

**CIPD**

# Fair selection

An evidence review

**Scientific summary**  
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# Fair selection: An evidence review

## Scientific summary

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## 1 Introduction

This scientific summary presents the method and findings of an evidence review on fairness in selection. The research sets out to support HR professionals who are trying to ensure fair selection and promotion practices, both to improve candidate experience and to support more-ethical, better-functioning organisations. We look at the evidence and draw out recommendations on two broad questions:

- **Why is fairness important?** What impacts does perceived fairness in job selection have on candidates' performance, job offer acceptance and job performance?

- **How can selection be made fairer?** What factors affect how fair people think selection practices are, and what can employers do to influence these perceptions?

This scientific summary accompanies the practice summary, which summarises and discusses the review findings. This is available along with a case study of the sponsoring employer, Surrey Police and Sussex Police.

After this introduction, this report presents the methodology for this evidence review. Following this, we describe the theoretical background of fairness and selection, and summarise the studies retrieved from our literature search. Appendices are then presented for detail on search terms, critical appraisal and measures of fairness in selection.

## **Research approach**

Cherry-picking examples that support one's preconceived ideas is fraught with bias. To be evidence-based and make better decisions, managers need to make a concerted attempt to find the relevant evidence, critically appraise it and prioritise that which is most robust.

To this end, the review used the rapid evidence assessment (REA) method, a truncated form of systematic literature review that is designed to identify, appraise and synthesise the best scientific evidence published in peer-reviewed journals. REAs follow the principles of evidence-based practice, which propose drawing on scientific research alongside organisational data, professional expertise and stakeholder concerns.

Where possible, we focus on studies specifically on promotion, but these are relatively few, so in many cases we draw on the broader body of research on selection and consider how the insights may be applicable to promotion.

The review was part of a joint project between researchers and employers to apply the latest and most robust research evidence to practical HR challenges. A research team based at the CIPD and the Institute for Employment Studies worked with HR professionals from Surrey Police and Sussex Police to scope research questions and interpret the review findings. The review was first conducted in 2019 and updated (using the same search strategy) in February 2023.

For more information on the research methods, see the [appendix](#). For more information on evidence-based practice, see: CIPD factsheet, [Evidence-based practice for effective decision-making](#); Barends et al (2014); and Barends and Rosseau (2018).

## **2 Theory on fairness and selection**

What do researchers mean when they talk about 'fairness' and what is the established theory on what affects perceptions of fairness and how this plays out in selection and promotion?

### **What is fairness?**

It is important to understand the theory of what determines perceptions of fairness and how this, in turn, affects outcomes of selection and promotion practices. How are these processes supposed to work? We first summarise different perspectives on fairness in general and then consider the specific theory on fairness in selection processes.

There are a number of theories and definitions of the nature of fairness. Previous [CIPD research](#) identified six broad lenses through which fairness is viewed (Sparrow et al,

2013). The research included in this review generally takes the perspective of the first of these, organisational justice, but it is worth noting the range and complexity of theory in this area.

The six lenses are:

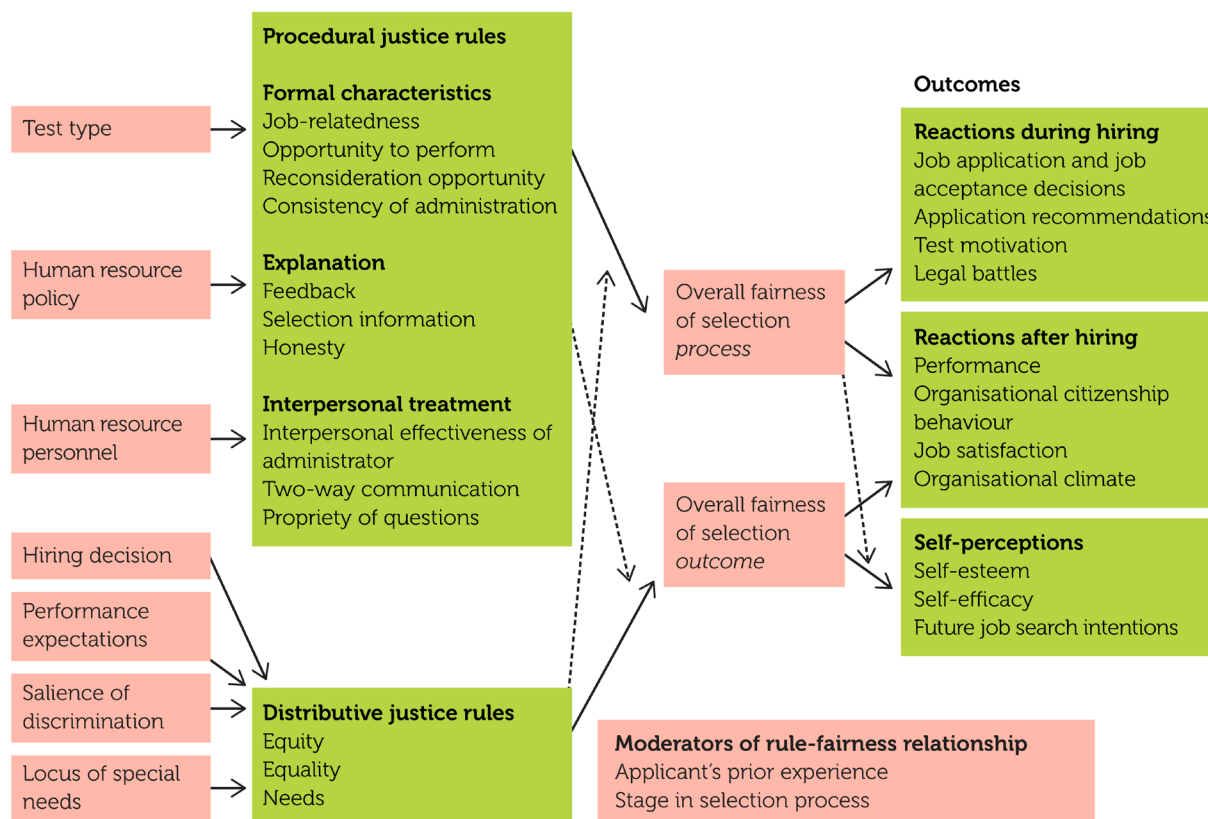
- **Organisational justice** – this can refer to either how fair the allocated outcomes of a decision are (*distributive justice*), how fair the processes or approaches used to make decisions are (*procedural justice*), or how fairly people are treated when procedures are implemented (*interactional justice*).
- **The distribution of goods** – economics has a good deal to say about fairness, in particular in pay. *Rational choice theory* assumes fairness in that people take the options that work best for them (for example, the best-paying job). *Game theory* adds the nuance that people play to rules so long as they benefit them. This gives us insight into how people behave within systems – for example, if people perceive a situation to be a zero-sum game, they will try to minimise overall losses, rather than solely maximise their personal gain. The *theory of justice* takes the utilitarian view that we should maximise total human happiness (the just distribution of goods in a society).
- **Principles of outcome** – *tournament theory* suggests that fixing rewards in advance and allocating them based on rankings is fair and motivates lower performers to do better in the future. On the other hand, the *norms of proportionality* propose that rewards should not only reflect people's contributions, but also their means or capacity to contribute. The principle of *luck and due desserts* takes this further, arguing that reward and punishment should reflect behaviour and effort, not outcomes (which are due to luck).
- **Capability theory** – focuses on the distribution of opportunity within society and argues that fair policies and decisions consider both people's resources and capabilities, including how advantaged or disadvantaged they are compared with others.
- **Temporal perspectives** – *intergenerational equity*, upheld by legal rights and obligations, is when one generation's actions do not compromise the next generation's ability to benefit from freedoms and resources. Similarly, the idea of *burden-sharing* relates to competition for resources and argues for sustainable development.
- **A matter of interpretation** – a more sceptical set of perspectives is that we cannot have a single view of fairness and an objective view may be impossible. The idea of *equity sensitivity* is that people interpret fairness differently and so differ in how tolerant they are of injustice and how benevolent they are. *Trust theory* proposes that people's expectations of fairness are based on their world views, which change over time in response to their experience. And *feminist* and *Marxist theory* argue that we must consider who has a voice and power in deciding what is fair.

