

Applicants' Attitudes Towards Gamified Recruitment

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PSB3E-BT15: Bachelor Thesis

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Month 07, 2022

Abstract

Recruitment is an essential part of any organization that seeks to find and employ candidates that can bring the most value to said organization. For a long time, the recruitment process has remained unchanged, relying mostly on the classical interview. As technological advancements continue, new recruitment tools have been developed and implemented. One such tool is gamified recruitment, a product of gamification. Gamification is the use of elements present in games (e.g., scores, leaderboards, badges) in non-gaming contexts. This study aims to investigate the relationship between applicants' attitudes towards the gamified recruitment tool, and their intentions to complete the recruitment process and willingness to recommend the organization to others using a model based on equity theory. We asked participants ($N = 207$) to imagine themselves as an applicant at an organization that used gamified recruitment. After completing the designated level of the game, participants were asked to complete a questionnaire regarding their attitudes towards the tool. The findings indicate that there is a significant relationship between perceived fairness, motivation to continue the recruitment process, and willingness to recommend the organization to others. In conclusion, the study adds to the existing literature, highlighting the relationship between applicants' attitudes and subsequent intentions regarding the organization, offering some practical implications for organizations willing to gain a competitive advantage.

Keywords: gamification, gamified recruitment, attitudes, perceived fairness

Attitudes Toward Gamified Recruitment

It is well established that a company is only as good as their employees, and the competition between the companies to recruit the best employees calls for any advantage possible (Cable & Turban, 2001). Thus, it is important for a company to invest time and resources into the recruitment process, where they can manage all their potential employees, as recruitment is an instrument that connects the labor market with organizations (Marsden, 1994). In recent history, the most important part of employee selection has been the interview (Newell & Shackleton, 1994), and has remained so to this day. Despite the traditional interview's dominance, with the continuous technological advances, and the increasingly prevalent use of computers and the Internet, new forms of recruitment have become possible, such as social or online recruitment (Buil et al., 2020). A more novel approach, that was not possible hitherto, could make use of computers, video games, aspects of social media, and possibly online recruitment. Such an approach is becoming more popular and is called gamified recruitment.

Gamified recruitment is a product of gamification, the process of adding elements that would normally be found in a gaming context (such as badges, points, challenges, etc.) to a non-gaming situation (Deterding et al., 2011). Its main purpose is to elicit some kind of behavior from its participants (Werbach & Hunter, 2012). In recruitment, this behavior would be indicative of their predicted performance in the position that they applied for.

Many organizations have used serious games in their recruitment processes (Buil et al., 2020). Serious games are a tool often used for recruitment and are regarded as any game with an outcome other than entertainment (Bogost, 2007). Previous research has made the distinction between serious games and gamification, where gamification is believed to have an impact on final outcomes through behavior that is manipulated by modifying the applicant's attitudes and

motivations, whilst serious games influence them in a direct manner (Landers, 2015). Although this distinction is argued, much of the literature uses the terms interchangeably, as they have similar goals (Richter et al., 2015).

Gamified recruitment is based on serious games, with the intention to test the potential candidate's abilities. As their skills are tested in real-time, cheating and faking might be reduced (Armstrong et al., 2015), whilst also allowing the candidate to display the skills required for the position with potentially reduced anxiety (Kato & de Klerk, 2017). This also allows the candidate to see what the job they are applying for entails, deterring applicants that are not fit for the job.

Person-job fit is crucial for job satisfaction, which tends to correlate with well-being, adjustment, and the satisfaction that the employees report (Kristof-Brown et al., 2005). Person-organization fit is also important, as those with a better fit are more likely to accept a job during the recruitment process, eliminating the need to assess more candidates after a suitable one has been found, and thus cutting unnecessary costs (Collmus et al., 2016).

Applicants' attitudes and reactions are very important to an organization, as they offer insight into the effect and the reach of the recruitment process, but also offer information regarding organizational attractiveness (Gkorezis et al., 2021). This ultimately influences the types of candidates that the organization will receive. Applicants' negative reactions to the recruitment activity might also convince others not to engage with the organization (Smither et al., 1993). Taking into consideration the importance of recruitment for organizations, the current study aims to investigate the relationship between perceived fairness, motivation to continue the recruitment process, and applicants' willingness to recommend the employer to other people.

