Reactions to Asynchronous Video Interviews: The Role of Design Decisions and Applicant Age and Gender

Ottilie Tilston[1], Franciska Krings[1], Nicolas Roulin[2], Joshua S. Bourdage[3], & Michael Fetzer[4]

[1] Department of Organizational Behaviour, University of Lausanne, Switzerland

[2] Department of Psychology, Saint Mary's University, Canada

[3] Department of Psychology, University of Calgary, Canada

[4] AON, Brunswick, GA, United States

Article “in press” in *Human Resource Management*

Abstract

Asynchronous video interviews (AVIs) are a form of one-way, technology-mediated selection interview that can help streamline and increase flexibility in the hiring process and are used to hire millions of applicants per year. Although applicant reactions to AVIs in general tend to be more negative than with traditional interview modalities, AVIs can differ widely in how they are designed. For instance, applicants can be provided with more or less preparation time, response length, re-recording options, or rely on different question formats. This study examines how AVI design features impact applicant reactions, as well as the moderating role played by applicant age and gender. Data from 27,809 real job applicant's AVI experiences were collected in eleven countries (69.3% English-speaking) from 33 companies and relating to 72 types of positions. Data were fitted with linear mixed-effects models to account for nesting. Results showed that allowing more preparation time and offering the opportunity to re-record responses were related to more favorable reactions, while including more questions was related to more negative reactions. Applicants above the age of 31 reacted especially negatively to AVIs with more questions while those below the age of 30 preferred being allocated longer maximum response lengths. Women reacted more positively to increased preparation time. These findings might help both AVI vendors and hiring organizations design AVIs that facilitate a positive applicant experience. Our research also expands knowledge on applicant reactions to interviews, highlights crucial differences from traditional formats, and calls for integrating applicant characteristics into current theoretical frameworks on applicant reactions to AVIs.

Keywords:

Asynchronous video interviews, applicant reactions, personnel selection, technology

Introduction

Asynchronous Video Interviews (AVIs) are an increasingly popular form of one-way, technology-mediated hiring interview (Strazzula, 2020). Millions of applicants are hired each year using AVIs, and this trend only increased during the COVID-19 pandemic (Dunlop et al., 2022; Handler, 2020). AVIs are an on-demand alternative to traditional face-to-face interviews, during which the applicant logs onto an online platform to record video responses to interview questions, which are later scored by human raters or automatically by an algorithm. This dislocation of time and space between applicant and evaluator (and lack of synchronous conversation) make AVIs fundamentally different from other types of technology-mediated interviews, such as videoconference interviews. AVIs have numerous advantages over other selection methods, such as being faster, cheaper and easier in terms of scheduling (Brenner et al., 2016). However, preliminary evidence suggests that applicants are less favorable towards AVIs in general, and rate them as creepier, less interactive, and more privacy invasive than other interview methods (Langer et al., 2017). Such negative interview experiences may have several downstream consequences. Applicants may become more anxious – which is associated with poorer interview performance (McCarthy et al., 2021; Powell et al., 2018), or they may turn down the job offer even if successful (Chapman et al., 2003; Gilliland, 1993). In addition, bad AVI experience may lead a dissatisfied applicant to talk negatively about the organization, for example in online forums (Carpentier & Van Hoye, 2021), driving other potential candidates away. In short, applicant reactions are important (Uggerslev et al., 2012).

While a broad understanding of applicant reactions to AVIs *in general* has grown, both through experimental work conducted in the lab (Basch & Melchers, 2019; Langer et al., 2017) and large-scale field studies (Griswold et al., 2022; McCarthy et al., 2021), much less is known about applicant reactions to the specific forms that AVIs can take. Of critical

importance is that AVIs vary greatly in terms of the way they are designed on many important features (Dunlop et al., 2022). To provide just a few examples, questions may be asked in text or video format, and the time that applicants are allocated to prepare their responses and record their answers may range widely. Applicants may (vs. not) also be given the opportunity to watch back their response and re-record answers if they are not satisfied. Any combination of these features would create substantially different interview experiences and could impact how applicants react to the AVI.

Drawing on theoretical models on applicant reactions in general (McCarthy et al., 2017) and towards AVIs in particular (Lukacik et al., 2022), we focused on design features likely to influence applicant reactions. For example, a feature such as the opportunity to re-record answers may increase perceived fairness and reduce anxiety, and thus improve applicant reactions to AVIs. The AVI design elements investigated in this study are preparation time, re-recording opportunities, response length, question media format, number of questions and question type. Moreover, we extend current models to incorporate applicant characteristics, considering that just as not all AVIs are the same, neither are all applicants. Interindividual differences such as trait level anxiety (Constantin et al., 2021; McCarthy et al., 2017) and national culture (Griswold et al., 2022) have been shown to impact applicant reactions. Drawing on models of technology acceptance (Davis et al., 1989; Marangunić & Granić, 2015) we examined whether applicant age and gender moderate the relationships between AVI design features and applicant reactions. For example, older adults tend to be less familiar with technology-mediated communication (Woods et al., 2020). However, implementing certain design features (e.g., providing longer preparation time before the answer is recorded) could make the tool easier to manage for older applicants. Similarly, some design features (e.g., opportunity to re-record answers) may particularly improve

reactions of female applicants who have been shown to be more apprehensive about their physical appearance (Fauville et al., 2021).

We contribute to the literature on AVIs by examining the relationship between specific AVI features and applicant reactions, taking into account relevant interindividual demographic differences. Moreover, we use high-stakes data with tens of thousands of real applicants, significantly extending the currently dominant focus of AVI research on experimental scenario-based studies conducted in the lab. Our findings have theoretical implications, as they complement initial examinations of reactions to AVIs in general (e.g., Griswold et al., 2021) and help refine conceptual AVI frameworks (e.g., Lukacik et al., 2022). Our study also has important practical implications for organizations, contributing to filling the 'void' of knowledge on how AVIs *are* currently used, and how they *should* be designed and used in practice to improve applicant reactions, including for specific groups.

Applicant Reactions and AVI Design Features

Applicant reactions to selection tools are important, as they can have negative downstream consequences for both the applicant (Powell et al., 2018) and the organization (Carpentier & Van Hoye, 2021). The term *applicant reactions* refers to how job applicants perceive and respond to selection tools (McCarthy et al., 2017). Existing research has examined several specific dimensions of reactions. For instance, Gilliland (1993) proposed that applicants form perceptions of the procedural (e.g., opportunity to perform, feedback received, interpersonal treatment) and distributive (e.g., equity, equality) justice of a selection system, which impact their reactions toward the hiring process (e.g., motivation to perform, job acceptance decisions, recommendations). This model has received empirical support, with applicants who report higher procedural justice perceptions being also more motivated to perform on selection tests, more attracted to the hiring organizations, and more likely to

recommend the organization to others (Bauer et al., 2001; Bauer et al., 2006). Other conceptual models have incorporated additional dimensions of reactions, such as test-specific attitudes or anxiety (Hausknecht et al., 2004). Importantly, while reactions to selection tools can vary when examining different dimensions, the employment interview is associated with positive reactions across dimensions (Anderson et al., 2010) Overall, traditional in-person interviews are perceived as being one of the fairest selection tools (Moscoso, 2000).

However, positive applicant reactions to in-person interviews do not always translate to technology-mediated interviews, and especially AVIs. For example, a large-scale field study with almost 650,000 applicants found lower scores for AVIs than video-conference interviews for two broad (one-item) reaction measures: perceived effectiveness and overall satisfaction with the interview (Griswold et al., 2022). In addition, evidence from lab experiments confirmed that applicants have more negative reactions to AVIs than other interview modalities: They find AVIs are perceived as less interpersonally fair, creepier, and more privacy invasive than face-to-face or video interviews (Basch, Melchers, et al., 2021; Langer et al., 2017). Yet, another large-scale field study (McCarthy et al., 2021) found more positive broad reactions to AVIs, suggesting that not all AVIs are perceived negatively.

In this paper, we conceptualize and operationalize applicant reactions as broad/global reactions to AVIs, based on the concept of the net promoter score, or NPS (Reichheld, 2003). NPS is an indicator of user/customer reactions or recommendation, which is very popular in the retail and technology sectors (Fisher & Kordupleski, 2019). NPSs have been used as a core measure of applicant reactions by many AVI providers, and there is evidence that NPS correlates with more established perceived fairness measures (McCarthy et al., 2021; Pfeil, 2018). Moreover, initial AVI research examining specific dimensions of fairness or applicant reactions reported very high inter-correlations between such dimensions (Basch & Melchers,

2019; Hiemstra et al., 2019; Langer et al., 2017; Langer et al., 2019), suggesting that a broad measure can adequately capture applicant reactions to AVIs.

In addition, a major theoretical and practical limitation with much existing work is that it examines reactions to AVIs in general. Yet, AVIs can differ widely in the way they are designed, and the chosen design features may have an important impact on applicants' reactions. *AVI design* refers to how the interview is programmed, and the configuration of features chosen that impact user experience, including features such as preparation time, opportunity to re-record, response length, or the media richness of the question (Lukacik et al., 2022). Building in part on past theoretical and empirical work on applicant reactions (Bauer et al., 2001; Gilliland, 1993; Hausknecht et al., 2004), Lukacik et al. (2022) proposed a conceptual model for understanding the impact of AVI design on applicant reactions, behaviors, and outcomes. They propose that speaking about reactions to AVIs generally (i.e., as a singular modality) is not adequate, as the experience and reactions likely vary widely across AVIs. For instance, offering longer times to prepare the answer could influence how favorably applicants react and how fair they perceive the AVI (Lukacik et al., 2022). Additionally, design features shouldn't be considered only in isolation, as in practice they are implemented in combination to construct the AVI experience. Given this, to truly understand the impact of AVI design, it is more appropriate to consider the effects of different features together, in the same way they would be put into practice. In the following sections, guided by the theories of applicant reactions noted above, we investigate how applicant reactions to AVIs are associated with several AVI features. These include four of the core AVI design elements from Lukacik et al.'s conceptual model (i.e., preparation time, re-recording opportunities, response length, question media format), a new element that we believe is theoretically relevant but has not been included in prior models (i.e., number of questions), and one traditional interview element (question type).

Allocated Preparation Time

Allocated preparation time refers to the length of time applicants are given to prepare their response to each interview question before recording begins. This is a unique feature of AVIs because in synchronous (face-to-face or video conference) interviews, applicants are expected to produce immediate answers. In AVIs, employers typically allocate between 30 seconds and 3 minutes of preparation time (Basch, Brenner, et al., 2021), with an average of 36 seconds (Dunlop et al., 2022). Applicants who take advantage of increased preparation time perform better in the interview (Roulin et al., 2022). Providing applicants with more preparation time could improve applicant reactions by reducing anxiety and increasing fairness perceptions (Lukacik et al., 2022). Specifically, interviews are stressful situations (Constantin et al., 2021), that involve time pressure that is linked to strain and other unpleasant emotions (Pekrun, 2006; Zeidner, 1998). Increasing the amount of preparation time reduces time pressure and may consequently reduce interview anxiety (Lukacik et al., 2022; McCarthy & Goffin, 2004). Moreover, time to gather one's thoughts prior to answering could also provide applicants with the opportunity to provide more relevant, organised, structured reponses (Huffcutt et al., 2011). Applicants who actively prepare their responses during their preparation time also perform better in the AVI (Basch, Brenner, et al., 2021), which may in turn contribute to perceiving the tool more favorably. We therefore predict that:

Hypothesis 1: More allocated preparation time will be positively related to applicant reactions.

Opportunity to Re-record Responses

Employers or recruiters can choose whether they want to allow applicants to re-record their responses, and if so, how many attempts are offered. This is a unique characteristic of AVIs that has no functional equivalent in traditional synchronous interviews. Recent

evidence shows employers often choose to *not* allow re-recording (Dunlop et al., 2022). However, allowing re-recording may be a crucial opportunity to enhance applicant reactions. For example, interview anxiety may be reduced when applicants know they can retry their answer, and those who use this feature perform better (Roulin et al., 2022). AVIs with re-recording options may also be perceived as fairer, as applicants believe they are being given a better opportunity to showcase their skills and abilities (Gilliland, 1993). For example, given the potential of impression management behavior to enhance interview performance (Bolino et al., 2016), applicants may feel a heightened opportunity to perform if they can, for instance, adapt their impression management behavior across attempts. (Roulin et al., 2016)

Hypothesis 2: Opportunity to re-record responses will be positively related to applicant reactions.

Maximum response length

Maximum response length refers to the total allotted time the applicant has to respond to each interview question. This varies between employers and jobs, typically ranging from 60 to 180 seconds (Dunlop et al., 2022). Nevertheless, many employers prefer to keep response lengths relatively brief, potentially to manage workloads associated with manual evaluation of the responses afterwards (Lukacik et al., 2022). Most applicants use the majority of the response time that they get (on average 70%), making maximum allocated response time an important determinant of actual response length (Dunlop et al., 2022). As with preparation time, longer response time may improve applicant reactions by reducing interview anxiety due to a decrease in time pressure (Lukacik et al., 2022) and by providing a better opportunity to perform and therefore increasing fairness perceptions (Gilliland, 1993).

Hypothesis 3: Longer maximum response length will be positively related to applicant reactions.