### Theory of fairness in selection

The dominant model of perceived fairness in job selection is that of Gilliland (1993; see Figure 1). At the heart of the model, Gilliland outlines 10 procedural rules, organised into three categories, which describe influences on perceived fairness. The satisfaction or

violation of these rules is proposed to determine whether candidates feel that selection is fair. The model also includes the interaction of distributive justice (perceived fairness of outcomes) and procedural justice (perceived fairness of decision-making procedures), and the relationship of perceived fairness to individual and organisational outcomes.

**Figure 1: Model of applicants' reactions to employment selection systems (reproduced from Gilliland, 1993)**



### 3 Summary of studies

Below we summarise the papers retrieved from our literature search. Each paper was assessed according to the Center for Evidence-Based Management's (CEBMA) guidance on methodological appropriateness for answering cause-and-effect questions (Barends et al, 2017). Level A studies are the most trustworthy – they have robust research designs that do the best job of telling us about cause-and-effect relationships – and level D studies are the least trustworthy. Fifty per cent trustworthiness would be like making a decision based on the flip of a coin.

Within the time period set for the review, the quality of the evidence on fairness in selection is mixed. Further, many studies did not focus on real-life selection procedures for selection, instead using simulated selection scenarios, typically using students as subjects. However, it is worth noting that some researchers argue that in this case simulated studies may underestimate impacts observed in real-world settings. So, while such simulations can be challenged in terms of external validity, the insights still have merit.

We found very few studies focused specifically on promotions, with most focusing on external recruitment. Clearly, promotion is a different context from recruitment and worth exploring further in its own right. However, until more research is conducted specifically on job promotions, we can draw relevant lessons from the body of research that relates to fairness in selection more broadly.

## Outcomes of fairness in selection

### Perceived unfair treatment decreases organisational attractiveness (OA), and once lost only a small amount of OA can be regained (Level A)

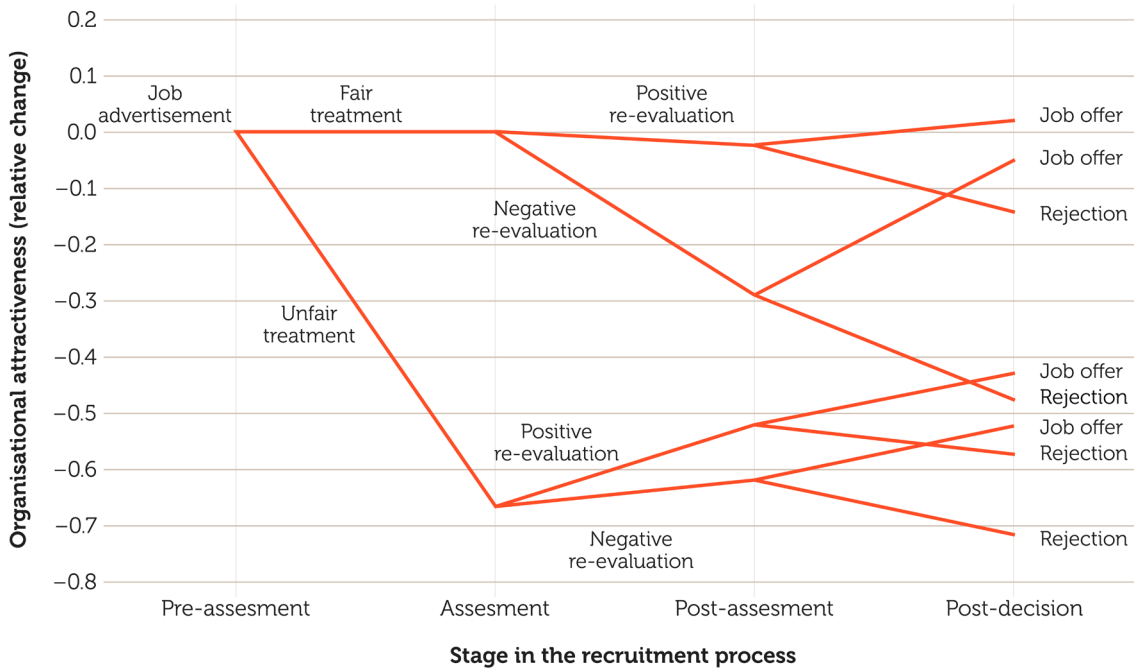
**Krys and Konradt (2022)** conducted an experiment using hypothetical vignettes to explore how applicants' perceptions of organisational attractiveness (OA) change over the recruitment process and whether OA, once lost, can be regained. They examined the effects of treatment (fair vs unfair), re-evaluation (positive vs negative) and outcome (offer vs rejection) on OA using a multi-segment factorial vignette design, where participants were asked to imagine they were applying for a job. The scenarios and measurement of OA followed the four stages of a fictional recruitment process: pre-assessment (T1, baseline), assessment (T2, fair vs unfair treatment), post-assessment (T3, positive vs negative re-evaluation) and post-decision (T4, job offer vs rejection). The study compared eight groups of applicants (who had positive or negative experiences at each of the stages T2 to T4) tracking how OA changed for different combinations of treatment. The sample group consisted of 194 employees working in different sectors in Germany.

Respondents were shown detailed descriptions of the scenarios. For example, unfair treatment of applicants in the first instance included poor-quality information in advance of the interview, the interviewers being late, getting the time wrong and being rude, and a lack of explanation of tests. At the next stage, one week after the interview, positive re-evaluation of the organisation included that applicants spoke to other people about the organisation and became convinced that the HR professionals were well qualified and experienced, and the organisation considered it important to be transparent and respectful with all applicants.

First, the study found that unfair treatment at the assessment stage led to a very large reduction in OA of 67% ( $r=.87$ ), whereas fair treatment did not lead to any statistically significant change. The study next found that applicants who were treated fairly at assessment but negatively re-evaluated their experience afterwards also perceived the organisation as less attractive (OA decreased by 29%). On the flipside to this, if applicants were treated unfairly at assessment but afterwards positively re-evaluated their experience, they perceived the organisation as more attractive (OA increased by about 15%).

At the final stage, notable outcomes included that, if applicants were initially treated fairly but then negatively re-evaluated their experience, they found the organisation more appealing if they were offered a job (OA increased by 24%). However, OA did not change as a result of a job offer if applicants were treated unfairly at the assessment stage. The authors conclude that unfair treatment during the assessment stage continues to have an effect during the later stages of the process. Even if organisations treat applicants well later in the recruitment process, they can only partially repair the damage that's been done to how attractive the organisation is.

**Figure 2: How unfair treatment affects the attractiveness of an organisation during the recruitment process (reproduced from Krysz and Konradt, 2022)**



**Perceptions of fairness decrease throughout the selection process, and this decrease is steepest for candidates with higher expectations of fairness (Level A)**

**Konradt et al (2020)** undertook a meta-analysis to examine changes in applicants' perceptions of fairness throughout the selection process, as well as factors which moderate this change. The meta-analysis integrated findings of 14 studies, all of which had at least two measurement points. They looked at three stages of the selection process: pre-test (after application submission), post-test (after assessments), and post-decision (that is, job offer or rejection).