Theoretical Framework

Perceived Fairness

Perceived fairness refers to the extent to which the candidate perceives the current assessment as fair. Organizational justice theory sees the employee, in this case the applicant, as an individual that expects to be treated fairly by the organization (Greenberg, 1990). Gilliland (1994) has found a relationship between perceived fairness and self-efficacy, stating that the more fair the recruitment process is perceived, the more applicants' self-efficacy increases. This has important implications, as Gist and Mitchell (1992) have provided support for a link between self-efficacy and work performance, an important indicator for organizations. Furthermore, perceived fairness is the primary measure of the presence of equity, suggesting whether or not the dissonance is felt by the individual. Previous research has also established a link between attitudes and perceived fairness (Langer et al., 2018), deepening our understanding of the manner in which the recruitment tool is regarded based on fairness. In this study, we will focus on procedural justice, which centers around the fairness of the procedure.

Motivation

Motivation is the main driving force in human behavior, and it influences how much time one chooses to engage in a certain activity (Stipek, 1993). Motivation is an indicator of the amount of effort an applicant might invest in the recruitment process (De Cooman, 2013), which in turn could offer insight into how willing the candidate is to finish the recruitment process. Decreased motivation might also be indicative of a decreased sense of justice (Robertson & Kandola, 1982), which is related to the way applicants perceive an organization. This particular paper aims to investigate intrinsic motivation, which is the motivation to complete actions for the sake of completing them (Deci, 1975). As it is independent of any external incentives, intrinsic

motivation best reflects the candidate's desire to continue the process, thus being most representative of one's attitudes towards engaging with the recruitment tool.

Willingness to recommend the employer

Willingness to recommend the employer to others gives insight into the candidate's attitudes towards the organization, which might indicate how well the person fits within the organization. It is also related to the image that the organization tries to convey (Van Hoyer, 2008). Previous research has established that when an individual perceives the recruitment process as fair, they are more likely to recommend the organization to others, even when rejected (Gilliland, 1994). A link between the applicants' intention to recommend the organization to others and their attitudes towards the recruitment tool was also established in the literature (Ryan & Ployhart, 2000), with more positive attitudes leading to greater intention to recommend the organization to others. As organizations are looking to employ the most suitable candidate, attitudes towards the tool and even recommendations from others might be the determining factor in being able to secure new talent.

Relevant Theory

According to equity theory, people perceive equitability based on a ratio of inputs and outputs that is compared to others (Muchinsky & Culbertson, 2015). In the recruitment context, the input could be considered as all the work, commitment, and effort that the applicant has put into the application process, whereas the output would be the outcome of getting selected to continue the recruitment process or being offered a job. In this case one could compare it to what they believe others are investing in this process, or know that they have invested in previous recruitment contexts, expecting a similar result. In a paper by Adams and Jacobsen (1963), the manner in which such inequity would affect the individual is discussed, diminished work

productivity and work quality being byproducts of the absence of equity. As applicants might expect to get the position they are applying for, not getting the job could already be perceived as inequity (Gilliand, 1994). Thus, equity theory provides an outlook on perceived fairness and how it affects the individual's decision-making.

Proposed Model and Hypotheses

The proposed model (Figure 1) aims to observe the relationship between applicants' attitudes towards the process, mainly perceived fairness, motivation to continue the recruitment process, and willingness to recommend the organization to others.

Equity theory suggests that psychological balance is maintained when the individual perceives a sense of equity in the workplace, otherwise, a sense of dissonance is felt by the individual (Adams, 1965). The current paper argues that when the applicant does not perceive the gamified recruitment as fair, the applicant cannot perceive his inputs as being valued. For example, a project manager being tested on artistic skills senses an imbalance between input and output, as the same effort from them and an artist would produce different outputs, the artist having the ability to perform better. The dissonance created is going to influence the applicant's motivation to continue, as they will cease to continue applying effort in this process, and in turn, will have a more negative perception of the organization. To compensate for the unjust process that they believe they have experienced, they will try to bring some sense of justice by trying to deter potential candidates from the organization, by refraining from recommending it to others. In accordance with the presented arguments, we propose the following hypotheses:

