



Citation for published version:

Ventura, P., Livingston, LA & Shah, P 2018, 'Adults have moderate-to-good insight into their face recognition ability: Further validation of the 20-item Prosopagnosia Index (PI20) in a Portuguese Sample', *Quarterly Journal of Experimental Psychology Section A*, vol. 71, no. 12, pp. 2677-2679.
<https://doi.org/10.1177/1747021818765652>

DOI:

[10.1177/1747021818765652](https://doi.org/10.1177/1747021818765652)

Publication date:

2018

Document Version

Peer reviewed version

[Link to publication](#)

Ventura, P., Livingston, L. A., & Shah, P. (2018). Adults have moderate-to-good insight into their face recognition ability: Further validation of the 20-item Prosopagnosia Index (PI20) in a Portuguese Sample. *Quarterly Journal of Experimental Psychology Section A*. Copyright © 2018 The Authors. Reprinted by permission of SAGE Publications.

University of Bath

Alternative formats

If you require this document in an alternative format, please contact:
openaccess@bath.ac.uk

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

RUNNING HEAD: Self-reported Face Recognition Ability

Journal: *Quarterly Journal of Experimental Psychology*

Format: *Comment*

Running Head: *Self-reported Face Recognition Ability*

Word Count: 1000

**Adults have moderate-to-good insight into their face recognition ability:
Further validation of the 20-item Prosopagnosia Index (PI20) in a
Portuguese Sample**

Paulo Ventura¹, Lucy Anne Livingston², & Punit Shah^{3*}

¹ Faculty of Psychology, University of Lisbon. Alameda da Universidade, 1649-013
Lisboa, Portugal.

² Social, Genetic and Developmental Psychiatry Centre, Institute of Psychiatry,
Psychology and Neuroscience, King's College London, London, SE5 8AF, United
Kingdom.

³ Department of Psychology, University of Bath, Bath, BA2 7AY, United Kingdom.

*Corresponding author: p.shah@bath.ac.uk

Tel: +441225386647

Key words: face recognition, self-report, Cambridge Face Memory Test, PI20, PI20-
Portuguese, questionnaire

Acknowledgements: This work was supported by the Research Center for Psychological
Science (CICPSI) at Universidade de Lisboa. L.A.L. acknowledges support from the
Medical Research Council.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
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

There is growing debate about whether people have insight into their face recognition ability, including a recent exchange in the *Quarterly Journal of Experimental Psychology* (Livingston & Shah, 2017; Palermo et al., 2017). This focussed on reports that people have enough insight into their face recognition ability to justify the use of a self-report questionnaire to identify people with face recognition difficulties, for example, those with Developmental Prosopagnosia (DP). Shah, Gaule, Sowden, Bird, and Cook (2015) published the 20-item prosopagnosia index (PI20), a self-report questionnaire for measuring prosopagnosic traits. PI20 scores distinguish suspected developmental prosopagnosic from typically developing adults, and they correlate with behavioural measures of familiar (Famous Face Recognition Test; FFRT) and unfamiliar (Cambridge Face Memory Test; CFMT, Duchaine & Nakayama, 2006) face recognition ability. The PI20 was further validated against a measure of face-matching ability (Glasgow Face Matching Test; Burton, White, & McNeil, 2010) that is more representative of applied settings (Shah, Sowden, Gaule, Catmur, & Bird, 2015). Turano and colleagues (Turano, Marzi, & Viggiano, 2016; Turano & Viggiano, 2017) have since developed the Italian Face Ability Questionnaire, which successfully measures individual differences in face recognition ability in Italian samples (Turano et al., 2016; Turano & Viggiano, 2017).