Question Media Format

In AVIs, questions can be presented as recorded videos, where the question is posed to the applicant verbally by an interviewer, or in text format. Employers generally rely on text-based questions, with one large-scale study finding that only 4.4% of AVIs used video questions (Dunlop et al., 2022). However, it is possible that organizations are missing out on an opportunity to improve applicant reactions. Video questions may improve applicant reactions by mitigating some of the potentially negative factors associated with AVIs. For instance, because there is no actual interviewer, AVIs are low in social presence compared to traditional face to face interviews (Basch et al., 2020). Moreover, due to their asynchronicity and thus lack of immediate feedback, AVIs are likely lower in media richness (Daft & Lengel, 1986). Including video questions in an AVI may increase social presence and media richness by simulating interactivity (Langer et al., 2019), which could consequently help increase enjoyment and perceived usefulness of the AVI, as studies suggest in other computer mediated communication contexts (Oh et al., 2018). Video questions may also provide increased opportunities for applicants to engage in other-focused impression management and perform better in the AVI (Lukacik et al., 2022). We therefore predict that:

Hypothesis 4: The proportion of video questions included in the AVI will be positively related to applicant reactions.

In addition to these features, we examined the role of two other features that have not been integrated into existing frameworks (Lukacik et al., 2022), but which we propose may also impact applicant reactions: the number of questions, and the type of questions.

Number of Questions

Most AVIs include four to five questions, but there is variability between employers (Dunlop et al., 2022). On the one hand, it is important to include enough questions to give

applicants an adequate chance to showcase their skills and abilities, and to provide enough information for employers to assess them. On the other hand, a high number of questions may cause fatigue. Maintaining attention for extended periods of time fosters exhaustion (Cummings et al., 2016), and this may be amplified in online contexts where several factors increase cognitive load, defined as the mental activity imposed on working memory (Block et al., 2010). Communicating online means focusing on a screen for long periods of time without being able to engage in direct eye contact, which increases heart rate and helps to maintain attention (Hietanen, 2018). Moreover, AVIs typically display a self-preview window to each applicant, allowing attention to one's own appearance, something that takes up mental bandwidth and increases cognitive load (Horn & Behrend, 2017). Additionally, being asked more questions may lead to applicants running out of examples of their past work experiences, leading to frustration. Thus, a higher number of questions may lead to less favorable applicant reactions toward AVIs. We therefore anticipate that:

Hypothesis 5: The number of questions included in the AVI will be negatively related to applicant reactions.

Question Type

Finally, for each question, employers must choose the type of question, from a large array of potential options. Yet, structured interview research has highlighted four "better" types of questions: Past behavioural, situational, background, and job knowledge questions (Campion et al., 1997). Among those four, past behavioural and situational questions have emerged as the most popular and well-researched structured interview questions (Levashina et al., 2014). They are also described as the two question types that are the most situation-specific (i.e., job-relevant) and demonstrate the highest predictive validity (Hartwell et al., 2019). In past behavioural questions, applicants are asked about their behavior in past job-

related situations (e.g., “Tell me about a time you had to…” ; (Janz, 1982). In situational questions, they are asked to describe what they would do in hypothetical job-related situations (Latham et al., 1980). Both formats are well-known to many applicants, who should be well-prepared to respond to these types of questions, thus improving their reactions (Browning & Cunningham, 2012). Existing research has examined past behavioural and situational questions in synchronous interview contexts (Hartwell et al., 2019), but little is known about how applicants react to these types of questions in an asynchronous context. On the one hand, because applicants perceive objective questions as more procedurally just than non-objective questions (Bill & Melchers, 2022), the more structured and objective nature of past behavioural and situational questions may lend itself well to positive applicant reactions in AVIs. Moreover, the clearer nature of the required response to such questions (as compared to more generic questions about qualifications or strengths) might facilitate applicants planning out their narrative responses before answering. Conversely, both types of questions have been described as more sophisticated (Chapman & Zweig, 2005), and thus might be viewed as more difficult by applicants, which may lead to more negative reactions. Due to these competing hypotheses and lack of research on the topic, we propose a research question:

Research Question 1: How does the proportion of (a) past behavioural questions and (b) situational questions relate to applicant reactions?

Interindividual Differences in Applicant Reactions: The Role of Applicant Age and Gender

While AVI design features may have a direct impact on applicant reactions, these reactions may further depend on applicant characteristics. Given the persistent discrimination against certain demographic groups (e.g., women, older individuals) at employment

(Neumark, 2018), it is important to establish how applicants belonging to such groups experience AVIs, in order to prevent additional obstacles in the selection process. General models of applicant reactions have integrated and examined direct and moderating effects of applicant demographic characteristics (e.g., gender, age, ethnicity) (Gilliland, 1993; Hausknecht et al., 2004; McCarthy et al., 2017). While there is little support for direct effects of these characteristics (Hausknecht et al., 2004; Viswesvaran & Ones, 2004), some studies have found moderating effects (Chan & Schmitt, 1997; Dineen et al., 2004; Whitman et al., 2014).

A defining aspect of AVIs is that they involve the adoption of a new technology. This may impact some demographic groups more than others. In this vein, theories on new technology acceptance highlight the moderating role of age and gender specifically, due to the cognitive challenges associated with increasing age and differing levels of anxiety associated with gender (Davis et al., 1989; Marangunić & Granić, 2015) and provide some empirical support for their assumptions (Ong & Lai, 2006; Park et al., 2019; Venkatesh et al., 2003). Because of the strong technological component of AVIs, applicant gender and age may thus also moderate the relationships between certain AVI design features and reactions to AVIs. We will focus on those design features that may amplify or reduce cognitive challenges, for age, and appearance anxiety, for gender.

Applicant Age

The acceptance of new technologies decreases with age (Hauk et al., 2018; Woods et al., 2020). This is in part due to lower performance expectancies and competence perceptions of older compared to younger adults (Lee et al., 2019; Park et al., 2019; Venkatesh & Morris, 2000; Venkatesh et al., 2003). Older adults indeed tend to experience more difficulties when using and navigating new technology (Brandtzæg et al., 2010; Hecker et al., 2021;

Karahasanović et al., 2009), including technology related to job search (Karaoglu et al., 2022). These challenges are partly related to age-related changes in cognitive functioning from early or mid-adulthood onwards such as decreases in processing speed, and the ability to focus and sustain attention, particularly in more difficult tasks or when switching between tasks (Carriere et al., 2010; Czaja et al., 2006; McAvinue et al., 2012; Reimers & Maylor, 2005; Verhaeghen & Cerella, 2002). In addition, concerning asynchronous video communication specifically, older adults may be less familiar with this type of communication than younger adults who already use it frequently outside of the professional context (e.g., by regularly producing asynchronous visual messages on social media platforms (Auxier & Anderson, 2021). Additionally, considering how quickly social media use evolves, shown in the sharp rise of asynchronous visual messaging platforms (Vogels et al., 2022), we may expect to see differences across smaller age brackets – such as between applicants in their twenties vs. thirties.

While there is some evidence that older adults react less positively to AVIs than younger adults in general (Basch & Melchers, 2019), several studies find no direct effects of age on reactions or attitudes toward novel technology in personnel selection (Brenner et al., 2016; Georgiou & Nikolaou, 2020; Sylva & Mol, 2009). Thus, the above-described age-related challenges may not lead to more negative reactions in older applicants towards AVI in general, but reactions likely depend on the specific design features: older applicants may react more negatively to design features that increase or render age-related challenges more salient and more positively to design features that may alleviate their impact. For example, particularly long AVIs, with many questions, may be challenging for older interviewees, as they may experience difficulties in navigating the new technology and sustaining high levels of attention over an extended period of time (Brandtzæg et al., 2010; Carriere et al., 2010). These factors may lead to higher levels of fatigue, and more errors (Carriere et al., 2010;

McAvinue et al., 2012), and therefore a less positive experience overall. Thus, older applicants may react more negatively to longer AVIs (i.e., that contain more questions) compared to younger applicants. We therefore hypothesize:

Hypothesis 6: Age will moderate the relationship between number of questions and applicant reactions such that older applicants will react more negatively to more questions than younger applicants.

On the other hand, certain design features may help compensate for the age-related challenges described above, and therefore improve reactions in older applicants. More specifically, providing more preparation time and the opportunity to re-record answers could allow older applicants to take breaks, advance at a slower pace, and correct potential errors. Similarly, providing longer response time may reduce time pressure, allow for more reflection time, and help deal with brief attentional lapses. These features make it easier to use the tool and may improve applicants' experience. We therefore propose:

Hypothesis 7: Age will moderate the relationship between applicant reactions and *(a)* allocated preparation time, *(b)* maximum response length, and *(c)* the opportunity to re-record in that older applicants will react more positively to these features than younger applicants.

Applicant Gender

There are no gender differences in computer and technology use and skills (Qazi et al., 2021), including job search tools (Karaoglu et al., 2022). Research on internet usage suggests that both women and men are accustomed to using technology, and create and share online an ideal self-representation, for example through social media (Chae, 2017; Senft & Baym, 2015; Warfield, 2014). Previous research also found no gender differences in reactions to AVIs (Basch & Melchers, 2019). However, gender may moderate reactions to new technology as highlighted by models of technology acceptance, due to differences in

attitudes and anxiety related to new technologies (Marangunić & Granić, 2015; Venkatesh et al., 2003). Women have less favorable attitudes toward new technology (Cai et al., 2017) and expect more difficulties with new technologies than men (Maican et al., 2019; Teo et al., 2015). Moreover, they tend to experience higher levels of anxiety than men, in particular with respect to their social appearance (Asher et al., 2017; Boursier et al., 2020). Social appearance anxiety pertains to the fear of situations which one's overall appearance may be evaluated (Hart et al., 2008). Women are indeed more harshly evaluated on the basis of bodily appearance than men (Fredrickson & Roberts, 1997; Holland & Tiggemann, 2016). Women report higher levels of anxiety than men in job interviews too (Feeney et al., 2015). Moreover, in the context of videoconferencing, women report more unpleasant effects of heightened self-focused attention caused by the self-view window, termed mirror anxiety (Fauville et al., 2021), which consequently fatigues them more than men.

Applicant gender likely moderates reactions to AVI design features that help applicants reduce appearance anxiety and manage their appearance. More specifically, being able to control one's own self-presentation through certain AVI design features may reduce women's appearance anxiety (unlike in face-to-face interviews, where they have less control over how they come across). For instance, by making use of increased preparation time or choosing to re-record their responses, women may be able to attenuate their appearance anxiety. In addition, these features may also enable women to draw on their prior experience preparing and re-recording own asynchronous video content acquired in different contexts. Women tend to be particularly accustomed to activities similar to those in AVIs, such as creating and uploading "selfie" videos on social media (Krohn, 2020), and empowering themselves regarding their image in this way (Williams & Moody, 2019). In sum, women may react more positively to longer preparation times and re-recording options in the context of AVIs than men. We therefore expect that:

Hypothesis 8: Gender will moderate the relationship between applicant reactions and *(a)* allocated preparation time and *(b)* the opportunity to re-record responses in that female applicants will react more positively to these features than male applicants.

Method

Sample

We examined data from a global consulting firm that provides an AVI as one of its assessment products to test our hypotheses and explore our research questions. This firm recommended its clients use AVIs either as an additional screening tool to complement CV/resume screening (i.e., usually when combined with automated performance scoring) or as a complement or replacement for in-person interviews (i.e., when assessed by human raters). The data is comprised of 27,809 real job candidates. However, demographic information was not collected for all participants, leaving reduced subsamples for gender (N = 19,507) and age (N = 5,887). For those candidates we have demographic information for, our sample was 32% female, with a mean age of 25.9 years (SD = 7.3, ranging from 16 - 66 years), and 59.9% held a university degree. Data were collected in eleven different countries, 69.3% of them in the anglophone countries of UK, Ireland, USA, and Australia, from 33 clients (i.e., companies) and relating to 72 types of positions. The company names of clients and job position titles were anonymized, but from information available, the dataset included a diversity of industries (e.g., 21% financial institutions, 17% transportation and logistics, 13% retail and consumer goods) and roles/positions (e.g., a large number of entry-level roles like internships or graduate/trainee, but also professional roles like data scientist, tax specialist, or software engineer, and generalist roles like supervisor). See online supplement for more detail. The data was primarily collected post-March 2020 (11.6% 2019, 28.1% 2020, 54.8% 2021 and 5.5% 2022) so can be considered mostly representative of attitudes

towards AVIs since the onset of the Covid 19 pandemic. We included the year the data was collected as a fixed effect in the analyses.

Measures

Table 1 provides an overview of the AVI design features, their definitions and how they were measured and included in our analyses. For applicant reactions, we used applicants' answer to the Net Promoter Score, NPS (Reichheld, 2003) question "how likely is it that you would speak positively about your assessment experience?". This question was asked in a pop-out window after applicants had completed the interview and clicked a "Finish" button, right before they left the platform. Responses were indicated on an 11-point scale (0 = *not very likely*, 10 = *very likely*). Responses to the item are typically high, shown by the way that individuals are commonly grouped: "promoters" (scores 9–10) "passively satisfied" (scores 7–8), and "detractors" (scores 0–6) (Reichheld, 2003). [1] Reponses to this item can be considered a proxy for general applicant reactions to the AVI experience, with higher values indicating more favorable reactions, as positive recommendations are strongly linked to client satisfaction (Cronin Jr et al., 2000). Recommendation intentions have been measured in a similar way in another large-scale AVI field study (McCarthy et al., 2021), and also correlate with more established measures of applicant reactions (McCarthy et al., 2021; Pfeil, 2018). For further validity evidence regarding this dependent variable, please refer to the Online Supplement. We also note that all applicants were required to read, and consent to, the AVI provider's "privacy notice" policy, which emphasized that NPS responses may be used for research purposes. Importantly, applicants were informed that all data would be anonymized and aggregated prior to being potentially shared with researcher partners or the

[1] Please note that Net Promoter Score typically refers to a value calculated from responses to this question, rather than the raw response itself. To calculate overall NPS, subtract the percentage of detractors from the percentage of promoters (Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46-55. https://hbr.org/2003/12/the-one-number-you-need-to-grow).

hiring organizations, thus limiting the risk that they would respond in a socially desirable way.