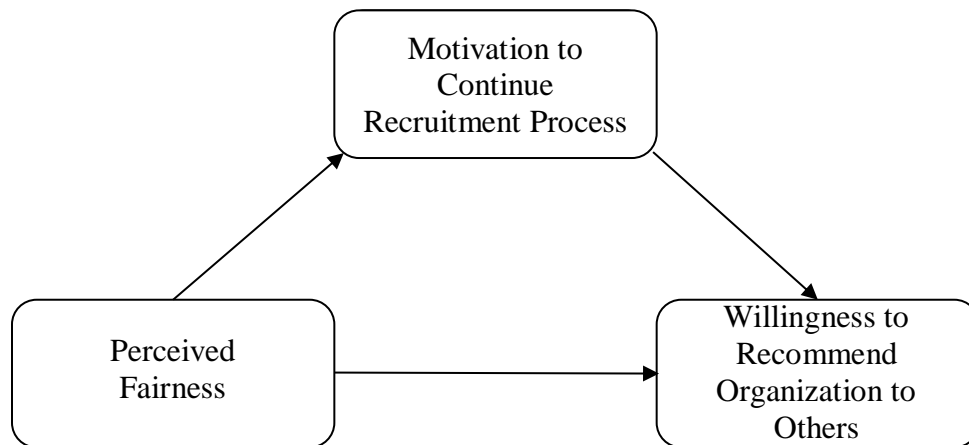
Hypothesis 1. Perceived fairness is positively related to motivation to continue.

Hypothesis 2. Motivation to continue is positively related to willingness to recommend to others.

Hypothesis 3. Perceived fairness is positively related to willingness to recommend to others.

Figure 1

Proposed model



Although previous literature has looked at applicants' attitudes towards gamified recruitment (Buil et al., 2020), to our knowledge this is the first paper to use equity theory to explain the attitudes generated by gamified recruitment, with the aim of answering the research question: Does perceived fairness of gamified recruitment influence the applicant's attitudes towards the organization?

Method

Participants

The total number of participants that took part in this study is 140 (71 males, 68 females, one other, $M_{age} = 29.63$, $SD = 9.24$), after having excluded 67 participants due to different criteria. The nationalities of the participants were 35% from Lithuania, 34.3% from the Netherlands, 21% from Germany, and 9.7% from various other countries. Out of all the participants, 45% had a high school diploma, and 55% had at least an Associate's Degree as their

highest completed educational level. An a priori power analysis based on a linear multiple regression test indicated that 77 participants were needed to reach a small effect size ($f^2 = 0.15$) and power of .80%.

Procedure

Prior to any data gathering, the study was approved by the Ethics Committee of the University of Groningen. Participants received an invitation to engage in a simulated gamified recruitment process. By accessing the provided link, participants accessed the questionnaire which first described the purpose of the study, and what their participation implied. Once informed consent was provided, participants were asked to provide some demographic information, such as age, gender, and nationality, but also information about English proficiency, employment history, and education level.

Participants were then asked to imagine a situation in which they are applying for a job at a company that utilizes games as part of their recruitment process. After the description of the position that the participants were applying for was presented, a link to the game was provided. The game used is called The Ferry (Equulture, 2022). It aims to cognitively assess the logical and reasoning skills of the test taker. To play, the participants must manipulate characters on the screen with a set of rules, with the goal of getting all the characters across the depicted river using a ferry.

After the completion of the games, participants were asked to further complete the questionnaire, answering questions related to their attitudes towards the imagined recruitment process. The games had an approximate completion time of five minutes, and answering the questions had a duration of around five to ten minutes, thus the whole study was conducted in an estimated ten to 15 minutes.

The participants were invited through personal networks, a post on several social media platforms (Facebook, Instagram, Whatsapp, and LinkedIn), and through the distribution of participation invitations on the university campus. Participants were incentivized to participate through monetary means, each participant's completion leading to a €1 donation to UNICEF.

The study participation was voluntary and all the necessary precautions were taken to ensure data anonymity and confidentiality. As the current study is a simulation, participants did not have any relationship with the imagined company, thus decreasing the potential dishonest answers. However, as there was no incentive to perform as there is in a real setting, participants could be less motivated to actively engage in its completion.

