample size required to test the study hypothesis. The results indicated that the sample size required to achieve 80% power to detect a mean effect, at a significance criterion of $\alpha = 0.05$, and a dispersion parameter of phi = 0.5 was $N = 166$. Therefore, the obtained sample size of $N = 166$ is adequate to test the hypothesis of the study.

Before proceeding with the analysis, a detailed exploratory phase of the data was conducted. During this phase, variable distributions were assessed, missing data were identified, and potential inconsistencies were verified. Missing values were handled using median-based imputation, and no outliers were detected.

For data analysis, statistical methods capable of handling distributional irregularities were employed. Some variables were sufficiently close to normality, while others exhibited non-negligible asymmetry. Therefore, in all cases, nonparametric methods were adopted for statistical analysis. The R programming language was used for all analyses in this study.

To calculate Spearman's correlation coefficient (r), with a significance level of 5% (0.05), seven neuropsychological tests—each representing a cognitive domain—were correlated with the five AoD dimensions: *Trust, Susceptibility to Scams, Behavioral Tendencies, Financial Management,* and *Use of Money*. The Benjamini-Hochberg procedure was used to determine the False Discovery Rate (FDR) $q < 0.05$.

The Wilcoxon-Mann-Whitney test was used to compare "before" and "after" measurements of dementia profiles separately for each profile.

For group comparisons, to evaluate the BoD and AoD score in each individual group and perform inter-group comparisons [performnace AoD - performance BoD whitin group] [comparison between dementia groups] we used a generalized linear model (GLM) with a Tweedie distribution and a logarithmic link function was used, a choice that appropriately models asymmetric distributions.

RESULTS

Demographics

The groups were found to be relatively well-matched for age, gender and education. As predicted, the

participants with bvFTD were observed to be slightly younger than those with other forms of dementia.

FFB: Profile of impairment in each form of dementia

In the following section we proceeded to examine the profile of impairment within each form of dementia by comparing the performance of each subject before the onset of the disease (BoD) and after the onset of the disease (AoD) in each of the five sections (Fig. 1). This procedure allows us to accurately highlight which variations are significant in each section, as every subject becomes the control of himself.

