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Preselection in the digital age: A comparison of perceptions of asynchronous video interviews with online tests and online application documents in a simulation context

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Abstract

Asynchronous video interviews (AVIs) are increasingly used to preselect applicants. Previous research found that interviewees are more skeptical of these interviews compared to other forms of interviews. However, comparing AVIs to other interviews is not completely appropriate because of their lack of interactivity and their use during earlier stages of the selection process. Therefore, we compared perceptions of AVIs with perceptions of other preselection tools (online cognitive ability tests and online application documents). Compared to other preselection instruments, potential applicants do not have more skeptical fairness perceptions of AVIs. However, we found differences for perceived usefulness, perceived ease of use, privacy concerns, and perceptions of organizational attractiveness. Organizations can take this into account when choosing how to preselect their applicants.

KEYWORDS

applicant reactions, asynchronous video interviews, personnel selection, preselection, selection interviews

Practitioner points

- Asynchronous video interviews (AVIs) are perceived more skeptical than other forms of interviews
- However, AVIs are mainly used for the preselection of applicants and not to replace synchronous interviews that are used during later stages of the selection process
- Compared to other preselection instruments (online cognitive ability tests and online application documents), AVIs are perceived as equally fair but differ in terms of usability, privacy concerns, the potential use of impression management, and their effects on organizational attractiveness
- Therefore, organizations should take this into account when choosing how to preselect their applicants

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1 | INTRODUCTION

Asynchronous video interviews (AVIs) have gained considerable attention in research and practice during the last few years (Lukacik et al., 2022). Recent research on these interviews primarily dealt with comparisons between perceptions of, or performance in, AVIs, compared to other forms of interviews (e.g., Basch et al., 2020; Langer et al., 2017). However, the comparison of AVIs with other kinds of interviews is not completely appropriate, because AVIs differ not only from face-to-face (FTF) and videoconference interviews with regard to certain characteristics such as unidirectional and asynchronous conversation but also with regard to their use during different stages of the selection process. Specifically, AVIs are usually used during the early stages of a selection process (i.e., to preselect those applicants who are then invited to take part in synchronous interviews, work sample tests, assessment centers, or other more expensive and/or more time-consuming selection procedures). Because of this, it is also important for recruiters and organizations to know more about how potential applicants perceive different instruments that are intended to be used during the same step of the selection process. Therefore, the aim of the following study was to examine applicant perceptions of AVIs compared to online application documents and online tests,¹ because these are often used to preselect applicants.

2 | PRESELECTION OF APPLICANTS

Organizations are using various selection instruments to preselect applicants. For example, they analyze applicants' application documents or use personality and/or ability tests before applicants are invited to an on-site interview, a work sample test, or an assessment center (Armoneit et al., 2020). However, digitalization has provided new ways to preselect applicants (Folger et al., 2021). Online instruments such as AVIs, online cognitive ability tests, or online application documents are increasingly used to preselect applicants. In AVIs, candidates receive predefined questions on their respective device's screen and they have to answer these questions within a specific predefined response time. Interviewees' answers are recorded via webcam and microphone and evaluated later (Lukacik et al., 2022). Online cognitive ability tests are the digital version of paper-based general mental ability (GMA) tests and they are also administered via the internet. Online application documents are similar to paper-based types of application documents, with the only difference that the documents are submitted electronically. Applicants consequently enter their information and/or upload their documents such as cover letter, resume, certificates, references, and so forth, to the organizations' recruiting website (Hartwell et al., 2020).

In a recent survey on the use of different selection instruments in German-speaking countries, 75% of the organizations stated that they use online application documents for their selection process and 16% reported the use of online tests (Armoneit et al., 2020). AVIs were not

considered in this survey, but a small survey that was conducted among recruiters before the Covid-19 pandemic revealed a relatively low percentage of only 4% that were using AVIs (Basch & Melchers, 2021). However, it seems quite likely that this percentage will have increased in response to the pandemic (cf. Gibson et al., 2021).

What all the technology-based methods have in common is that they not only offer cost advantages over conventional methods, but that they also allow more flexibility and time efficiency in a globalized labor market. However, the comparability of traditional procedures with online-based procedures with regard to applicants' reactions and performance or the validity of the procedure is often unclear (Stone et al., 2015). Additionally, what AVIs, online application documents, and online tests have in common is that the evaluation of applicants' performance and qualifications might be affected by technical issues like a slow internet connection, bugs in the software, or low quality of equipment. In AVIs, a slow internet connection might lead to lag times and disturbances of audiovisual information and, therefore, to a loss of information (Lukacik et al., 2022). Furthermore, interview performance ratings might also rely on the quality of the video responses (Fiechter et al., 2018). For online tests and online application documents, a slower internet connection might lead to disturbances in the upload of responses or documents. However, the instruments investigated in this study could also differ in several aspects. One of these aspects could be the constructs that are assessed. Online application documents assess applicants' educational background and work experience (Brown & Campion, 1994), whereas online tests assess GMA (Ones et al., 2017). The constructs assessed in AVIs, however, rely on the questions being asked, but oral presentation skills probably always play a role in them (Gorman et al., 2018; Rasipuram & Jayagopi, 2016). Another difference is the presentation format and, therefore, the media richness (Daft & Lengel, 1986) of information. Whereas in AVIs, verbal, nonverbal, and paraverbal information is collected, the response format in online application documents and online tests is text-based. And finally, the duration might also differ mostly due to the complexity of the respective instrument. Most AVIs contain about five questions with an overall duration of about 15 min (Dunlop et al., 2022). Online tests vary widely in their length, whereas the time required to prepare and upload online application documents mostly depends on whether one has the required documents ready and in the right format.

