MEASURING UNFAMILIAR FACE PROCESSING SKILLS:

Validation of The Cambridge Face Memory Test and The Glasgow Face Matching Test for Turkish Sample

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INTRODUCTION

➤ Large individual differences in face recognition performance for unfamiliar faces:
- Prosopagnosics - Super Recognizers (SRs) (Russell, Duchaine, & Nakayama, 2009)

➤ Two frequently used face processing assessments:
- Cambridge Face Memory Test & Glasgow Face Matching Test

➤ Normative data for Turkish sample is not studied

Aims:

➤ Assess the reliability of Cambridge Face Memory Test and Glasgow Face Matching Test for Turkish sample.

➤ Investigate the effects of professional experience on:
- the ability to recognize unfamiliar faces
- the ability to match unfamiliar faces
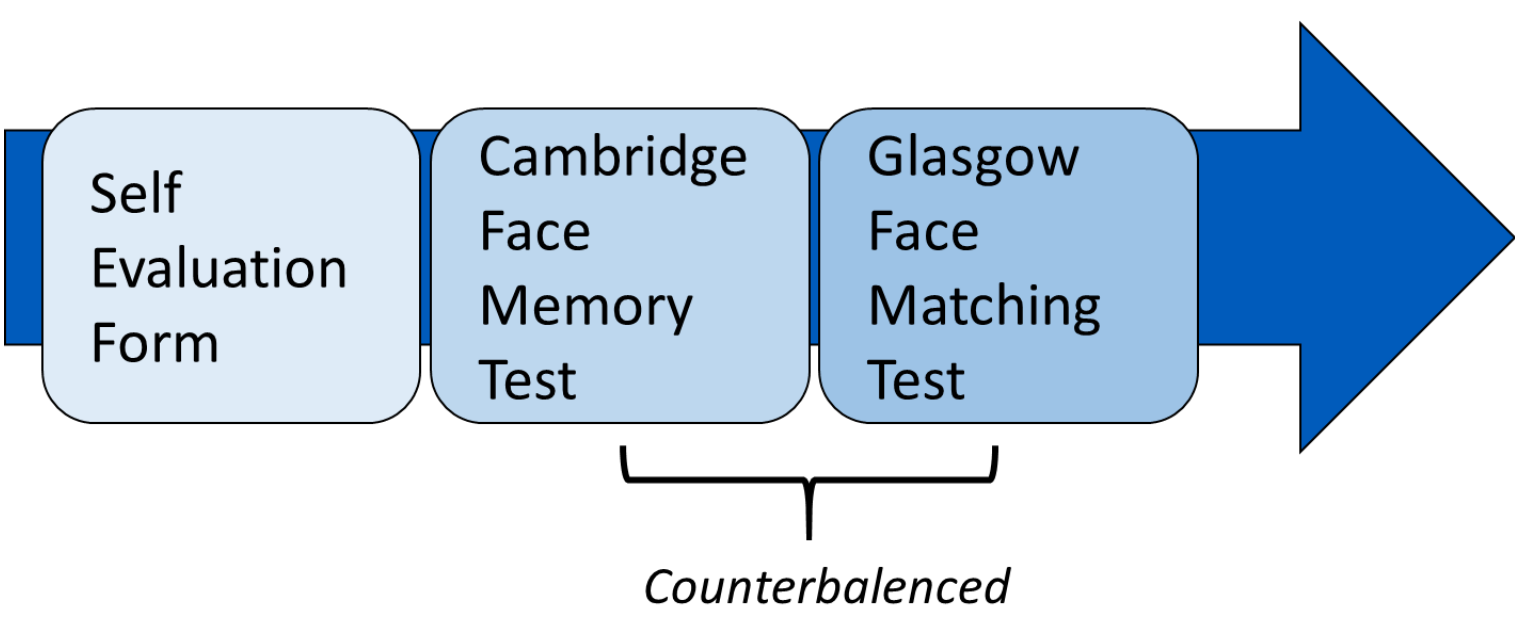- insights into one's own face recognition abilities

METHODS

Studied with two samples:
➤ University students: N = 71, Age = 23.11 (5.52)
➤ Security officers: N = 83, Age = 33.71 (8.24)

Three tasks applied:
- Self evaluation form
- Cambridge Face Memory Test
- Glasgow Face Matching Test

Counterbalanced

Self Evaluation Form

Are you easily able to recognize and identify faces of people you already met?