Data Analyses

Data were fitted with linear mixed-effects models (lmer). All statistical analyses were conducted in R using packages lmerTest (Kuznetsova et al., 2017) and tidyverse (Wickham et al., 2019) for RStudio (2022). Data are hierarchically nested in nature because the datapoints share systematic variance in several ways. Instead of being truly independent, each applicant's AVI experience is more similar to others in the dataset that were also carried out in the same country, for that particular company and for that particular type of job position. To account for this, country, client, and job position were included as random effects in our analyses (see Appendix A for details of the models used to test hypotheses). Due to missing data for the two demographic variables applicant age and gender, the models were tested on different sub-samples, depending on the specific hypothesis or research question. Model 1 examining H1-5 and RQ1 was tested with N = 27,226, Model 2 testing H6 - H7 was conducted with N = 5,527, and Model 3 examining H8 was tested with N = 19,000. Note that in Models 2 and 3, we first entered the main effects of age and gender respectively, to examine their direct effects, and then added the interaction terms in order to examine the proposed moderating effects. Where β is mentioned, this refers to the standardized estimate. All estimates are uncentred.

Results

Descriptive Statistics

Descriptives for our focal variables, i.e., design features and applicant reactions, are displayed in Table 2, which can also inform as to how AVIs are typically designed in practice. On average, the interviews in this dataset consisted of 6.1 questions (SD = 5.0) for

which applicants had 1.34 (*SD* = 0.57) minutes to prepare and 2.68 (*SD* = 0.88) minutes to respond. In terms of question format and re-recoding, 10% were presented in the form of video questions[2] and applicants were given the opportunity to re-record all of their answers 65.9% of the time. Means, standard deviations and correlations between all study variables are displayed in Table 3. Our main response variable, NPS, had a mean of 8.4 (*SD* = 2), a median of 8 and an interquartile range of 2. Of the participants, 4.49% gave an NPS score of lower than 5. This group was on average 2.29 years older and was comprised of 4% more men than the main pool of applicants.

Hypotheses Testing

Design Features

Results of the analysis examining the hypothesized relationships between design features and applicant reactions are displayed in Table 4. Supporting H1 and H2, allocated preparation time ($\beta = 0.07$, $p = .02$) and the opportunity to re-record responses ($\beta = 0.14$, $p < .001$) were positively related to applicant reactions, showing that allowing a longer time to prepare and having the opportunity to re-record responses related to more favorable reactions. More specifically, each extra minute of preparation time corresponded to an average increase of 0.25 points on the reaction scale, while allowing re-recording corresponded to an average increase of 0.59 points. The number of questions was negatively related to applicant reactions ($\beta = -0.18$, $p = .02$), corresponding to an average reduction of 0.07 points per additional question, supporting H5[3]. The remaining design features (maximum response length, $\beta =$

[2] Questions were coded for categories of question type based on the interview literature. The average proportion of each question was as follows: 36% past behavioural, 22% practice question (these always came first, and were excluded from our analysis), 10% self-reflection / non-job related, 10% general motivation, 10% video-based questions (which could not be coded in terms of content because we did not have access to those videos), 6% experience-based questions, 2% situational questions and <1% technical/ job knowledge questions.

[3] A quadratic effect was also found for number of questions, however it was not significant, please see online supplement for more details.

0.00, p = .96, and proportion of video questions, β = 0.05, p = .52) did not significantly relate to applicant reactions. Thus, H3 and H4 were not supported. Regarding question type, neither the inclusion of past behavioural questions (β = -0.01, p = .79) nor the inclusion of situational questions (β = 0.02, p = .43) related to applicant reactions (RQ1a/b).

Applicant Age

Results of the analyses regarding the role of applicant age in applicant reactions to specific design features are shown in Table 5. Applicant age was negatively related to applicant reactions (β = -0.08, p <.001), suggesting that reactions to AVIs became more negative with increasing applicant age. This corresponds to a reduction of -0.02 points on the reaction scale per additional year of age. Regarding the predicted moderating effects of applicant age on applicant reactions to design features, results showed significant interactions between applicant age and number of questions (β = -0.29, p = .01), and maximum response length (β = -0.31, p <.001). The negative relationship between the number of questions and applicant reactions was stronger for older applicants, supporting H6 (see Figure 1a). Follow-up analyses using the Johnson-Neyman technique showed that the negative effect of the number of questions was only significant for applicants older than 31 years (see Figure 1b). For maximum response length, contrary to H7b, younger applicants' reactions improved, but older applicants' reactions decreased, when longer responses were allowed (β = –0.31, p <.001, see Figure 2a). Follow-up analyses using the Johnson-Neyman technique showed that young applicants under 30 years old reacted significantly more positively when longer responses were allowed, whereas only applicants over 60 years old reacted significantly more negatively when longer responses were allowed (see Figure 2b). Finally, we found no evidence in support of the remaining hypotheses. That is, applicant age did not moderate the relationships between allocated preparation time (H7a, β = 0.11, p = .12) and applicant

reactions, nor opportunity to re-record answers (H7c, $\beta = 0.07$, $p = .50$) and applicant reactions.

Applicant Gender

Results regarding the role of applicant gender in applicant reactions to specific AVI design features are shown in Table 6, and show that applicant gender significantly related to applicant reactions to AVIs in general ($\beta = 0.03$, $p < .001$), with women giving on average 0.12 additional points on the reaction scale than men. Moreover, supporting H8a, the positive relationship between allocated preparation time and applicant reactions was stronger for female than for male applicants ($\beta = 0.05$, $p = .02$, Figure 3). However, contrary to H8b, applicant gender did not moderate the relationship between opportunity to re-record responses and applicant reactions ($\beta = -0.02$, $p = .43$).

Discussion

Our study highlights the impact of AVI design features on applicant reactions to the AVI experience in a sample of real job applicants in high-stakes settings. In doing so, it allows moving beyond the concept of AVIs as one unitary phenomenon to considering the impact of specific design features instead. While previous laboratory (Basch et al., 2020; Hiemstra et al., 2019; Langer et al., 2017) and field (Griswold et al., 2022) research suggests negative reactions to AVIs compared to more traditional, synchronous types of interviews, the results of our study show that applicant reactions are not uniform but depend on specific design features of the AVI as well as on applicant characteristics. This is consistent with recent calls for research examining specific design elements associated with new technologies rather than treating such technologies as 'monoliths' (Landers & Marin, 2021). More specifically, a few key design elements may improve applicant reactions to AVIs, namely increasing the allocated preparation time per question and allowing the opportunity to

re-record responses. However, other features may have the opposite effect. The number of questions and hence the length of the interview were negatively related to applicant reactions, indicating that shorter AVIs may be better received. Additionally, this study expands our theoretical understanding of reactions to AVIs by investigating, for the first time, how reactions to specific features are moderated by applicant characteristics. That is, results suggest how applicant age and gender moderate the relationships between some key design elements and applicant reactions, shedding further light on studies that have started to investigate the relationships between demographic features and fairness reactions to AVIs (McCarthy et al., 2021). Together, they highlight the need to simultaneously consider the role of design features and interindividual differences in theory development, research, and practice on AVIs.

Main Findings and Theoretical Implications

In line with theoretical models (Lukacik et al., 2022), our results indicate that reactions to AVIs depend on specific AVI design features, and that applicants react to certain features more positively than they do to others. As expected, providing applicants with more time to prepare their answers and an opportunity to re-record responses was associated with more positive reactions. This may be because these design features alleviated time pressure and thus interview anxiety (McCarthy & Goffin, 2004; McCarthy et al., 2021). However, another design feature proposed to reduce time pressure, longer maximum response length, was unrelated to applicant reactions. The benefits of longer maximum response times may thus depend on unique applicant characteristics (not examined in the present study). For instance, having more time might be beneficial only for highly qualified or more experienced applicants. Indeed, applicants with more in-role experience engage in more self-promotion to demonstrate their qualifications in face-to-face interviews (Bourdage et al., 2018). But doing so in an AVI requires having enough response time. In contrast, less qualified or experienced

applicants may become stressed when more time is allocated, as they feel they must fill the whole time yet lack the relevant work experiences to do so. Alternatively, longer response times may be unrelated to general reactions but affect specific dimensions of applicant reactions like fairness perceptions (Lukacik et al., 2022). The same may be true for media richness of the questions. Surprisingly, we found that the inclusion of questions in video, rather than text, format did not significantly relate to applicant reactions. This appears to go against the theoretical argument that video questions attenuate the low social presence of AVIs through media richness (Lukacik et al., 2022). There is evidence that such videos increase applicants perceived social presence in AVIs, as well as their use of impression management and interview performance (Langer et al., 2019; Rizi & Roulin, 2023). Perhaps the mere presence of video questions is not enough to help improve applicant reactions, but such materials need to look professional and well executed – something we were not able to measure here. Alternatively, as for response times, media format of the question may not necessarily affect general reactions to AVIs but could potentially affect specific dimensions such as enjoyment or engagement, although that is beyond the scope of the current study. Finally, our results indicate that more general interview design features, not yet considered in AVI-specific theoretical models such as that of Lukacik et al. (2022), may play a crucial role. We found that the number of interview questions is important as it was negatively related to applicant reactions. This is perhaps due to mechanisms such as fatigue being increased due to higher cognitive load in ways specific to the online context (Horn & Behrend, 2017), or placing greater time demands on an applicant during the screening phase. Extending the length of interviews has been strongly recommended in the literature as a way to enhance their validity (Campion et al., 1997; Levashina et al., 2014). However, our study suggests a drawback to this in terms of applicant reactions to AVIs.

Moreover, further extending current theoretical models (Lukacik et al., 2022) and drawing on models of technology acceptance (Davis et al., 1989; Marangunić & Granić, 2015), we proposed and found that two key demographic characteristics, applicant age and gender, moderate applicant reactions to AVI design features. That is, not all applicants reacted to design features uniformly. While older applicants were somewhat less positive towards AVIs in general than younger applicants, we found as expected that older applicants reacted particularly negatively to longer interviews (i.e., AVIs containing more questions). This may be due to the increased cognitive challenges starting from early/mid adulthood in key areas affecting new technology use (e.g., processing speed, sustaining focused attention (Carriere et al., 2010; Hauk et al., 2018). In addition, internet usage has experienced a recent strong shift towards asynchronous video communication. Where social networking sites such as Facebook used to predominate, now largely video-based platforms such as YouTube, TikTok, Instagram and Snapchat are most used by young people under 20 (Vogels et al., 2022). So, applicants around the age of thirty onwards have likely had less exposure to videorecording themselves and asynchronous forms of communication, potentially making them feel less at ease and more susceptible to fatigue when asked to record their responses in an AVI context. This is further supported by the finding that applicants below the age of 30 preferred being allocated longer maximum response lengths. Unexpectedly, design features that could ameliorate such age effects, such as increased allocated preparation time or the opportunity to re-record responses, did not affect older applicants' reactions. This may be because older applicants are less confident when navigating new technology than younger applicants (Hauk et al., 2018), and thus less able to take advantage of helpful features (Auxier & Anderson, 2021; Frobenius, 2014).

Few AVI design features appeared to relate differentially to applicant reactions on the basis of gender. While women reacted slightly more positively than men, in line with

previous research suggesting that female applicants report a higher intention to recommend the AVI experience (McCarthy et al., 2021), their reactions further depended on specific design features. We proposed that women may react more positively to design features that give them more control over their appearance (i.e., longer allocated preparation time and the opportunity to re-record responses). This in turn may reduce appearance anxiety, which has been shown to be higher in women than in men (Boursier et al., 2020). Women in our dataset did indeed react more positively to AVIs that allowed them to prepare for longer. However, gender did not moderate the relationship between the opportunity to re-record responses and reactions. Thus, the moderating effect of applicant gender on applicant reactions to AVIs is present but may depend on additional factors such as personality, as is suggested in some models of applicant reactions (McCarthy et al., 2017). In sum, these results highlight the need to consider interindividual differences in the relationship between design features and applicant reactions, helping to build a nuanced understanding of the moderating effects of key applicant demographic characteristics. Interestingly, age and gender had distinct moderating effects. For example, while gender moderated the relationship between preparation time and applicant reactions, age did not. This suggests that their underlying mechanisms may differ, as suggested by models of technology adoption (Davis et al., 1989; Marangunić & Granić, 2015), adding more complexity to our understanding of reactions to AVIs that should be considered in theoretical frameworks and future research.

In addition to the above-described findings, this study helps ‘fill the void’ of knowledge regarding how AVIs are commonly designed and used in practice. In comparison to one other large-scale investigation of AVI design features in practice (Dunlop et al., 2022), our data bears some similarities. For example, employers seem to choose to include a low proportion of video questions (10% here and 4% in Dunlop et al. 2022). However, there are also differences between our study and Dunlop et al. (2022). For example, the opportunity to

re-record was mostly disabled in Dunlop et al., while in our dataset it was mostly enabled. There may be many reasons (e.g., cultural differences, differences in job and sectors) for these differences, including default options provided by the platform. In sum, these observations confirm the assertion that AVIs differ widely in the way they are designed, so should not necessarily be thought of as one unitary type of interview (Lukacik et al., 2022). They also indicate the need for studies using data from different vendors, providers, and sectors.