3 | PERCEPTIONS OF PRESELECTION INSTRUMENTS

A look at the costs and benefits from an organization's perspective is not always sufficient when deciding whether to use a specific selection instrument. Applicants' perceptions of a procedure are also relevant because these perceptions can influence applicants' perceptions of the organizations' attractiveness or behavioral intentions such as the intention to accept a job offer (Hausknecht et al., 2004). However, to date, research on perceptions of different online (pre) selection instruments is sparse (e.g., Folger et al., 2021). Therefore,

we will also partially refer to findings related to conventional offline instruments.

If one considers previous findings concerning perceptions of AVIs, a heterogeneous picture emerges. On the one hand, Brenner et al. (2016) found that AVIs are generally perceived as fair. On the other hand, several studies found that AVIs were perceived as less fair compared to FTF and videoconference interviews (Basch et al., 2020). In comparison to conventional FTF interviews, one aspect that might contribute to these perceptions is that AVIs are highly structured, which is known to be related to impaired applicant perceptions in interviews (Ryan & Ployhart, 2000). However, AVIs are still seen less favorably even when they are compared to synchronous interviews that are as highly structured as AVIs (Langer et al., 2017). Thus, the asynchronous nature and the fact that applicants do not meet a recruiter in person seem to impair applicant perceptions. In this regard, AVIs are even more similar to video resumes, in which applicants use short videos to apply to an organization and recruiters evaluate applicants on the basis of these videos (see also Hiemstra & Derous, 2015). Furthermore, even though interview structure is not always well-perceived by interviewees, we also want to mention that the high level of standardization in AVIs can even lead to better applicant perceptions when explained to potential applicants (Basch & Melchers, 2019). As far as traditional cognitive ability tests are concerned, previous research found that these are less well accepted than interviews, application documents, or assessment centers (Anderson et al., 2010; Rynes & Connerley, 1993). Finally, regarding the use of application documents, previous evidence suggests that recruiters assume that the use of such documents is well accepted by applicants (Armonait et al., 2020).

To compare perceptions of different preselection instruments, it is helpful to consider Gilliland's (1993) fairness model. According to this model, the perceived fairness of a selection instrument can be ensured if certain fairness rules are followed. Violating these rules can lead to impaired fairness perceptions. The 10 rules from the model can be further divided into formal characteristics (job-relatedness, opportunity to perform, reconsideration opportunity, and consistency), explanation (feedback, information about the selection process, and honesty), and interpersonal treatment (propriety of questions, two-way communication, and interpersonal effectiveness).

For the comparison in this study, we only considered three of the four formal characteristics rules (job relatedness, opportunity to perform, and consistency of administration) because these aspects are applicable with regard to the selection instruments used in our study, whereas other rules (e.g., propriety of questions or interpersonal effectiveness) are not suitable because they do not apply to all three instruments. Regarding the specific rules, job relatedness means that the information from a selection instrument is relevant for future job situations. Opportunity to perform means that applicants have the opportunity to show their qualifications and skills and to influence the outcome of the selection decision. Consistency means that a selection instrument is administered in the same way for every applicant (Gilliland, 1993). In addition, we also considered perceived global fairness for our study, which refers

to the extent to which a selection instrument is generally perceived as fair.

Interviews are usually perceived as highly job-related (Smither et al., 1996) and provide applicants with the opportunity to describe their skills and qualifications and thereby with the opportunity to directly influence the outcome of the selection process. As AVIs are an alternative form of interviewing, the perceptions of global fairness, job relevance, and opportunity to perform should also be relatively high, although these aspects are impaired in comparison to synchronous interviews (Basch et al., 2020).

Although application documents are generally perceived positively by applicants (Cole et al., 2007), they are less well-accepted in comparison with other selection instruments (Truxillo & Bauer, 2011). One possible reason for this is that applicants consider the job relevance of application documents to be low (Smither et al., 1996). Nevertheless, practitioners often use them to assess the fit between applicant and job (Brown & Campion, 1994). Given that applicants can, to some degree, decide for themselves which pieces of information they want to stress in their application documents, applicants often perceive the opportunity to present themselves as high (Kluger & Rothstein, 1993). Therefore, opportunity to perform might also be relatively high in online application documents, but might be lower compared to AVIs that provide a possibility to present oneself on video.

Cognitive ability tests are only perceived as moderately fair compared to other selection instruments (Anderson et al., 2010; Truxillo & Bauer, 2011). This is mainly because of the limited perceptions of their predictive job-relatedness (Koczwara et al., 2012) and also because of rather moderate perceptions of the controllability of these tests compared to other selection instruments (e.g., assessment centers, Macan et al., 1994), which should lead to a limited possibility to present oneself. With regard to meta-analytic evidence, there is also evidence that perceptions of global fairness are lower for GMA tests than for FTF interviews (Anderson et al., 2010).

What all of the preselection instruments examined in this study have in common, is their high degree of standardization and consistency. In AVIs, the questions are specified in advance, which leads to a high degree of standardization (Lukacik et al., 2022). Although applicants can decide to a certain degree which information they share in online application documents, standardization should also apply to them, as it may be assumed that the required documents for a certain job do not differ between applicants (Bliesener, 1996). Finally, online tests are also the same for all applicants.

Taken together, interviews are usually regarded as the fairest of the three selection procedures. However, because we focus on AVIs in this study and because AVIs differ from FTF interviews in terms of fairness perceptions, results from previous studies might only partially generalize to AVIs. Therefore, we want to investigate the following research question:

Research Question 1: Do the reported fairness perceptions differ between AVIs, online tests, and online application documents with regard to (a) predictive job-relatedness, (b) opportunity to perform, (c) consistency, and (d) global fairness?

In addition to fairness perceptions, applicant reactions, such as perceived organizational attractiveness, are also important because these perceptions reflect the ability of an organization to attract applicants. One way to be successful as an organization in the so-called “war for talent” is to be perceived as attractive and, therefore, to increase the number of applications from qualified applicants (Cable & Turban, 2003). Furthermore, according to Gilliland's (1993) fairness model, fairness perceptions should affect outcomes such as perceptions of the organization and corresponding behavioral reactions. Specifically, these perceptions concern the organization's general attractiveness, behavioral intentions related to the organization (e.g., acceptance of a job offer), and the prestige of an organization (Highhouse et al., 2003).