In general, do you have the impression of being less accurate than other people in recognizin familiar faces?

Do you have trouble recognizing faces?

Do you think you are very good at recognizing faces?

Do you tend to mix up people when you are watching a movie?

> Participants judged each of them on a likert scale ranging from 1 to 7
> 1: «Not at all»
> 7: «A lot»

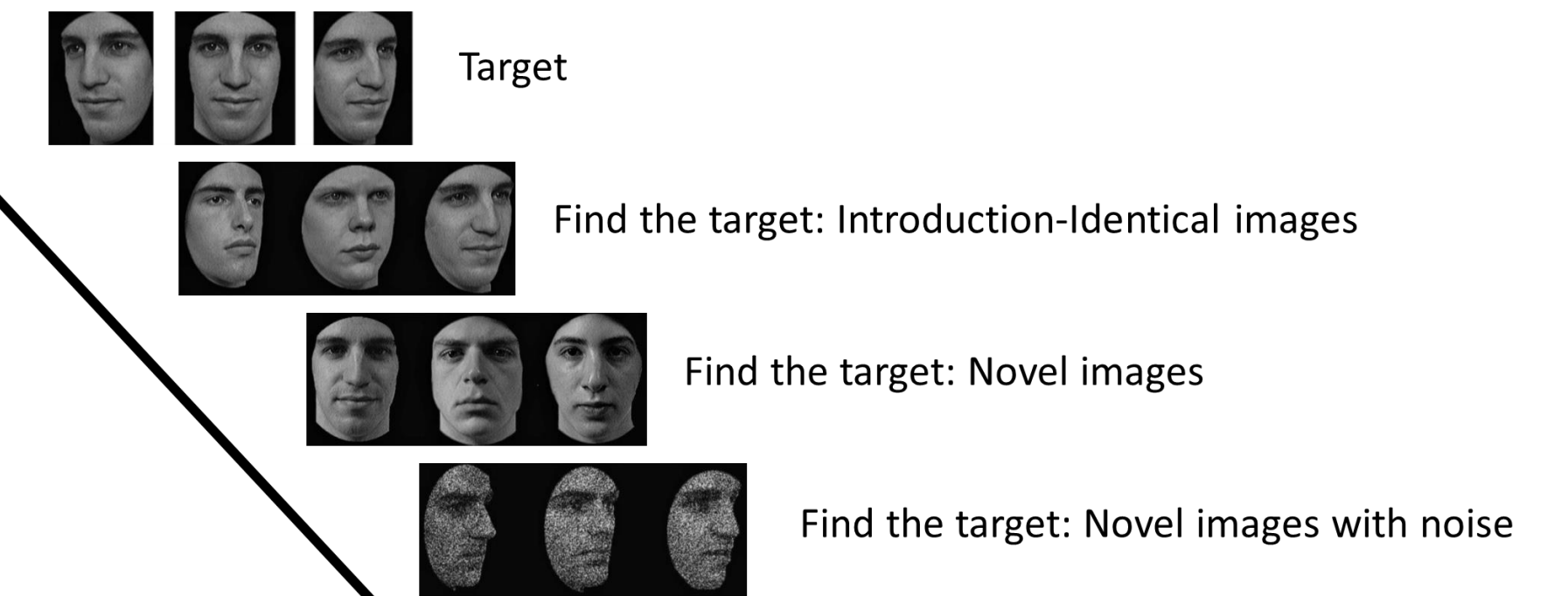It takes me long time to recognize people