Measures

A survey questionnaire from previous literature was compiled to measure the variables (see Appendix). A seven-point Likert-type scale was chosen, where agreement was measured on a scale from one (totally disagree) to seven (totally agree).

Perceived fairness and willingness to recommend were determined using items created by Langer et al. (2018). Examples of these items include; 'All things considered this selection procedure was fair.', and 'I would recommend this company to friends.'. Previous research confirmed the reliability of these variables, willingness to recommend having a Cronbach's $\alpha \geq .69$, while perceived fairness had Cronbach's $\alpha = .89$. Motivation was measured following the paper by Buil et al. (2020), an example of this item being: 'I think the business simulation competition is interesting'. A Cronbach's $\alpha \geq .69$ was also found for motivation to continue.

The questionnaire contains 8 questions for the three variables discussed in the model previously described. It is to be noted that these questions are part of a larger study that included 11 variables as part of a Bachelor thesis.

Results

Descriptive Statistics

With a total of 207 participants, 67 were removed from the data set, as 54 did not complete the full survey, two participants completed the preview version meant for the researchers, five participants were excluded based on the exclusion criteria (having a completed education level equivalent to less than a high school diploma), and six more were removed due to having completed the survey in an amount of time below the threshold (less than 3 minutes) of possible completion time.

The analysis began with calculating the reliability of the measurement items, resulting in a Cronbach's alpha of $\alpha = 0.744$.

A Shapiro-Wilk Test was performed to check for normality assumption, and with a Shapiro-Wilk value of .981, $p < .001$, the assumption of normality was violated. The possible explanation for this result is the use of a convenience sample, choosing participants that were more likely to have positive attitudes toward gamified recruitment. Another such explanation lies in the fact that self-report measures were used, and participants may have chosen to select the most socially desirable answers. Thus, the violation of normality in the data may indicate either misleading findings due to the dishonest answers, or the fact that the investigated population is prone to more positive answers regarding their attitudes towards gamified recruitment. To check for multicollinearity, a collinearity diagnostic test was performed, with a value of $VIF = 1.34$, suggesting multicollinearity is not a concern.

Hypothesis Testing

Firstly, the correlation between the study variables was investigated (Table 1). The first hypothesis stating that perceived fairness is positively related to motivation to continue was

confirmed, as perceived fairness was positively correlated with motivation to continue $r(138) = .50, p < .001$. The second hypothesis, motivation to continue is positively related to willingness to recommend to others, was also supported, with a correlation of $r(138) = .47, p < .001$. With a correlation coefficient of $r(138) = .49, p < .001$, perceived fairness and willingness to recommend were positively correlated, providing support for the third hypothesis, which states that perceived fairness and willingness to recommend to others are positively related.

Table 1

Descriptive Statistics and Correlations for Study Variables

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. Perceived fairness	140	4.81	1.29	—		
2. Motivation to continue recruitment process	140	5.52	1.31	.50	—	
3. Willingness to recommend organization to others	140	4.85	1.33	.49	.47	—

Linear regression was carried out between the willingness to recommend to others and perceived fairness variables, with an effect size of $F(1, 138) = 44.986, p < .001$, whilst explaining 24.6% of the variance with an $R^2 = 0.246$. The same analysis was performed between willingness to recommend and motivation to continue, explaining 22.6% of the variance with an $R^2 = 0.226$, with an effect of $F(1, 138) = 40.259, p < .001$.

To explore the explanatory power of the perceived fairness and motivation to continue as predictors, a multiple linear regression was conducted for the variable willingness to recommend. An effect size of $F(1, 138) = 44.986, p < .001$, and explained variance of $R^2 = 0.313$ were

found. These results suggest that not only are the aforementioned hypotheses supported, but the variables responsible for attitudes, such as perceived fairness, are able to predict applicants' intentions, such as the motivation to continue and willingness to recommend to others.

Discussion

Using simulated gamified recruitment, we assessed the applicants' attitudes towards the process, focusing on the way in which perceived fairness of the process affects the applicant's motivation to continue, and in turn affects the willingness to recommend to others. We hypothesized that perceived fairness would be positively correlated with motivation to continue and willingness to recommend to others, and that motivation to continue would also be positively correlated to willingness to recommend to others.