With respect to the different preselection instruments examined in the present study, we want to investigate whether reported perceptions of organizational attractiveness vary depending on the preselection instrument used. Thereby, we want to answer the following question:

Research Question 2: Do reported applicant perceptions of organizational attractiveness differ between AVIs, online tests, and online application documents with regard to (a) general attractiveness, (b) behavioral intentions, and (c) prestige?

In addition to fairness perceptions, usability perceptions are also relevant in the context of new technologies. Thus, it is also relevant to compare the different preselection instruments concerning their perceived usefulness and perceived ease of use. Perceived usefulness and ease of use both relate to the technology acceptance model (Davis, 1989) and refer to the extent to which technologies are easy to use, which means that “using a particular system would be free of effort” (Davis, 1989; p. 320) and can be helpful in accomplishing work-related tasks.

Although all three preselection instruments can be implemented relatively flexibly via the internet, differences may nevertheless arise. For example, it may be the case that the effort (dressing adequately, tidying up the room, checking webcam and microphone, shooting sample videos) related to AVIs is higher compared to the other instruments (uploading documents or going through the test) and, therefore, leads to a lower perceived ease of use. Therefore, we want to answer the following question:

Research Question 3: Do the reported (a) perceived ease of use and (b) perceived usability perceptions differ between AVIs, online tests, and online application documents?

In the context of technology-mediated selection procedures, privacy concerns are also a relevant applicant reaction variable. Information privacy is defined as “the claim of individuals, groups, or institutions to determine for themselves, when, how, and to what extent information about them is communication to others” (Westin, 1967; p. 7), whereas privacy concerns can be seen as concerns about the nonlegitimate collection, disclosure, or other use of personal information (Malhotra et al., 2004). Although all of the preselection instruments examined in this study are internet-based, the instruments might differ in the extent to which they invade applicants' privacy. In line with this, Langer et al. (2017) found that AVIs induced

more privacy concerns than synchronous videoconference interviews, probably because AVIs have to be uploaded via the internet and are stored electronically. Privacy concerns are also relevant for online application documents, for example, if applicants have concerns about the storage and further use of data that they included in their documents. Furthermore, information on one's GMA might be considered one of the most sensitive types of personal data (Diercks, 2018). Because the result of one's ability test is transmitted via the Internet, data protection concerns related to online tests might also be high.

As all preselection instruments are administered online, applicants might be concerned about the protection of their personal data. However, so far, it is unclear whether these concerns differ between the three preselection instruments. Accordingly, we want to answer the following research question:

Research Question 4: Do the reported privacy concerns differ between AVIs, online tests, and online application documents?

In addition to the already mentioned variables, the degree to which applicants perceive the extent of possible impression management (IM) may also be informative for the comparison in the present study. IM refers to tactics that applicants use to proactively improve the outcome of a selection procedure (Schlenker, 1980). With regard to technology-mediated interviews, it has previously been argued that differences concerning the potential use of IM tactics might also contribute to differences concerning the perceptions of these interviews in comparison to FTF interviews (Blacksmith et al., 2016). In line with this, regarding AVIs, potential applicants indeed perceived a lower possibility to use IM tactics compared to FTF or other synchronous interviews (Basch et al., 2020).

Concerning the preselection instruments in the present study, online tests probably offer the least or no opportunity to use IM. In contrast to this, as already mentioned, applicants might use IM and gloss over their own application documents (Henle et al., 2019). Furthermore, IM tactics can also be used in AVIs, for example, by stressing one's strengths and trying to hide one's weaknesses. However, it is unclear to which degree perceptions concerning the possible use of IM actually differ. Therefore, we would like to investigate the following research question:

Research Question 5: Do reported perceptions of the possible use of IM differ between AVIs, online tests, and online application documents?

4 | METHOD

4.1 | Sample

The initial sample consisted of 329 German-speaking participants². However, we had to remove the data of 13 individuals because they did not answer an attention-check correctly. Therefore, the final sample consisted of 316 individuals (mean age: $M = 34.23$ years, $SD = 12.97$, range = 18–69 years; 51.6% female; 80.7% were currently in employment and these were working $M = 35.20$ h/week on

average). Participants were recruited via posts in different groups on social media like Facebook or were approached directly with emails containing the link to an online questionnaire. Of the participants, 53.2% had a university degree and 92.1% had previous application experience. Concerning the selection instruments that were the focus of the present study, 5.7% of the participants had already completed an AVI, 25.9% had already taken an online test, and 73.1% already had experience with online application documents.

4.2 | Procedure

Participants were told to imagine they had applied for an attractive job and had been invited to complete a preselection instrument. After they had answered demographic questions, a between-subjects design with three independent groups was used to assess participants' perceptions. The specific preselection instrument (AVI, online test, online application documents) was described in detail. This information included a description of the respective preselection instrument and photographs of what the corresponding user interface looked like. The information and the corresponding photographs can be seen in the Appendix. After the description, there was an attention check containing a multiple-choice item asking about the preselection instrument that had just been described to them. Then, participants had to evaluate the perceived fairness of the respective selection instrument. They also had to answer questions about organizational attractiveness, usability perceptions, privacy concerns, and the possibility of using IM tactics.

4.3 | Measures

All items were rated on 5-point rating scales ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Measures for which no German version was available were translated to German for the present study and were checked by backtranslation.

4.3.1 | Fairness perceptions

We used three subscales from the Selection Procedural Justice Scale (Bauer et al., 2001) to measure participants' reported fairness perceptions for the preselection procedure. These subscales represented predictive job-relatedness (two items, e.g., "Doing well in such a selection procedure means I could do well on the job," mean α across the three instruments = .76), opportunity to perform (four items, e.g., "In such a selection procedure I can really show my skills and abilities," mean α = .88), and consistency of administration (three items, e.g., "This selection procedure is conducted in the same way with all applicants," mean α = .77). In addition, we used three items from Bauer et al. (2001) to measure global fairness (e.g., "I think that such a selection instrument is a fair way to select people," mean α = .83).