I can easily form a mental picture of a red rose
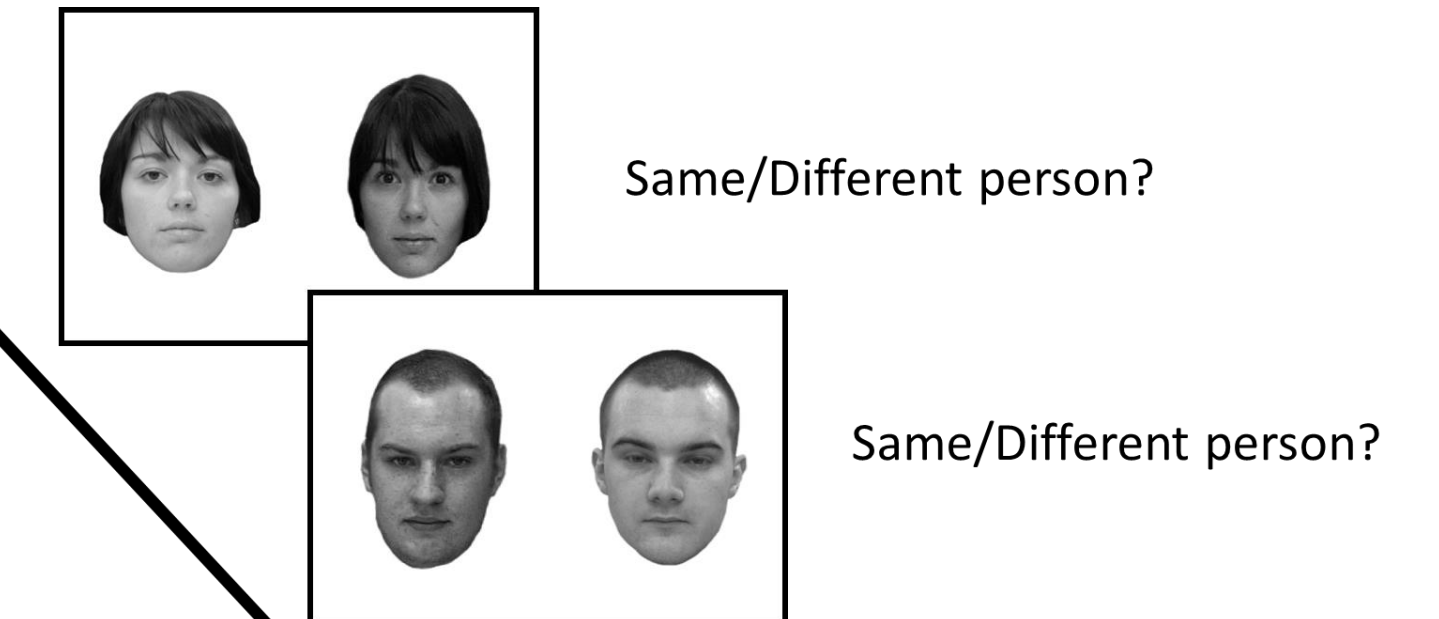
I have problems reading emotions in a face

> Participants judged each of them on a likert scale ranging from 1 to 5
> 1:''strongly disagree»
> 5: «Strongly agree»'
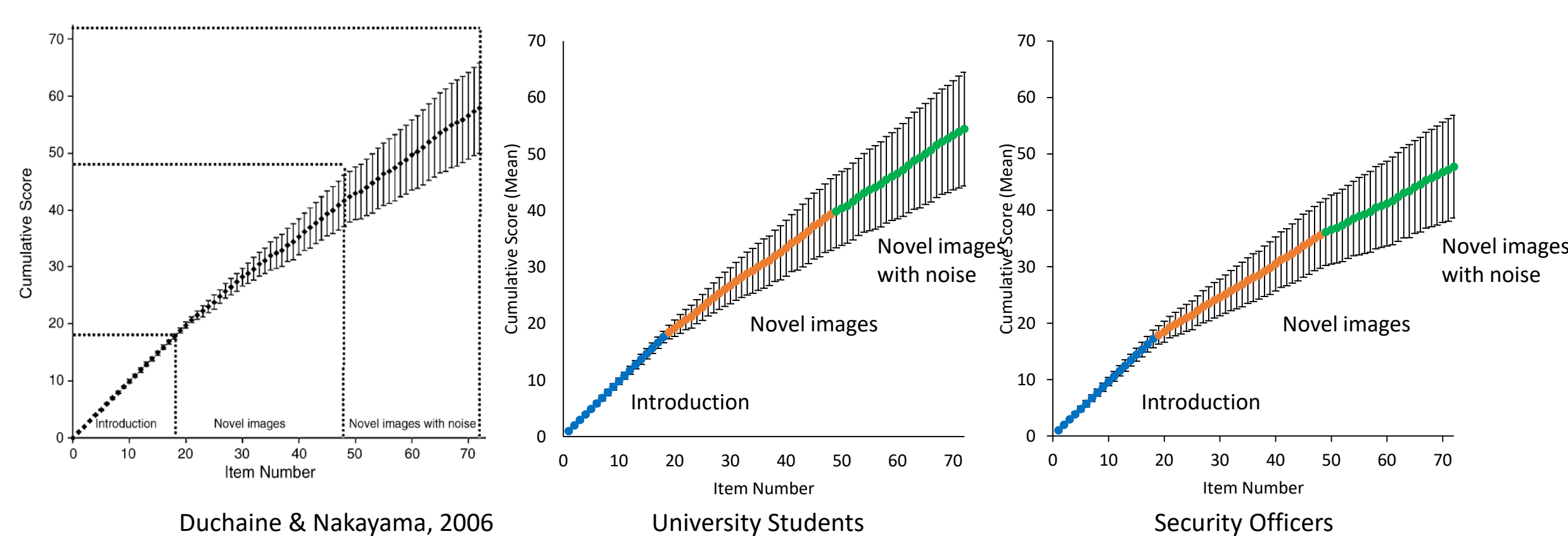
Cambridge Face Memory Test