The study found that there is an overall 7% decrease in applicants' perceptions of fairness over the whole selection process ( $\beta = -.26$ , small to medium effect). This decrease was steepest for applicants whose initial fairness expectations were higher ( $\beta = -.93$ , large effect). However, at a more detailed level, they did not find a decrease in fairness between pre-test and post-test or between post-test and post-decision.

The study also found that fairness perceptions decreased more with smaller time intervals between the post-test and post-decision stage. The drop in fairness was especially large when decisions were given on the same day, and less when they were given seven or 30 days afterwards. The authors conclude that, to fully understand the dynamic nature of perceptions of fairness, we need to consider the influence of previous perceptions of fairness and the change in perceptions of fairness between different stages.

**Perceived fairness of selection processes influences both job offer acceptance and job performance (Level B)**

**Konradt et al (2017)**. This three-year longitudinal study assessed the impact of candidate perceptions of the fairness of selection processes on organisational behaviours, including the willingness to accept a job offer and job performance 18 months after accepting a job



(impacts were not detectable at 36 months). The research investigated the significance of fairness perceptions at different stages in the selection process (pre-selection process; post-selection process; and three weeks after the selection process but prior to receiving the outcome and feedback on performance) for key outcomes such as acceptance of a job. It also explored the importance of various attributes of the selection process thought to influence perceptions of fairness.

These were:

- *Formal characteristics* – the extent to which the selection process is felt by candidates to be job-related; to provide the opportunity to adequately demonstrate relevant knowledge, skills and abilities; to provide the opportunity to ask questions and exert a degree of control over the test situation; the selection tests are perceived as administered consistently.
- *Interpersonal treatment* – the extent to which candidates feel they are treated with warmth and respect, have the opportunity to engage in two-way communication and feel questions asked are appropriate.
- *Explanation* – the extent to which timely and informative feedback is provided that is valued irrespective of outcome; information is provided on the selection process, information on how scoring is carried out and decisions reached, the justification for decisions; and the perceived openness and honesty of those involved in the selection process.

The research demonstrated the importance of candidate perceptions of fairness for hiring organisations. Perceptions of fairness of selection processes impacted both the likelihood of accepting a job offer from the hiring organisation ( $\beta=.12$ , small effect), and post-acceptance job performance up to 18 months after recruitment (small effect sizes of  $\beta=.14$  and  $\beta=.18$  for post-test and pre-feedback perceptions of fairness respectively).

In addition, the research confirmed the influence on fairness perceptions of the different attributes of selection processes highlighted above. Different attributes were found to influence fairness perceptions at different points in the selection process.

For example:

- *Formal characteristics* were found to influence candidate perceptions of fairness throughout the selection process ( $\beta=.30$  (small to medium effect size) for fairness expectations,  $\beta=.38$  (small to medium effect size) for post-test fairness perceptions, and  $\beta=.45$  (medium effect size) on pre-feedback fairness perceptions).
- *Interpersonal treatment* attributes were found to influence fairness perceptions prior to the selection process and immediately afterwards ( $\beta=.40$ , small-medium effect size for pre-test perceptions of fairness;  $\beta=.23$ , small effect size for post-test perceptions of fairness).
- Attributes of *explanation* were found to influence fairness perceptions some time after the selection process prior to receiving feedback on the outcome ( $\beta=.18$ , small effect size).

The authors note that these findings have a number of practice implications, namely that:

- Organisations should look to influence fairness expectations by providing sufficient and realistic information in advance of selection processes, for example by providing exercises or simulations prior to a selection exercise.
- Organisations should seek to use selection methods that have high face validity (in other words, that the methods used should be viewed by candidates relevant to the job).
- Candidates have the opportunity to review the results of their selection with trained staff.
- Those involved in recruitment and selection should be trained to ensure that candidates are given an opportunity to ask questions.
- Organisations should include a transparent and informative feedback process after the selection process.

### **Discrepancies in expectations and experiences of fairness negatively influence job acceptance and recommendation intentions (Level C)**

**Huy et al (2020)** conducted two surveys with 232 jobseekers who attended a job fair in Vietnam, one before and one after the selection process, to examine the interaction between justice expectation and justice perception as a predictor of job acceptance intention and recommendation intention. The first survey asked participants about their procedural fairness expectations with regards to the company's selection process. The second survey was conducted before the release of final selection decisions and asked participants about their actual perception of procedural fairness during selection as well as their intentions towards the hiring organisations.

The study found that it is the perceived discrepancy between real experience and expectation that predicts applicants' intentions. Unmet expectations predicted a perceived breach in the procedural contract, which in turn negatively influenced applicants' intentions to accept a job offer and recommend the organisation. The authors conclude that organisations should provide updated and official information regarding the selection process to all parties, such as internal employees, recruitment agencies and job search websites, to reduce overexpectation.

### **General communication**

#### **Explaining selection processes makes them seem fairer, and favourably impacts perceptions of the hiring organisation (Level A)**

**Truxillo et al (2009)** explored how the provision of explanations about the selection process can affect candidates' reactions, including:

- their view on how fair the process is
- their perception of the hiring organisation
- their test motivation and performance.

The research, a meta-analysis of 26 experiments, varied:

- the types of explanation provided (for example, explanations focused on how the selection procedure was related to the job applied for, the details of the selection process, as well as explanations provided in an interpersonally sensitive manner)
- the timing of the explanations (for example, whether provided before or after the selection procedure).

In addition, the research investigated whether the impact of explanations varied according to the type of selection procedure (for example, a cognitive ability test compared with a personality test), and also the actual outcome (for example, do explanations have less impact when the candidate is unsuccessful versus successful).

The central finding was that providing explanations to candidates does impact perceptions of fairness (the average effect size was small,  $M_r=0.12$   $p=.0001$ ), and indeed the perceived attractiveness of the hiring organisation ( $M_r=0.06$   $p=.02$ ). The impact was much more noticeable in real-life settings (a moderate impact) compared with artificial lab-type studies (a small impact). Interestingly, the research showed that the nature of the explanation provided, its timing, and whether or not candidates were successful or not, did not impact candidate perceptions of fairness. It may be that providing an explanation of some kind about the selection process used is more important than the specific details of that explanation or when in the process it is provided. The other main conclusion from the research is that employers can influence the reaction of candidates to selection processes by simply explaining the selection process used.

The research also found that the provision of explanations to candidates improved both motivation and cognitive ability test performance. This is important since it suggests that providing explanations for cognitive ability tests may lead to a better assessment of candidates' true abilities and as a consequence increase their validity. This may be of particular importance when it comes to increasing diversity, given the hypothesised relationship between ethnicity and test-taking motivation.

In addition, the impact of explanations was greater for some types of selection processes than others. Effects were stronger for personality tests (average effect size was small,  $M_r=.12$ ) compared with cognitive ability tests ( $M_r=.00$ ). The authors report that this finding was in line with previous research, as candidates are generally less positive about personality tests, probably due to their lower perceived relevance to jobs applied for (job-relatedness), lower perceived transparency and ability for applicants to control the process.

### **Positive communication in recruitment can improve test performance of ethnic minorities (Level A)**

**Linos et al (2017)** assessed the impact of tailored communication on test performance for ethnic minorities in the context of increasing diversity within an open recruitment round for the UK police. The force in question was experiencing a disproportionate drop in ethnic minority applicants following a particular test, a situational judgement test (SJT). This particular test was designed to measure four core competencies: communication and empathy; customer-focused decision-making; openness to change and adaptability; and relationship-building and community. Communications inviting candidates to take part in the test were revised in ways designed to reduce anxiety and address psychological

threat, and led to a 50% increase in the probability of ethnic minority applicants passing the test without lowering the recruitment standards or impacting white applicants.