4.3.2 | Organizational attractiveness

To measure organizational attractiveness, we used the organizational attractiveness scale developed by Highhouse et al. (2003). It contains 15 items from three subscales capturing general attractiveness (e.g., "Such a company is attractive to me as a place for employment," mean α = .86), behavioral intentions (e.g., "I would exert a great deal of effort to work for this company," mean α = .83), and prestige ("I would find this company a prestigious place to work," mean α = .86).

4.3.3 | Usability perceptions

Concerning usability perceptions, we used five items to measure perceived ease of use (e.g., "I would find this selection instrument easy to use," mean α = .85) and three items to measure perceived usefulness (e.g., "This selection instrument would make the life as an applicant easier for me," mean α = .82) from an adapted scale from the technology acceptance model (Davis, 1989).

4.3.4 | Privacy concerns

Privacy concerns were measured with five items (e.g., "In such a selection instrument I am worried about my privacy," mean α = .80) from a study by Langer et al. (2017).

4.3.5 | Impression management

Participants had to indicate their possible use of impression management tactics during the respective selection instrument with three items (e.g., "In this selection instrument I could show my knowledge and expertise," mean α = .83) from Tsai et al. (2005).

5 | RESULTS

5.1 | Preliminary analyses

First, we conducted a confirmatory factor analysis (CFA) to assess the distinctiveness of our dependent variables. The results from the CFA confirmed that the different variables are best represented as three second-order factors (see also Table 1).

Next, we tested whether the three experimental groups differed in terms of age, sex, educational level, work experience, or application experience, but no significant differences were found, all F s < 0.90, all p s > .44. Descriptive information and intercorrelations among the study variables are shown in Table 2. As can be seen there, age was negatively related to all reported perception and reaction variables. Additionally, sex was positively related to all three organizational attractiveness variables and to the perceived possibility to use IM and

TABLE 1 Comparison of fit indices of the confirmatory factor analysis models to distinguish the dependent variables (DVs)

Model	χ^2			RMSEA			AIC	BIC
	Value	df	p	Value	90% CI	p		
Model 1: Single factor	4562.1	860	<.001	0.117	(0.113, 0.120)	<.001	33,805.2	34,128.2
Model 2: Eleven orthogonal factors	3291.4	860	<.001	0.095	(0.091, 0.098)	<.001	32,534.5	32,857.5
Model 3: Three second-order factors	1495.2	841	<.001	0.050	(0.046, 0.054)	.56	30,776.3	31,170.7

Note: Model 1 tested whether all items can be represented by a single underlying factor, Model 2 tested whether the different DVs can be represented by a separate latent factor for each DV, and Model 3 tested whether the DVs can be represented by three second-order factors (fairness: with the first-order factors predictive job-relatedness, opportunity to perform, consistency, and global fairness; organizational attractiveness: with the first-order factors general attractiveness, behavioral intentions, and prestige; and usability with the first-order factors ease of use and perceived usefulness) and two separate first-order factors for privacy concerns and possible impression management use.

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criterion; CI, confidence interval; RMSEA, root-mean-square error of approximation.

negatively correlated to privacy concerns. This means that women generally perceived organizations using the various instruments as more attractive ($r_s = .19 - .22$), perceived a higher possibility to use IM ($r = .24$), and had lower privacy concerns ($r = -.14$).³

5.2 | Comparisons of the different preselection instruments

The aim of Research Question 1 was to compare the reported fairness perceptions concerning the different preselection instruments. As can be seen in Table 3 (where descriptive information for this and the following research questions can be found), there was no consistent pattern regarding differences in the reported fairness perceptions. Additionally, all preselection instruments were only rated on a moderate level concerning the different fairness subscales. However, we found a significant main effect when we compared the different instruments by means of a multivariate analysis of variance (MANOVA) with the three fairness subscales and global fairness as the dependent variables, Wilk's $\lambda = 0.83$, $F(8, 622) = 7.41$, $p < .001$. Subsequent ANOVAs for each of the fairness subscales were significant for predictive job-relatedness, $F(2, 313) = 4.33$, $p = .01$ (where the post-hoc test using the Scheffé procedure confirmed a significantly higher mean for online application documents than for online tests, see also Table 2), and for consistency, $F(2, 313) = 3.66$, $p = .03$ (where online tests were rated marginally higher than the other procedures). In contrast, the ANOVA was neither significant for opportunity to perform, $F(2, 313) = 1.79$, $p = .17$, nor for global fairness, $F(2, 313) = 3.01$, $p = .05$.

The aim of Research Question 2 was to examine differences concerning the reported organizational attractiveness perceptions. To do so, we conducted a MANOVA with general attractiveness, behavioral intentions, and prestige as the dependent variables. The group difference in the MANOVA just fell short of significance, Wilk's $\lambda = 0.96$, $F(6, 622) = 2.00$, $p = .06$, but the subsequent ANOVAs revealed consistent and significant differences for all three sub-dimensions of organizational attractiveness, all $F_s > 4.92$, all $p_s < .01$. Furthermore, posthoc tests with the Scheffé procedure revealed that

all of the organizational attractiveness subscales were rated higher for online application documents compared to online tests and AVIs (see also Table 3).

The aim of Research Question 3 was to examine potential differences regarding reported usability perceptions between the different preselection instruments. In line with the lower ratings for AVIs than for the other instruments, the MANOVA with perceived ease of use and perceived usefulness as dependent variables revealed a significant main effect, Wilk's $\lambda = 0.91$, $F(4, 624) = 7.68$, $p < .001$. Subsequent ANOVAs revealed a significant effect for perceived ease of use, $F(2, 313) = 11.15$, $p < .001$, and a marginally significant effect for perceived usefulness, $F(2, 313) = 3.03$, $p = .05$. Posthoc tests showed that perceived ease of use was rated higher both for online application documents and online tests compared to AVIs. Additionally, perceived usefulness was rated higher for application documents compared to AVIs (see also Table 3).

