

Into the Void: A Conceptual Model and Research Agenda for the Design and Use of
Asynchronous Video Interviews

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Abstract

Asynchronous video interviews (AVIs) are a form of one-way, technology-mediated, selection interviewing that continue to grow in popularity. An AVI is a broad method that varies substantially in design and execution. Despite being adopted by many organizations, human resources professionals, and hiring managers, research on AVIs is lagging far behind practice. Empirical evidence is scarce and conceptual work to guide research efforts and best practice recommendations is lacking. We propose a framework for examining the role and impact of specific design features of AVIs, building on theories of justice-based applicant reactions, social presence, interview anxiety, and impression management. More precisely, our framework highlights how pre-interview design decisions by organizations and completion decisions by applicants can influence reactions and behaviors during the interview, as well as post-interview outcomes. As such, we offer an agenda of the central topics that need to be addressed, and a set of testable propositions to guide future research.

Into the Void: A Conceptual Model and Research Agenda for the Design and Use of Asynchronous Video Interviews

One of the newest developments in the practice of personnel selection has been the growth of Asynchronous Video Interviews (AVIs). AVIs are an on-demand alternative to traditional face-to-face and videoconference selection interviews. A traditional selection process might involve a review of applicant documents (e.g., resumes, cover letters) followed by an invitation to come in, meet with someone from the company, and have an in-person interview. By comparison, an AVI has the applicant log onto an online portal (referred to as an AVI platform henceforth) to complete their interview. The AVI is an entirely online experience, where the applicant records short video responses to interview questions. Importantly, in an AVI there is no synchronous, back and forth communication, and no interviewer to interact with. Ultimately, applicants' recorded responses are scored by an interviewer or automatically by a computer algorithm. In short, AVIs offer a unique experience in the process of selection.

Although the contrast between face-to-face interviews and AVIs may be jarring at first, there are many reasons organizations may adopt them. Chief among these reasons, AVIs are faster, cheaper, and require less employee time (Brenner, Ortner, & Fay, 2016). Commercially available AVI platforms (e.g., HireVue, VidCruiter, SparkHire, YouSeeU, ConveyIQ, MontageTalent) purport to ease scheduling burden and allow for more applicants to be screened. This can increase the number of applicants who would have otherwise not had the opportunity to be assessed. In addition, AVIs can be a cost-effective option for organizations to interview applicants rapidly. In line with this, ConveyIQ (2019) reports that clients saw a 64% improvement in time-to-hire rates and a reduction in travel costs by up to 50%.

These purported benefits may account for a swift increase in AVI use. HireVue, for instance, showed a dramatic increase in the number of AVIs conducted from 13,000 in 2012 to 2.5 million in 2016 (Greenfield, 2016) to over eight million by the end of 2018 (HireVue, 2018). Similarly, a survey of recruiters lists AVIs among the top five innovations in interviewing (LinkedIn, 2018). In short, AVIs have rapidly become a central part of the hiring landscape. However, despite such increased adoption, there has been limited research on AVIs, including how their design affects reliability, validity, applicant behaviors, and reactions.

One critically important consideration – for researchers and practitioners alike – is that while AVIs have gained more attention at a general level, in practice AVIs can be designed and widely differ in numerous and important ways. Similar to how structure defined how we talk about in-person interviews (Levashina, Hartwell, Morgeson, & Campion, 2014), the complexity and variety of AVI design and execution mean they cannot necessarily be discussed as a unitary type of interview. *AVI design* refers to how the interview is programmed, or the configuration of features that are chosen, to create the user experience. For instance, applicants may have the option to re-record their responses versus not, preparation and response length varies widely, and the method of presenting questions may vary (for a list and description of the organizational AVI design decisions and applicant decisions see Tables 1 and 2). In essence, these unique design decisions make each AVI different, and understanding how such decisions impact applicants and organizations is critical for determining best practices for conducting AVIs in the future. We propose that a granular understanding of the unique AVI design options is needed to unpack the complexity of applicant behavior, applicant and hiring manager reactions, and organizational and applicant outcomes associated with AVIs.