The hypotheses were confirmed, as the results suggested a moderate to large effect for perceived fairness and willingness to recommend to others, and motivation to continue and willingness to recommend to others. A large effect was found for perceived fairness and motivation to continue. In accordance with previous findings by Buil et al. (2020), attitudes directed towards the gamified recruitment tool are significantly related to the applicants' intention to recommend it to other candidates. Thus, the manner in which the recruitment tool is perceived affects the applicants' intentions regarding the organization.

Additionally, in line with previous literature on equity theory, which sees equity as a balance between all the effort, time, skill, and commitment the applicant has invested (input) and the outcome of the recruitment process (output) (Muchinsky & Culbertson, 2015). Congruent with Adams' (1965) reasoning for equity theory, perceived fairness, in this case indicating the absence of the dissonance one would experience if the process was not equitable, was positively

correlated with the intention to pursue the rest of the recruitment process, and positively correlated with willingness to recommend the organization to others.

Theoretical and Practical Implications

The current study adds to the existing body of literature, providing a link between the applicant's perceived fairness of the recruitment tool and subsequent intentions that affect the organization's ability to attract and recruit potential employees. This further supports the findings of previous research that investigated the manner in which negative attitudes towards recruitment could reflect in the applicants' willingness to engage with the organization (Smither et al., 1993). In the aforementioned study by Smither et al. (1993), an experimental design allowed the researchers to find evidence suggesting that elements of recruitment, such as face validity or perceived predictive validity, and subjective measures of the recruitment tool, indicate how fair the participants find the process. In turn, such attitudes towards the recruitment tool were further related to the intention to recommend the organization to others, which is in line with the current findings.

As far as practical implications are concerned, organizations could focus on trying to make the recruitment process be perceived as fair, to try and maximize motivation to continue the recruitment process, despite the results being only correlational rather than causal. One such way of achieving the desired perceived fairness is to address face validity, which aims to determine if the applicants find the process to measure what they believe needs to be measured. For example, if a game were to be designed for the purpose of recruiting programmers, the applicants would need to perceive the tool as testing relevant skills, such as problem-solving or logical reasoning. This is in line with previous research that suggests that job-related simulations are perceived as more fair than other tests (Robertson & Kandola, 1982; Rynes et al., 1980). To

maintain a competitive advantage, organizations may implement any feedback that indicates positive attitudes towards the recruitment tool.

Limitations and Future Directions

One limitation of this study is the fact that a convenience sample was used, rather than a random sample, which might, in turn, affect the results, as the network from which the participants were chosen might have different perceptions of gamified recruitment. To be more precise, as most of the applicants had completed higher education or were educated more recently, the use and implementation of technology in various areas such as the workplace could be more familiar, as they might be using such tools in their current job or education. Thus, leading to more positive views on the use of technology, and subsequently on novel implementations such as gamified recruitment. In contrast, the fact that the recruitment process was a simulation allowed for a more diverse sample, where participants were of different backgrounds, cultures, nationalities, education levels, and ages. This offered us data on people that might not generally apply for positions at organizations that use gamified recruitment. Future research could try gathering participants through random sampling, which would provide the best representation of the general population's attitudes towards gamified recruitment. However, it is to be noted that some organizations may not be interested in the general population, but rather specific populations that are to apply to certain positions, in which case focusing on the specific group may prove more beneficial as they would be the only ones interacting with this tool.

Another limitation of this study is the use of self-reported measures, which is prone to participants' dishonesty, as they might try to answer in a manner that is more socially desirable. It could also be hindered by the applicants' introspective ability, where they could not accurately

assess themselves on the presented scales. To address this in future studies, researchers could potentially ask participants to imagine what attitudes other people would have towards such recruitment tools, eliminating the inclination to answer questions in socially desirable ways. Future studies may also try offering the participants the ability to actually recommend the organization to others, thus willingness to recommend to others would be an objective measure of how many times the choice was made.

Additionally, the gamified assessment used was limited to only one level of the actual game, which could offer the participants the idea that the brief assessment is similar to the actual assessment, which in turn could influence the participants to perceive it less favorably, as they believe it cannot assess the full extent of their skills. Conversely, the game used for the assessment is one that is used in actual recruitment scenarios, thus making it more immersive for the applicants.