Previous research had demonstrated the potential impact of 'stereotype threat' on test performance in a range of settings for minority groups. In other words, those from minority groups may perform less well in tests in which there is an existing negative stereotype (for example, African American students have been shown to perform better on an IQ test when it is presented as a hand-eye coordination test rather than an IQ test, and therefore any negative stereotype on IQ is not relevant). This may be as a result of increased anxiety or the increased mental workload associated with worrying about confirming an existing stereotype. Linos et al's work also drew on existing research around 'belonging uncertainty'. Within the recruitment process, candidates are assessing the extent to which they may 'fit' in the hiring organisation, including the extent to which they share similar values to the organisation (values congruence) and whether the organisation will satisfy important psychological needs, for example 'relatedness' and the extent to which they will 'belong' in an organisation. Linos et al's research hypothesised that ethnic minority applicants would be more likely to be uncertain of their social bonds within the police given their underrepresentation, and sought to address such feelings by positively affirming their values, both as a means to reinforce personal worth, and reduce anxiety and psychological threat.

The research used a randomised controlled trial (RCT) approach, and divided ethnic minority applicants randomly into two groups. One group received instructions prior to the test explaining how to complete the test. The other group received a message prior to conducting the test asking candidates to reflect on why they wanted to be a police constable and the value of this to them and their community. They also received instructions on how to complete the test.

The main implication of the research is that by adjusting the context in which selection tests take place, and in particular by making relatively small changes to the language used in communications around those tests, positive impacts can be achieved in terms of enhancing fairness and reducing stereotype threat and anxiety around selection processes.

### **Communicating job-relatedness of selection methods may be particularly important at the early stages of recruitment (Level B)**

**Zibarras and Patterson (2015)** explored how the perceived job-relatedness of a three-stage selection process for GP posts in the UK NHS affected fairness perceptions. The study also explored whether candidates' self-efficacy predicted fairness perceptions. The research found that candidate perceptions of the job-relatedness of the selection methods used did indeed affect how fair the selection process was perceived to be following feedback about whether a candidate had been successful or not (effect of job knowledge test job-relatedness,  $\beta=.11$ , small; effect of situational judgement test job-relatedness,  $\beta=.29$ , small). That said, following the final stage of the selection process, after which candidates had invested considerable effort in the process, the outcome (pass/fail) predicted fairness perceptions better ( $\beta=.60$ , medium) than job-relatedness (although this still had some influence). In the early stages of the selection process, job-relatedness played a more prominent role in influencing fairness perceptions. These findings suggest that organisations will need to work hard to overcome the disappointment that comes from

an individual failing to secure a desirable role or job, and that they should aim to convey early on in the selection process how the methods used are job-relevant.

Candidate self-efficacy was found to have an influence on perceptions of fairness (addition of self-efficacy as a predictor in the model ( $\beta=.2$ , small)), suggesting that individual differences play a role in whether selection methods are perceived as fair irrespective of whether candidates succeed or fail.

### **Explanations may positively influence candidates' fairness perceptions of gamified situational judgement tests (Level C)**

**Georgiou (2021)** conducted two experiments to explore the impact of using gamified assessments on fairness perceptions and the role of providing explanations to applicants.

Study one examined the perceived fairness (procedural justice) of gamified assessments, considering how related the tests were to the job, candidates' opportunity to perform, and the ease of faking. Participants were asked to imagine they had applied for a job and were randomly assigned to complete either a text-based or gamified situational judgement test (SJT), followed by a questionnaire. The sample group consisted of 103 employees in different organisations in Greece. The study found that, compared with the gamified SJT, participants who completed the text-based SJT had higher levels of job-relatedness perceptions resulting in more positive perceptions of procedural justice ( $b=-.10$ , small effect). There were no differences in perceptions of opportunity to perform or ease of faking.

Study two explored the role of explanations in fairness perceptions. The study used a 2x2 design, with participants randomly assigned to one of four conditions: text-based SJT, no explanations; gamified SJT, no explanations; text-based SJT, explanations; gamified SJT, explanations. They then completed a questionnaire to measure justice perceptions. The sample group consisted of 186 employees working in different organisations in Greece. The study found that individuals believe that the gamified SJT is more difficult to fake ( $z=-2.35$ ) and fairer ( $z=-2.21$ ) than the text-based SJT, following the provision of explanations on faking. No difference was found in perceptions of opportunity to perform.

### **How a selection situation is presented can impact perceptions of fairness (Level C)**

**Gamliel and Peer (2009)** explored the effect of framing on applicants' reactions to personnel selection methods, in particular a personnel selection interview and undergraduate grade point average. 'Framing' refers to how the same objective information presented differently, for example positively or negatively, can influence the judgements people make.

Using applicants to various positions offered by different organisations, the study manipulated how the selection process was presented. All participants were presented with the same objective vignette of the personnel selection situation either framed positively (that is, accepting some of the applicants) or negatively (that is, rejecting the remaining applicants). The study also asked participants to rate the fairness of the selection situation according to its perceived distributive (fairness of the outcome) and procedural (fairness of the procedures) justice. Presenting the selection situation positively (to accept applicants) caused applicants to rate both selection procedures (interview and GPA score) more positively in terms of its distributive and procedural justice. The study demonstrates how perceptions of fairness can be affected by contextual factors.

### **Pre-test explanations support transparency, respect and reassurance (Level C)**

**McCarthy et al (2017)** explored how the provision of explanations before selection tests may influence the reaction of candidates, and in particular prevent negative reactions. The 'wise' interventions used were all short in duration and targeted at a specific change. Unlike many other studies, the research focused on existing employees. The research also explored the influence of employees' existing relationship with the organisation and their manager on candidate reactions to the selection tests. The impact of different types of explanation were explored:

- *Informational fairness* – the provision of information about the selection tests, the testing process, and conveying that high-quality practices are being used. The intention is to increase transparency, heighten feelings of certainty, reduce anxiety and improve test-taking motivation as candidates will feel that the tests are fair and will be a good reflection of their abilities.
- *Social fairness* – these explanations focus on the manner in which candidates are treated, with warmth and appreciation serving to enhance motivation and reduce anxiety.
- *Uncertainty reduction* – reassuring candidates that there is no need to be concerned about the test process, increasing feelings of control and sending a clear message about the organisation's commitment to the wellbeing of candidates.
- *Combined explanation* – combining elements of the above three types of explanation.

The research demonstrated that employees who received a combined explanation reported higher perceptions of fairness than those who did not receive any explanation ( $R^2=.05$ , small effect). The results also provided initial evidence that pre-test explanations affected fairness perceptions by influencing perceptions of transparency, respect and reassurance.

The research also revealed the influence of both employees' existing relationship with their organisation and with their manager. Where employees felt that their organisation valued their wellbeing, perceptions of test fairness were higher, suggesting that positively held views of an organisation may potentially buffer the harmful effects of not receiving explanatory information about selection tests. Where employees had a positive relationship with their supervisor, explanations tended to reduce test anxiety. However, where a negative relationship existed, explanations tended to increase test anxiety, suggesting that in a climate of mistrust, reassurances served to increase worry rather than reduce it.

### **Information about the selection process and the way that is conveyed influence perceptions of fairness in web-based selection (Level D)**

**Konradt et al (2013)** conducted a study exploring applicant reactions to a web-based selection context using Gilliland's 1993 model of fairness. The study context was 1,200 applicants applying for a commercial apprenticeship in Germany. Applicants completed an online selection procedure consisting of a broad range of assessment methods, including a biographic data form, personality measures (for example mental toughness, conscientiousness), and a cognitive speech-free ability test. The study assessed how aspects of the selection process (formal characteristics, interpersonal treatment,

explanation) impact perceived process fairness (measured using Bauer's 2001 scale); how process fairness is related to applicant reactions such as whether they would like to work for the company (pursuit intention), whether they would recommend it to others (recommendation intentions), and whether they would reapply. A partial least squares (PLS) path modelling analysis identified that both formal characteristics and interpersonal treatment were related to perceptions of process fairness in web-based selection (formal characteristics predict process fairness, small effect size ( $\beta=.29$ ), interpersonal treatment predicts process fairness, small to medium effect size ( $\beta=.37$ )), and that the most salient procedural justice rules were treatment of the applicants, opportunity to perform, propriety of questions, and reconsideration opportunity (treatment of applicants ( $\beta=.28$ , small), opportunity to perform ( $\beta=.17$ , small), propriety of questions ( $\beta=.16$ , small), reconsideration opportunity ( $\beta=.15$ , small)).

