Game on or game over? Exploring fairness perceptions of games in selection contexts and its impact on organizational attractiveness

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Abstract

A novel way of testing applicants' abilities in selection procedures is by using game-based assessments. The reason why some organizations opt for GBAs, instead of traditional assessment methods, is due to the reduced risk of faking and because applicants tend to react positively to them. Just like with any other selection method, applicants' reactions to GBAs are influenced by justice perceptions. Building on the organizational justice framework and signaling theory, this study explored the consequence of participant reactions. It was expected that applicants' perceptions of perceived fairness could positively influence organizational attractiveness. However, there is a gap in the literature about how individual differences impact perceptions of fairness when GBA is used. There are concerns that males have an advantage in GBAs, therefore possibly rating the selection method as fairer than females. Moreover, the potential influence of gender on the relationship between perceived fairness and organizational attractiveness remains largely unexplored, which is why this study explored this possible moderating variable. A cross-sectional study was performed, in which applicants completed a one-level demo of a GBA. Afterward, their attitudes about the GBA were measured. The findings indicated that applicants' perceived fairness perceptions positively influence organizational attractiveness perceptions. However, the results did not support a significant moderating role of gender. Implications for practice and theory are discussed.

Keywords: Game-based assessment; perceived fairness; organizational attractiveness

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Selection and recruitment processes have rapidly changed over the past few years due, in part, to the influence of technology. Whereas traditional selection procedures such as interviews are widely recognized and used (Nikolaou et al., 2019), implementing games during the selection is a novel way of testing applicants' abilities. This trend of using games and game elements in the workplace is an example of *gamification*. Gamification is defined as the use of game elements in non-game contexts (Nacke & Deterding, 2017). For instance, adding game elements like avatars or narrative and fantasy to an already existing assessment method is a type of gamification: *gamified assessment*. One can refer to gamified assessment when integrating game design elements enhances a traditional or already existing selection method (Hommel et al., 2022). Unlike a gamified assessment, a *game-based assessment* (GBA) is an entirely new game that is built to measure the wanted construct (Attalli & Arieli-Attali, 2015). In an organizational context, GBAs can be used to measure constructs such as cognitive flexibility, problem-solving styles, problem-solving abilities, and personality traits (Ellison et al., 2020).

GBAs were first introduced to training and education environments, but organizations have picked up on the hype and have introduced GBAs to their selection processes. In general, games are related to higher motivation and engagement (Armstrong et al., 2016). Furthermore, GBAs themselves are reported to have a higher construct validity and efficiency, and fewer opportunities to fake during the assessment (Coovert et al., 2020). However, designing said games for assessment purposes is an expensive and time-consuming process (Landers & Marin, 2021), which is why it is necessary for organizations to better understand how applicants respond to it, so they know the assessment is worth the investment, as well as design the GBA in a way that promotes positive applicant reactions.

Even though game-based assessment is already being used in selection processes, studies are still examining this novel type of selection method. One of the areas that research focuses on is applicant reactions to game-based assessment. Past research has shown that applicant reactions to selection procedures are directly linked to the intention to recommend the organization to others (Gkorezis et al., 2021), job-acceptance rate, and the applicant's perception of the organization (Hausknecht et al., 2004). Organizational attractiveness is another outcome that is influenced by the applicant's reaction to an assessment in the selection process (Nikolaou et al., 2019). Organizational attractiveness can be defined as the perceptions about the appeal or image that a company or organization maintains (Hausknecht et al., 2004).

This study reviews the literature on applicant reactions and draws from Gilliland's (1993) organizational justice framework and Spence's (1973) signaling theory, to describe the impact of fairness perceptions of GBA on organizational attractiveness. It is important to examine applicant reactions in selection procedures for various reasons; first, it is well established that there are costs linked to losing top candidates during the selection process (Smither et al., 1993), which can be caused by negative reactions to selection experiences. Second, applicants may be less likely to accept a job offer if they experience the selection procedure unfavorably (Macan et al., 1994). Third, word-of-mouth has been shown to influence individual job searches and organizational pre-hire and post-hire outcomes (Van Hoye, 2014). With the spread of information on online platforms, sharing your experience as an applicant with a broad network is easier. In sum, it is beneficial for organizations to maintain a positive image during the selection process. Therefore, it is necessary to investigate the effect of GBA on applicant reactions.