Research Question 4 dealt with a possible difference in privacy concerns between the different selection instruments. The corresponding ANOVA revealed a significant effect, $F(2, 313) = 3.68$, $p = .03$, and posthoc tests confirmed that AVIs induced more privacy concerns than online tests (see also Table 3).

Finally, we sought to examine a potential difference concerning the reported perceived possibility of using IM tactics (Research Question 5). The results for the corresponding ANOVA revealed a significant difference between the three instruments, $F(2, 313) = 8.23$, $p < .001$, and posthoc tests revealed marginally higher values of possible IM for online application documents and significantly higher values for AVIs compared to online tests (see also Table 3).

6 | DISCUSSION

The aim of the present study was to compare the reported perceptions of different web-based instruments that can be used to preselect applicants. To the best of our knowledge, this study is the first to compare AVIs to other preselection instruments. While previous comparisons of AVIs mainly focused on other types of job interviews and generally revealed significant differences to the

TABLE 2 Means, standard deviations, and intercorrelations for all study variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	34.13	13.09	-															
2. Sex	0.52	0.50	-.33**	-														
3. Application experience	13.44	20.29	.40**	-.15**	-													
4. Online application experience	0.73	0.44	-.02	.02	.17**	-												
5. Online test experience	0.26	0.44	.05	-.12*	.18**	.24**	-											
6. AVI experience	0.06	0.23	.02	-.12*	-.05	.02	.10	-										
7. Predictive job relatedness	2.39	0.84	-.28**	.16**	-.27**	-.07	-.05	.07	-									
8. Opportunity to perform	2.40	0.83	-.11*	.10	-.20**	-.09	-.06	.08	.59**	-								
9. Consistency	3.50	0.87	-.12*	.09	-.10	.07	.04	-.05	.23**	.22**	-							
10. Global fairness	2.89	0.87	-.19**	.15**	-.21**	.03	-.01	.12*	.56**	.61**	.43**	-						
11. General attractiveness	3.28	0.80	-.26**	.20**	-.22**	-.06	-.07	.07	.45**	.42**	.14*	.46**	-					
12. Behavioral intentions	3.26	0.75	-.26**	.19**	-.23**	-.06	-.08	.04	.43**	.36**	.12*	.38*	.87**	-				
13. Prestige	2.87	0.75	-.32**	.22**	-.23**	-.08	-.11	.07	.45**	.34**	.13*	.38*	.75**	.76**	-			
14. Perceived ease of use	3.29	0.83	-.20**	.06	-.17**	.08	-.03	.18**	.39**	.36**	.34**	.52**	.37**	.33**	.27**	-		
15. Perceived usefulness	2.88	0.93	-.19**	.12	-.21**	-.06	-.11	.10	.55**	.54**	.26**	-.60**	.47*	-.39**	.37**	.66**	-	
16. Privacy concerns	3.19	0.70	-.24**	-.14*	.01	-.12*	-.07	-.07	-.21**	-.14*	-.23**	-.22**	-.19**	-.19**	-.14*	-.19**	-.15**	-
17. Impression management	2.56	0.81	-.20**	.24**	-.17**	-.02	-.03	.16**	.51**	.63**	.19**	.53**	.42**	.39**	.36**	.41**	.59**	-.19**

Note: N = 316; sex was coded 0 = male, 1 = female, experience with a preselection tool was coded 0 = no, 1 = yes.

Abbreviations: AVI, asynchronous video interview

* $p < .05$; ** $p < .01$.

TABLE 3 Means, standard deviations, and Cohen's *ds* for the dependent variables

	Preselection instrument								
	AVIs (n = 103)		Online tests (n = 114)		Application documents (n = 99)		Cohen's <i>d</i>		
	M	(SD)	M	(SD)	M	(SD)	AVI-OT	AVI-AD	OT-AD
Procedural fairness									
Predictive job-relatedness	2.38	(0.81)	2.24	(0.83)	2.58	(0.85)	0.16	-0.24	-0.39*
Opportunity to perform	2.47	(0.79)	2.45	(0.85)	2.27	(0.83)	0.02	0.26	0.23
Consistency	3.40	(0.87)	3.67	(0.89)	3.40	(0.82)	-0.32 [†]	-0.02	0.30 [†]
Global fairness	2.87	(0.83)	2.76	(0.90)	3.05	(0.85)	-0.12	-0.20	-0.31 [†]
Organizational attractiveness									
General attractiveness	3.15	(0.88)	3.21	(0.75)	3.49	(0.71)	-0.06	-0.42*	0.39*
Behavioral intentions	3.14	(0.86)	3.20	(0.71)	3.45	(0.65)	-0.08	-0.41*	0.37*
Prestige	2.77	(0.82)	2.78	(0.74)	3.06	(0.63)	-0.03	-0.40*	0.39*
Usability perceptions									
Perceived ease of use	2.99	(0.84)	3.40	(0.79)	3.49	(0.77)	-0.49**	-0.62**	-0.13
Perceived usefulness	2.78	(0.86)	2.82	(0.98)	3.07	(0.92)	-0.04	-0.33*	-0.26
Privacy concerns	3.34	(0.64)	3.09	(0.71)	3.16	(0.72)	0.37*	0.26	-0.10
Possible IM use	2.77	(0.80)	2.34	(0.80)	2.59	(0.77)	0.54**	0.23	-0.32 [†]

Note: Asterisks represent results based on post-hoc Scheffé tests.

Abbreviations: AD, application documents; AVIs, asynchronous video interviews; IM, impression management; OT, online tests.

[†] $p < .10$.

