



Heriot-Watt University  
Research Gateway

## **Acreemagnosia (Loss of financial knowledge): a symptom of functional and cognitive loss in frail elderly**

### **Citation for published version:**

Kozlova, I, Parra Rodriguez, M & Della Sala, S 2018, 'Acreemagnosia (Loss of financial knowledge): a symptom of functional and cognitive loss in frail elderly', *International Journal of Geriatric Psychiatry*, vol. 33, no. 2, pp. 434-435. <https://doi.org/10.1002/gps.4744>

### **Digital Object Identifier (DOI):**

[10.1002/gps.4744](https://doi.org/10.1002/gps.4744)

### **Link:**

[Link to publication record in Heriot-Watt Research Portal](#)

### **Document Version:**

Peer reviewed version

### **Published In:**

International Journal of Geriatric Psychiatry

### **Publisher Rights Statement:**

This is the peer reviewed version of the following article: Int J Geriatr Psychiatry 2018; 33: 432–437, which has been published in final form at <https://doi.org/10.1002/gps.4744>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions.

### **General rights**

Copyright for the publications made accessible via Heriot-Watt Research Portal is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

### **Take down policy**

Heriot-Watt University has made every reasonable effort to ensure that the content in Heriot-Watt Research Portal complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [open.access@hw.ac.uk](mailto:open.access@hw.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

**Acreeamagnosia (Loss of financial knowledge): a symptom of functional and cognitive loss in frail elderly**

Journal:	<i>International Journal of Geriatric Psychiatry</i>
Manuscript ID	GPS-17-0053.R2
Wiley - Manuscript type:	Letter to the Editor
Date Submitted by the Author:	21-Apr-2017
Complete List of Authors:	Kozlova, Irina; The University of Edinburgh, Psychology Parra, Mario; Heriot-Watt University School of Life Sciences Della Sala, Sergio; University of Edinburgh, HCN - Psychology
Keywords:	Alzheimer's disease, Mild Cognitive Impairment, Cognitive Aging, Geriatric Assessment, Financial Management, Instrumental activities of daily living, Fraud, Elder Abuse

SCHOLARONE™  
Manuscripts

1  
2  
3  
4 **Acreeagnosia (Loss of financial knowledge):**

5  
6  
7 **a symptom of functional and cognitive loss in frail elderly**

8  
9  
10  
11  
12  
13  
14  
15 Irina Kozlova<sup>(1)</sup>✉, Mario A.Parra<sup>(2-5)</sup> and Sergio Della Sala<sup>(1,2)</sup>

16  
17  
18  
19  
20  
21  
22  
23  
24 (1) Human Cognitive Neuroscience, Psychology Department, University of Edinburgh, UK

25  
26 (2) Centre for Cognitive Ageing and Cognitive Epidemiology, University of Edinburgh, UK

27  
28 (3) School of Social Sciences, Psychology, University Heriot-Watt, UK

29  
30 (4) Scottish Dementia Clinical Research Network, NHS Scotland, UK

31  
32 (5) Universidad Autónoma del Caribe, Barranquilla, Colombia

33  
34  
35  
36  
37  
38  
39  
40  
41  
42 ✉Irina Kozlova, Human Cognitive Neuroscience, Psychology, University of Edinburgh, UK. 7

43  
44 George Square, Edinburgh, EH8 9JZ, Email:I.Kozlova@sms.ed.ac.uk

45  
46  
47  
48  
49  
50 **Key words:** Alzheimer's disease; Mild Cognitive Impairment; Cognitive Aging; Geriatric  
51  
52 Assessment, Financial Management; Instrumental activities of daily living.  
53  
54  
55  
56  
57  
58

1  
2  
3 The ability to maintain one's own finances is a complex function which relies on several  
4 cognitive constructs. Its decline is argued to be an early symptom of dementia and a strong  
5 predictor of future cognitive decline (Marson *et al.*, 2000). The impairment in financial  
6 abilities and the lack of awareness of such deficits carry considerable social and legal impact,  
7 and are among the primary factors precluding independent life and requiring legal assistance.  
8 Despite its relevance, little attention has been paid to this common symptom. To highlight the  
9 specificity of the symptom we suggest a term to define it: *Acreemagnosia*, from the Ancient  
10 Greek ἀ- (a-, "lack of"), χρήμα (creema, "money") and γνωσιακή (gnôsis, "knowledge").  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

21 Data from recent studies suggest that managing finances is among the earliest IADL  
22 impairments in MCI. Sikkes *et al.* (2011) in a longitudinal study on the Instrumental  
23 Activities of Daily Living (IADL) scales' ability to predict future dementia showed that two  
24 of the most discriminating items between normal and pathological ageing were handling  
25 money and understanding personal financial affairs. Peres *et al.* (2008) showed that decline in  
26 managing finances was the strongest predictor of cognitive decline up to 10 years before the  
27 onset of dementia.  
28  
29  
30  
31  
32  
33  
34  
35  
36