Palermo et al. (2017), however, argued that, although individuals with DP might have relatively good insight into their face recognition abilities, due to the severity of their difficulties, typical perceivers have minimal insight (see also, Bobak, Pampoulov, & Bate, 2016). To explain the difference between their findings and those reported in Shah, Gaule et al. (2015), Palermo and colleagues (2017) suggested that Shah, Gaule et al.'s analyses, combining people with and without DP, had inflated the strength of the correlations between

1
2
3 PI20 scores and performance on behavioural tasks. They also speculated that people with DP
4
5 might have been involved in previous research and had therefore received feedback from
6
7 formal testing prior to administration of the PI20. However, since Palermo et al.'s
8
9 publication, Gray, Bird and Cook (2017) have reported correlations between the PI20 scores
10
11 and CFMT performance in participants that have never received feedback about their face
12
13 recognition ability. Most recently, Livingston and Shah (2017) re-examined Shah, Gaule et
14
15 al.'s (2015) data, which found correlations between the PI20 and the CFMT separately in
16
17 groups with and without DP. Together, converging evidence indicates that previous findings
18
19 of a relationship between questionnaire and behavioural measures of face recognition are
20
21 robust and unlikely to be a statistical artefact. Equally, however, Livingston and Shah (2017)
22
23 re-examined, rather than replicated, data from a small sample, therefore it would be valuable
24
25 to replicate these findings in a larger sample of adults. Moreover, they noted that the extent
26
27 to which humans have 'good' insight into their face recognition ability remains debateable
28
29 and warrants further investigation.
30
31
32
33
34

35 We therefore conducted a study to advance this debate on self-reported face
36
37 recognition ability. We recruited 126 participants (15 Male, $M_{\text{age}} = 20.40$, $SD_{\text{age}} = 4.35$) from
38
39 a Portuguese University, who gave informed consent and agreed to participate in exchange
40
41 for course credit. We adapted the PI20 for a Portuguese population (PI20-Portuguese; see
42
43 Supplemental Material) and validated it against behavioural tasks, presented in Portuguese,
44
45 measuring familiar (FFRT) and unfamiliar (CFMT) face recognition. The FFRT comprised
46
47 34 international, including four Portuguese, celebrities (actors, politicians, singers and sports
48
49 people), to measure familiar face recognition. Participants had to identify the celebrities
50
51 from cropped photographic images by providing their name or other identifying information.
52
53
54
55

1
2
3 The colour images were presented in the centre of the screen on each trial and remained
4 visible until participants responded. The FFRT had good internal consistency (Cronbach's α
5 = .89) and FFRT scores were calculated as a percentage of correct identifications of
6 celebrities each participant was familiar with. Performance on this test ($M = 71.72\%$, $SD =$
7 17.24%) was in line with previous data (e.g., Shah, Gaule et al., 2015). The CFMT requires
8 the recognition of six newly learnt unfamiliar faces in three stages; recognition of the same
9 images (introduction), recognition of the same faces in different perspectives, and
10 recognition of the same faces in different perspectives with the addition of visual noise. The
11 trials consisted of three-alternative forced choice tests, and CFMT scores were converted to
12 percentage accuracy ($M = 86.20\%$, $SD = 10.24\%$). Analyses showed that the PI20-
13 Portuguese has a unifactorial structure and good internal consistency ($\alpha = .84$). The average
14 PI20 score, and distribution of scores ($M = 42.02$, $SD = 9.26$), was almost identical to
15 previous results (e.g., Shah et al., 2015). Importantly, PI20 scores were significantly
16 correlated with the FFRT ($r = -.39$, $p < .0001$) and the CFMT ($r = -.43$, $p < .0001$), and this
17 pattern of results (Figure 1) held after controlling for participant age and gender ($r = -.37$, p
18 $< .0001$, $r = -.43$, $p < .0001$, respectively).
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41

42 [Figure 1 Here]
43
44
45
46
47
48

49 These findings provide further evidence that adults have insight into their face
50 recognition ability, in line with the recent research on this topic (see Livingston & Shah,
51 2017). Encouragingly, this finding has now been reported in several studies using
52
53
54
55

1
2
3 questionnaire measures in different languages (English, Italian, and now Portuguese). In
4
5 addition, the moderate-to-large size of the relationship between questionnaire and
6
7 behavioural measures of face recognition ($\sim r = .40$) is now consistently being found across
8
9 studies. Interestingly, these recent results, including this study, sit in between Shah, Gaule et
10
11 al.'s (2015) claim that adults have 'good insight' and Palermo et al.'s (2017) argument that
12
13 adults 'lack insight', providing strong indication that adults have *moderate-to-good* insight
14
15 into their face recognition ability.
16
17
18