* $p < .05$; ** $p < .01$.

disadvantage of AVIs (Basch et al., 2020; Langer et al., 2017), no such consistent differences were apparent in the present study. Nevertheless, our results indicate that AVIs, online tests, and online application documents differ concerning reported perceptions of specific aspects of fairness, organizational attractiveness, usability perceptions, privacy concerns, and the possibility of using IM tactics.

With respect to fairness perceptions, no clear pattern between the different instruments emerged and ratings of all the instruments were only moderate. However, each of the three preselection instruments had its specific advantages. Accordingly, consistency perceptions, for example, were lower for online application documents and AVIs than for online tests, but job-relatedness perceptions were lowest for online tests. Furthermore, with respect to AVIs, it can be said that they were not generally perceived more negatively than the other preselection instruments in terms of fairness perceptions. Instead, our findings suggest that previous findings of relatively negative fairness perceptions of AVIs (e.g., Basch et al., 2020; Langer et al., 2017) were mainly due to comparing these interviews with synchronous interviews even though synchronous interviews are usually not used during a same stage of the selection process as AVIs. Thus, the present study represents a more appropriate comparison with other selection tools that are also used to preselect applicants.

Additionally, our study sought to examine possible effects on organizational attractiveness. In contrast to the rather heterogeneous picture in fairness perceptions, the picture concerning organizational

attractiveness was relatively clear. Organizations that use online application documents are perceived as more attractive than organizations that use online tests or AVIs to preselect applicants. This shows that other variables beyond fairness also contribute to more positive perceptions of organizations.

Building on the technology acceptance model (Davis, 1989), AVIs turned out to be perceived as less easy to use. Accordingly, participants considered the effort involved in taking an AVI as higher than for online application documents and online tests. In line with this, it is probably also more time-consuming to dress adequately, carry out an equipment check, and so forth, than to simply sit in front of a computer and take a test or upload one's application documents. In terms of perceived usefulness regarding the application process, however, online application documents were only rated higher than AVIs, but not in comparison to online tests. Furthermore, the potential advantages for online application documents concerning the usability perceptions might have contributed to the positive effects on organizational attractiveness, so that it might be valuable for future research on applicant reactions to consider the role of usability perceptions in more detail.

Privacy concerns were another applicant perception variable investigated in our study. A closer look at the results revealed a rather ambiguous picture. Although GMA is one of the most sensitive types of personal data, participants rated online tests as the least delicate in terms of privacy. In contrast, AVIs induced the strongest

privacy concerns. AVIs were already associated with higher privacy concerns in earlier studies (e.g., Langer et al., 2017), but only in comparison to videoconference interviews. Furthermore, it is also worth noting that people have slightly higher concerns about uploading application documents than about cognitive ability tests.

The last variable explored in this study is IM use. In the study by Basch et al. (2020), for example, a lack of possible IM contributed to the effect that technology-mediated interviews were perceived as less fair than FTF interviews. When compared with other preselection instruments, however, AVIs were associated with the highest possibility of showing IM. This is particularly surprising when one considers that embellishment in application documents is easy and in some ways even expected (Henle et al., 2019; Kuhn et al., 2013). As already mentioned in the introduction, the use of IM is not possible in online tests, and in line with this, they were rated with the lowest possibility to show IM.

A possible explanation for the less favorable perceptions of AVIs for many of the variables examined in this study is the lack of dissemination of these interviews in German-speaking countries (Basch & Melchers, 2021). Looking at Armoneit et al.'s (2020) survey results, 70% of the organizations already used online application documents in 2018, whereas AVIs were not even mentioned in that survey. As only slightly less than 6% of the participants in the present study had experienced an AVI it might be possible that people are simply not yet familiar with this selection tool, which in turn influenced their perceptions.

Another interesting associated finding is that most of the dependent variables of this study were also related to age and sex. Accordingly, older participants and men were more skeptical of the different web-based preselection instruments. Whereas the effect related to age is in line with previous studies that generally found lower computer self-efficacy (Reed et al., 2005), lower technology acceptance (Hauk et al., 2018), and worse performance in a game-based assessment (Melchers & Basch, 2022) for older individuals, the effect related to sex is contradictory to previous research that found that women are less interested, feel less competent at using computers (Cooper, 2006), and show lower levels of computer self-efficacy than men (He & Freeman, 2019). However, it is possible that more computer self-efficacy is also related to knowing more about the potentially negative impact of using computers (i.e., privacy concerns), and therefore, seeing web-based preselection instruments less favorably.

Taken together, the multifaceted results from this study stress the importance to consider applicant reaction variables beyond fairness. Thus, even though Gilliland's (1993) fairness model is the dominant and most influential theoretical framework in applicant reaction research, it is not sufficient to capture and understand differences in new, technology-based selection procedures. Instead, models such as the technology acceptance model (Davis, 1989) are needed in this regard. Furthermore, given the uniform pattern concerning organizational attractiveness and the comparatively larger effect sizes for the corresponding dependent variables on the one hand and the nonuniform and weaker results for fairness on the other hand also suggest that it is not fairness that drives the effects on organizational attractiveness.

6.1 | Limitations and lines for future research

A limitation of the present study is the composition of the sample. More than half of the sample had a university degree, which is not a representative cross-section of society. Also limiting the generalizability of the results is the restriction to Germany. If a similar study were to be conducted in countries where AVIs are more common, this might lead to a different result, because the experience of actually having gone through a selection procedure can change perceptions about it (Basch et al., 2021; Melchers et al., 2021). Accordingly, the perceptions of AVIs might be more positive in groups with more experience because only 5.7% of the present participants had had experience with AVIs before the study. As AVIs continue to become more common due to the Covid-19 pandemic, the reported perceptions could also improve over the next few years (Gibson et al., 2021).