### **Providing relevant information about the recruitment process positively impacts justice perceptions (Level D)**

**Walker et al (2015)** conducted a study focused on how organisations might influence the fairness perceptions of job applicants through initial correspondence and prior to entering a selection situation. Participants were selected from undergraduate management courses, and the participants chosen were seeking and applying for full-time employment online. Correspondence content from the chosen companies was analysed by the researchers to assess its information adequacy (for example, acknowledged receipt of application materials, provided a timeframe for the applicant's hearing about the application decision, and verified the job applied for) and information sensitivity (used applicant's name, provided an organisational representative's contact information, and thanked the applicant for submitting the employment application).

In terms of outcomes, the study looked at informational justice perceptions (that is, 'the organisation has been candid in their communications with you') and interpersonal justice perceptions (that is, 'the organisation has treated you in a polite manner'). The study concluded that providing relevant information about the recruitment process was positively related to informational and interpersonal justice perceptions (informational justice predicted by information adequacy and information sensitivity, effect size medium to large ( $R^2=.21$ ); interpersonal justice predicted by information adequacy and information sensitivity, effect size large ( $R^2=.28$ )). Information sensitivity (that is, delivering information in an interpersonally sensitive manner) had a greater impact on interpersonal justice perceptions (information sensitivity on interpersonal justice, effect size medium ( $\beta=.43$ ), on informational justice ( $\beta=.14$ , n.s); information adequacy on interpersonal justice, effect size small ( $\beta=.18$ ), on information adequacy, effect size small to medium ( $\beta=.39$ )).

### **Transparency**

#### **Transparency may inhibit test performance in some cases due to stereotype threat (Level C)**

**Jacksch and Klehe (2016)** explored whether there are certain conditions in which being transparent about a selection test or process may negatively impact the test performance of certain groups. The authors note that previous research has identified the generally positive impact of transparent selection processes on test performance. However, using an experimental simulation involving graduate students, they demonstrate that test performance is negatively impacted by being transparent about performance dimensions for which there exists a stereotype threat for some groups. Stereotype threat occurs where

members of a social group are faced with the possibility of being judged or treated in a stereotypically consistent manner. The existence of this threat may impact performance by making people feel afraid that they may do something interpreted as stereotypically consistent with their group, and may have more invasive thoughts about whether they will be judged based on a stereotype rather than their actual performance.

The study demonstrated that both men and women performed better when they learned that a selection simulation targeted planning skills, but that women performed less well when they learned that the simulation was assessing leadership skills (difference in performance for women between transparency conditions, effect size medium ( $d=.59$ )). The study also demonstrated that this impact was greater where individuals were more aware of the stereotype (higher levels of 'stigma consciousness') that men make better leaders than women.

The results suggest that employers should consider carefully whether the performance dimensions assessed in a selection process should be made transparent, particularly where one social group may be in a minority of applicants (for example women applying for engineering). And if performance dimensions are made transparent, efforts should be made to present those dimensions in as stereotype-free a way as possible.

### **Transparency does not lead to higher perceptions of fairness in assessment centres (Level C)**

**Ingold et al (2016)** conducted a quasi-experiment with students who were soon to be applying for a new job. The study looked at the impact of transparency in a simulated assessment centre context on perceived fairness, criterion-related validity (the extent to which a measure is related to an outcome, in this case job performance) and impression management. Transparency is the degree to which applicants are aware of the dimensions on which they are being assessed. The assessment centre in the study consisted of two group discussions and two presentation exercises. The study found that ratings from a non-transparent assessment centre ( $r=.24$ , small to medium effect size) were more criterion-valid than ratings from an assessment centre with transparent ( $r=.08$ , small effect size) dimensions. The authors suggest this may be a result of the dissimilarity between a transparent assessment centre and a job situation (that is, employees are not usually informed in advance about specific relevant performance dimensions). The study found no evidence for the hypothesis that subjects in the transparent assessment centre condition were more likely to perceive that they had the opportunity to perform (an aspect of perceived fairness). The authors suggest that an explanation for this may be that the thoroughness of assessment centres means candidates already have a very full opportunity to demonstrate their performance, compared with other types of selection procedure.

### **There is a positive relationship between the perceived transparency of organisation promotion systems and perceived justice (Level D)**

**García-Izquierdo et al (2012)**, noting that there is very little research on perceptions of fairness in the context of promotions rather than entry-level selection, conducted a cross-sectional survey of 213 employees and supervisors from 31 different private sector organisations in Spain, exploring the relationships between procedural justice, job satisfaction, transparency, promotion systems and selected demographic variables. The research showed positive associations between transparency of organisation promotion systems and perceived procedural justice ( $\beta=.26$ , small effect size). The research also



showed a positive relationship between the use of competence-based assessments and procedural fairness ( $\beta=.25$ , small effect size).

### **How open interviewers are to questions and the clarity and honesty of the information provided impact on candidate views on organisational attractiveness and future intentions (Level D)**

**Nikolaou and Georgiou (2018)** used a cross-sectional survey to explore applicant reactions to an interview. The study sample was 238 job applicants in Greece. The majority of applicants were female with a mean age of 27 years. The study aimed to explore how applicants' personality (core self-evaluations and proactivity), their perceptions of the interviewer (whether they were competent, personable and informative) and their perception of the fairness of the interview impacts on perceived job and organisational attractiveness, and future behavioural intentions. Participants were asked to evaluate their most recent job interview (within the last three months). While not focused on promotion and not a design that can answer the question 'what works', the survey highlighted the importance for candidates' perceptions of the interviewer for post-interview outcomes, such as behavioural intentions (behavioural intentions predicted by justice perception and personableness, competence and informativeness, medium effect size ( $R^2=.19$ )), job attractiveness (job attractiveness predicted by justice perception and personableness, competence and informativeness, effect size small to medium ( $R^2=.09$ )) and organisational attractiveness (organisational attractiveness predicted by justice perception and personableness, competence and informativeness, effect size large ( $R^2=.28$ )). Especially important in terms of candidates' perceptions was the 'informativeness' of interviewers (effect size small,  $\beta=.23$ ) – in other words, how open they were to answering questions, providing information on the job and company, realistically and with clarity.

### **Assessment methods**

#### **Video interviews can be perceived as less fair than face-to-face interviews (Level C)**

**Sears et al (2013)** compared the influence on applicant reactions and interviewer judgements of videoconference (VC) interviews versus face-to-face interviews. Participants were MBA students who were asked to assume the role of applicant or interviewer in a simulated scenario. Applicants perceived videoconference interviews as offering less of a chance to perform (large effect size,  $\eta^2=.14$ ) ('I was able to show my abilities and skills through this interview'), as yielding less selection information (medium effect size,  $\eta^2=.05$ ) ('I understood in advance what the interviewing process would be like'), as less job-related (effect size medium to large,  $\eta^2=.10$ ) ('A person who scores well on this interview will do the job well'). In VC interviews, interviewees' also viewed their interviewer less favourably in personableness (effect size medium to large,  $\eta^2=.10$ ), trustworthiness (effect size medium,  $\eta^2=.06$ ), competence (effect size medium to large,  $\eta^2=.11$ ), and physical appearance (effect size medium to large,  $\eta^2=.09$ ). Applicants in VC interviews received lower ratings of affect (likeability) (effect size medium,  $\eta^2=.05$ ) and lower interview scores (effect size medium,  $\eta^2=.07$ ), and were less likely to be recommended for the position (effect size medium,  $\eta^2=.04$ ). The research suggests that VC technology can adversely affect both participant reactions and interviewer judgements.