- Target
- Find the target: Introduction-Identical images
- Find the target: Novel images
- Find the target: Novel images with noise

Glasgow Face Matching Test

- Same/Different person?
- Same/Different person?

RESULTS

Cambridge Face Memory Test

Duchaine & Nakayama, 2006 | University Students | Security Officers

	Duchaine & Nakayama, 2006 (n = 50)	University Students (n = 71)	Security Officers (n = 83)
	Mean (SD)	Mean (SD)	Mean (SD)
Introduction	17.82 (0.44)	17.63 (1.00)	17.19 (1.55)
Novel images	23.74 (4.31)	21.65 (5.85)	18.39 (5.24)
Novel images with noise	16.36 (4.02)	15.14 (4.72)	12.16 (4.19)
Total	57.92 (7.91)	54.42 (10.06)	47.98 (9.23)

➤ Mean and SD scores similar to original study was observed
➤ Distribution of original study was replicated

Super-recognizers

University students sample: 6
➤ 3 individual scored 72/72
➤ 1 individual scored 71/72
➤ 2 individuals scored 69/72

Security officers sample: 2
➤ 1 individual scored 70/72
➤ 1 individual scored 69/72

Glasgow Face Matching Test
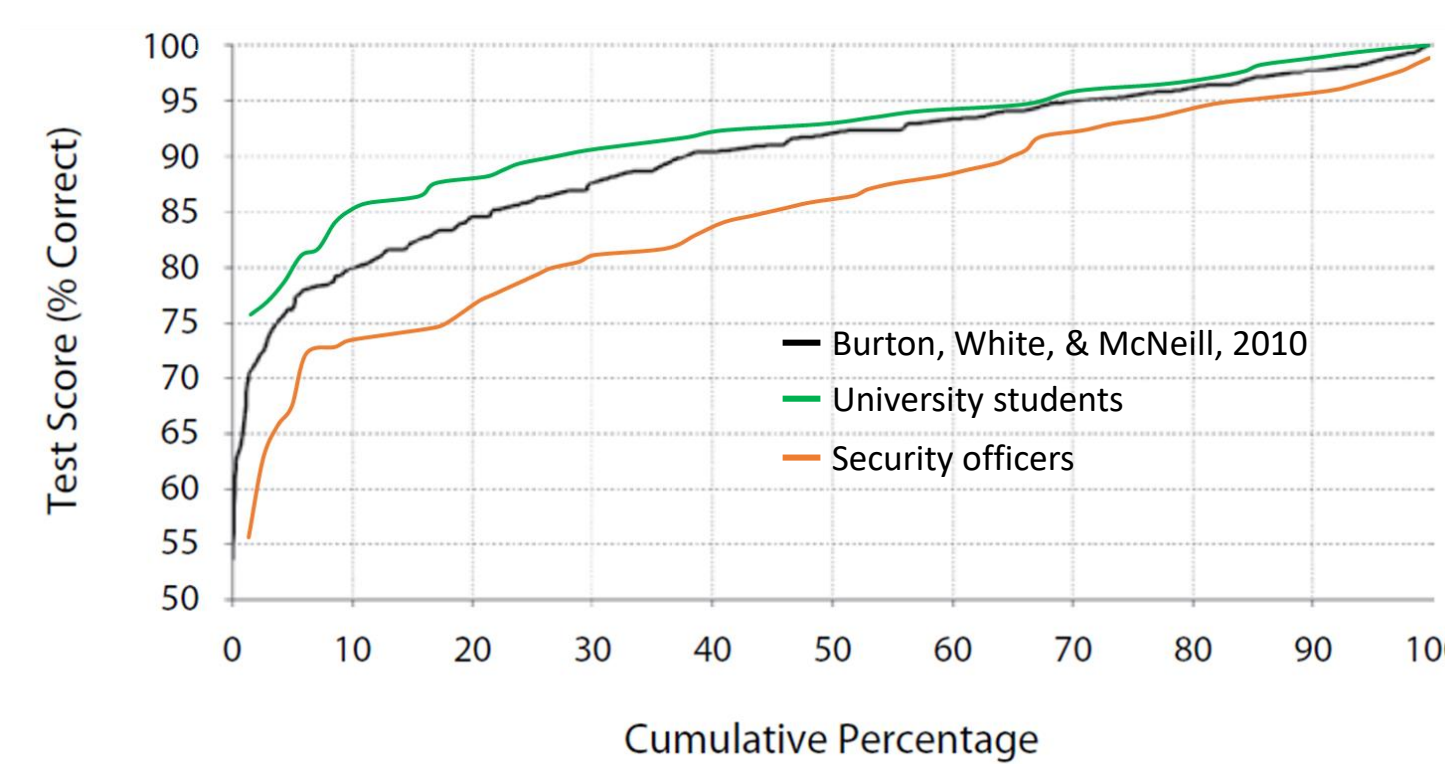
	Burton, White, & McNeill, 2010 (n = 300)	University Students (n = 71)	Security Officers (n = 83)
	Mean % (SD)	Mean % (SD)	Mean % (SD)
Same trials	92	93.36 (7.69)	86.82 (13.29)
Different trials	88	91.67(8.77)	83.59 (14.77)
Overall	89.9 (7.3)	92.49 (5.59)	85.35 (9.25)

- **The difference between mean percentage of same and diferent trials are not statistically significant for both university students and security officers.**