The primary goal of this study is to contribute to the findings on the relationship between applicant reactions to GBA and its influence on organizational attractiveness. To be more specific, this study seeks to address how perceived fairness perceptions influence applicant organizational attractiveness perceptions. Although organizational attractiveness appears to experience the most growth in GBA studies (Ramos et al., 2022), less is known about the individual differences that weaken on strengthen the relationship between the perceived fairness of a GBA and organizational attractiveness. That is why, the second goal of this study is to investigate the role of one specific individual difference, gender, on the relationship between perceived fairness perceptions and organizational attractiveness.

Theoretical frameworks

Organizational justice framework

The Organizational Justice Framework (Gilliland, 1993) explains how employment selection systems influence the perceptions of organizational justice of applicants, which can ultimately result in different pre-hire and post-hire outcomes. In other words, the framework describes when an assessment method is positively perceived by applicants and when it is not, and the consequence of this. The framework consists of certain rules that each influence the overall fairness perception of an applicant. In the framework, a distinction is made between procedural and distributive justice rules, with procedural justice rules directly influencing the overall fairness of the selection process, while distributive justice rules affect the overall fairness of the selection outcome. Procedural justice is thus studied more regarding applicant reactions because their reactions are based on experiences throughout the selection procedure and not the outcome.

The model consists of three procedural justice categories with 10 rules in total: explanation (feedback, selection information, and honesty), formal characteristics (job relatedness, opportunity to perform, reconsideration opportunity, and consistency), and

interpersonal treatment (interpersonal effectiveness, two-way communication, and propriety of questions). If these ten rules are satisfied, the level of perceived fairness will be high, and if these rules are violated, the level of perceived fairness will be lower. For example, if an applicant believes the selection method to measure content relevant to the job situation (job-relatedness), this results in a higher perceived fairness of the selection method. In addition to Gilliland's framework, Steiner and Gilliland (1996) added that the proportion of usage also influences the acceptability of an assessment method. Applicants are more likely to accept an assessment method if it is widely used, suggesting that people assume that a widely used technique must be valid.

Gilliland (1993) does not only explain how the overall perception of perceived fairness is formed but he also explains the consequences of the fairness perceptions of a selection method. Different individual and organizational outcomes are influenced by the perceived fairness of a selection method. Outcomes such as job performance, job pursuit decisions, job satisfaction, and organizational attractiveness are related to the perceived fairness of selection processes (Smither et al., 1993). For instance, high perceived fairness perceptions are related to higher job satisfaction and organizational attractiveness (Gilliland, 1993). However, if participants do not perceive the selection process as fair, a response may devalue the organization, thus decreasing the applicant's perceived organizational attractiveness (Gilliland, 1993).

The organizational justice framework (Gilliland, 1993) was designed before game-based assessment was created; but the framework can also be applied to these kinds of novel technology. For instance, online assessments like GBAs enable an organization to provide instant feedback (Nikolaou et al., 2019), which influences the feedback rule of the organizational justice framework, thus also the perceived fairness of the assessment (Georgiou & Nikolaou, 2020). However, online assessments like GBA may eliminate

personal contact between the applicant and the selector, which could impact the interpersonal treatment category of the framework.

Although GBA is viewed as a more favorable assessment method than traditional assessments in general (Al-Qallawi & Raghavan, 2021), some applicants react negatively to this novel assessment method. They may perceive game-based assessment as less face-valid than traditional assessment methods or they respond negatively to technical issues such as mobile application glitches and crashes (Al-Qallawi & Raghavan, 2021). Furthermore, when participants are convinced the game-based assessment does not relate to the job-related context, they perceive the assessment as less fair (Georgiou & Lievens, 2022). These findings indicate that if the procedural justice rules are contemplated by the organization, it could result in positive outcomes, whereas if the rules are not contemplated, applicants may respond negatively to the assessment.

Signaling Theory

As mentioned above, organizational attractiveness is one outcome influenced by applicant reactions. The signaling theory (Spence, 1973) provides an explanation for why a reaction to an assessment method can result in a positive or negative view of an organization. As the theory states, individuals form perceptions of organizations based on the signals they receive during selection procedures. Applicants perceive observable characteristics during the selection process and in turn form perceptions based on these signals about the overall values, practices, and overall treatment of the employees of an organization (Georgiou & Lievens, 2022).