**Balcerak and Woźniak (2021)** used a cross-sectional survey to compare fairness perceptions of traditional (face-to-face) and synchronous video interviews as selection tools. The survey evaluated perceived predictive validity and perceived fairness, along with seven dimensions of procedural justice (scientific evidence, employers' rights to use this method, opportunity to perform, interpersonal warmth, face validity, perceived widespread usage, and respectful of candidate's privacy). The sample group consisted of 427 members of an online research panel in Poland, all of whom had professional work experience. It was conducted during the pandemic period, which saw many people take part in videoconferences daily.

The study found that video interviews were evaluated lower on predictive validity ( $d=.58$ , medium effect), face validity ( $d=.56$ , medium effect), opportunity to perform ( $d=.51$ , medium effect), employers' right to use the method ( $d=.54$ , medium effect), respect of privacy ( $d=.21$ , small effect), and interpersonal warmth ( $d=.26$ , small effect). However, there were no differences in perceptions of overall fairness and quality of scientific evidence. The authors conclude that, although video interviews were evaluated more poorly overall than face-to-face interviews, differences in perception depend on the dimension being evaluated.

#### **Video interviews are seen as less unfair once people have experienced them (Level C)**

**Basch et al (2021)** conducted an experiment to compare fairness perceptions of face-to-face and videoconference interviews using simulated selection interviews. Participants were randomly assigned to take part in either a face-to-face or videoconference interview, before and after which they completed an online questionnaire which contained questions concerning fairness perceptions. The post-interview questionnaire also contained questions about perceived social presence and impression management. 114 students from different courses of study at a German university participated, the majority of whom were female and had a job.

The study found that fairness perceptions for face-to-face and videoconference interviews were relatively similar. Videoconference interviews were rated as less fair overall than face-to-face interviews in the pre-interview questionnaire ( $d=.44$ , medium effect), but this difference was less pronounced after the interview ( $d=0.21$ , small effect). Further analysis shed light on why the interview method affected fairness perceptions: differences in fairness perceptions were mediated by perceived social presence ( $\beta=.34$ , small to medium) and impression management ( $\beta=.32$ , small to medium). The lack of physical presence of the interviewer can be viewed as a barrier to applicants to present themselves positively, leading to less favourable perceptions of videoconference interviews. The authors recommend using explanations and emphasising the advantages of videoconference interviews to candidates to prevent low fairness perceptions during the selection process.

### **Applicants are no more sceptical of asynchronous videos than other pre-selection tools (Level C)**

**Basch et al (2022)** carried out an experiment to compare perceptions of asynchronous video interviews (AVI), where applicants record themselves answering a predetermined set of questions, with other pre-selection tools – online cognitive ability tests (OT) and online application forms (AD). Participants were asked to imagine they had applied for a job and had been invited to complete a pre-selection instrument. A between-subjects design with three independent groups was used to assess participants' perceptions. The specific pre-selection tool (AVI, online test, online application form) was described in detail and participants were then asked to evaluate the perceived fairness of the respective selection tool. The sample group consisted of 316 individuals in Germany, the majority of whom were in employment. The study found that, compared with other pre-selection tools, applicants do not have more sceptical fairness perceptions of AVIs.

### **Highly automated job interviews are less acceptable as a result of lower perceived fairness (Level B)**

**Langer et al (2019)** conducted an experiment to explore reactions to highly automated job interviews. The study used a virtual agent as interviewer and incorporated automated tools to acquire information through sensors, score interviews, make decisions on follow-up questions, and control the action of the interviewers. The study compared 'applicant' reactions in a 2×2 design: highly automated job interview using artificial intelligence (AI) versus videoconference; and high-stakes setting (job application) versus low-stakes setting (training). The study demonstrated that automated high-stakes situations (job interviews in this case) led to ambiguity and lower perceptions of control. Highly automated interviews were less acceptable as a result of lower perceived fairness and social presence (related to empathy demonstrated by interviewer). However, it should be noted that the participants were not job applicants themselves, and were asked to give their perceptions of the process as if their friend were experiencing it; in other words, they played the role of an observer. Effect size of AI versus videoconference conditions was small to moderate ( $d=.355$  (CI=-.001, .711) calculated by reviewer from reported  $F=3.88$ ,  $n=123$ , equal sample sizes); the effect taking into account the interaction with high-stakes or low-stakes interviews was moderate ( $d=.498$  (CI=.139, .857) calculated from  $F=7.62$ ,  $n=123$ ).

### **Robot-mediated job interviews can be seen as either less fair or fairer than face-to-face interviews (Level D)**

**Nørskov et al (2020)** used an online, video vignette-based cross-sectional survey to examine applicant fairness perceptions and behavioural intentions of two types of job interview: a face-to-face and a robot-mediated interview. Each respondent watched two videos (a face-to-face job interview and a robot-mediated job interview) and completed a questionnaire after watching each video. In the robot-mediated interview, the applicant and interviewer were in different rooms, each sitting with the robotic proxy representing the other party. The robot was teleoperated by the party it represented. The sample group consisted of 235 business administration students in a Danish university.

The study found that face-to-face employment interviews were perceived as fairer than robot-mediated interviews for both procedural ( $d=.23$ , small effect) and interactional

fairness ( $d=.41$ , medium effect). It also found that applicants' fairness perceptions positively affect their behavioural intentions. Intentions to accept the job, reapply to the organisation, and recommend the organisation were thus higher in the face-to-face setup than in the robot-mediated setup ( $d=.57$ , medium effect). The authors note that participants in this study were not physically engaged in the interaction, rather they took on the role of observers.

**Nørskov et al (2022)** used a cross-sectional survey to examine applicants' fairness perceptions of two types of job interview: a face-to-face and a robot-mediated interview. Each survey respondent watched two video segments, displaying a conventional face-to-face interview and a robot-mediated job interview. Each video was followed by a set of questions. In the robot-mediated job interview, the applicant and the interviewer were seated in different rooms. The interviewer sat across from the robotic proxy, representing and teleoperated by the applicant, whereas the applicant sat in front of a computer screen via which they could see the interviewer. The sample group consisted of 242 jobseekers at an unemployment centre in Denmark.

The study found that jobseekers perceive robot-mediated job interviews as fairer than face-to-face interviews ( $d=.488$ , medium effect). The authors suggest that, from the jobseeker perspective, there is room for improvement on the traditional job interview and highlight the potential of using robotic proxies for this purpose.

#### **Mixed findings on digital selection methods and perceptions of procedural justice (Level C and Level D)**

**Folger et al (2022)** carried out two studies to explore job applicants' perceptions of procedural justice to explain the relationship between an organisation's use of digital selection methods and employer attractiveness perceptions.

Study one (Level C) was an online experimental vignette study, using a  $2 \times 2 \times 2$  between-subjects design. The factors were the level of digitalisation (high, low) in three stages of a hypothetical selection process (application and screening, assessment test and job interview). The sample group consisted of 475 potential job applicants (that is, they were in an application process at the time of the study or were considering applying for a new role). The study found that potential applicants perceive digital selection methods as less fair than less digitalised methods in the interview stage ( $b=-0.95$ , large effect) but not in the application ( $b=-0.21$ , small effect) or assessment stage ( $b=-0.15$ , small effect). It also found that lower procedural justice perceptions resulted in a negative indirect effect of digital selection methods on employer attractiveness in the interview stage.