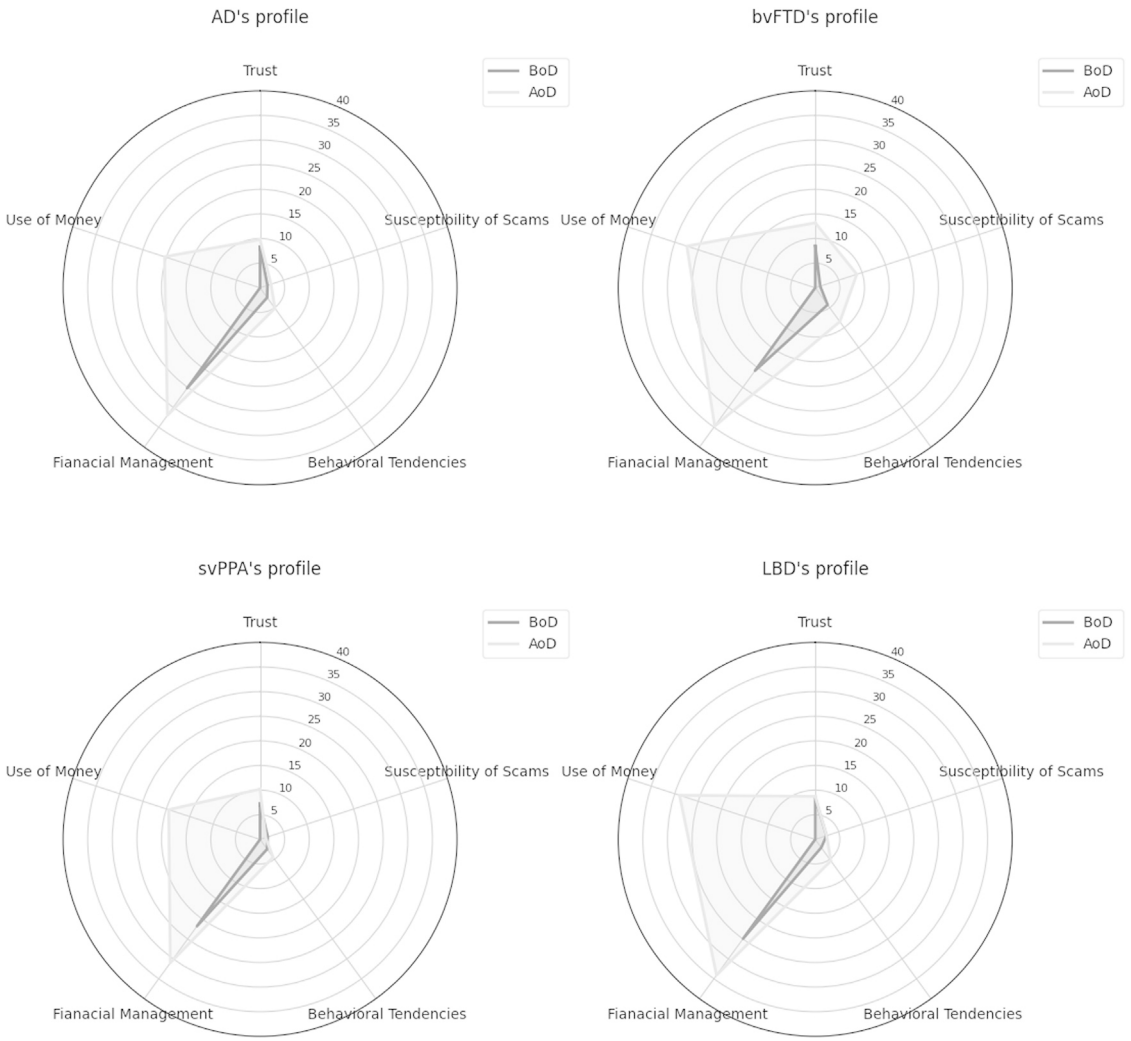
AD

Statistically significant differences were found in the *Trust* section (W(77) = 115.5, p-value <0.001), in the *Behavioral Tendencies* section *(BT)* (W(77) = 71, p-value = <0.001), in the *Financial Management* section (W(77) = 40.0, p = <0.001), and in the *Use of Money* section (W(77) = 0.0, p-value = <0.001). No significant difference was found in the *Susceptibility to Scams* section.

bvFTD

Statistically significant differences were found in all the FFB's sections.

FIGURE 1. Radar charts of the four dementia profiles.



More specifically significant differences were as follow: *Trust* (W(33) = 9, p-value = <0.001); *Susceptibility to Scams* (W(33) = 61, p-value = 0.002); *Behavioral Tendencies* (W(33) = 36, p-value = 0.002), *Financial Management* (W(33) = 0.00, p-value = <0.001) and *Use of Money* (W(33) = 0.00, p-value = <0.001).

SD

A significant difference was identified in the section *Trust* (W(21) = 15, p-value = 0.020), the section *Behavioral Tendencies* (W(21) = 12.5, p-value = 0.013), *Financial Management* (W(21) = 1.00, p-value = <0.001) and in *Use of Money* (W(21) = 0.00, p-value = 0.001). No significant difference was observed for the *Susceptibility to Scams* section.

LBD

The LBD group exhibited significant differences in the *Behavioral Tendencies* section (W(31) = 3, p-value ≤0.001), the *Financial Management* section (W (31) = 378, p-value= <0.001), and the *Use of Money* section (W(31) = 0.00, p-value = <0.001). No significant difference was observed for the *Trust* and *Susceptibility to Scams* sections.

The following radar charts illustrate the difference between the BoD and AoD across the four dementia groups. The numbers along the radios show the total score (40) the score FFB.