Practical Implications

Our findings could provide a solid basis for recommendations regarding how organizations using AVIs can better design them. The first suggestion would be to not simply transfer what we know about candidate experiences from face-to-face or video interviews to AVIs. Our results confirm that AVIs are fundamentally different from more traditional forms of communicating as the unique features of AVIs play a role in candidates' reactions. Second, organizations may consider including design features that applicants appear to react to more positively, such as being given the opportunity to re-record their responses and more time to prepare their answers, while avoiding those features that applicants appear to react negatively to, such as a greater number of questions. Moreover, employers were heavily guided by the default template options that the AVI vendor offers, indicating that as more best practice evidence on AVI design emerges, AVI vendors may want to consider creating default settings and templates in alignment with these. In addition, the fact that individuals reacted more negatively to interviews with more questions could indicate that AVIs are less appropriate when attempting to gather information (especially in isolation) for particularly complex jobs where it might be necessary to ask a greater number of detailed questions. Finally, given the significant interaction effects with age, organizations may consider designing their AVIs

differently if they are recruiting for a role that may attract a large number of older applicants, such as more senior roles.

A final comment on the average applicant reaction scores seems warranted. The average reaction of applicants towards the AVI experience in our study was 8.4 on a 11-point scale, indicating that unlike findings from the lab (Basch et al., 2020; Langer et al., 2019), but similarly to other findings from high-stakes AVI field research (Griswold et al., 2022; McCarthy et al., 2021) applicants reacted positively to the AVI experience. This could be owing to several factors, such as the lab-based context of studies that find these negative applicant perceptions of AVI. Alternatively, certain characteristics of the sample or the online platform itself may explain these differences because the data was mainly collected after the onset of the pandemic, which is when people became more accustomed to using technology to communicate (Abdull Mutalib et al., 2022).

The effects of our study are small, yet practically meaningful. This is because means for NPS are recognized as inherently high both in customer contexts (Fisher & Kordupleski, 2019) and in the applicant reactions literature (McCarthy et al., 2021). This affects the way that the scale is implemented and used in practical terms. As a result of this skewed distribution, an NPS score of six is considered unfavorable (i.e., a “detractor”, Reichheld, 2003), rather than an above-average score, as would typically be the case on an ordinary 0-10 scale. In practical terms, the vast majority of NPS responses are rather on a truncated 4-point scale, starting at six and ending at ten, making small effects more relevant, indicated by the interquartile range of two. Changing NPS score by just one point is therefore meaningful, as it could easily shift an applicant from being classified as “passive” to “promoter” (Reichheld, 2003), therefore affecting how an individual's score is classified and interpreted by practitioners. Furthermore, in practice, the design features analyzed in this study are typically put together in combination to construct the AVI experience, they are not implemented in

isolation. It is therefore appropriate to consider the effects together, in the same way they would be put into practice. For example, an increase in one NPS point could be achieved by enabling applicants to re-record their responses (+0.6 NPS points) and increasing preparation time by 1.5 minutes (+0.4 NPS points).

Study Limitations and Directions for Future Research

Results as well as the limitations of this study can provide guidance for future research. The main disadvantage of using field data collected from real interviews is that we must rely on existing data to test our hypotheses as the data was not collected with our specific research questions in mind. Importantly, applicant reactions were operationalized by a single item response measure of likelihood recommendation. The benefits of single-item measures are starting to be recognized and further understood by recent research (Matthews et al., 2022). They have been found to be particularly effective in the context of satisfaction (Nagy, 2002) and satisfaction itself has been strongly linked to positive recommendation (Cronin Jr et al., 2000; Mavondo et al., 2004). Despite this, future research should nevertheless measure applicant reactions using a wider range of valid and reliable measures. However, longer response requirements also inevitably lead to lower response rates and response biases as to who responds, and the experience of technology in a “real” high stakes, highly motivated setting are likely different from low stakes hypothetical application scenarios. As such, both field data and experimental data using mock applicants (as has been the norm in this field; (Basch, Brenner, et al., 2021; Langer et al., 2017; Roulin et al., 2022)) have a role to play and their own benefits in triangulating findings. Importantly, the effects of AVI design features we found were small, but very reliable (given our sample size) and meaningful (as we controlled for the remaining design features).

An additional issue is that on the basis of data availability, our hypotheses regarding the moderating effects of age and gender were tested on smaller sub-samples for which this demographic information had been collected. Information on age was available for 21% and for gender for 70% of the full sample. In addition, the mean age was relatively low, at around 26 years old. However, it is consistent with the fact that positions were often entry-level. Age negatively related to the amount of allocated preparation time, which could be the result of differences in the types of job that younger and older applicants interviewed for. For instance, younger applicants may apply to more entry-level roles, which might involve less complex questions that organizations or hiring managers provide less preparation time for. Or alternatively this could be due to different types of industries. Such differences are already indirectly controlled for in the random effects of our models. However, it is also possible that these differences are due to interviewer or hiring managers' decisions or preferences and potential biases, which is an important avenue for future research. Additional applicant-level factors, not covered in our research, might also play a role, such as prior experience with AVIs. For instance, it is possible that older candidates find AVIs difficult to manage when they first experience this interview modality, but they may feel increasingly comfortable as they become accustomed to the tool. Similarly, our data reflect how design features were *allocated*, and not how applicants actually used them. For example, we do not know whether applicants who were given the opportunity to re-record their answer actually used this feature. Thus, our results highlight the impact of having or not having these design features but do not speak to the impact of applicants' making use of it, on their reactions towards the tool (Basch, Brenner, et al., 2021; Roulin et al., 2022). However, what might matter for anxiety is that these features are offered, and allocated times are a strong indicator of actual length of time used by the applicant (Dunlop et al., 2022).

Finally, future research should investigate the mechanisms behind applicant reactions to design features. Our data would not allow testing proposed mechanisms like changes in anxiety, enjoyment or fairness perceptions, use of impression management, or (perceived) interview performance, which in turn could affect applicants' reactions. Nevertheless, our results suggest that different mechanisms may underly the effects of different design features, and the moderating effects of age and gender. Understanding these mechanisms is crucial to help refine theory in this field. Moreover, they may help platforms to offer more inclusive AVIs that are perceived as fair and enjoyable for all applicants. In addition, future research could explore reactions to AVIs for other groups of applicants, such as ethnic or racial minorities, immigrants, applicants with disabilities, or individuals with parental responsibilities.

Conclusion

Overall, this study sheds light on the ways that applicants may react differentially to AVIs as a function of how they are designed. In doing so, it furthers understanding of how AVIs should not be considered as one unitary type of interview. The study also highlights the need to consider interindividual differences in the relationship between design features and applicant reactions, demonstrating that applicant age and gender moderate the relationships between specific design elements and applicant reactions. Our findings thus help to build a nuanced understanding of how applicant demographic characteristics modulate reactions to AVIs and their characteristics.

Table 1

Variables and Definitions

Name of variable	Definition	Variable
Applicant reactions	A zero to ten rating from each participant once the AVI was over in response to the question "how likely is it that you would speak positively about your assessment experience?"	0 = *not very likely* *10 = very likely*
Preparation time	Length of time in seconds applicants were given to prepare their response to each interview question before recording began, calculated as an average of all questions that applicant was asked.	Value in minutes
Opportunity to re-record	Whether or not participants were given the opportunity to re-record their responses.	0 = retry not possible 1= retry possible
Maximum response length	Maximum total allotted time in seconds the applicant had to respond to each interview question, calculated as an average over all questions that applicant was asked	Value in minutes
Number of questions	Number of interview questions each applicant was asked, not including introductory practice questions.	
Proportion of video questions	Proportion of questions that were asked in video, rather than written format.	% out of total questions each applicant asked
Proportion of past behavioural questions	Proportion of questions that each applicant was asked that were coded as past-behavioural questions (e.g., "tell me about a time when…", "describe a situation where…", etc.).	% out of total questions each applicant asked
Proportion of situational questions	Proportion of questions that each applicant was asked that were coded as situational questions (e.g., "what would you do if…")	% out of total questions each applicant asked
Gender	Gender of the applicant	0 = male 1= female
Age	Age of applicant	Value in years
Year	Year that data collected i.e., the year that the interview took place.	Value in years

Table 2

Descriptives and Default Settings for the Main Study Variables

Variable	Default	Mean (*SD*)/Frequency
Applicant reactions	-	8.4 (2)
Allocated preparation time (in mins)	1	1.34 (0.57)
Opportunity to re-record	Possible	65.9% = re-record possible, 34.1% = re-record not possible
Maximum response length (in mins)	3	2.68 (0.88)
Number of questions	-	6.1 (5)
Proportion of video questions	-	10% (20%)
Proportion of past behavioural questions	-	40% (30%)
Proportion of situational questions	-	0% (0.1%)

Note: Please refer to Table 1 for measurement details of the different design features. The only design feature that had a minimum or maximum limitation was response time, with a minimum of 10 seconds and a maximum of 3 minutes.

Table 3

Correlations Table for all Variables

Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7	8	9
1.NPS	27,810	8.41	2.01	-								
2. Age	5888	25.86	7.29	-0.11***	-							
3. Gender	19,508	0.32	0.47	0.04***	-0.08***	-						
4. Allocated preparation time	27,810	80.53	34.10	-0.01	-0.46***	-0.04***	-					
5. Opportunity to re-record	27,227	0.66	0.47	0.10***	0.19***	0.02***	0.08***	-				
6. Maximum response length	27,810	160.90	52.65	-0.03***	-0.14***	-0.06***	0.33***	-0.36***	-			
7. Proportion video questions	27,810	0.09	0.22	0.03***	NA	-0.19***	0.42***	0.31***	0.14***	-		
8. Number of questions	27,810	6.07	5.02	0.06***	0.10***	-0.11***	0.43***	0.53***	-0.01	0.85***	-	
9. Proportion past behavioral questions	27,810	0.37	0.31	0.04***	-0.37***	0.13***	0.37***	0.45***	-0.07***	-0.13***	0.18***	-
10. Proportion hypothetical questions	27,810	0.02	0.06	-0.02***	0.09***	-0.01	-0.04***	0.11***	-0.20***	0.01	0.04***	-0.16***

Note: Correlation cannot be calculated between proportion of video questions and age because the interviews that had video questions did not collect data about age. For gender 0 = male, 1 = female, for codings of remaining variables see Table 1.

*$p < .05$. **$p < .01$. ***$p<.001$.

Table 4

Results of Model 1: Relationships between AVI Design Features and Applicant Reactions

Variable	*b*	*SE*	*95% CI*	*β*	*t*	*p*
Year	0.09	0.03	[0.03,0.16]	0.03	2.79	.01
Allocated preparation time	0.25	0.10	[-0.03,0.48]	0.07	2.42	.02
Opportunity to re-record	0.59	0.12	[0.34,0.86]	0.14	4.77	<.001
Maximum response length	0.01	0.11	[-0.24,0.26]	0.00	0.06	.96
Proportion video questions	0.45	0.69	[-0.97,1.87]	0.05	0.65	.52
Number of questions	-0.07	0.03	[-0.14,0.00]	-0.18	-2.40	.02
Proportion past behavioral questions	-0.06	0.22	[-0.50,0.38]	-0.01	-0.27	.79
Proportion situational questions	0.52	0.66	[-0.98,1.88]	0.02	0.79	.43

Note: N = 27,226, b = unstandardized estimate, β = standardized estimate. AIC =114,445.4, BIC = 114,552.2.

Table 5

Results of Model 2: Relationships between Applicant Reactions, AVI Design Features, and Applicant Age

Variable	*b*	*SE*	*95% CI*	*β*	*t*	*p*
Year	0.19	0.07	[0.02,0.35]	0.07	2.54	.01
Age	-0.02	0.01	[-0.03,-0.01]	-0.08	-4.18	<.001
Allocated preparation time	0.23	0.18	[-0.18,0.61]	0.05	1.28	.22
Opportunity to re-record	0.40	0.18	[0.02,0.79]	0.09	2.20	.04
Maximum response length	0.34	0.16	[-0.01,0.67]	0.09	2.08	.05
Number of questions	-0.18	0.05	[-0.28,-0.08]	-0.08	-3.66	<.001
Proportion past behavioral questions	-0.44	0.29	[-1.03,0.15]	-0.07	-1.55	.14
Proportion situational questions	0.59	0.75	[-0.99,2.13]	0.03	0.79	0.44
Year	0.16	0.07	[0.02,0.30]	0.06	2.19	.03
Age	0.07	0.04	[-0.01,0.14]	0.21	1.65	.10
Allocated preparation time	-0.24	0.38	[-0.98,0.51]	-0.06	-0.64	.52
Opportunity to re-record	0.03	0.43	[-0.83,0.88]	0.01	0.07	.95
Maximum response length	1.16	0.32	[0.50,1.79]	0.29	3.64	<.001
Number of questions	0.29	0.14	[0.02,0.57]	0.14	2.07	.04
Proportion past behavioral questions	-0.69	0.28	[-1.24,-0.11]	-0.10	-2.44	.02
Proportion situational questions	0.44	0.72	[-1.01,1.86]	0.02	0.61	0.54
Age * Allocated preparation time	0.02	0.01	[-0.01,0.05]	0.11	1.54	.12
Age * Maximum response length	-0.03	0.01	[-0.05,-0.01]	-0.31	-3.05	<.001
Age * Opportunity to re-record	0.01	0.02	[-0.02,0.04]	0.07	0.62	.50
Age * Number of questions	-0.01	0.00	[-0.02,0.00]	-0.29	-2.74	.01

Note: $N = 5527$, b = unstandardized estimate, β = standardized estimate. The top half of the table reports the age model with no interactions, only main effects (AIC = 23,370.2, BIC = 23,456.2) The bottom half includes the age interactions (AIC = 23,340.3, BIC = 23,452.8), the log-likelihood ratio test revealed the model with interactions proves a significantly better fit, $\chi^2(4) = 37.93$, $p < .001$. All variables are uncentred.