Study two (Level D) consisted of a field survey of 335 people who had participated in at least one selection process in which they had reached the interview stage. They were asked to refer to this process when answering the questionnaire. This study found that use of digital selection methods did not affect applicants' procedural justice perceptions, nor did perceptions of procedural justice mediate employer attractiveness.

The authors note that the results of the two studies are not consistent, which may be explained by the different samples and different operationalisations of the independent variables. Further, a large proportion of the sample in Study two accepted a job offer after

the selection process they reported, which may mean that working at the organisation influenced their perceptions.

### **Integration of immersive elements in a situational judgement test does not affect perceptions of procedural justice (Level C)**

**Landers et al (2020)** conducted an experiment to understand the effects of gamification on applicants' procedural justice perceptions of situational judgement tests (SJT). Participants were randomly assigned to experience different versions of a gamified SJT, crossing immersive game elements (text, audio, still pictures, video) with control game elements (high and low). The sample group consisted of 240 individuals recruited through Amazon Mechanical Turk in the US. Most participants in the study were employed (87%). The study found that integrating immersive elements in an SJT does not affect applicants' perceptions of procedural justice ( $R^2=0.02$ ).

### **Assessment criteria**

#### **Algorithmic job application screening perceived to be less fair, partly due to its inability to recognise a candidate's uniqueness (Level C)**

**Lavanchy et al (2022)** undertook four studies using scenario experiments to examine how job applicants perceive the use of algorithms in selection and recruitment. All four studies measured participants' perceptions of whether the recruiting procedure is fair and focused on the first stage of recruitment: the résumé screening process. All participants were recruited from Amazon's Mechanical Turk, an online platform where requesters can pay for simple tasks to be completed by human workers.

Study one examined whether the use of algorithms affected job applicants' fairness perceptions of the selection process. The sample group consisted of 249 participants, who were shown a job advert and asked to imagine they were applying for it. They were then told that the résumé screening process would be undertaken by either the hiring manager (human condition); a computer algorithm (AI condition); or the hiring manager, assisted by a computer algorithm (AI-assisted human condition). Participants were then asked to rate the fairness of the recruitment process. The study found that participants in the human condition reported higher perceptions of fairness ( $M=7.95$ ) compared with the AI condition ( $M=3.79$ ) and the AI-assisted human condition ( $M=4.97$ ).

Study two tested whether these perceptions are affected by the outcome of the recruitment process, that is, whether or not a job applicant is shortlisted for a position. The sample group consisted of 272 participants. Participants were shown the same job offer as in Study one and were told they had applied and were waiting for the outcome of their application. Participants were randomly assigned to one of four conditions: positive outcome and human condition, negative outcome and human condition, positive outcome and AI condition, or negative outcome and AI condition. They were then asked to rate their perception of fairness of the recruitment process. As for Study one, participants perceived the AI screening recruitment process as less fair than human-screened processes. This aversion to AI persisted regardless of the outcome (positive or negative).

Study three explored uniqueness neglect (that is, the inability to identify candidates' unique characteristics) as a mechanism to explain aversion to algorithms in the recruitment process. The sample group consisted of 282 participants. The same scenario was used as in Study one, with the exclusion of the AI-assisted human condition. Perceptions of

fairness and the ability of the recruitment process to identify unique characteristics of job applicants were measured. The study found that the belief that algorithms will not be able to see how unique candidates are contributes to their lower fairness perception.

Study four explored uniqueness neglect further, using the same scenario as Study three. Participants answered questions to measure their self-attributed need for uniqueness and were then shown the same job offer as in the previous studies. They were then randomly assigned to one of four conditions: AI, AI with detailed description, human, or human with detailed description. The detailed description explained that the AI program or human (hiring manager) was able to assess candidates' uniqueness. Participants were then asked to rate the fairness of the process and ability of the process to measure uniqueness. The sample group consisted of 270 participants. The study found that again, algorithm screening was perceived as less fair than human screening. Manipulation of the recruiter's framing only slightly changed the results. Overall, Studies three and four indicate that candidates are averse to algorithms because they believe that they can't account for their uniqueness as an individual.

### **Algorithmic job application screening perceived as less fair (Level C)**

**Noble et al (2021)** conducted an experiment to explore how automated application and résumé screening procedures affect justice perceptions. Participants were randomly assigned to read one of six vignettes describing a job application scenario of either a traditionally (human) administered or algorithmically administered screening procedure, with an outcome favourability of acceptance, rejection, or unknown. They then rated procedural and interpersonal justice across eight dimensions. The sample group consisted of 360 individuals recruited through Amazon's Mechanical Turk, an online platform where requesters can pay for simple tasks to be completed by human workers.

The study found that automated screening was rated lower on four elements of procedural justice compared with traditional screening: perceptions of job-relatedness – predictive ( $d=-0.27$ , small effect), job-relatedness – content ( $d=-.32$ , small to medium effect), opportunity to perform ( $d=-.65$ , medium to large effect), reconsideration opportunity ( $d=-.80$ , large effect). However, it was rated higher on consistency ( $d=.36$ , small to medium effect). With regards to interpersonal justice, algorithmic screening reduced perceptions of treatment ( $d=-.57$ , medium effect), two-way communication ( $d=-.64$ , medium to large effect) and propriety of questions ( $d=-.26$ ). This study demonstrates that algorithmic job application and résumé screening reduces perceptions of both procedural and interpersonal justice.

### **How selection tests are scored impacts applicant motivation (Level D)**

**Roch et al (2014)** sought to understand the impact of how selection processes are scored on applicant motivation, its antecedents (self-assessed performance, perceived influence on how performance is evaluated, and procedural justice) and consequences (performance on the selection measure). Participants were US undergraduates asked to assume the position of a cellular phone store employee who is seeking a promotion to a management position. Each participant took part in an assessment centre involving a cognitive ability test, written role play and semi-structured interview. These selection methods were chosen as they enable the comparison of methods scored relatively objectively (the cognitive ability test) and those scored using ratings and relatively less objectively. Results demonstrated that procedural justice perceptions impacted participant motivation equally across the three selection measures. The importance of self-assessed

performance and perceived influence on participant motivation varied according to the selection measure. Self-assessed performance impacted on participant motivation across all three selection measures but had a greater impact for the written role-play exercise. Perceived influence, on the other hand, only impacted on participant motivation for the interview. In terms of fairness, the research found a stronger correlation between self-assessed performance and actual performance for cognitive ability tests than for the other, less objectively scored selection measures. The implication is that candidates are more likely to feel they have done well when they haven't on less objectively scored tests, and feel that the outcome is unfair. The research also found that motivation on cognitive ability tests was linked to performance. No such link was found between motivation and performance for the other selection measures. This perhaps emphasises the importance of taking steps to improve candidate self-efficacy when it comes to cognitive ability tests to improve motivation and hence test validity.

### **Employers should consider the test-taking attitudes of applicants as well as test validity when constructing selection processes (Level D)**

**Visser and Schaap (2017)** used a cross-sectional survey to understand the test-taking attitudes of a diverse group of job applicants towards personality and cognitive ability tests administered conjointly as part of an employee selection process in a financial services company in South Africa. The sample group consisted of 160 job applicants who were diverse in terms of age, ethnicity and the educational level applicable for sales and supervisory positions. While on average, job applicants responded equally positively to cognitive ability and personality tests, there were some variations by sub-group. In conclusion, the authors emphasise the importance of considering not only test validity when constructing selection processes, but also the test-taking attitudes of applicants.

## **Appendix 1: Research methods**

### **Literature search**

The rapid evidence review began with a scoping phase during which different combinations of search terms were used across databases to identify the key terminology in the literature and the search terms that would be most fruitful given the timeframe of the study.