37 Most IADL scales include only a few items inquiring about financial abilities, and these  
38 items are rather dated. However, the clustering resulting from item analysis of the output from  
39 these scales suggests that *Acreemagnosia* is a deficit in its own right and as such should be  
40 recognized, offering a conceptual frame within which to devise appropriate assessing  
41 instruments.  
42  
43  
44  
45  
46  
47  
48

49 Three instruments have been specifically developed to evaluate financial abilities: (i) The  
50 Financial Capacity Instrument (FCI) (Marson *et al.*, 2000) and subsequent variants, none of  
51 which is available for use; (ii) The Financial Competence Assessment Inventory (FCAI) based  
52 on the legal and monetary Australian and American systems also unavailable for public use  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 and never published in full; (iii) The Measure of Awareness of Financial Skills (MAFS)  
4  
5 based on the view that awareness of financial abilities is a central component of  
6  
7 competence as unawareness would relate to the severity of cognitive impairment. Contrary to  
8  
9 their prediction though, the authors found very little correlation between performance on  
10  
11 different cognitive tests assessing executive functions, global cognitive function, and degree  
12  
13 of financial awareness.  
14  
15

16  
17 Indeed, specific cognitive impairments and the ability to make financial decisions are  
18  
19 dissociated and people who perform well on psychometric tests may still perform poorly on  
20  
21 financial competence tests. Okonkwo *et al.* (2006) in their study using FCI together with a  
22  
23 comprehensive neurocognitive battery, demonstrated that executive deficits (assessed by  
24  
25 means of WAIS-III, Trial Making Test A, and visuo-motor sequencing) and impairment of  
26  
27 attention (assessed by means of the Dementia Rating Scale (DRS)-2, Attention and Wechsler  
28  
29 Memory Scale (WMS)-III, Spatial Span Forward) were the only cognitive impairments  
30  
31 associated to the financial abilities decline of people with amnesic MCI. Other studies  
32  
33 however have questioned the correlation between scores in cognitive tests and financial  
34  
35 management competence. Basset (1999) in her study with mild and moderate AD patients  
36  
37 found no correlation between general cognitive function (as measured by the MMSE) and  
38  
39 financial competence. There is growing concern that cognitive assessment tests are unsuitable  
40  
41 for evaluating financial ability.  
42  
43  
44

45  
46 Assessing the possible presence of Acromagnosia with proper instruments is important as  
47  
48 older people are at great risk of functional dependence and are prone to different types of  
49  
50 financial frauds. There is an unmet need for a new instrument, which could aid the diagnosis  
51  
52 of Acromagnosia and quantify its severity. Such tool should incorporate informant-based,  
53  
54 self-report and performance-based measures that would complement each other. It should be  
55  
56  
57  
58  
59  
60

1  
2  
3 based on sound psychometric techniques (e.g., Item Response Theory Analysis) and should  
4  
5 incorporate unidimensional items which measure specific constructs as well as items which  
6  
7 measure more than one construct, referred to as complex. It should consider prior knowledge,  
8  
9 proficiency or interest in finances. Finally, the ideal instrument assessing financial  
10  
11 competence will have to be culturally valid.  
12  
13  
14  
15  
16  
17

### 18 **Acknowledgments**

19  
20 We acknowledge the support from the Alzheimer's Society through the grants AS-R42303  
21  
22 and AS-SF-14-008 awarded to MAP in collaboration with SDS.  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

## References

- 1  
2  
3  
4  
5  
6 Bassett S. 1999. Attention: Neuropsychological Predictor of Competency in Alzheimer's  
7  
8 Disease. *J Geriatr Psychiat Neurol* **12**: 200–205.  
9  
10  
11 Marson DC, Sawrie SM, Snyder S, McInturff B, Stalvey T, Boothe A, Aldridge T, Chatterjee  
12  
13 A, Harrell L. 2000. Assessing financial capacity in patients with Alzheimer's disease.  
14  
15 A conceptual model and prototype Instrument. *Arch Neurol* **57**: 877-884.  
16  
17  
18  
19 Okonkwo OC, Wadley VG, Griffith HR, Ball K, Marson DC. 2006. Cognitive correlates of  
20  
21 financial abilities in mild cognitive impairment. *J Am Geriatr Soc* **54**: 1745–50.  
22  
23  
24 Pèrès K, Helmer C, Amiela H, Orgogozo J-M, Rouch I, Dartigues JF, Barberger-Gateau P.  
25  
26 2008. Natural history of decline in instrumental activities of daily living performance  
27  
28 over the 10 years preceding the clinical diagnosis of dementia: A prospective  
29  
30 population-- based study. *J Am Geriatr Soc* **56**: 37–44.  
31  
32  
33  
34 Sikkes SAM, Visser PJ, Knol DL, *et al.* 2011. Do instrumental activities of daily living  
35  
36 predict dementia at 1- and 2-year follow-up? Findings from the development of  
37  
38 screening guidelines and diagnostic criteria for predementia Alzheimer's disease  
39  
40 study. *J Am Geriatr Soc* **59**: 2273–2281.  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60