FFB: Differences between forms of dementia

Comparison of the FFB profile across the four forms of dementia using the pairwise analyses (Fig. 2) revealed significant differences (dark grey column) between groups, considering that higher scores indicate worse performance.

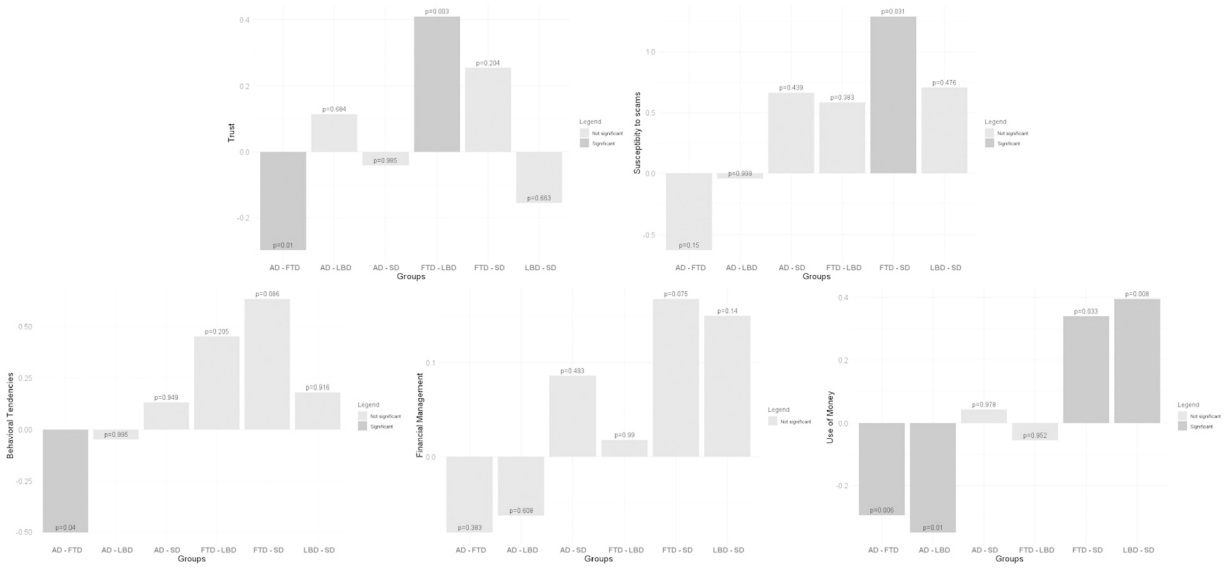
Trust: The comparison AD − bvFTD (estimate = −0.296, p = 0.010) showed that the AD group has lower scores, meaning better performance, than bvFTD. Additionally, the comparison bvFTD − LBD (estimate = 0.410, p = 0.003) suggests that bvFTD scores significantly higher than LBD.

Susceptibility to Scams: the only significant comparison was bvFTD − SD (estimate = 1.291, p = 0.031), showing that the bvFTD group has a significantly higher Scams score than SD.

Behavioral Tendencies: the comparison AD − bvFTD (estimate = −0.502, p = 0.040) indicates that AD has lower scores than bvFTD, suggesting a greater negative behavioral tendency in bvFTD.

Financial Management: no statistically significant differences were found, although the comparison

FIGURE 2. Comparison of the FFB profile between the four dementia groups.



bvFTD − SD showed a marginal trend (estimate = 0.168, p = 0.075).

Use of Money: the AD group *scored* significantly lower compared to bvFTD (estimate = −0.295, p = 0.006) and LBD (estimate = −0.350, p = 0.0005), while both bvFTD and LBD *scored* significantly higher compared to SD (bvFTD − SD: estimate = 0.340, p = 0.033; LBD − SD: estimate = 0.395, p = 0.008).

The figure shows results of for group comparisons, analyzed with a generalized linear model (GLM) with a Tweedie distribution and a logarithmic link function. The numbers along the y-axis show the effect sizes for each group across the analyzed dimensions. The graphs represent the estimated contrasts between groups. The bars indicate the direction and magnitude of the differences between conditions, highlighting statistically significant associations.