Table 6

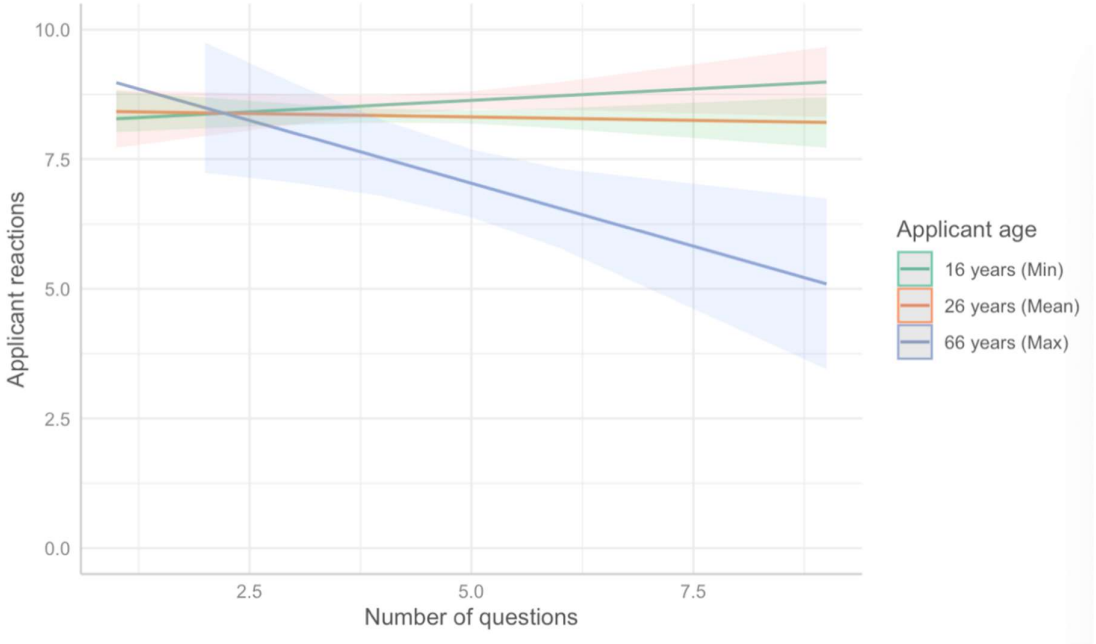
Results of Model 3: Relationships between Applicant Reactions, AVI Design Features, and Applicant Gender

Variable	*b*	*SE*	*95% CI*	*β*	*t*	*p*
Year	0.07	0.03	[0.00,0.14]	0.03	2.15	.03
Gender	0.12	0.03	[0.06,0.19]	0.03	3.63	<.001
Allocated preparation time	0.26	0.10	[-0.04,0.48]	0.09	2.66	.01
Opportunity to re-record	0.57	0.12	[0.30,0.87]	0.11	4.59	<.001
Maximum response length	0.02	0.13	[-0.25,0.37]	0.01	0.16	.87
Number of questions	-0.07	0.02	[-0.12,0.00]	-0.17	-2.90	.01
Proportion past behavioral questions	-0.14	0.23	[-0.64,0.32]	-0.02	-0.60	.55
Proportion situational questions	0.25	0.69	[-1.54,1.70]	0.01	0.36	.72
Year	0.07	0.03	[0.00,-0.14]	0.03	2.12	.04
Gender	-0.02	0.11	[-0.24,0.20]	-0.00	-0.15	.88
Allocated preparation time	0.26	0.10	[-0.05,0.47]	0.09	2.61	.02
Opportunity to re-record	0.57	0.13	[0.31,0.88]	0.11	4.60	<.001
Maximum response length	0.00	0.13	[-0.26,0.35]	0.00	0.02	.98
Number of questions	-0.07	0.02	[-0.12,0.00]	-0.19	-3.10	<.001
Proportion past behavioral questions	-0.13	0.23	[-0.62,0.33]	-0.02	-0.55	.58
Proportion situational questions	0.35	0.68	[-1.45,1.76]	0.01	0.51	.61
Gender * Allocated preparation time	0.14	0.06	[0.02,0.25]	0.05	2.33	.02
Gender * Opportunity to re-record	-0.07	0.08	[-0.23,0.10]	-0.02	-0.80	.43

Note: N = 19,000, b = unstandardized estimate, β = standardized estimate. For gender, 0 = male, 1 = female. The top half of the table reports the gender model with no interactions, only main effects (AIC = 78,363.9, BIC = 78,466.0). The bottom half includes the age interactions (AIC = 78,361.9, BIC = 78,479.7). The log-likelihood ratio test revealed the model with interactions proves a significantly better fit, $\chi^2(2) = 6.02$, p =.05 All variables are uncentred.

Figure 1

1a: The Relationship Between Applicant Reactions, Number of Questions, and Applicant Age



Note: Estimated marginal means are shown.

1b. Johnson-Neyman Plot Showing the Relationship Between Number of Questions and Applicant Reactions for Applicants at Different Age Levels

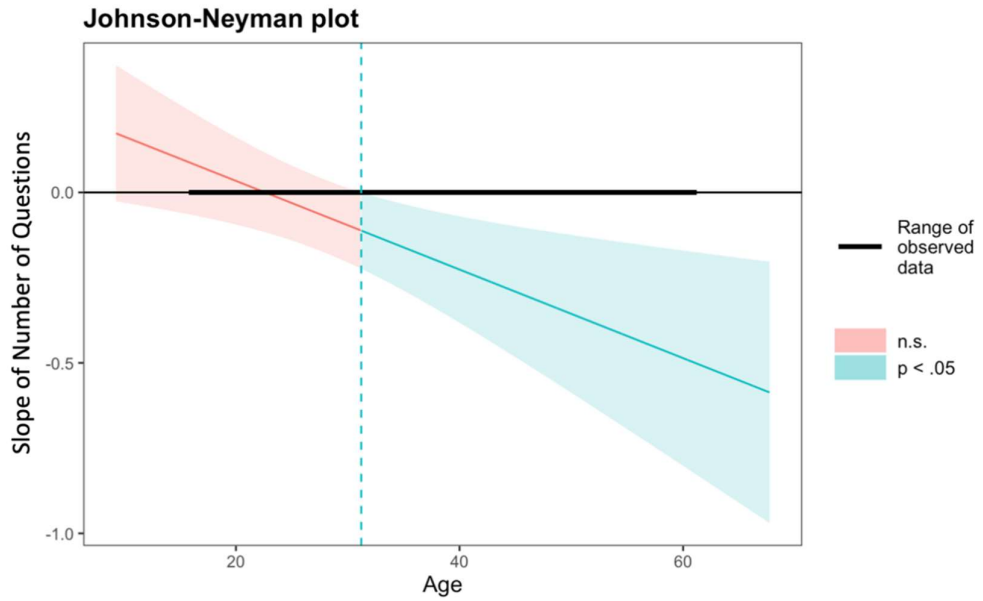
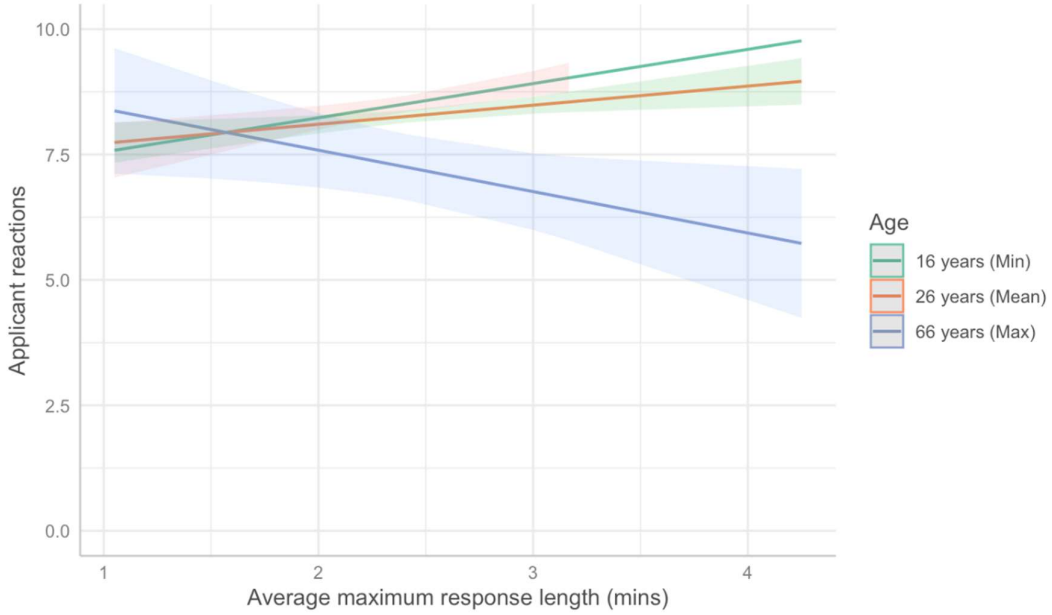


Figure 2

2a. Relationship Between Applicant Reactions, Average Maximum Response Length, and Applicant Age



Note: Estimated marginal means are shown.

2b. Johnson-Neyman Plot of the Interaction Effect of Age on the Relationship Between Average Maximum Response Length and Applicant Reactions

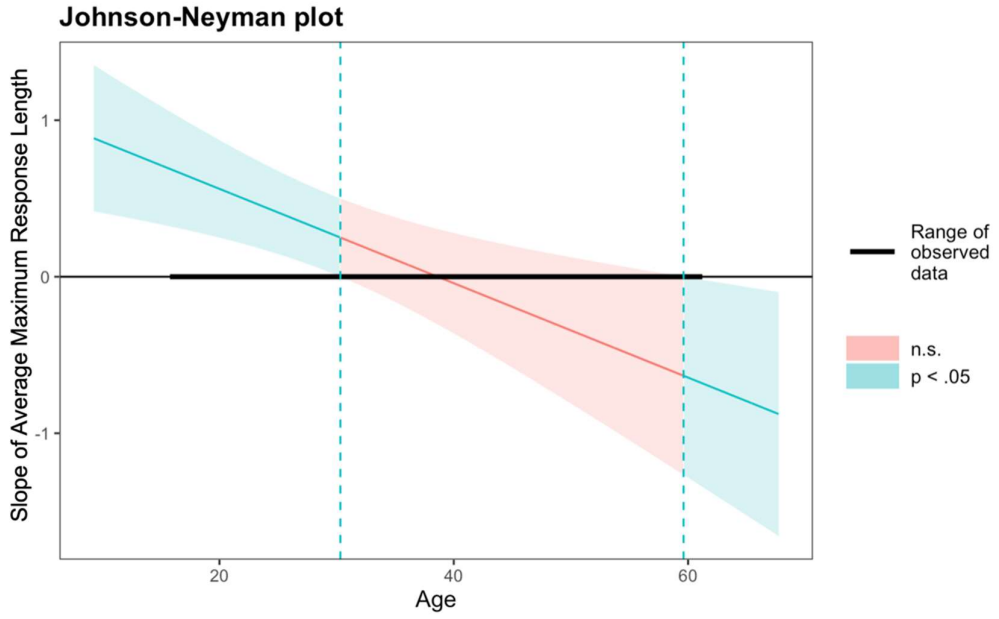
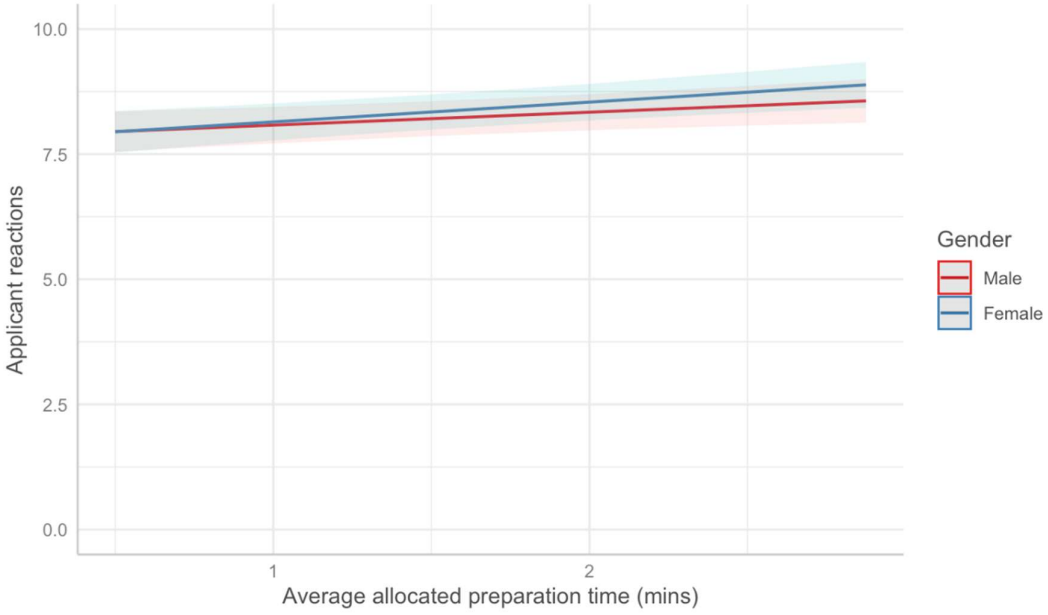


Figure 3

Relationship Between Applicant Reactions, Average Allocated Preparation Time, and Applicant Gender



Note: Estimated marginal means are shown.

