

Improving unfamiliar face matching by working in pairs

Introduction

- Previous studies have shown that matching unfamiliar faces can be a challenge
- Dowsett & Burton (2014) found that participants' face matching skills improved when in pairs compared to when completing the task individually
- Their explanation behind this is that the worse participants adopt the response of the better participants. They state that an individual improves the motivation of the other which improves their performance
- Maciejovsky et al. (2013) also found that working in groups improves an individual's ability, as the team members challenge each other, resulting in deeper and more critical levels of analytical thinking
- Other research has shown that there are other ways of improving face-matching, not just by working in pairs
- White, Kemp, Jenkins & Burton (2014) found that participants improved in their face matching performance when given trial-by-trial feedback

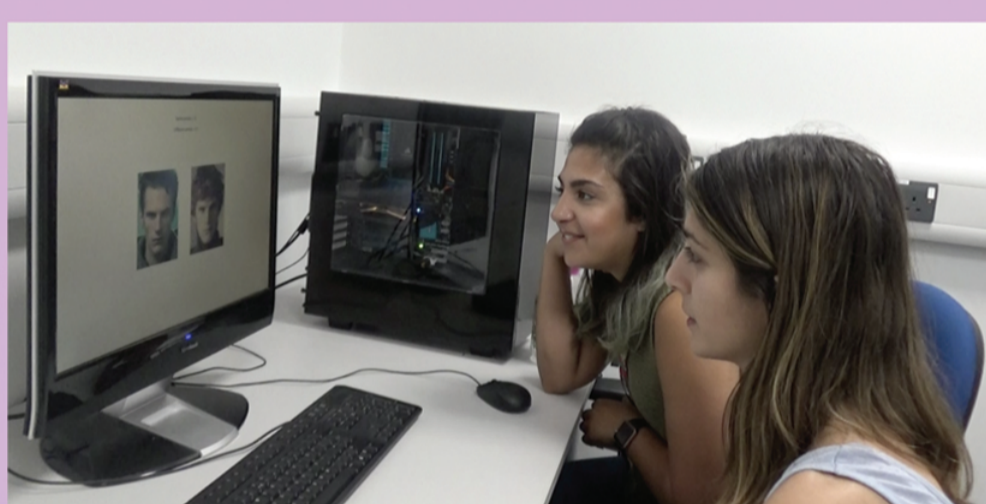
Method

Participants

A total of 44 participants took part in the study (31 female, 13 male), ages ranged from 18-48 ($M = 22.4$, $SD = 6.62$)

Method

- Participants were asked to complete a computer based face matching task 3 times. There were 30 trials in each task and all photos used were male. Participants had to state whether the two males were the same or different person
- The first session was completed independently, the second session was completed as a pair and the third session was completed independently. The reason for these 3 sessions were to compare the participants scores from the first and third session in order to see if working in pairs improves ability
- The pairs task was filmed, this enabled us to work out how working in pairs led to improvements for the worse person



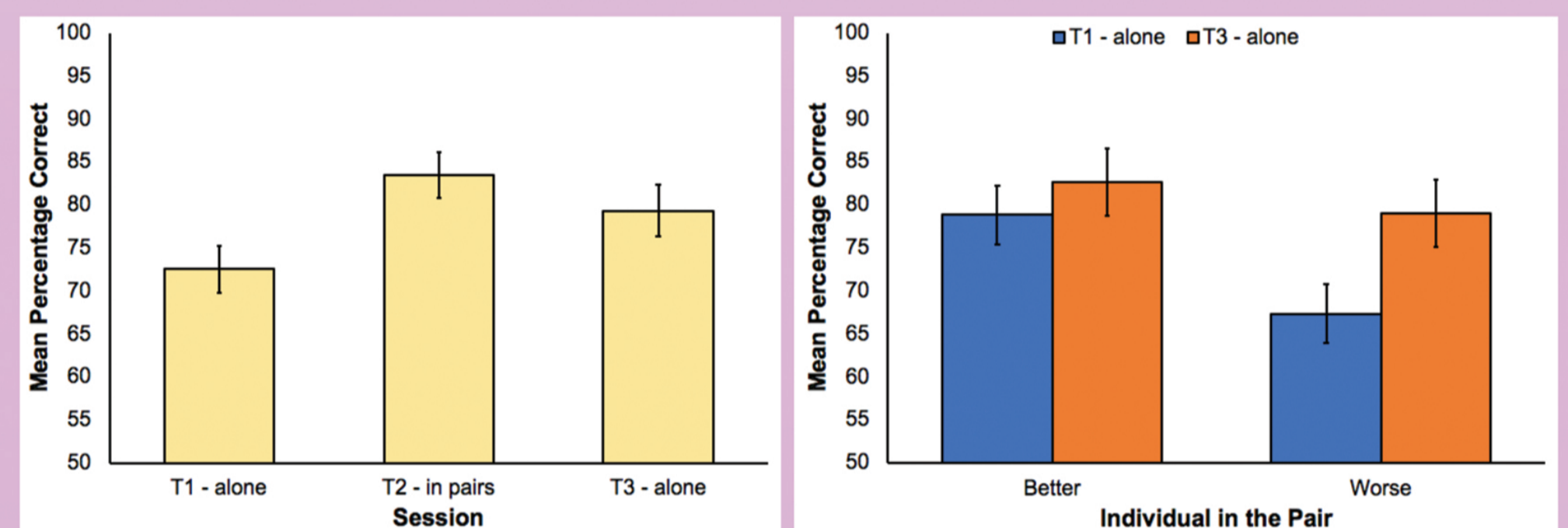
Results

A one-way within-subjects ANOVA showed:

- There was a significant difference in percentage scores across the three sessions ($F(2, 86) = 26.15$, $p < .001$)
- T1 had the lowest percentage correct, followed by T3, and T2 had the highest percentage correct

A mixed ANOVA showed:

- A significant main effect of session ($F(1,38) = 25.09$, $p < .001$) with participants scoring lower in T1 compared to T3. A significant main effect for the ability of the participants ($F(1, 38) = 13.98$, $p < .001$), with the better participant in each pair scoring, on average, higher than the worse participant
- There was a significant interaction between the session and ability ($F(1,38) = 6.41$, $p < .05$)
- There was an effect of session for the worse participants ($F(1,38) = 28.42$, $p < .001$), with worse participants improving from T1 to T3. However, there was not an effect of session for the better participants ($F(1,38) = 3.07$, $p = .088$)



We are currently conducting qualitative analysis on the videos of the pairs task. Below is a 'wordle' which includes frequent words that were used during the pairs task



Conclusions

- After completing the paired task, those who were initially worse had improved performance
- Results show that unfamiliar face matching can be improved by completing the task in pairs
- We replicated Dowsett & Burton's (2014) study as we also found that the better participants do not get any better, but the worse participants improve their accuracy
- Findings from our study can be used to improve real-world problems, such as improving passport control techniques



References

- Dowsett, A.J., & Burton, A.M. (2014). Unfamiliar face matching: Pairs out-perform individuals and provide a route to training. *British Journal of Psychology*, 106(3), 433-445.
- Maciejovsky, B., Sutter, M., Budescu, D. V., & Bernau, P. (2013). Teams make you smarter: How exposure to teams improves individual decisions in probability and reasoning tasks. *Management Science*, 59(6), 1255-1270.
- White, D., Kemp, R.I., Jenkins, R., & Burton, M.A. (2014). Feedback training for facial image comparison. *Psychonomic Bulletin & Review*, 21(1), 100-106.

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