Another limitation of our study might be the comparability of the three instruments. As already mentioned in the introduction, there are some aspects that all three instruments have in common, but also some aspects that differ. Although our study reveals important insights into the perception of these instruments, future research could focus on the antecedents of the perception differences and might also use qualitative approaches to better understand which factors drive perception differences. We only considered three different prescreening instruments, but future research will be necessary to extend this study to other instruments that can also be used for preselection purposes such as video resumes (Hiemstra & Derous, 2015), multimedia situational judgment tests (Lievens & Sackett, 2006), or game-based assessments (e.g., Landers & Sanchez, 2022). Additionally, not only the comparability of the different instruments might play a role, but also the comparability of the descriptions used in our study. Although we tried to standardize the descriptions as far as possible, stressing different advantageous aspects of an instrument might lead to improved applicant reactions (Truxillo et al., 2009).

Probably the most severe limitation of this study, however, is that the survey referred to a purely hypothetical situation, which means the participants were not in a real application situation. In view of the meta-analytic results by Hausknecht et al. (2004), conducting the study in a real application situation might magnify the differences found in our study. According to Hausknecht et al. (2004), differences are often more pronounced when applicant reaction studies are conducted in high-stakes field settings and not in purely fictional situations. Thus, differences in the perception of the instruments used in our study might be more pronounced in actual application settings.

6.2 | Practical implications

Although the three selection instruments did not differ very much in terms of fairness perceptions, the use of AVIs to preselect applicants may still have negative consequences for organizations, which may

be perceived as less attractive when they use these interviews instead of online tests or online application documents. Organizations should consider this when planning their personnel selection process. However, in view of the lack of dissemination of AVIs, it is conceivable that raising awareness of the technology among applicants could reduce some of the concerns. Furthermore, as has already been shown meta-analytically (Truxillo et al., 2009), it can be helpful to explain the advantages of selection procedures to actual applicants, as this can help to improve perceptions and indirectly also applicant reactions such as the acceptance of a job offer or recommendation intentions (also see Basch & Melchers, 2019). Organizations could, therefore, try to describe advantages such as the high degree of standardization or flexibility of AVIs, online tests, or online application documents to improve the perception of these instruments.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

- ¹ In the turn of this study, tests refer to cognitive ability tests.
- ² A priori power analysis with a required power of 0.80 and medium effects of $d = 0.50$ revealed a required sample size of $N = 159$ for one-factorial ANOVAs with three groups and $N = 128$ for t tests for independent samples.
- ³ The significant negative correlation between age and sex indicates that more older men participated in the study.

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APPENDIX

DESCRIPTION OF PRESELECTION TOOLS USED IN OUR STUDY

8.1.1 | Online application document

The first step in our application process for you is to complete an online application form via the internet. Via the careers page of the company's website, you can access a site where you can upload

information regarding your person, your qualifications, and your previous work experience. In addition, you can upload other application documents such as your resume or (work) references. You can fill out the online application document at any time you prefer at home using a computer/smartphone/tablet. After you have provided all the necessary information and uploaded all the documents, they will be reviewed and evaluated by one of the organization's employees at a later time. Depending on whether your documents are evaluated favorably, you may then receive an invitation to the next step of the selection process.

Below an exemplary picture is shown so that you can get a better idea how the selection tool looks like (Figure A1):

8.1.2 | Online test

As a first step in the application process, we would like you to take an online test via the internet. In such a test, you will be given tasks that explore your ability to solve problems, your ability to use reasoning, and your general knowledge. You can complete the test at any time and place convenient to you, using a computer/smartphone/tablet and the internet. After you have completed the test, your answers will be electronically transmitted to the company for evaluation at a later time. Depending on whether your results are favorable, you will then receive an invitation to the next step of the selection process.

Welcome to our application portal!
First of all, please fill out the following online form. Keep in mind that your application will only be accepted by the system if all required fields contain valid data. On the second page you have the possibility to upload application documents and thus attach them to your application. Before sending, you can review your submissions. Then click on "Send Application".
You will receive a confirmation of receipt promptly.

Attachments
Please attach the following files to your application:
- Cover Letter
- Resume
- References/Certificates
- If necessary further documents
Please name your files explicitly and send them as a PDF document.
We are looking forward to your application!