In the context of game-based assessment, previous studies (Gkorezis et al., 2021; Georgiou & Lievens, 2022) have shown that gamification in the selection process sends positive signals to applicants, therefore enhancing organizational attractiveness perceptions of applicants. More specifically, Georgiou and Lievens (2022) provided support that

gamification sent signals of enjoyment and flow to the applicant, which resulted in the applicant perceiving the organization as more innovative and competent, therefore more attractive. The same could apply to fairness perceptions. When applicants perceive the GBA as fair, it may send positive signals about the organization's commitment to ethical and fair practices. This, in turn, could enhance the organization's reputation and attractiveness to potential employees. In sum, if a GBA is perceived as fair, an applicant can form the belief that the organization is fair in general, which increases the organizational attractiveness.

Based on the review of the organizational justice framework (Gilliland, 1993) and the signaling theory (Spence, 1973), the following hypothesis is proposed:

H1: *The perceived fairness of a game-based assessment positively influences the applicant's perception of organizational attractiveness.*

Influence of gender

Multiple studies have examined the link between individual differences and applicant perceptions of GBA (Ellison et al., 2020; Buil et al., 2020; Georgiou and Nikolaou., 2020; Gkorezis et al., 2021; Melchers & Basch, 2022). One characteristic that has been examined in applicant reaction, is the influence of one's gender. Over the last decades, a stereotype for males has arisen, where males are more strongly associated with gaming than females (Paaßen et al., 2017). Past research has shown that males tend to be more interested in digital games and spend more time playing them as well (Lucas & Sherry, 2004; Veltri et al., 2014). However, more recent studies suggest that the gap between male and female gaming behavior is reducing (Paaßen et al., 2017), with Entertainment Software Association (2022) stating in their annual report that 48% of American game players are female. Even though this gap is reducing, Leonhardt and Overå (2021) found that girls still feel less encouraged than boys to play video games due to different gender-related experiences of video gaming.

This shows that there is a complicated relationship between gender and gaming. Therefore, studying gender concerning game-based assessment and applicant reactions has also been a topic of research (Ramos et al., 2022). Hausknecht et al. (2004) found no gender differences in applicants' general attitudes and reactions to assessments. On the contrary, Ellison et al. (2020) found gender differences in procedural fairness factors and overall fairness perceptions of GBAs, where males tend to have higher perceptions of fairness than females. They suggest that females may enjoy the game-based content less, or that gender stereotypes may impact their perceptions. However, as Ramos et al. (2022) suggested, the effect sizes of these findings are often so small that they may lack relevance in a real-life setting. Other research focused more on the applicants' performance. Melchers and Basch (2022) showed that male applicants tend to perform better than females in a computer-based simulation game, but they did not investigate the applicants' reactions to the GBA.

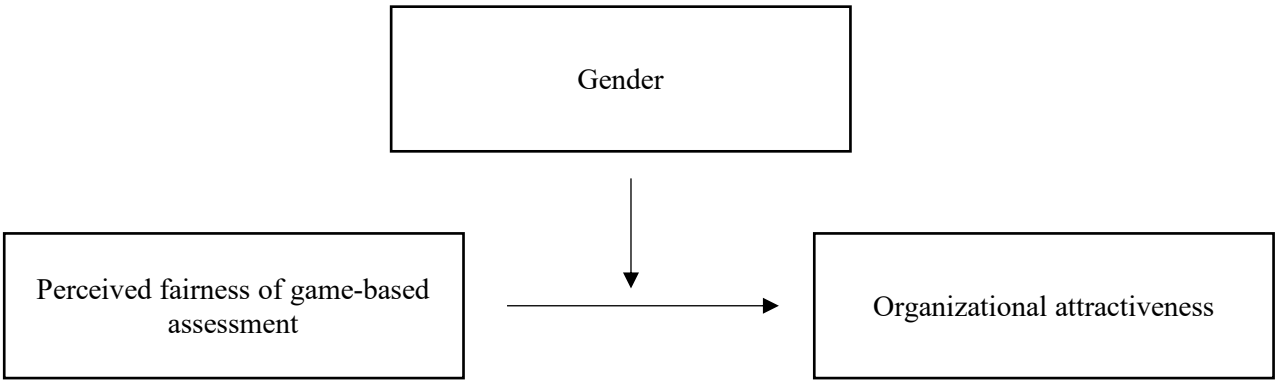
Additionally, the perceptions that applicants form of an organization are based on the similarity (or difference) between their personality traits and values, and the traits and values of the organization (Schneider et al., 1995). Chang et al. (2018) found that males typically spend more time gaming per day than females. In this sense, males may perceive the organization as more fitting than females because males spend more time gaming, meaning gaming is a more prominent organizational trait for males than females. Moreover, Smithers et al. (1993) suggested that affect (the degree to which the applicant enjoyed the examination) may also be related to procedural justice perceptions. Different studies suggested that competitive structures in games may be more attractive and enjoyable to males than to females (Hamlen, 2010; Wartberg et al., 2020). Therefore, if you combine this with Smither et al's. (1993) suggestion, one could argue that males could enjoy game-based assessment more than females, which leads to higher procedural justice perceptions, ultimately influencing the overall perceived fairness perceptions.