Future research could try to replicate the findings of this study in an actual recruitment setting, where the stakes are higher as their potential livelihood depends on how the tool helps the organization assess the applicants. Applicants' performance could also be taken into consideration, as it would indicate if the attitudes towards the gamified recruitment tool are in any way related to the participants' performance. Perhaps groups that use gamified recruitment could be compared to the groups that use the traditional recruitment process to gain a deeper understanding of the manner in which this tool affects attitudes towards gamified recruitment.

Conclusion

To conclude, this study aims to investigate the applicants' attitudes towards a novel recruitment tool, gamified recruitment, a product of gamification, which entails using game-like elements in non-gaming contexts. The results indicate that there is a positive correlation between

the investigated variables, perceived fairness and motivation to continue, motivation to continue and willingness to recommend the organization to others, and perceived fairness and willingness to recommend to others respectively.

References

- Adams, J. S. (1965). Inequity In Social Exchange. *Advances in Experimental Social Psychology*, 2, 267–299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Adams, J. S., & Jacobsen, P. R. (1964). Effects of wage inequities on work quality. *Journal of Abnormal and Social Psychology*, 69(1), 19–25. <https://doi.org/10.1037/h0040241>
- Anderson, & P. Herriot (Eds.), International handbook of selection and assessment (pp. 81 – 96). Wiley.
- Armstrong, M., Landers, R., & Collmus, A. (2015). Gamifying recruitment, selection, training, and performance management: Game-thinking in Human Resource Management. In D. Davis & H. Gangadharbatla (Eds.), *Emerging Research and Trends in Gamification* (pp. 140–65). IGI Global. <https://doi.org/10.4018/978-1-4666-8651-9.ch007>.
- Bogost, I. (2007). *Persuasive games : the expressive power of videogames*. MIT Press.
- Buil, I., Catalán, S., & Martínez, E. (2020). Understanding applicants' reactions to gamified recruitment. *Journal of Business Research*, 110, 41–50.
- Cable, D. M., & Turban, D. B. (2001). Establishing the dimensions, sources, and value of job seekers' employer knowledge during recruitment. *Research in Personnel and Human Resources Management*, 20, 115–164.
- Cober, R. T., Brown, D. J., Levy, P. E., Cober, A. B., & Keeping, L. M. (2003). Organizational websites: Web site content and style as determinants of organizational attraction. *International Journal of Selection and Assessment*, 11(2–3), 158–169. <https://doi.org/10.1111/1468-2389.00239>

Collmus, A. B., Armstrong, M. B., Landers, R. N., & Landers, Richard N. (2016). In *Game-thinking within social media to recruit and select job candidates* (pp. 103–124). essay.

https://doi.org/10.1007/978-3-319-29989-1_6

Deci, E. L. (1975). Intrinsic motivation (Ser. Perspectives in social psychology [, no. 1]). Plenum Press.

De Cooman, R., Stynen, D., Van den Broeck, A., Sels, L., & De Witte, H. (2013). How job characteristics relate to need satisfaction and autonomous motivation: implications for work effort. *Journal of Applied Social Psychology*, 43(6), 1342–1352.

<https://doi.org/10.1111/jasp.12143>

Deterding, S., O'Hara, K., Sicart, M., Dixon, D., Nacke, L., & 29th Annual CHI Conference on Human Factors in Computing Systems, CHI 2011 Vancouver, BC, CAN 2011 05 07 - 2011 05 12. (2011). Gamification: using game design elements in non-gaming contexts. *Conference on Human Factors in Computing Systems - Proceedings*, 2425-2428, 2425–2428. <https://doi.org/10.1145/1979742.1979575>

Equalture. (2022). The Ferry (Demo version) [Video game]

Gkorezis, P., Georgiou, K., Nikolaou, I., & Kyriazati, A. (2021). Gamified or traditional situational judgment test? A moderated mediation model of recommendation intentions via organizational attractiveness. *European Journal of Work and Organizational Psychology*, 30(2), 240–250. <https://doi.org/10.1080/1359432X.2020.1746827>;