Correlations between background neuropsychological profile and FFB

Correlation analysis was performed between a set of tests representative of the major cognitive domains and the five sections of the FFB (Table 2).

Performances in the *Trust, Susceptibility to Scam*s and *Behavioral Tendencies* sections did not correlate with any of the tests selected.

Financial Management section correlated with the FAB and MMSE.

Use of Money correlated with the Digit span, the FAB battery, the Stroop Test and the *MMSE.*

No significant correlations were found between the FFB battery and other cognitive domains such as long-term memory and language.

DISCUSSION

The ability to make financial decisions is a generic concept encompassing many skills, including practical, conceptual, and reasoning skills. In many cases, sudden exposure to fraud and deception by elderly individuals was the initial manifestation of cognitive decline.[12] However, given the absence of current diagnostic tests to facilitate comprehension of this phenomenon, it is challenging to ascertain the extent to which cognitive decline is the underlying cause of this increasingly prevalent form of vulnerability.

TABLE 2. Spearman's Correlation Between Neuropsychological Tests and the Five Domains of FFB

		Trust AoD	Scams AoD	Behavioral Tendency AoD	Financial Management AoD	Use of Money AoD
MMSE	r	−0.016	0.053	0.186	−0.457	−0.382
	df	161	161	161	161	161
	q	0.958	0.894	0.143	**0.005**	**0.005**
Stroop test T2	r	0.024	−0.023	0.009	0.294	0.219
	df	137	137	137	137	137
	q	0.958	0.947	0.943	0.06	**0.017**
Stroop test E2	r	0.055	0.011	0.027	0.279	0.122
	df	137	137	137	137	137
	q	0.958	0.958	0.943	0.07	0.62
Digit span	r	−0.012	0.033	0.028	−0.201	−0.270
	df	143	143	143	143	143
	q	0.947	0.946	0.932	0.137	**0.03**
RAVLT long term recall	r	−0.037	−0.005	0.101	−0.074	0.040
	df	149	149	149	149	149
	q	0.958	0.964	0.699	0.843	0.933
FAB	r	−0.023	−0.234	−0.265	−0.536	−0.586
	df	142	142	142	142	142
	q	0.958	0.200	0.143	**0.005**	**0.005**
Overlapping figures	r	0.112	−0.097	0.079	−0.243	−0.219
	df	154	154	154	154	154
	q	0.629	0.699	0.810	0.115	0.143
Naming	r	0.078	0.022	0.188	0.168	0.134
	df	139	139	139	139	139
	q	0.794	0.957	0.171	0.232	0.430

In bold significant correlations applying Benjamini-Hochberg (False Discovery Rate [FDR] $q < 0.05$).

The present work had the dual purpose of creating a tool suitable for exploring financial frailty and socio-economic vulnerability from the caregiver perspective in subjects suffering from dementia and verifying the presence of disease-specific profiles of financial frailty in the subjects examined.

The questionnaire investigated five domains that are directly (*Use of Money)* or indirectly (*Trust*) related to financial and socio-economic behavior. The results showed clear differences across the four forms of dementia examined. Distinct profiles for each form of dementia were found. The AD was characterized by an increased propensity to trust, more pronounced behavioral tendencies, altered financial management, and impaired money use. By contrast, the risk of fraud was not increased.

FTD was characterized by impairment in all the domains investigated. Notably, bvFTD was the only dementia group that, after the onset of the disease, became a victim of scams, implying for this subgroup a high fragility with a greater chance of being victimization.

The svPPA profile was congruent with the AD profile and characterized by a higher tendency to trust, impairment in behavioral tendencies, financial management, and use of money.

Finally, LBD was characterized by altered behavioral tendencies, and impairment of financial management and the use of money. It is interesting to note that the LBD profile is the only one where no alteration in the *Trust* domain was found, and it would require more attention in future research.