So, in addition to studying the relationship between perceived fairness and organizational attractiveness, this study also aims to examine the moderating influence of gender on applicants' perceptions of fairness of GBA, therefore possibly influencing the level of organizational attractiveness. In doing so, this study contributes to the current inconsistent findings on the effect of gender on perceptions of GBA. As such, the following second hypothesis is proposed:

H2: *Gender moderates the effect of perceived fairness of game-based assessment on organizational attractiveness, such that there is a stronger effect when applicants are male.*

From the two hypotheses, the conceptual model illustrated in Figure 1 is propped.

Figure 1
Hypothesized model



Methods

Participants

This study used a survey to measure reactions to game-based assessment. A power analysis was conducted to determine the appropriate sample size for this study using G* power version 3.1. The aim was to detect a small effect size (d = .15) with a power of 0.95 and a significance level of p=.05 with one predicting variable and three predictors in total.

Based on these parameters, the g* power analysis indicated that a sample size of 89 participants would be necessary for this study.

In total 176 participants completed the survey. 67 participants were excluded from the sample because they did not finish the survey. Furthermore, three participants were excluded from the sample because they did not finish the game-based assessment. Four more participants were excluded from the final sample due to incomplete answers on the items for the relevant variables (perceived fairness and organizational attractiveness). Lastly, two participants were excluded who tested the survey before it was published. The final sample consisted of N= 100 individuals. In the final sample 37 % identified as male, 57 % as female, 5% as other, and 1% chose not to disclose their gender. Their age ranged from 19 to 63 with a mean of 24.88 years (*sd* = 8.67). Furthermore, the highest education level was assessed in the sample (53% with high school, 2% with MBO, 9% with HBO and 36% with University) as well as the faculty of the last or current education (18% with Faculty of Economics and Business, 45% with Faculty of Behavioural and Social Sciences, 37% with other), current employment status (14% working full-time, 40% working part-time, 6% self-employed, 15% not working but looking for work, 24% not working and also not looking for work, 1% not able to work), and prior job experience (92% with prior job experience, 8% without prior job experience).

Procedure

A cross-sectional correlational study design was used, where the characteristics and reactions of the participants were recorded and analyzed in relation to each other. The participants received the questionnaire through snowball sampling and the questionnaire was shared through different forms of social media between 12 and 30 May 2023**.** All participants were assigned to the same task and questionnaires. All conditions were the same for all participants, excluding the environment in which they completed the study. There were

various additional variables being collected to address the research questions of fellow researchers. It is believed that these items have no influence on the variables of interest. They were also asked the control questions: “Did you complete the game?” and “How many characters were needed to cross the river?”. It was found that the latter was phrased poorly, so it was decided to exclude this question from our data.

A chance to win 30 euros after completion of the survey was shared as an incentive for participation. Participants received general information about the context of the study and were prompted to provide consent. First, participants completed a questionnaire that collected demographic information (age, student status, educational faculty, employment status, and job experience). Then, they received a generalized job posting for an operations analyst. After reading this, participants read a sample message from a recruiter thanking them for their time and interest in the job position. They then received instructions on how to play the game and completed the game demo. Afterward, they completed a questionnaire that measured their attitudes towards the game and organization. The opportunity to sign-up to win money was included at the end of the study.