19 Overall, numerous strands of evidence suggest that, although traditional behavioural
20
21 testing remains a more precise way to measure face recognition ability, well-validated self-
22
23 report questionnaires are useful research (and potentially clinical) tools. It is hoped that the
24
25 results of this study help move academic debate on from whether or not to use questionnaire
26
27 measures of face recognition, particularly in studies on prosopagnosia (Shah, 2016), towards
28
29 refining and improving these instruments to better understand the psychological causes and
30
31 consequences of (a)typical face recognition ability. More generally, the Portuguese version
32
33 of the PI20 reported in the current study could be used in future research in Portuguese-
34
35 speaking countries (e.g., Brazil), hopefully providing opportunities to advance (cross-
36
37 cultural) face recognition research in new and diverse samples across the population.
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Supplementary Material

Supplementary Material is available at: qjep.sagepub.com

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
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
7
8 Bobak, A. K., Pampoulov, P., & Bate, S. (2016). Detecting superior face recognition skills in
9
10 a large sample of young British adults. *Frontiers in Psychology, 7*, 175.
11
12 doi:10.3389/fpsyg.2016.01378.
13
14
15 Burton, A. M., White, D., & McNeill, A. (2010). The Glasgow face matching test.
16
17 *Behavioral Research Methods, 42*, 286–291. (doi:10.3758/BRM.42.1.286)
18
19 Duchaine, B., & Nakayama, K. (2006). The Cambridge face memory test: Results for
20
21 neurologically intact individuals and an investigation of its validity using inverted face
22
23 stimuli and prosopagnosic participants. *Neuropsychologia, 44*, 576–585.
24
25
26 Gray, K., Bird, G., & Cook, R. (2017). Robust associations between the 20-item
27
28 prosopagnosia index and the Cambridge face memory test in the general population.
29
30 *Royal Society Open Science*. doi:10.1098/rsos.160923.
31
32
33 Livingston, L. A., & Shah, P. (2017). People with and without prosopagnosia have insight
34
35 into their face recognition ability. *The Quarterly Journal of Experimental Psychology,*
36
37 *0(0)*, 1–3. <http://doi.org/10.1080/17470218.2017.1310911>
38
39
40 Palermo, R., Rossion, B., Rhodes, G., Laguesse, R., Tez, T., Hall, B.,...Al-Janabi, S. (2017).
41
42 Do people have insight into their face recognition abilities? *The Quarterly Journal of*
43
44 *Experimental Psychology, 70*, 218–233.
45
46
47 Shah, P. (2016). Identification, diagnosis and treatment of prosopagnosia. *The British*
48
49 *Journal of Psychiatry, 208*, 94-95.
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Shah, P., Gaule, A., Sowden, S., Bird, G., & Cook, R. (2015). The 20-item prosopagnosia
4 index (PI20): a self-report instrument for identifying developmental prosopagnosia,
5
6 *Royal Society Open Science*, 2(6), 140343.
7
8

9
10 Shah, P., Sowden, S., Gaule, A., Catmur, C., & Bird, G. (2015). The 20-item prosopagnosia
11 index (PI20): relationship with the Glasgow face-matching test. *Royal Society Open*
12 *Science*, 2(11), 150305. <http://doi.org/10.1098/rsos.150305>.
13
14
15

16
17 Turano, M. T., Marzi, T., & Viggiano, M. P. (2016). Individual differences in face
18 processing captured by ERPs. *International Journal of Psychophysiology*, 101, 1–8.
19
20 <http://doi.org/10.1016/j.ijpsycho.2015.12.009>.
21
22
23

24 Turano, M. T., & Viggiano, M. P. (2017). The relationship between face recognition ability
25 and socioemotional functioning throughout adulthood. *Aging, Neuropsychology, and*
26 *Cognition*, 24(6), 613–630. <http://doi.org/10.1080/13825585.2016.1244247>.
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

Figure Caption

Figure 1. The significant correlations between PI20-Portuguese scores and performance on the Famous Faces Recognition Test (FFRT; $r = -.39, p < .0001$) and the Cambridge Face Memory Test (CFMT; $r = -.43, p < .0001$).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41

% Accuracy

— **CFMT**
— **FFRT**