References

Abdull Mutalib, A. A., Md. Akim, A., & Jaafar, M. H. (2022). A systematic review of health sciences students' online learning during the COVID-19 pandemic. *BMC Medical Education*, *22*(1). https://doi.org/10.1186/s12909-022-03579-1

Anderson, N., Salgado, J. F., & Hülsheger, U. R. (2010). Applicant reactions in selection: Comprehensive meta-analysis into reaction generalization versus situational specificity. *International Journal of Selection and Assessment*, *18*(3), 291-304. https://doi.org/10.1111/j.1468-2389.2010.00512.x

Asher, M., Asnaani, A., & Aderka, I. M. (2017). Gender differences in social anxiety disorder: A review. *Clinical Psychology Review*, *56*, 1-12. https://doi.org/https://doi.org/10.1016/j.cpr.2017.05.004

Auxier, & Anderson. (2021, April 7). *Social Media Use in 2021*. Pew Research Center. https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/

Basch, J. M., Brenner, F., Melchers, K. G., Krumm, S., Dräger, L., Herzer, H., & Schuwerk, E. (2021). A good thing takes time: The role of preparation time in asynchronous video interviews. *International Journal of Selection and Assessment*, *29*(3-4), 378-392. https://doi.org/10.1111/ijsa.12341

Basch, J. M., & Melchers, K. G. (2019). Fair and flexible?! Explanations can improve applicant reactions toward asynchronous video interviews. *Personnel Assessment and Decisions*, *5*(3), 2. https://doi.org/10.25035/pad.2019.03.002

Basch, J. M., Melchers, K. G., Kegelmann, J., & Lieb, L. (2020). Smile for the camera! The role of social presence and impression management in perceptions of technology-mediated interviews. *Journal of Managerial Psychology*. https://doi.org/10.1108/JMP-09-2018-0398

Basch, J. M., Melchers, K. G., Kurz, A., Krieger, M., & Miller, L. (2021). It takes more than a good camera: which factors contribute to differences between face-to-face interviews and videoconference interviews regarding performance ratings and interviewee perceptions?

Journal of Business and Psychology, *36*(5), 921-940. https://doi.org/10.1007/s10869-020-09714-3

Bauer, T. N., Truxillo, D. M., Sanchez, R. J., Craig, J. M., Ferrara, P., & Campion, M. A. (2001). Applicant reactions to selection: Development of the selection procedural justice scale (SPJS). *Personnel Psychology*, *54*(2), 387-419. https://doi.org/10.1111/j.1744-6570.2001.tb00097.x

Bauer, T. N., Truxillo, D. M., Tucker, J. S., Weathers, V., Bertolino, M., Erdogan, B., & Campion, M. A. (2006). Selection in the information age: The impact of privacy concerns and computer experience on applicant reactions. *Journal of Management*, *32*(5), 601-621. https://doi.org/10.1177/0149206306289829

Bill, B., & Melchers, K. G. (2023). Thou Shalt not Lie! Exploring and testing countermeasures against faking intentions and faking in selection interviews. *International Journal of Selection and Assessment*, *31*(1), 22-44. https://doi.org/10.1111/ijsa.12402

Block, R. A., Hancock, P. A., & Zakay, D. (2010). How cognitive load affects duration judgments: A meta-analytic review. *Acta Psychologica*, *134*(3), 330-343. https://doi.org/10.1016/j.actpsy.2010.03.006

Bolino, M., Long, D., & Turnley, W. (2016). Impression management in organizations: Critical questions, answers, and areas for future research. *Annual Review of Organizational Psychology and Organizational Behavior*, *3*(1), 377-406. https://doi.org/10.1146/annurev-orgpsych-041015-062337

Bourdage, J. S., Roulin, N., & Tarraf, R. (2018). "I (might be) just that good": Honest and deceptive impression management in employment interviews. *Personnel Psychology*, *71*(4), 597-632.

Boursier, V., Gioia, F., & Griffiths, M. D. (2020). Do selfie-expectancies and social appearance anxiety predict adolescents' problematic social media use? *Computers in Human Behavior*, *110*, 106395. https://doi.org/10.1016/j.chb.2020.106395

Brandtzæg, P. B., Lüders, M., & Skjetne, J. H. (2010). Too many Facebook "friends"? Content sharing and sociability versus the need for privacy in social network sites. *Intl. Journal of*

Human–Computer Interaction, *26*(11-12), 1006-1030. https://doi.org/10.1080/10447318.2010.516719

Brenner, F. S., Ortner, T. M., & Fay, D. (2016). Asynchronous video interviewing as a new technology in personnel selection: The applicant's point of view. *Frontiers in Psychology*, *7*, 863. https://doi.org/10.3389/fpsyg.2016.00863

Browning, B. W., & Cunningham, J. R. (2012). Students better be on their best behavior: How to prepare for the most common job interviewing technique. *Communication Teacher*, *26*(3), 152-157. https://doi.org/10.1080/17404622.2011.650700

Cai, Z., Fan, X., & Du, J. (2017). Gender and attitudes toward technology use: A meta-analysis. *Computers & Education*, *105*, 1-13. https://doi.org/https://doi.org/10.1016/j.compedu.2016.11.003

Campion, M. A., Palmer, D. K., & Campion, J. E. (1997). A review of structure in the selection interview. *Personnel Psychology*, *50*(3), 655-702. https://doi.org/10.1111/j.1744-6570.1997.tb00709.x

Carpentier, M., & Van Hoye, G. (2021). Managing organizational attractiveness after a negative employer review: Company response strategies and review consensus. *European Journal of Work and Organizational Psychology*, *30*(2), 274-291. https://doi.org/10.1080/1359432X.2020.1718748

Carriere, J. S., Cheyne, J. A., Solman, G. J., & Smilek, D. (2010). Age trends for failures of sustained attention. *Psychology and Aging*, *25*(3), 569. https://doi.org/https://doi.org/10.1037/a0019363

Chae, J. (2017). Virtual makeover: Selfie-taking and social media use increase selfie-editing frequency through social comparison. *Computers in Human Behavior*, *66*, 370-376. https://doi.org/10.1016/j.chb.2016.10.007

Chan, D., & Schmitt, N. (1997). Video-based versus paper-and-pencil method of assessment in situational judgment tests: subgroup differences in test performance and face validity perceptions. *Journal of Applied Psychology*, *82*(1), 143. https://doi.org/https://doi.org/10.1037/0021-9010.82.1.143

Chapman, D. S., Uggerslev, K. L., & Webster, J. (2003). Applicant reactions to face-to-face and technology-mediated interviews: A field investigation. *Journal of Applied Psychology*, *88*(5), 944. https://doi.org/10.1037/0021-9010.88.5.944

Chapman, D. S., & Zweig, D. I. (2005). Developing a nomological network for interview structure: Antecedents and consequences of the structured selection interview. *Personnel Psychology*, *58*(3), 673-702. https://doi.org/10.1111/j.1744-6570.2005.00516.x

Constantin, K. L., Powell, D. M., & McCarthy, J. M. (2021). Expanding conceptual understanding of interview anxiety and performance: Integrating cognitive, behavioral, and physiological features. *International Journal of Selection and Assessment*, *29*(2), 234-252. https://doi.org/10.1111/ijsa.12326

Cronin Jr, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, *76*(2), 193-218. https://doi.org/10.1016/S0022-4359(00)00028-2

Cummings, M. L., Gao, F., & Thornburg, K. M. (2016). Boredom in the workplace: A new look at an old problem. *Human Factors*, *58*(2), 279-300. https://doi.org/10.1177/0018720815609503

Czaja, S. J., Charness, N., Fisk, A. D., Hertzog, C., Nair, S. N., Rogers, W. A., & Sharit, J. (2006). Factors predicting the use of technology: findings from the Center for Research and Education on Aging and Technology Enhancement (CREATE). *Psychology and Aging*, *21*(2), 333. https://doi.org/10.1037/0882-7974.21.2.333

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571. https://doi.org/10.1287/mnsc.32.5.554

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, *35*(8), 982-1003. https://doi.org/https://doi.org/10.1287/mnsc.35.8.982

Dineen, B. R., Noe, R. A., & Wang, C. (2004). Perceived fairness of web-based applicant screening procedures: Weighing the rules of justice and the role of individual differences. *Human Resource Management*, *43*(2-3), 127-145. https://doi.org/10.1002/hrm.20011

Dunlop, P. D., Holtrop, D., & Wee, S. (2022). How asynchronous video interviews are used in practice: A study of an Australian-based AVI vendor. *International Journal of Selection and Assessment*, *30*(3), 448-455. https://doi.org/10.1111/ijsa.12372

Fauville, G., Luo, M., Muller Queiroz, A. C., Bailenson, J. N., & Hancock, J. (2021). Nonverbal mechanisms predict zoom fatigue and explain why women experience higher levels than men. *Available at SSRN 3820035*. https://doi.org/10.2139/ssrn.3820035

Feeney, J. R., McCarthy, J. M., & Goffin, R. (2015). Applicant anxiety: Examining the sex-linked anxiety coping theory in job interview contexts. *International Journal of Selection and Assessment*, *23*(3), 295-305. https://doi.org/10.1111/ijsa.12115

Fisher, N. I., & Kordupleski, R. E. (2019). Good and bad market research: A critical review of Net Promoter Score. *Applied Stochastic Models in Business and Industry*, *35*(1), 138-151. https://doi.org/10.1002/asmb.2417

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*(2), 173-206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x

Frobenius, M. (2014). Audience design in monologues: How vloggers involve their viewers. *Journal of Pragmatics*, *72*, 59-72. https://doi.org/10.1016/j.pragma.2014.02.008

Georgiou, K., & Nikolaou, I. (2020). Are applicants in favor of traditional or gamified assessment methods? Exploring applicant reactions towards a gamified selection method. *Computers in Human Behavior*, *109*, 106356. https://doi.org/https://doi.org/10.1016/j.chb.2020.106356

Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, *18*(4), 694-734. https://doi.org/10.5465/amr.1993.9402210155

Griswold, K. R., Phillips, J. M., Kim, M. S., Mondragon, N., Liff, J., & Gully, S. M. (2022). Global differences in applicant reactions to virtual interview synchronicity. *The International Journal of Human Resource Management*, *33*(15), 2991-3018. https://doi.org/10.1080/09585192.2021.1917641

Handler, C. (2020, June 17). *COVID-19 Talent Acquisition Benchmarking Survey*. Rocket-Hire. https://rocket-hire.com/2020/06/17/covid-19-talent-acquisition-benchmarking-report/

Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. (2008). Development and examination of the social appearance anxiety scale. *Assessment*, *15*(1), 48-59. https://doi.org/10.1177/1073191107306673

Hartwell, C. J., Johnson, C. D., & Posthuma, R. A. (2019). Are we asking the right questions? Predictive validity comparison of four structured interview question types. *Journal of Business Research*, *100*, 122-129. https://doi.org/10.1016/j.jbusres.2019.03.026

Hauk, N., Hüffmeier, J., & Krumm, S. (2018). Ready to be a silver surfer? A meta-analysis on the relationship between chronological age and technology acceptance. *Computers in Human Behavior*, *84*, 304-319. https://doi.org/10.1016/j.chb.2018.01.020

Hausknecht, J. P., Day, D. V., & Thomas, S. C. (2004). Applicant Reactions to Selection Procedures: An Updated Model and Meta-Analysis. *Personnel Psychology*, *57*(3), 639-683. https://doi.org/10.1111/j.1744-6570.2004.00003.x

Hecker, I., Spaulding, S., & Kuehn, D. (2021). Digital skills and older workers. *Urban Institute*, *2021*, 1-24.

Hiemstra, A. M., Oostrom, J. K., Derous, E., Serlie, A. W., & Born, M. P. (2019). Applicant perceptions of initial job candidate screening with asynchronous job interviews: Does personality matter? *Journal of Personnel Psychology*, *18*(3), 138. https://doi.org/10.1027/1866-5888/a000230

Hietanen, J. K. (2018). Affective eye contact: an integrative review. *Frontiers in Psychology*, *9*, 1587. https://doi.org/10.3389/fpsyg.2018.01587

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, *17*, 100-110. https://doi.org/10.1016/j.bodyim.2016.02.008

Horn, R. G., & Behrend, T. S. (2017). Video killed the interview star: Does picture-in-picture affect interview performance? *Personnel Assessment and Decisions*, *3*(1), 5. https://doi.org/10.25035/pad.2017.005

Huffcutt, A. I., Van Iddekinge, C. H., & Roth, P. L. (2011). Understanding applicant behavior in employment interviews: A theoretical model of interviewee performance. *Human Resource Management Review*, *21*(4), 353-367. https://doi.org/10.1016/j.hrmr.2011.05.003

Janz, T. (1982). Initial comparisons of patterned behavior description interviews versus unstructured interviews. *Journal of Applied Psychology*, *67*(5), 577. https://doi.org/10.1037/0021-9010.67.5.577

Karahasanović, A., Brandtzæg, P. B., Heim, J., Lüders, M., Vermeir, L., Pierson, J., Lievens, B., Vanattenhoven, J., & Jans, G. (2009). Co-creation and user-generated content–elderly people's user requirements. *Computers in Human Behavior*, *25*(3), 655-678. https://doi.org/10.1016/j.chb.2008.08.012

Karaoglu, G., Hargittai, E., & Nguyen, M. H. (2022). Inequality in online job searching in the age of social media. *Information, Communication & Society*, *25*(12), 1826-1844. https://doi.org/10.1080/1369118x.2021.1897150

Krohn, M. (2020). What Are You Looking At?!: Online Video as Visual Strategic Organizational Communication [PhD Thesis, Hanken School of Economics]. https://helda.helsinki.fi/dhanken/handle/10227/353959

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. (2017). lmerTest package: tests in linear mixed effects models. *Journal of Statistical Software*, *82*, 1-26. https://doi.org/10.18637/jss.v082.i13