Materials

During the questionnaire, the participants were asked to play the demo version of a game-based assessment called “The Ferry” (Equalture, 2023). The Ferry is a game designed by the company Equalture that measures problem-solving and problem-style abilities. In the game, the participant is challenged to get characters from one side of a river to the other side of the river using the ferry, while dealing with different rules. The full version of the game consists of six levels, whereas the demo version only consists of one level. To provide the participants with a hypothetical job description, Chat GPT was used to create an imaginary job offer. The survey was created on and distributed using Qualtrics. All materials were provided in English.

Measures

The items used in this study are presented in Appendix A. The variables asked on the questionnaire and used in this study are the independent variable *perceived fairness* and the dependent variable *organizational attractiveness*.

Perceived fairness

Four items were used to measure the perceived fairness construct. All items were measured on a seven-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Perceived fairness was measured using Chan et al.'s (1998) items. A sample item is: "*I feel that using the test to select applicants for the job is fair."* One item was added to the original items of Chan et al.'s (1998): "*Overall, the method of using the gaming task was fair*." The items that were used for perceived fairness in this study demonstrated good internal consistency (α = .83).

Organizational Attractiveness

Four items were used to measure the organizational attractiveness construct. Again, all items were measured on a seven-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Organizational attractiveness was measured using items from Bauer et al. (2001) and Highhouse et al. (2003). A sample item is: "*This organization would be a good place to work*." The four items that were used to measure organizational attractiveness in this study demonstrated good internal consistency (α = .85).

Data analysis

Before analysis, the data were examined for multicollinearity, outliers, linearity, and normality assumptions. Pearson's correlation coefficients were calculated to estimate the relationships between perceived fairness, organizational attractiveness, and gender. To examine the relationship between perceived fairness and organizational attractiveness, a linear regression analysis was conducted in SPSS. Perceived fairness was entered as the

predictor variable and organizational attractiveness as the criterion variable. A regression analysis was conducted with an interaction effect to detect the possible moderating effect. The mean scores of males and females were compared with independent samples t-tests for organizational attractiveness and perceived fairness.

Results

Table 1 shows means, standard deviations, and correlations between the study variables. The correlations were examined to explore the relationships between gender, perceived fairness, and organizational attractiveness. The results show a significant negative relationship between perceived fairness and gender (r = -0.167, p <.05) and a significant positive relationship between perceived fairness and organizational attractiveness (r = 0.395, p <.01). Furthermore, a non-significant correlation was found between gender and organizational attractiveness (r = -0.112, p > .05).

Table 1
Descriptive statistics and correlations

	Mean	*SD*	1	2	3
1. Gender	1.70	0.61	1	-.167*	-.112
2. Perceived fairness	4.12	1.29	-.167*	1	.395**
3. Organizational attractiveness	4.11	1.19	-.112	.395**	1

Note. *p <.05, **p <.01 Gender (1= male, 2= female)

Assumption checks

Before testing the hypotheses, assumptions were checked for linearity (figure B1), homoscedasticity (figure B2), and normality of residuals (figure B3). All the figures (see Appendix B) show that the assumptions were met. The data also met the assumption of independent errors (Durbin-Watson value = 2.07) and the assumption of independence of

observations (VIF = 1.00) as well. As all the assumptions were met, it was possible to conduct a linear regression analysis.

Hypothesis testing

Hypothesis 1 stated that the perceived fairness of GBA has a positive effect on applicant organizational attractiveness. Results of the linear regression (Table 2) demonstrated that the hypothesis was supported ($F(1, 98) = 18.10$, $p < .001$, $R^2 = .16$, $R^2_{Adjusted} = .15$). Furthermore, to test hypotheses 2, which stated that gender has a moderating effect on organizational attractiveness, such that there is a stronger effect when applicants are male, a regression model with an interaction effect was conducted. The interaction term (Table 2) was not significant ($F(2,97) = 9.10$, $p > .05$), indicating that gender did not significantly moderate the relationship between perceived fairness and organizational attractiveness.