Relationship between Cambridge Face Memory Test and Glasgow Face Matching Test

r = .40, p < .001 — Security officers

r = .51, p < .001 — University students
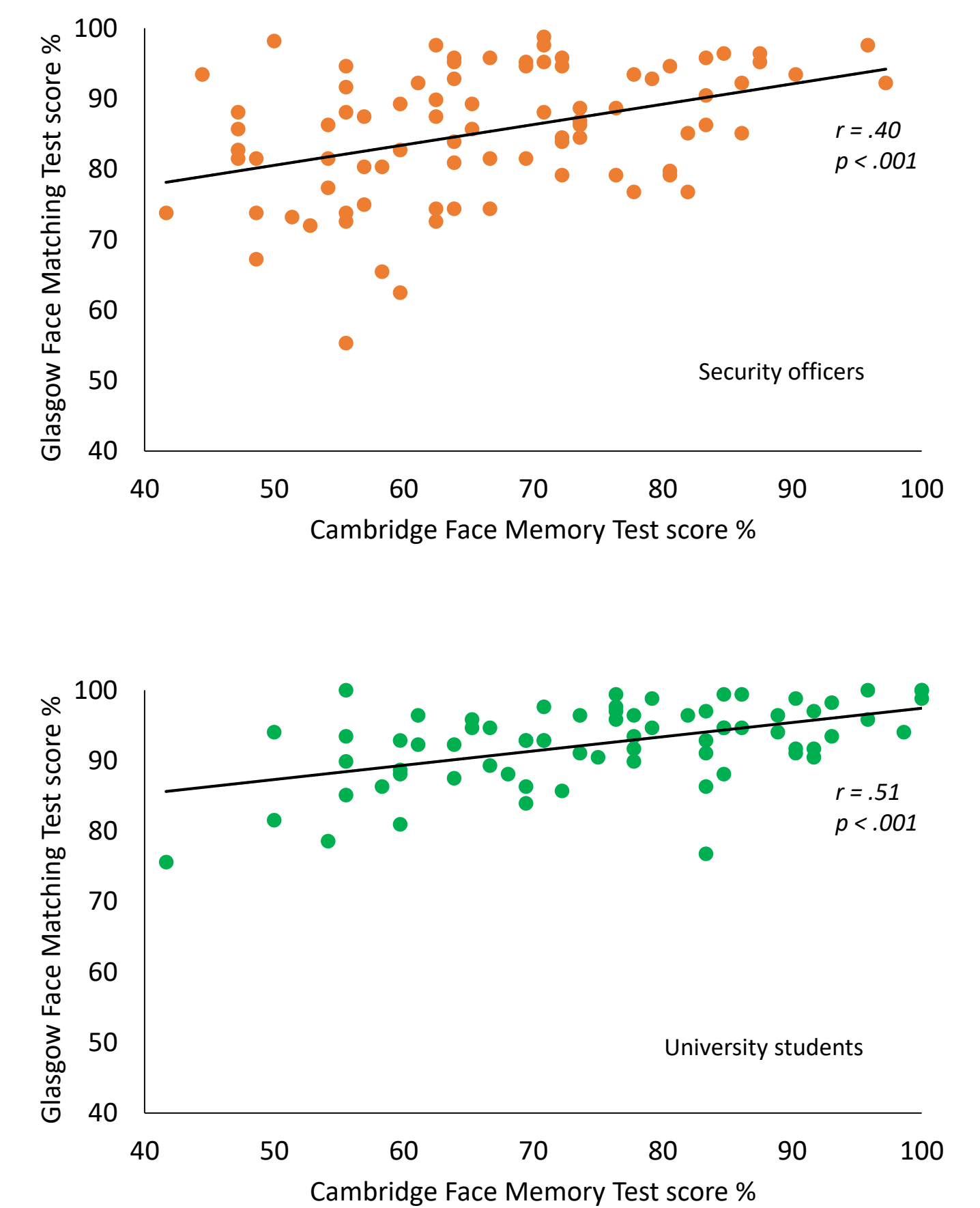
DISCUSSION & CONCLUSION

➤ Reliability of Cambridge Face Memory Test for samples of both university students (alpha = .909) and security officers (alpha = .865) as well as reliability of Glasgow Face Matching Test for samples of both university students (alpha = .882) and security officers (alpha = .934) were confirmed.

➤ Consistent with the previous literature on the relationship between face recognition and face matching skills, significant correlation between Cambridge Face Memory Test and Glasgow Face Matching Test scores for both university students (r = .51, p < .001) and security officers (r = .40, p < .001) were observed.

➤ Face recognition memory and face matching skills, as well as evaluation of self-performance, may be independent of experience.

> ➤ Cambridge Face Memory Test scores of university students (M = 54.42 , SD = 10.06) are higher than security officers' performance (M = 47.98, SD = 9.23). Similarly, Glasgow Face Matching Test scores of university students (M = 155.38 , SD = 9.40) are higher than security officers' performance (M = 143.39 , SD = 15.55). These performance differences are statistically significant (p < .001)

> ➤ While self evaluation scores are correlated with both Cambridge Face Memory Test and Glasgow Face Matching Test scores of university students, however, no such relation is observed for security officers. Self evaluation scores of security officers might be affected by social desirability.

ACKNOWLEDGMENTS

REFERENCES

➤ Burton, A. M., White, D., & McNeill, A. (2010). The Glasgow Face Matching Test. *Behavior Research Methods*, *42*(1), 286-291.
➤ Duchaine, B., & Nakayama, K. (2006). The Cambridge Face Memory Test: Results for neurologically intact individuals and an investigation of its validity using inverted face stimuli and prosopagnosic participants. *Neuropsychologia*, *44*, 576-585.
➤ Russell, R., Duchaine, B., & Nakayama, K. (2009). Super-recognizers: People with extraordinary face recognition ability. *Psychonomic Bulletin & Review*, *16*(2), 252-257.
➤ Verhallen, R. J., Bosten, J. M., Goodbourn, P. T., Lawrence-Owen, A. J., Bargary, G., & Mollon, J. D. (2017). General and specific factors in the processing of faces. *Vision Research*, *141*, 217-227.

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