Landers, R. N., & Marin, S. (2021). Theory and Technology in Organizational Psychology: A Review of Technology Integration Paradigms and Their Effects on the Validity of Theory. *Annual Review of Organizational Psychology and Organizational Behavior*, *8*(1), 235-258. https://doi.org/10.1146/annurev-orgpsych-012420-060843

Langer, M., König, C. J., & Krause, K. (2017). Examining digital interviews for personnel selection: Applicant reactions and interviewer ratings. *International Journal of Selection and Assessment*, *25*(4), 371-382. https://doi.org/https://doi.org/10.1111/ijsa.12191

Langer, M., König, C. J., & Papathanasiou, M. (2019). Highly automated job interviews: Acceptance under the influence of stakes. *International Journal of Selection and Assessment*, *27*(3), 217-234. https://doi.org/10.1111/ijsa.12246

Latham, G. P., Saari, L. M., Pursell, E. D., & Campion, M. A. (1980). The situational interview. *Journal of Applied Psychology*, *65*(4), 422. https://doi.org/10.1037/0021-9010.65.4.422

Lee, C. C., Czaja, S. J., Moxley, J. H., Sharit, J., Boot, W. R., Charness, N., & Rogers, W. A. (2019). Attitudes toward computers across adulthood from 1994 to 2013. *The Gerontologist*, *59*(1), 22-33. https://doi.org/10.1093/geront/gny081

Levashina, J., Hartwell, C. J., Morgeson, F. P., & Campion, M. A. (2014). The structured employment interview: Narrative and quantitative review of the research literature. *Personnel Psychology*, *67*(1), 241-293. https://doi.org/10.1111/peps.12052

Lukacik, E.-R., Bourdage, J. S., & Roulin, N. (2022). Into the void: A conceptual model and research agenda for the design and use of asynchronous video interviews. *Human Resource Management Review*, *32*(1), 100789. https://doi.org/10.1016/j.hrmr.2020.100789

Maican, C. I., Cazan, A.-M., Lixandroiu, R. C., & Dovleac, L. (2019). A study on academic staff personality and technology acceptance: The case of communication and collaboration applications. *Computers & Education*, *128*, 113-131. https://doi.org/https://doi.org/10.1016/j.compedu.2018.09.010

Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. *Universal Access in the Information Society*, *14*(1), 81-95. https://doi.org/10.1007/s10209-014-0348-1

Matthews, R. A., Pineault, L., & Hong, Y.-H. (2022). Normalizing the use of single-item measures: Validation of the single-item compendium for organizational psychology. *Journal of Business and Psychology*, *37*(4), 639-673. https://doi.org/10.1007/s10869-022-09813-3

Mavondo, F. T., Tsarenko, Y., & Gabbott, M. (2004). International and local student satisfaction: Resources and capabilities perspective. *Journal of Marketing for Higher Education*, *14*(1), 41-60. https://doi.org/10.1300/J050v14n01_03

McAvinue, L. P., Habekost, T., Johnson, K. A., Kyllingsbæk, S., Vangkilde, S., Bundesen, C., & Robertson, I. H. (2012). Sustained attention, attentional selectivity, and attentional capacity across the lifespan. *Attention, Perception, & Psychophysics*, *74*(8), 1570-1582. https://doi.org/10.3758/s13414-012-0352-6

McCarthy, J., & Goffin, R. (2004). Measuring job interview anxiety: Beyond weak knees and sweaty palms. *Personnel Psychology*, *57*(3), 607-637. https://doi.org/10.1111/j.1744-6570.2004.00002.x

McCarthy, J. M., Bauer, T. N., Truxillo, D. M., Anderson, N. R., Costa, A. C., & Ahmed, S. M. (2017). Applicant perspectives during selection: A review addressing "So what?,""What's new?," and "Where to next?". *Journal of Management*, *43*(6), 1693-1725. https://doi.org/10.1177/0149206316681846

McCarthy, J. M., Truxillo, D. M., Bauer, T. N., Erdogan, B., Shao, Y., Wang, M., Liff, J., & Gardner, C. (2021). Distressed and distracted by COVID-19 during high-stakes virtual interviews: The role of job interview anxiety on performance and reactions. *Journal of Applied Psychology*, *106*(8), 1103. https://doi.org/10.1037/apl0000943

Moscoso, S. (2000). Selection interview: A review of validity evidence, adverse impact and applicant reactions. *International Journal of Selection and Assessment*, *8*(4), 237-247. https://doi.org/10.1111/1468-2389.00153

Nagy, M. S. (2002). Using a single-item approach to measure facet job satisfaction. *Journal of Occupational and Organizational Psychology*, *75*(1), 77-86. https://doi.org/10.1348/096317902167658

Neumark, D. (2018). Experimental Research on Labor Market Discrimination. *Journal of Economic Literature*, *56*(3), 799-866. https://doi.org/10.1257/jel.20161309

Oh, C. S., Bailenson, J. N., & Welch, G. F. (2018). A systematic review of social presence: Definition, antecedents, and implications. *Frontiers in Robotics and AI*, 114. https://doi.org/10.3389/frobt.2018.00114

Ong, C.-S., & Lai, J.-Y. (2006). Gender differences in perceptions and relationships among dominants of e-learning acceptance. *Computers in Human Behavior*, *22*(5), 816-829. https://doi.org/https://doi.org/10.1016/j.chb.2004.03.006

Park, C., Kim, D.-g., Cho, S., & Han, H.-J. (2019). Adoption of multimedia technology for learning and gender difference. *Computers in Human Behavior*, *92*, 288-296. https://doi.org/https://doi.org/10.1016/j.chb.2018.11.029

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315-341. https://doi.org/10.1007/s10648-006-9029-9

Pfeil, L. (2018). Measuring candidate experience: Scope and determinants of the Net Promoter Score in an online assessment context. [MSc thesis, Universität Leipzig].

Powell, D. M., Stanley, D. J., & Brown, K. N. (2018). Meta-analysis of the relation between interview anxiety and interview performance. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, *50*(4), 195. https://doi.org/10.1037/cbs0000108

Qazi, A., Hasan, N., Abayomi-Alli, O., Hardaker, G., Scherer, R., Sarker, Y., Kumar Paul, S., & Maitama, J. Z. (2021). Gender differences in information and communication technology use & skills: A systematic review and meta-analysis. *Education and Information Technologies*, 1-34. https://doi.org/10.1007/s10639-021-10775-x

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46-55. https://hbr.org/2003/12/the-one-number-you-need-to-grow

Reimers, S., & Maylor, E. A. (2005). Task switching across the life span: Effects of age on general and specific switch costs. *Developmental Psychology*, *41*(4), 661. https://doi.org/https://doi.org/10.1037/0012-1649.41.4.661

Rizi, M. S., & Roulin, N. (2023). Does media richness influence job applicants' experience in asynchronous video interviews? Examining social presence, impression management, anxiety, and performance. *International Journal of Selection and Assessment*. https://doi.org/10.1111/ijsa.12448

Roulin, N., Krings, F., & Binggeli, S. (2016). A dynamic model of applicant faking. *Organizational Psychology Review*, *6*(2), 145-170. https://doi.org/10.1177/2041386615580875

Roulin, N., Wong, O., Langer, M., & Bourdage, J. S. (2022). Is more always better? How preparation time and re-recording opportunities impact fairness, anxiety, impression management, and performance in asynchronous video interviews. *European Journal of Work and Organizational Psychology*, 1-13. https://doi.org/10.1080/1359432X.2022.2156862

Senft, T. M., & Baym, N. K. (2015). Selfies introduction~ What does the selfie say? Investigating a global phenomenon. *International Journal of Communication*, *9*, 19. https://doi.org/Retrieved from http://ijoc.org/index.php/ijoc/article/view/4067/1387

Strazzula, P. (2020). 524% rise in video interview programs as businesses adapt to COVID-19. https://www.selectsoftwarereviews.com/blog/video-interview-software-interest-covid-19

Sylva, H., & Mol, S. T. (2009). E-Recruitment: A study into applicant perceptions of an online application system. *International Journal of Selection and Assessment*, *17*(3), 311-323. https://doi.org/10.1111/j.1468-2389.2009.00473.x

Teo, T., Fan, X., & Du, J. (2015). Technology acceptance among pre-service teachers: Does gender matter? *Australasian Journal of Educational Technology*, *31*(3). https://doi.org/10.14742/ajet.1672

Uggerslev, K. L., Fassina, N. E., & Kraichy, D. (2012). Recruiting through the stages: A meta-analytic test of predictors of applicant attraction at different stages of the recruiting process. *Personnel Psychology*, *65*(3), 597-660. https://doi.org/10.1111/j.1744-6570.2012.01254.x

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 115-139. https://doi.org/https://doi.org/10.2307/3250981

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425-478. https://doi.org/https://doi.org/10.2307/30036540

Verhaeghen, P., & Cerella, J. (2002). Aging, executive control, and attention: A review of meta-analyses. *Neuroscience & Biobehavioral Reviews*, *26*(7), 849-857. https://doi.org/https://doi.org/10.1016/S0149-7634(02)00071-4

Viswesvaran, C., & Ones, D. S. (2004). Importance of perceived personnel selection system fairness determinants: Relations with demographic, personality, and job characteristics. *International Journal of Selection and Assessment*, *12*(1-2), 172-186. https://doi.org/10.1111/j.0965-075x.2004.00272.x

Vogels, E., Gelles-Watnick, R., & Massarat, N. (2022, August 10). *Teens, Social Media and Technology 2022*. Pew Research Center. https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/

Warfield, K. (2014, October 29–30). *Making selfies/making self: Digital subjectivities in the selfie. Paper presented at the Fifth International Conference on the Image and Image Knowledge Community* Freie Universität, Berlin, Germany. http://kora.kpu.ca/islandora/object/kora%3A39/datastream/PDF/view

Whitman, D. S., Kraus, E., & Van Rooy, D. L. (2014). Emotional Intelligence among Black and White Job Applicants: Examining differences in test performance and test reactions. *International Journal of Selection and Assessment*, *22*(2), 199-210. https://doi.org/10.1111/ijsa.12069

Williams, W. S., & Moody, A. L. (2019). Analyzed selfie: Stereotype enactment, projection, and identification among digitally native Black girls. *Women & Therapy*, *42*(3-4), 366-384. https://doi.org/10.1080/02703149.2019.1622901

Woods, S. A., Ahmed, S., Nikolaou, I., Costa, A. C., & Anderson, N. R. (2020). Personnel selection in the digital age: A review of validity and applicant reactions, and future research challenges. *European Journal of Work and Organizational Psychology*, *29*(1), 64-77. https://doi.org/10.1080/1359432X.2019.1681401

Zeidner, M. (1998). *Test anxiety: The state of the art*. Plenum.

Appendix A

Models Created to investigate Hypotheses and Research Questions

Model		Response variable	Fixed effects	Random effects
1	RQ1a,b, H1-5	Applicant reactions ~	Year + Opportunity to re-record + Allocated preparation time + Allocated response time + Number of questions + Proportion past behavioural questions + Proportion situational questions + Proportion video questions	+ (1 | Region/Client/Project)
2a		Applicant reactions ~	Year + Age + Allocated preparation time + Allocated response time + Opportunity to re-record + Number of questions + Proportion past behavioural questions+ Proportion situational questions	+ (1 | Region/Client/Project)
2b	H6-H7a,b,c	Applicant reactions ~	Year + Proportion past behavioural questions + Age * Allocated preparation time + Age * Allocated response time + Age * Opportunity to re-record + Age * Number of questions + Age * Proportion past behavioural questions + Proportion situational questions	+ (1 | Region/Client/Project)
3a		Applicant reactions ~	Year + Gender + Allocated response time + Number of questions + Allocated preparation Time + Opportunity to re-record + Proportion past behavioural questions + Proportion situational questions	+ (1 | Region/Client/Project)
3b	H8a,b	Applicant reactions ~	Year + Proportion past behavioural questions + Proportion situational questions + Allocated response time + Number of questions + Gender * Allocated preparation Time + Gender * Opportunity to re-record	+ (1 | Region/Client/Project)

Online Supplement

Supplementary Table 1.