Table 2

Regression of perceived fairness on organizational attractiveness and the moderating effect of gender

predictor	*B*	*SE B*	*β*	*p*	*t*	*95%* CI	
						L	*U*
(Constant)	2.638	0.379		<.001	6.956	1.886	3.391
Perceived fairness	0.365	0.086	0.395	<.001	4.25	0.20	0.54
Interaction (perceived fairness X gender)	-0.021	0.044	-0.053	.632	-0.48	-1.07	0.07

Note. Unstandardized regression coefficients are reported. *L* = lower limit, *U* = upper limit and CI= confidence interval.

Two independent samples t-tests were conducted to compare the means for organizational attractiveness and perceived fairness between males and females (table 3). For

organizational attractiveness, a very small difference in means was found between males and females, whereas males rated the organization as more attractive than females ($t(72.426)= 0.697$, $p > .05$). For perceived fairness, the difference in means between males and females was slightly larger than for organizational attractiveness, whereas males perceived the GBA as fairer than females ($t(65.030)= 1.731$, $p > .05$). However, the differences between the subgroups for organizational attractiveness and perceived fairness were found to be not statistically significant, which is debated in the discussion.

Table 3

Subgroup differences in organizational attractiveness and perceived fairness perceptions

DV	Male ($N = 37$)		Female ($N = 57$)		*Cohens d*
	M	*(SD)*	*M*	*(SD)*	
Organizational attractiveness	4.22	(1.24)	4.06	(1.14)	0.15
Perceived fairness	4.42	(1.46)	3.92	(1.17)	0.38

Note. Organizational attractiveness and perceived fairness were both measured on a 7-point scale; *$p < 0.05$; **$p < 0.01$.

Discussion

Building on the organizational justice framework (Gilliland, 1993) and the signaling theory (Spence, 1973), this study aimed to examine applicant reactions to GBA in a selection context. More specifically, this study measured applicant perceived fairness perceptions and their influence on organizational attractiveness. In line with previous research on applicant reactions to GBA (Gkorezis et al., 2021; Georgiou & Nikolaou, 2020), perceived fairness was expected to positively influence organizational attractiveness. Moreover, the moderating role of gender was also explored, since there are mixed findings on the relationship between gender and applicant reactions (Ellison et al., 2020; Melcher & Basch., 2022; Georgiou & Nikolaou, 2020). Based on gender differences in gaming behavior (Paaßen et al., 2017;

Leonhardt & Overå, 2021; Veltri et al., 2014), it was argued that affect relates to procedural justice perceptions (Smithers et al., 1993) and previous findings (Ellison et al., 2020), it was expected that males would perceive GBA as fairer than females, therefore resulting in a stronger relationship between perceived fairness and organizational attractiveness.

Results of the current study supported hypothesis 1, which is in line with other studies on this topic (Gkorezis et al., 2021; Georgiou & Nikolaou, 2020). For instance, Georgiou and Nikolaou (2020) found that introducing GBA to a selection context results in higher perceived fairness perception which leads to positive outcomes, and in the same way we found that perceived fairness reactions to GBA positively affect organizational attractiveness. In addition to examining the effects of fairness perceptions of GBA on organizational attractiveness, this study proposed that gender would play a moderating role in this relationship. The results, however, did not support hypothesis 2, due to a non-significant interaction effect. Contrary to what Ellison et al. (2020) found, which was that males had significantly higher fairness perceptions of gamified assessments, the results of this study showed no significant gender differences in overall perceptions of fairness of GBA. These results are in line with findings suggesting no gender differences in perceptions and reactions toward selection assessments (Hausknecht et al., 2004). However, a difference in mean was still detected for perceived fairness perceptions with a moderate effect size, with males slightly rating the GBA as fairer than females, but it was lacking statistical significance. It is still worth noting this difference in mean, although non-significant, because the small sample size of this study made it hard to detect a significant moderating effect and significant mean differences.

Practical implications

The findings of this study have important practical implications for organizations, highlighting the direct effect applicant reactions to GBA has on an organizational outcome.