Application*

Photo

Fields marked with * are mandatory

- Start
- 1 Contact
- 2 Career
- 3 Attachments
- ▶ Review and Submit

FIGURE A1 Example picture of the site to upload online application documents

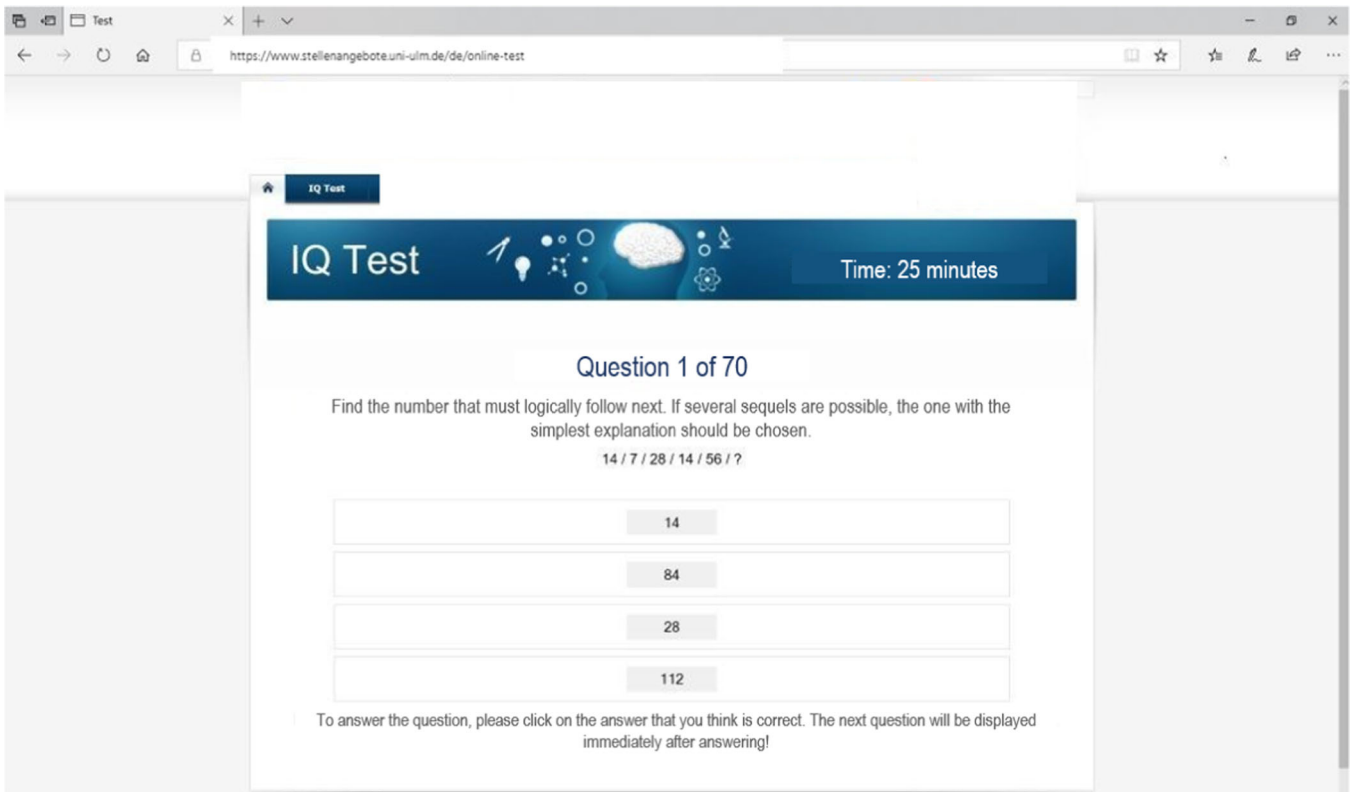


FIGURE A2 Example picture of the online test

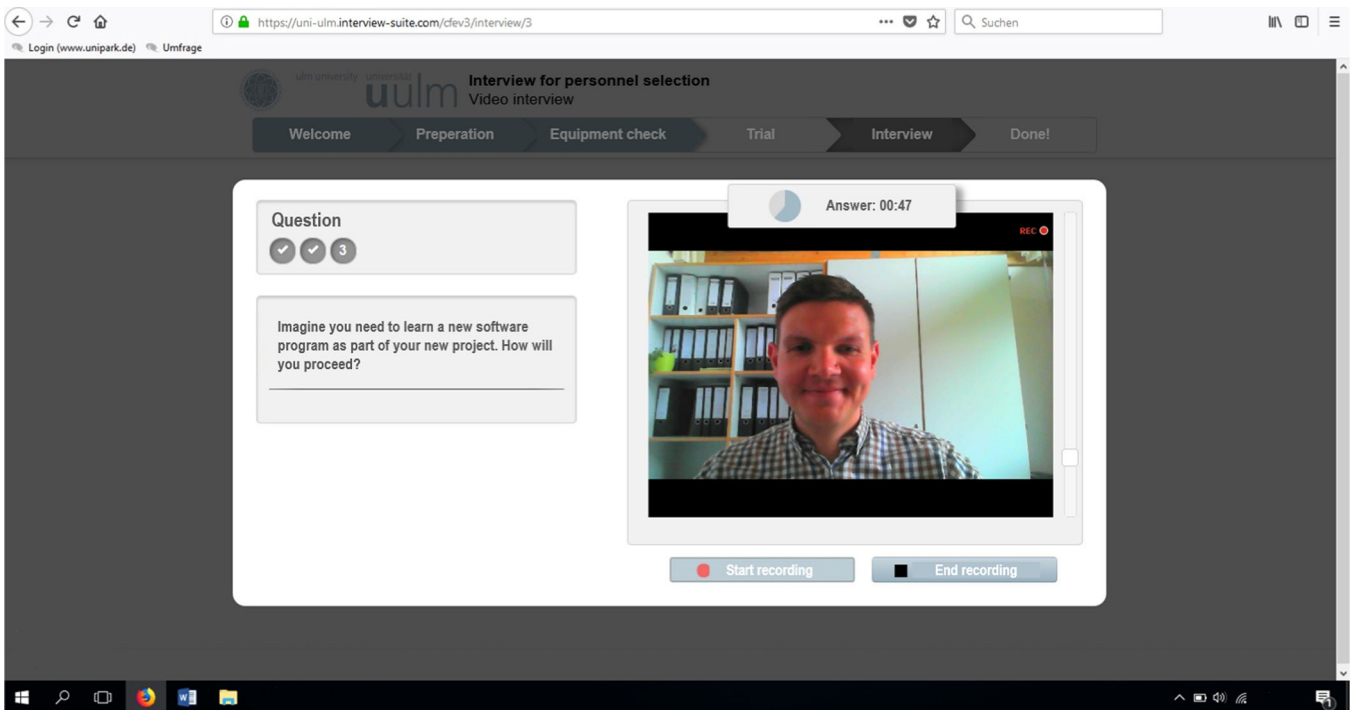


FIGURE A3 Example image of the asynchronous video interview

Below an exemplary picture is shown so that you can get a better idea how the selection tool looks like (Figure A2):

8.1.3 | Asynchronous video interview

As the first step in the application process, we would like you to complete an asynchronous video interview (digital interview) via the internet. During such an interview, you will be shown text questions, which are displayed on the screen, about your CV, previous professional experience, and your qualifications. Each of

your answers is recorded one after the other via webcam and microphone, and these recordings are forwarded to the company and then evaluated. The company will give you a specific time frame (e.g., 1 week) for completing the interview. Within this time frame, you can take the interview at any time and place convenient to you, using a computer/smartphone/tablet. Based on your performance in this interview, you may then receive an invitation to the next step of the selection process.

Below an exemplary picture is shown so that you can get a better idea how the selection tool looks like (Figure A3):