LIWC Analysis: Correlations between Content of Applicant Comments with NPS

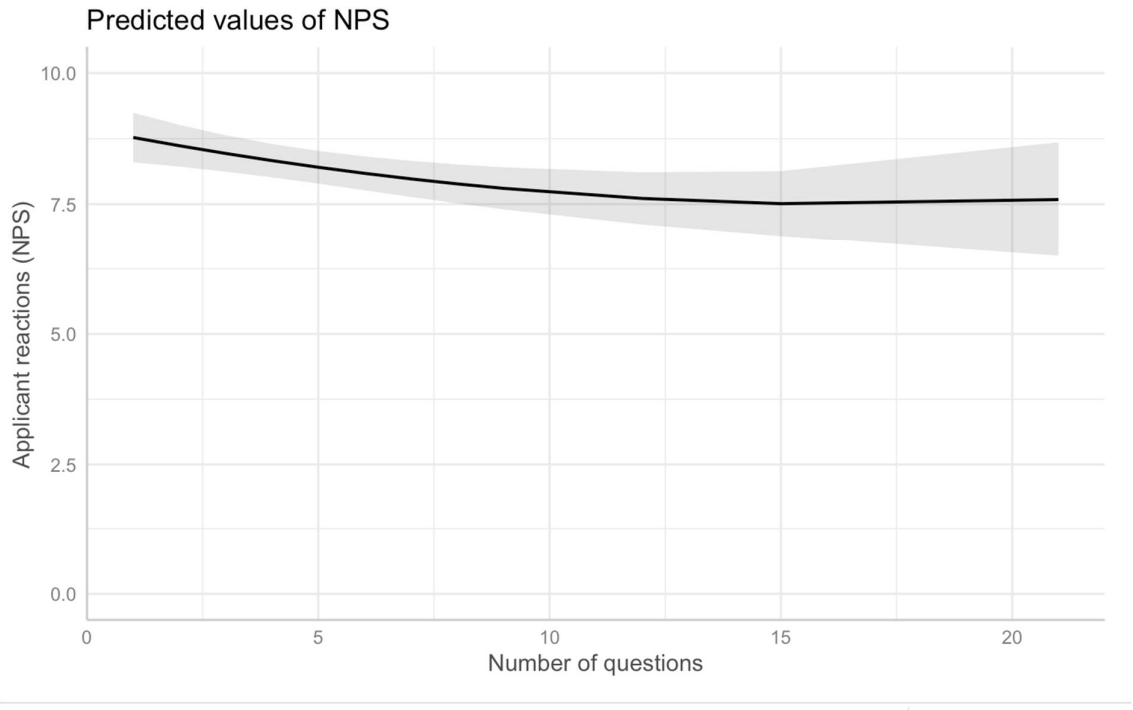
Variable	*n*	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. NPS	16384	8.34	2.05	-													
2. Tone	4589	62.05	37.77	0.37***	-												
3. Affect	4589	7.56	9.72	0.20***	0.45***	-											
4. Positive tone	4589	6.62	9.61	0.25***	0.56***	0.95***	-										
5. Negative tone	4589	0.92	2.89	-0.17***	-0.35***	0.19***	-0.11***	-									
6. Emotion	4589	2.82	6.68	0.13***	0.25***	0.60***	0.58***	0.09***	-								
7. Positive emotion	4589	2.43	6.50	0.15***	0.31***	0.58***	0.61***	-0.06***	0.96***	-							
8. Negative emotion	4589	0.37	1.71	-0.08***	-0.19***	0.12***	-0.05***	0.58***	0.23***	-0.03***	-						
9. Anxiety	4589	0.24	1.46	-0.02	-0.12***	0.13***	-0.02	0.50***	0.21***	-0.01*	0.86***	-					
10. Anger	4589	0.02	0.38	-0.07***	-0.07***	0.01	-0.02	0.13***	0.04**	-0.02	0.22***	0.00	-				
11. Sadness	4589	0.01	0.21	-0.07***	-0.07***	0.01	-0.02	0.11***	0.02	-0.02	0.13***	0.00	0.00	-			
12. Prosocial	4589	1.06	3.61	0.10***	0.22***	0.31***	0.32***	-0.05**	0.08***	0.09***	-0.02	0.00	-0.01	-0.01	-		
13. Politeness	4589	0.4	2.82	0.05**	0.10***	0.28***	0.28***	-0.02	0.00	0.00	-0.01	-0.01	0.00	0.00	0.74***	-	
14. Conflict	4589	0.07	0.95	-0.03**	-0.08***	0.00	-0.03*	0.10***	0.00	-0.02	0.07***	-0.01	0.24***	0.07***	-0.01	0.00***	-

Note *$p < .05$, **$p < .01$,***$p<.001$.

Post hoc analyses: Quadratic effects

Supplementary Figure 1

The Relationship between the Quadratic Effect of Number of Questions and Applicant Reactions (NPS)



Note: Estimated marginal means are shown.

Supplementary Table 2

Results of Exploratory Model: Relationships between AVI Design Features and Applicant Reactions with a Quadratic Effect for Number of Questions

Variable	*b*	*SE*	β	*t*	*p*
Year	0.09	0.03	0.03	2.79	.01
Allocated preparation time	0.00	0.00	0.06	1.84	.08
Opportunity to re-record	0.59	0.12	0.14	4.91	<.001
Maximum response length	0.00	0.00	0.01	0.18	.85
Proportion video questions	0.27	0.69	0.03	0.40	.69
Number of Questions	-57.50	24.57	-0.17	-2.34	.02
Number of Questions Quadratic	28.51	15.87	0.09	1.80	.08
Proportion past behavioral questions	-0.01	0.21	-0.00	-0.04	.97
Proportion situational questions	0.51	0.64	0.02	0.79	.43

Note: *N* = 27,226, *b* refers to the unstandardized estimate, *β* to the standardized estimate.

Exploratory Analyses: Models with all Interactions

Supplementary Table 3

Results of Model 4: Relationships between Applicant Reactions, AVI Design Features, and Applicant Age Containing All Interactions

Variable	*b*	*SE*	*95% CI*	β	*t*	*p*
Year	0.19	0.07	[0.02,0.35]	0.07	2.54	.01
Age	-0.02	0.01	[-0.03,-0.01]	-0.08	-4.18	<.001
Allocated preparation time	0.23	0.18	[-0.18,0.61]	0.05	1.28	.22
Opportunity to re-record	0.40	0.18	[0.02,0.79]	0.09	2.20	.04
Maximum response length	0.34	0.16	[-0.01,0.67]	0.09	2.08	.05
Number of questions	-0.18	0.05	[-0.28,-0.08]	-0.08	-3.66	<.001
Proportion past behavioral questions	-0.44	0.29	[-1.03,0.15]	-0.07	-1.55	.14
Proportion situational questions	0.59	0.75	[-0.99, 2.13]	0.03	0.79	0.44
Year	0.14	0.07	[-0.02,0.28]	0.05	1.98	.05
Age	0.03	0.05	[-0.07,0.12]	0.09	0.53	.60
Allocated preparation time	0.74	0.46	[-0.17,1.64]	0.17	1.60	.11
Opportunity to re-record	0.26	0.44	[-0.62,1.15]	0.06	0.58	.56
Maximum response length	1.82	0.39	[0.04,1.60]	0.20	2.08	.04
Number of questions	0.24	0.14	[-0.04,0.51]	0.11	1.74	.08
Proportion past behavioral questions	-3.34	0.77	[-4.85,-1.82]	-0.49	-4.34	<.001
Proportion situational questions	-4.85	2.01	[-8.81,-0.85]	-0.23	-2.41	.02
Age * Allocated preparation time	-0.01	0.02	[-0.04,0.02]	-0.05	-0.57	.57
Age * Opportunity to re-record	0.00	0.02	[-0.03,0.04]	0.01	0.12	.91
Age * Maximum response length	-0.02	0.01	[-0.05,0.01]	-0.21	-1.54	.12
Age * Number of questions	-0.01	0.00	[-0.02,0.00]	-0.23	-2.26	.02
Age * Proportion past behavioural questions	0.08	0.02	[0.04,0.13]	0.30	3.50	<.001
Age * Proportion situational questions	0.16	0.07	[0.02,0.29]	0.20	2.31	.02

Note: N = 5527, b = unstandardized estimate, β = standardized estimate. The top half of the table reports the age model with no interactions, only main effects (AIC = 23,370.2, BIC = 23,456.2) The bottom half includes all possible age interactions (AIC = 23,329.1, BIC = 23,454.9), the log-likelihood ratio test revealed the model with interactions proves a significantly better fit, $\chi^2(6) = 53.07$, $p < .001$. All variables are uncentred.

Discussion of Additional Age Interactions

Past behavioural questions are designed to capture past work experience (e.g., Levashina et al, 2014) and performance on such questions in in-person interviews is related to experience (Day & Carroll, 2003). Thus, they should offer older and more experienced applicants more opportunities to showcase job-relevant knowledge and experiences (Cleveland et al., 2019). Interestingly, while researchers have called for examining the effect of age or experience on reactions to behavioral questions (e.g., Gilmore, 1989), empirical work is scarce. Our findings provide preliminary evidence for such an effect in AVIs, although they might also apply to other interview modalities.

We note that the moderating effect of applicant age in the relationship between question type and reactions is not per se specific to AVIs, and it could be also true for other interview modalities (videoconference or even face-to-face). Past behavioral questions measure work experience (e.g., Janz, 1982; Levashina et al., 2014), although actual correlations between experience and performance on such questions are small (Day & Carroll, 2003). Thus, it would be expected that older applicants react more favorably to such questions in general. Early work on past behavioral questions has called for such examinations. For instance, Gilmore (1989, p.287) concluded his paper on applicant reactions to behavior description interviews with “Future research could determine if applicants with considerable job experience would react in a similar manner to behavior description interviews and nonverbal communication.” However, empirical research examining age difference in relation to applicant reactions to interview question type is scarce. In addition, there is no guarantee that older or more experienced applicants would truly benefit from such questions. For example, Bangerter et al. (2014) found that older and

more experienced job applicants are not better at using storytelling when answering past behavioral questions.

Supplementary Table 4

Results of Model 5: Relationships between Applicant Reactions, AVI Design Features, and Applicant Gender Containing All Interactions

Variable	*b*	*SE*	*95% CI*	*β*	*t*	*p*
Year	0.07	0.03	[0.00,0.14]	0.03	2.15	.03
Gender	0.12	0.03	[0.06,0.19]	0.03	3.63	<.001
Allocated preparation time	0.26	0.10	[-0.04,0.48]	0.09	2.66	.01
Opportunity to re-record	0.57	0.12	[0.30,0.87]	0.11	4.59	<.001
Maximum response length	0.02	0.13	[-0.25,0.37]	0.01	0.16	.87
Number of questions	-0.07	0.02	[-0.12,0.00]	-0.17	-2.90	.01
Proportion past behavioral questions	-0.14	0.23	[-0.64,0.32]	-0.02	-0.60	.55
Proportion situational questions	0.25	0.69	[-1.54,1.70]	0.01	0.36	.72
Year	0.07	0.03	[0.00,-0.14]	0.03	2.13	.03
Gender	-0.21	0.18	[-0.56,0.15]	-0.05	-1.15	.25
Allocated preparation time	0.03	0.14	[-0.32,0.30]	0.01	0.21	.84
Opportunity to re-record	0.47	0.17	[0.11,0.84]	0.09	2.70	.01
Maximum response length	-0.25	0.18	[-0.61,0.15]	-0.07	-1.43	.16
Number of questions	-0.03	0.03	[-0.09,0.05]	-0.08	-1.16	.25
Proportion past behavioral questions	0.49	0.35	[-0.20,1.18]	0.07	1.43	.15
Proportion situational questions	1.21	0.94	[-1.03,3.14]	0.04	1.28	.20
Gender * Allocated preparation time	0.21	0.08	[0.05,0.37]	0.12	2.57	.01
Gender * Opportunity to re-record	0.06	0.10	[-0.13,0.25]	0.02	0.65	.51
Gender * Maximum response length	0.17	0.09	[-0.01,0.35]	0.12	1.84	.07
Gender * Number of questions	-0.03	0.01	[-0.05,-0.01]	-0.10	-2.79	.01
Gender * Proportion past behavioral questions	-0.44	0.19	[-0.80,-0.07]	-0.11	-2.35	.02
Gender * Proportion situational questions	-0.66	0.50	[-1.64,0.32]	-0.03	-1.32	.19

Note: *N* = 19,000, *b* = unstandardized estimate, *β* = standardized estimate. For gender, 0 = male, 1 = female. The top half of the table reports the gender model with no interactions, only main effects (AIC = 78,363.9, BIC = 78,466.0). The bottom half includes all possible gender interactions (AIC = 78,360.9, BIC = 78,510.1). The log-likelihood ratio test revealed the model with interactions proves a significantly better fit... $\chi^2(6) = 15.04$, p =.02 All variables are uncentred.

Supplementary Table 5.

Exploratory models

Model	Response variable	Fixed effects	Random effects
4	Applicant reactions ~	Year + Age + Allocated preparation time + Opportunity to re-record + Maximum response length + Number of questions + Proportion past behavioural questions + Proportion situational questions + Age * Allocated preparation time + Age * Opportunity to re-record + Age * Maximum response length + Age * Number of questions + Age * Proportion past behavioural questions+ Age * Proportion situational questions	+ (1 | Region/Client/Project)
5	Applicant reactions ~	Year + Gender + Allocated preparation time + Opportunity to re-record + Maximum response length + Number of questions + Proportion past behavioural questions + Proportion situational questions + Gender * Allocated preparation time + Gender * Opportunity to re-record + Gender * Maximum response length + Gender * Number of questions + Gender * Proportion past behavioural questions+ Gender * Proportion situational questions	+ (1 | Region/Client/Project)

Supplementary Table 6.

Additional Information About the Sample

Country	N Candidates	% of total
N/A	10,244	36.84%
Australia	2,433	8.75%
Chile	468	1.68%
Germany	111	0.40%
Ireland	3,466	12.46%
Norway	1,035	3.72%
Portugal	112	0.40%
Sweden	447	1.61%
UK	5,703	20.51%
USA	3,790	13.63%
Grand Total	27,809	100.00%

Client Industry	N Candidates	% of total
N/A	10,737	38.61%
Energy, Utilities & Natural Resources	468	1.68%
Financial Institutions	5,915	21.27%
Food, Agribusiness & Beverage	1,055	3.79%
Hospitality, Travel & Leisure	417	1.50%
Public Sector Partnership	581	2.09%
Retail & Consumer Goods	3,654	13.14%
Sports & Entertainment	142	0.51%
Technology, Media & Communications	157	0.56%
Transportation & Logistics	4,683	16.84%
Grand Total	27,809	100.00%

Job Type	N Candidates	% of total
N/A	18,842	67.76%
Apprentices / School Leavers	363	1.31%
Customer Service & Support	142	0.51%
Graduates	6,416	23.07%
Junior Management	247	0.89%
Sales Professionals	417	1.50%
Students / Trainees	1,382	4.97%
Grand Total	27,809	100.00%