First, our results showed that perceived fairness perceptions directly affect organizational attractiveness. If companies that use GBAs want to ensure positive organizational attractiveness perceptions, they should adhere to Gilliland's Organizational Justice Framework rules (1993). For instance, applicants may perceive the GBA as less fair when they are convinced the game does not measure their skills or abilities related to the job (Georgiou & Lievens, 2022). As such, it is beneficial to use GBAs that reflect job-related content. Furthermore, organizations may also consider communicating to applicants how the game aligns with the job because this is often unclear to applicants (Al-Qallawi & Raghavan, 2021). Another element that could be considered by organizations, is adding feedback and transparency to the GBA. Negative reactions from applicants can be reduced by transparent communication about the purpose and the relevance of game-based assessment, as well as by providing instant feedback (Nikolaou et al., 2019).

Secondly, even though this study did not find a significant moderating role of gender on perceived fairness and organizational attractiveness, it did however show (non-significant) differences in fairness perceptions of males and females. That is why, combined with the findings of previous studies that males perceive gamified assessments as fairer than females (Ellison et al., 2020), which could possibly lead to better performances for males in GBAs (Melchers & Basch, 2022), organizations should strive for the use of GBAs that are perceived equally fair by males and females. In line with Ellison et al.'s (2022) suggestion, organizations could integrate game elements that are favorable for each gender and exclude game elements that are significantly favored by one gender. As Veltri et al. (2014) revealed, males tend to prefer action and simulation games, whereas females tend to prefer logic and skill training games, as well as stereotypical female activities, such as dress-up. However, a similarity occurs in gaming behavior as well, with both males and females enjoying building objects and working on virtual properties (Veltri et al., 2014). In sum, based on these gender

differences and similarities in gaming preferences, organizations could exclude elements in GBAs that are highly favored by one gender, and instead add elements that are positively perceived by both genders, which could possibly result in equal fairness perceptions by males and females.

Limitations and future research

Although this study makes an important contribution to research on applicant reactions to game-based assessment, the study is not without limitations. Participants were asked to imagine applying for the job that was mentioned in the survey. Therefore, because the study was not conducted in a real-life situation, it could limit the generalizability of the findings. However, most of the other studies on this topic (Ellison et al., 2020; Georgiou & Lievens, 2022; Georgiou & Nikolaou, 2020; Gkorezis et al., 2021) use the same type of hypothetical selection procedure in their study design, which shows that it is difficult to examine applicant reactions in a real-life selection context. Second, as Anderson et al. (2010) suggested, perceived fairness perceptions could be culturally influenced, which could not be examined in this study because the sample was not diverse enough. Additional research should examine individual differences in applicant reactions to expand upon the current mixed findings on the influence of culture (Balcerak & Wozniak, 2021; Gkorezis et al., 2021). Furthermore, this study used a cross-sectional study design to test our hypotheses. This type of study design still has some difficulty finding causal relationships between variables of interest, as Spector (2019) suggested. Because this study had to be conducted in a certain time frame, a longitudinal research design was not possible to conduct, but future research could examine applicant reactions in a longitudinal study design to enhance testing causality, as well as investigate behavioral outcomes, such as job performance. Lastly, the limitation of the size of the sample was most evident when examining the moderating variable, as small sample sizes could result in insufficient statistical power to detect significant interactions,

thus hindering the understanding of contextual influences on the relationship of interest. Additionally, a small sample size compromises the ability to detect significant differences in means between subgroups, in this case, males and females. Future research would benefit from a bigger sample size, so the moderating role of gender could be examined with a higher detecting power, which could lead to a more conclusive result.

Conclusion

In conclusion, these results highlight the importance of perceived fairness perceptions in game-based assessments and their impact on organizational attractiveness. Organizations should prioritize fairness in their assessment procedures to enhance their overall attractiveness to potential candidates and foster a positive organizational image. Although this study did not provide significant evidence for the moderating role of gender, organizations, in general, should aim to provide assessments where the influence of gender plays a minimal role in fairness perceptions.

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Appendix A

Items used in the current study

Perceived fairness	• I feel that using the test to select applicants for the job is fair. • The use of the test would allow screening every applicant fairly and giving them the same opportunity to compete for the job. • Using the test would cut down on favoritism that can sometimes be a problem when applicants are selected for jobs. • Overall, the method of using the gaming task was fair.
Organizational attractiveness	• This organization would be a good place to work. • A job at this company is very appealing to me. • I am interested in learning more about this company as a place for employment. • I would recommend this company to a friend looking for a job.