Our search terms covered three main subject areas and one study methodology:

- S1 – selection and promotion terms (eg selection, promotion, hiring)
- S2 – related work terms (eg employee, candidate, applicant)
- S3 – fairness terms (eg fair, bias, equality, procedural justice)
- S4 – study design (eg meta-analysis, systematic review, experiment).

The first search combined the four sets of search terms across three scientific databases: ABI Inform, Business Source Premier (BSP), PsycINFO and Web of Science (WoS). Searches were restricted to peer-reviewed articles in English language published between January 2015 and July 2019, that is, since the CIPD's review of selection methods, [\*A head for hiring\*](#). Terms were searched within abstracts and titles. However, in WoS we searched for titles only (abstracts were unavailable) and, due to low numbers, the methodology terms (S4) were excluded.

**Table 1: Terms used in literature search**

<b>S1: selection</b>	promotion* OR selection OR assessment* OR recruit* OR hiring OR “job interview*” OR “employment interview*” OR “competency based interview*” OR “job application*” OR “application form*” OR “personality test*” OR “cognitive ability test*” OR “psychometric test*” “assessment centre”
<b>S2: work terms</b>	applicant* OR candidate* OR personnel OR employee* OR job*
<b>S3: fairness</b>	diversity OR *fair* OR inclusi* OR *bias* OR discriminat* OR stereotyp* OR transparen* OR equality OR “procedural justice” OR “distributive justice” OR “organizational justice” OR “organisational justice”
<b>S4: methodology</b>	meta-analy* OR “systematic review” OR experiment* OR controlled OR longitudinal OR randomized OR “controlled stud*” OR “controlled trial” OR “control group” OR “control variable” OR “comparison group” OR “comparative stud*” OR quasi OR longitudinal OR randomized OR randomly OR laboratory OR “before and after stud*” OR “pretest post*” OR “time series” OR “case control” OR “case cohort” OR “cohort stud*” OR “prospective stud*”
<b>S5: fairness perception</b>	“fairness perception*” OR “procedural justice” OR “distributive justice” OR “organizational justice” OR “organisational justice”

**Note:** the asterisk is a wildcard symbol – all words starting with the letters prior to or following the asterisk were included (for example ‘recruit\*’ also searches for recruit, recruiting, recruiter and recruitment).

### Search results

The initial search based on search terms S1–S4 yielded:

- 191 studies from ABI Inform
- 180 from BSP
- 204 from PsycINFO
- 41 from WoS.

A scan of the abstracts from these searches revealed a great volume of literature on fairness in selection procedures. A more careful examination showed that the literature was fairly disparate, covering biases that occur during job application form/CV screening, biases that occur during initial meetings with candidates, and the predictors and consequences of fairness perception. There was very little on best practice in reducing biases during selection methods that go beyond application forms/CVs, and none on objectively improving fairness during promotions. In fact, the term ‘promotion’ produced very few results; fewer than 20 articles were obtained from each database when ‘promotion’ was combined with sets S2 to S4, and most of these were not relevant. They often focused on issues such as health promotion, for example.



Following this categorisation of the literature, a decision was made to focus the review on fairness perceptions, and more specifically the features of selection procedures that impact on fairness perceptions. These were reasoned to be especially important to ensure that promotion practices are well received by organisations' workforces.

To review this literature, we conducted a revised search to cover the 10-year period January 2009 to July 2019. The sets of search terms S1 and S2 were combined with a new set of search terms (S5) covering fairness perceptions and procedural justice. Given the smaller number of results, it was not necessary to include the S4 terms on methodology in this search.

The results were as follows:

- 86 studies from ABI Inform
- 79 from BSP
- 94 from PsycINFO
- 7 from WoS.

To update this review, the revised search was run again in 2023 to cover the period August 2019 to January 2023. Business Source Premier was replaced with Business Source Elite (BSE) due to availability.

This yielded:

- 45 studies from ABI Inform
- 39 from BSE
- 16 from PsycINFO
- 4 from WoS.

### **Screening**

All titles and abstracts were screened for relevance to the research topic. Studies from outside of Europe and the OECD were mainly screened out, although some studies from Israel were included as they were felt to offer some value to the review. Studies that focused on factors outside of the selection procedure design that determine fairness perceptions (for example applicant personality traits) were also screened out, as were those that looked at the consequences of fairness perceptions. Following the sift, 31 papers were put forward for data extraction. Two papers were excluded following retrieval of full papers. One of these papers was a theoretical paper and the other focused on how fairness perceptions change over time and whether such changes are demonstrated in both laboratory and real-world settings.

### **Critical appraisal**

Each paper has been assessed according to CEBMa's guidance on methodological appropriateness for addressing cause-and-effect questions.

### **Study levels**

We note 'study level' as an indication of how trustworthy the research is. As with many management problems, our questions concern cause-and-effect relationships; in this case, what affects perceived fairness and what organisational outcomes does this lead to?

Some studies tell us more about cause-and-effect relationships than others (Barends et al, 2017). Level A studies include systematic reviews and randomised controlled studies – these do the best job of telling us what affects perceived fairness or what outcomes it leads to. Level D studies include cross-sectional surveys (run at one point in time) and are much less reliable guides.

### Effect sizes

In addition, we note effect sizes of research findings. These are not a gauge of how trustworthy a study is, but a vital indicator of how important the findings are. According to Cohen’s rule of thumb, a ‘small’ effect is an effect that is visible only through careful examination, so may not be practically relevant; a ‘medium’ effect is one that is ‘visible to the naked eye of the careful observer’; and a ‘large’ effect is substantial enough that anybody can easily see it (Cohen,1988).

**Table 2: Appropriateness of study designs for cause-and-effect questions**

Design	Appropriateness	Level	Trustworthiness
Systematic review or meta-analysis of randomised controlled studies	Very high	A+	95%
Systematic review or meta-analysis of controlled and/or before–after studies Randomised controlled study	High	A	90%
Systematic review or meta-analysis of cross-sectional studies Non-randomised controlled before–after study Interrupted time series	Moderate	B	80%
Controlled study without a pre-test or uncontrolled study with a pre-test	Limited	C	70%
Cross-sectional	Low	D	60%
Qualitative study	Very Low	D–	55%

Note: level and trustworthiness are downgraded if a study contains more than one serious weakness.

## Appendix 2: Measurement of fairness in selection

The most established measure of fairness in selection is Bauer et al's (2001) *Selection Procedural Justice Scale* (SPJS). The full scale, available in the [original article](#), includes 39 items. This may not be practical to use in many contexts with employees or job applicants, but employers can nonetheless use a selection of the questions. A selection of the items is shown below. The self-reported survey items are all rated from 'Strongly disagree' to 'Strongly agree' on a five-point scale.

### Structure higher-order factor subscales

Job-relatedness – predictive.

*Items include:*

- *Doing well on this test means a person can do the [insert job title] job well.*

Information known.

*Items include:*

- *I understood in advance what the testing processes would be like.*

Chance to perform.

*Items include:*

- *This test gives applicants the opportunity to show what they can really do.*

Reconsideration opportunity.

*Items include:*

- *I was given ample opportunity to have my test results rechecked, if necessary.*

Feedback.

*Items include:*

- *I knew when I would receive feedback about my test results.*

### Social higher-order factor subscales

Consistency.

*Items include:*

- *The test was administered to all applicants in the same way.*

Openness.

*Items include:*

- *I was treated honestly and openly during the testing process.*

Treatment.

*Items include:*

- *I was treated politely during the testing process.*

Two-way communication.

*Items include:*

- *There was enough communication during the testing process.*

Propriety of questions.

*Items include:*

- *The content of the test did not appear to be prejudiced.*
- *The test itself did not seem too personal or private.*

Job-relatedness – content.

*Items include:*

- *The content of the test was clearly related to the [insert job title] job.*

Note: the word ‘test’ could be replaced with other selection devices or with a global term such as ‘the selection process’ as appropriate.

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