

# The Effect of Age and Game Experience on Candidates' Reactions to Gamified Assessments

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## ABSTRACT

Gamified assessments (GAs) are at the forefront of generational advancements in selection measures, and due to their technological nature, it is feared that older individuals and those with less gaming experience may be discriminated against by this method. This poster provides evidence on how age and game experience relate to GA performance and to candidate perceptions of face validity, fairness, and predictive validity. Preliminary findings from 251 participants indicate that age and game experience do not predict candidates' perceptions of the method when used for selection, and that trait scores generated through a GA do vary as a function of age, yet only to mirror the well-established patterns of age-related personality and cognitive changes.

## INTRODUCTION

- GAs are becoming an increasingly popular method of assessment, offering an innovative way to measure job-related criteria such as aptitude, personality, and cognition through a game-like interface<sup>1</sup>.
- Little is known about how candidates may react to this type of assessment, and what implications this can have for organisations using this method to assess candidates.

### Candidate reactions to assessment methods

- Candidate reactions have been found to relate to organisation recommendations<sup>2</sup>, acceptance decisions<sup>3</sup>, and probability of litigation against the organisation<sup>4</sup>.
- In a meta-analysis of 86 independent samples, strong support was found for applicant perceptions (justice, motivation, anxiety and attitudes) being positively associated with test performance. Specifically, the authors found a negative correlation between test anxiety and performance ( $r = -.28$ )<sup>5</sup>.
- Test taking motivation has been found to positively relate to subsequent test performance, and perceptions of a test's face validity has also been found to influence performance<sup>6</sup>.

### Age and video game experience

- Findings from previous research suggest older adults have increased anxiety and lower self-efficacy about using technology<sup>7</sup>. Age has been found to be associated with longer response times, more errors, and lower performance levels<sup>8</sup>.
- Video game literature focusing on older adults also reveals gaming positively impacts their visual attention<sup>9</sup>, cognitive control<sup>10</sup>, processing speed<sup>11</sup>, and significantly improves reaction times<sup>12</sup>.
- Due to the mechanisms associated with GBAs, it is expected that both age and video game experience will impact performance in a GBA as well as influence perceptions of GBAs.

### Research Questions

**RQ1.** Does age or video game experience predict performance/personality measures within the GBA?

**RQ2.** Do candidates perceive the game differently depending on their age and video game experience?

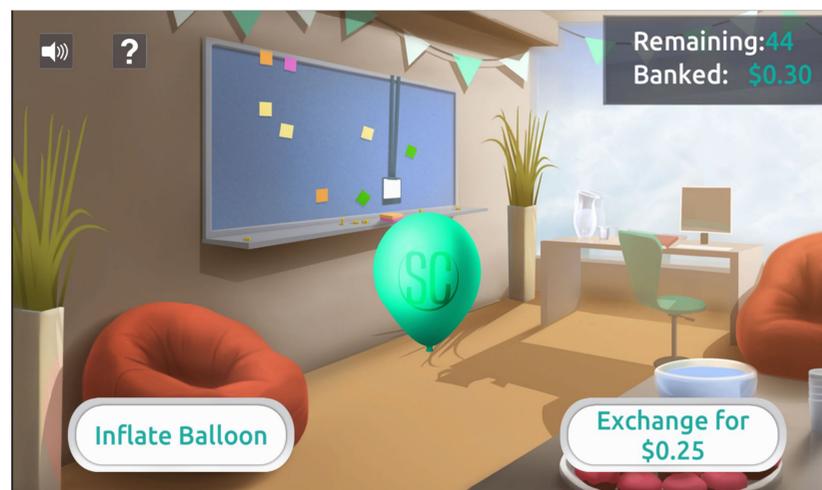
## METHODS AND MATERIALS

### Participants

- 251 participants with a mean age of 27.08 (SD = 11.52).
- 67% female, 86.5% white.
- 57.4% reside in the UK, 42.6% live in Greece.

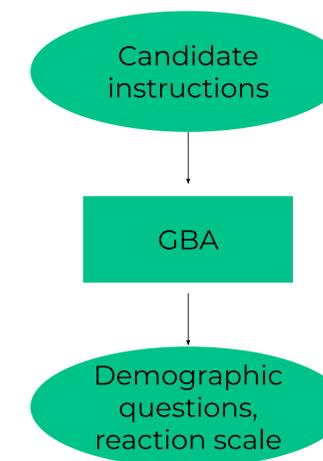
### Measures

- GBA – Skyrise City (Arctic Shores, 2018)
  - 30 constructs measured including personality and cognitive ability across 9 levels based on behavioural paradigms taken from cognitive psychology.
- Applicant reaction scale (Chan, 1997)
  - 9 item Likert scale that measures perception of; face validity, predictive validity, and fairness.



## RESULTS

- Initial correlational analysis shows age was only found to be related to cognition ( $r = -.241$ ), and extraversion ( $r = -.240$ ) within the GBA.
- No relationship was found between video game experience and GBA measures of personality or cognition.
- After controlling for any effects related to gender, age was found to be a significant negative predictor of GBA cognition scores, accounting for an additional 5.7% of the total variance ( $R^2 = .06$ ,  $F(2,248) = 7.967$ ,  $p < .001$ ).
- A significant negative relationship between age and GBA extraversion scores was found after controlling for gender, with age accounting for an additional 5.9% of total variance ( $R^2 = .06$ ,  $F(2,248) = 8.269$ ,  $p < .001$ ).
- No significant relationship was found between perceptions of the GBA when compared to age or video game experience.
- When comparing candidates across countries, differences emerged across all levels of perception of the GBA, however, these differences were trivial.



## DISCUSSION

- Preliminary findings indicate that age does have a negative relationship with extraversion and cognition.
- These relationships are consistent with the literature on self-report measures and are consistent with natural varying individual differences.
- There was no significant relationship between age and perceptions of face validity, predictive validity, and fairness, which suggests that older participants do not perceive GBAs more or less fair or valid than younger candidates.
- Video game experience was also found to show no relationship with performance within the GBA, nor perceptions of how fair and valid the tool is.
- Differences in perceptions of GBAs differ between the UK and Greece, however, these effects were small.

## CONCLUSION

- Although it has been feared that older candidates may feel less comfortable completing a GBA, their perception of the assessment is not related to their age.
- Construct differences associated with age correspond with the wider literature.
- Video game experience does not impact candidates performance or perceptions of the GBA.
- **It is concluded that GBAs are an equal as suitable assessment method for candidates across a range of age groups and cultures.**

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