Appendix B

Figure B1

Linearity assumption check

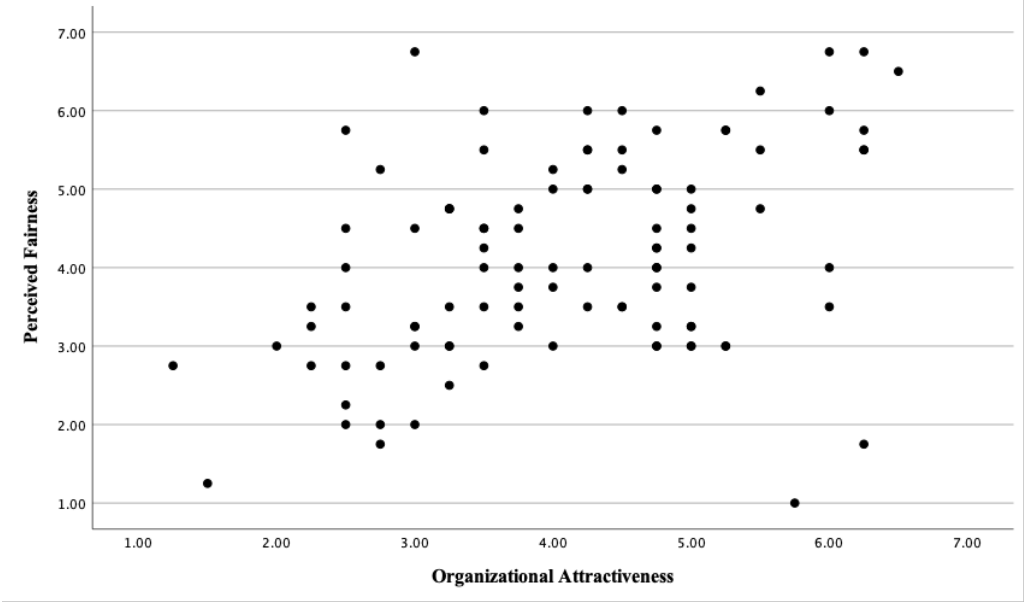

Figure B2

Homoscedasticity assumption check

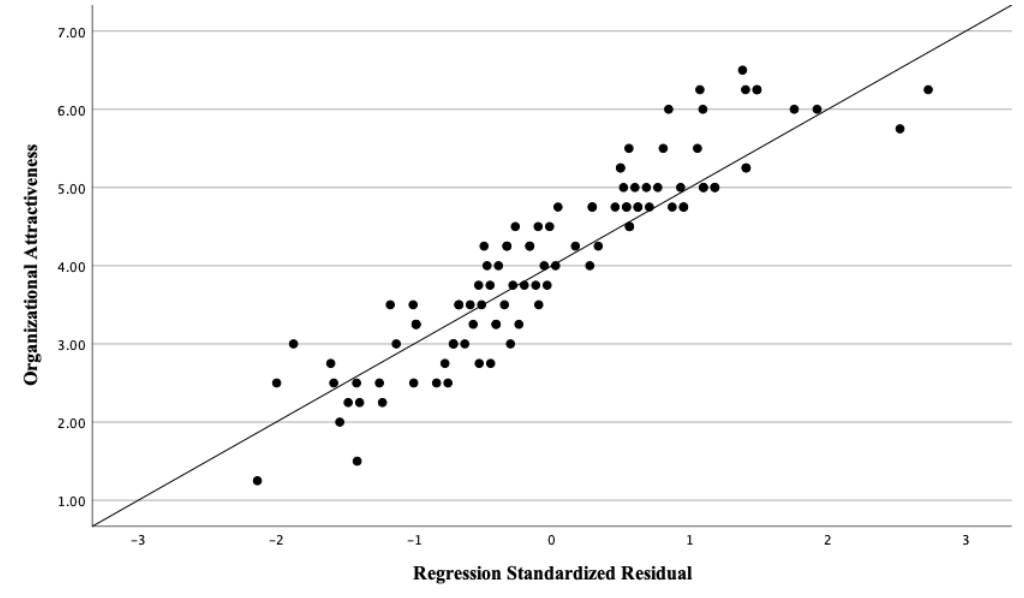

Figure B3

Normality of residuals assumption check