Gilliland, S. W. (1994). Effects of procedural and distributive justice on reactions to a selection system. *Journal of Applied Psychology*, 79(5), 691–701. <https://doi.org/10.1037/0021-9010.79.5.691>

- Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: a theoretical analysis of its determinants and malleability. *The Academy of Management Review*, 17(2), 183–211.
- Greenberg, J. (1990). Looking Fair Being Fair: Managing Impressions of Organizational Justice. *Research in Organizational Behaviour*, 12, 57-111.
- Kato, P. M. & de Klerk, S. (2017). Serious Games for Assessment: Welcome to the Jungle. *Journal of Applied Testing Technology*, 18(S1), 1-6.;
- Kristof-Brown, A. L., Zimmerman, R. D. & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58(2), 281-342.
doi:10.1111/j.17446570.2005.00672.x;
- Landers, R. (2015). Developing a theory of gamified learning: Linking serious games and gamification of learning. *Simulation & Gaming*, 1–17. <https://doi.org/10.1177/1046878114563660>;
- Langer, M., König, C. J., & Fitili, A. (2018). Information as a double-edged sword: The role of Computer Experience and information on applicant reactions towards novel technologies for personnel selection. *Computers in Human Behavior*, 81, 19–30.
<https://doi.org/10.1016/j.chb.2017.11.036>
- Marsden, V., P. (1994). The hiring process: Recruitment Methods. *American Behavioral Scientist*, 37(7), 979–991. <https://doi.org/10.1177/0002764294037007009>;
- Muchinsky, P. M., & Culbertson, S. S. (2016). *Psychology applied to work: An introduction to industrial and organizational psychology* (11th ed.). Summerfield: Hypergraphic Press.;

Newell, S., & Shackleton, V. (1994). International differences in selection methods.

International Journal of Selection and Assessment, 2(2), 71–73.

<https://doi.org/10.1111/j.1468-2389.1994.tb00152.x>

Richter, G., Raban, D. R., & Rafaeli, S. (2015). Studying gamification: The effect of rewards and incentives on motivation. In T. Reiners, & L. C. Wood (Eds.). *Gamification in education and business* (pp. 21–46). Cham: Springer.;

Robertson, I. T., & Kandola, R. S. (1982). Work sample tests: validity, adverse impact and applicant reaction. *Journal of Occupational Psychology*, 55(3), 171–183.

<https://doi.org/10.1111/j.2044-8325.1982.tb00091.x>

Ryan, A. M., & Ployhart, R. E. (2000). Applicants' perceptions of selection procedures and decisions: a critical review and agenda for the future. *Journal of Management*, 26(3), 565–606. [https://doi.org/10.1016/S0149-2063\(00\)00041-6](https://doi.org/10.1016/S0149-2063(00)00041-6)

Rynes, S. L., & Barber, A. E. (1990). Applicant attraction strategies: an organizational perspective. *The Academy of Management Review*, 15(2), 286–310.

Smither, J., Reilly, R., Millsap, R., Pearlman, K., & Stoffey, R. (1993). Applicant reactions to selection procedures. *Personnel Psychology*, 46, 49–76. <https://doi.org/10.1111/j.1744-6570.2004.00003.x>;

Stipek, D. J. (1993). *Motivation to learn: From theory to practice* (2nd ed.). Needham Heights, MA: Allyn & Bacon.;

Van Hoya, G. (2008). Nursing recruitment: Relationship between perceived employer image and nursing employees' recommendations. *Journal of Advanced Nursing*, 63(4), 366–375.

<https://doi.org/10.1111/j.1365-2648.2008.04710.x>;

Werbach, K., & Hunter, D. (2012). *For the Win: How game thinking can revolutionize your business*. Wharton: Digital Press.

Appendix

Constructs and items of the questionnaire

Motivation

1. I think the business simulation competition is interesting
2. I think the business simulation competition is fun
3. I feel good participating in the business simulation competition

Willingness to recommend

1. I would recommend this company to friends.
2. I would recommend others to participate in the business simulation competition

Perceived fairness

1. All things considered, this selection procedure was fair.
2. I think this interview is a fair procedure to select people for the job.
3. I think the interview itself was fair