Correlation analysis between the FFB sections and the patient's neuropsychological profile showed significant correlations in the more demanding FFB domains in terms of attention and executive functions, such as *Financial Management* and the *Use of Money*, with tasks exploring selective attention, working memory, and frontal lobe functions. The lack of correlation between performance in the Trust and Susceptibility to Scams and behavioural tendency sections and specific neuropsychological tests—particularly those assessing executive functions—may be due to the complex nature of trust and the cognitive processes involved in identifying fraudsters. These processes require additional cognitive functions, including aspects related to the frontal lobe and social cognition, which are not encompassed by the dysexecutive-attentional components measured by the selected cognitive tests. Comparing different forms of dementia reveals that individuals with bvFTD are significantly more susceptible to scams than those with other types of dementia. This increased vulnerability is likely due, at least in part, to their heightened tendency to trust others, which puts them at a greater risk of deception. Additionally, the bvFTD group exhibits increased behavioral tendencies that may stem from a disinhibited behavioral syndrome.

Finally, we showed that both bvFTD and LBD were significantly more impaired in the use of money in respect to the other two dementias. Performances on most of these activities (reckon change, count, recognize coins) are related to frontal lobe functions, that was impaired in bvFTD and to a lesser extent in LBD. In LBD, visuoperceptual problems could in part be responsible for the low performance in the *Use of Money.*

Valuable and useful points in this work. First, the questionnaire considers various domains, including areas not strictly financial but potentially influential in a patient's susceptibility to scams (i.e., trust).

The second valuable point is the attribution of the score, which allows a granular analysis of the changes produced by the disease in the individual subject. Indeed, the FFB areas of *Trust, Susceptibility to Scams, Behavioral Tendencies, Financial Management*, and *Use of Money* is inherently subjective and significant variance in responses within the normal population is expected. The third point is that this work explores this topic in the more frequent forms of degenerative dementias. From the literature analysis, there are various works in bvFTD[13,14,22] and AD[11,12,23,24] but to our knowledge, this topic has never been investigated in svPPA and in LBD.

A single study is found in the literature, including patients with PPA.[14] However, in that study, the three forms of aphasia were analyzed together as a single group, thus avoiding the differences inherent to each syndrome.

There are limitations to this study.

The questionnaire only collects anamnestic data, inferred from the caregiver's judgment, which, although objective, is inherently qualitative.

In the context of future research, it would be advantageous to employ objective measurement tools that assess the cognitive skills employed in each subdomain of the questionnaire. A further potential limitation is that the caregivers might downplay an

elder's credibility to gain legal control. To prevent this, they were told the questionnaire was for research only. Future studies should involve a forensic-geriatric psychiatrist and include tools[25] to assess decision-making and prevent undue influence.[26,27]

In conclusion a novel and ecological instrument to explore financial frailty in the elderly and in the dementias is proposed. It was able to identify the presence of differential profile in the four forms of degenerative dementia studied. Findings were congruent with the cognitive stigmata of the diseases explored and could be of extreme value in the clinical practice to inform caregivers and allow a series of protective measures to be put in place to avoid fraud.

AUTHOR CONTRIBUTIONS

Veronica Cherubini: Conceptualization, Methodology, Validation, Investigation, Writing — original draft, Writing — review & editing. Oscar Prata: Validation, Writing — original draft. Lucrezia Fattobene: Validation, Writing — review & editing. Maria Gabriella Ceravolo: Validation, Writing — review & editing. Mauro Silvestrini: Validation, Supervision. Simona Luzzi: Conceptualization, Methodology, Validation, Writing — original draft, Writing — review & editing, Supervision.

DATA STATEMENT

The present work has already been discussed through a poster at the 19th SINDEM National Congress last September 27, 2024 in Padua with the title "Frailty and cognitive impairment: exploration of financial vulnerability for economic facts and scam awareness in the degenerative dementias."

DISCLOSURES

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SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at https://doi.org/10.1016/j.jagp.2025.05.012.

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