Accordingly, the primary goals and contributions of this paper are (1) to review the existing literature on AVIs, (2) to present an organizing framework for examining AVI design features and their potential impact, (3) to derive a set of testable propositions surrounding AVI design and applicant behaviors, attitudes, and outcomes, and (4) to offer an agenda for future AVI research. Select propositions are guided by an integration of several underlying relevant theories in order to better understand how AVIs and their distinct features may impact applicant and organizational outcomes. These include Gilliland's justice-based theory of applicant reactions (Gilliland, 1993), theories of social presence (Lombard & Ditton, 1997), media richness (Daft & Lengel, 1986), interview anxiety (McCarthy & Goffin, 2004), and applicant impression management (Levashina & Campion, 2006). Importantly, we do not believe the list of propositions is exhaustive, as covering all AVI features and outcomes is impossible in a single paper. However, we seek to provide a clear overview of central considerations, theoretical constructs, and examples of important questions within those domains.

The culmination is a conceptual model of AVI design presented in Figure 1. The model describes how pre-interview decisions by both the organization and applicant can influence applicants' reactions and behaviors during the AVI, and ultimately post-interview outcomes. For example, organizations' pre-interview decisions regarding design features (e.g., allowing applicants to re-record responses) could then affect applicant behaviors in the interview (e.g., use of impression management, interview anxiety), which can ultimately influence post-interview outcomes (e.g., interview performance). Likewise, applicant pre-interview decisions regarding interview completion (e.g., chosen location to complete interview) can affect organizationally relevant interview outcomes (e.g., evaluator bias and adverse impact). In short, this framework

could be used as a roadmap both to guide practitioners' AVI design decisions and to drive future AVI research.

What Are AVIs?

AVIs vs. Other Interview Modalities

AVIs are fundamentally different than other interview modalities (Torres & Mejia, 2017). An AVI (also referred to as a digital interview, on-demand, non-live interview, pre-recorded interview, or interface-based interview) is a one-way *asynchronous* interaction during which the applicant does not interact in real-time with any representative of the organization. AVIs thus differ from *synchronous video interviews* (e.g., videoconferencing over a platform such as Zoom or Skype), in which the interviewer and interviewee are communicating in real-time as in face-to-face interviews or phone interviews. AVIs are also distinct from videotaped interviews, which are typically recordings of face-to-face interviews, where the initial interaction occurs with an active interviewer (see Van Iddekinge, Raymark, Roth, & Payne, 2006).

The lack of real-time communication at any point means that AVIs are different than other interview modalities on core communication and media attributes. Using Potosky's (2008) framework, Langer, König, and Krause (2017) describe the communication in technology-mediated interviews like AVIs as lower on *social bandwidth* (i.e., the extent to which relevant communication information can be exchanged), *interactivity* (i.e., the extent to which it is possible to interact during a conversation), and *transparency* (i.e., a lack of obstacles to communication and if communicators do not realize they are using a medium to communicate). On the other hand, AVIs may be higher than other modalities on *surveillance* (i.e., the fact or feeling that it might be possible for a third party to interrupt or monitor the communication).

These unique qualities make translating what we already know about other forms of interviews and applying this knowledge to AVIs difficult.

General Components of AVIs and Reliability and Validity

Unlike synchronous interviews – which can accommodate changes in pacing, structure, and interpersonal dynamics – AVIs are designed by the organization to be communicated statically to all applicants. By their nature, AVIs incorporate a number of components of structured interviews that may help increase reliability and validity (Campion, Palmer, & Campion, 1997; Chapman & Zweg, 2005; Huffcutt, Culbertson, & Weyhrauch, 2013). For example, AVIs ensure consistency of questioning across applicants, can allow longer applicant responses and interview duration, eliminate interviewer probing, and minimize the opportunity for applicant questions, all of which should contribute to a more valid and reliable interview.

With AVIs, each interview is recorded and stored, which has several advantages. This allows for multiple evaluators to review and score the same recorded responses, thereby diffusing the burden of selection across multiple stakeholders to make a collective decision (Hockett, 2018). Recorded interviews can also be shared quickly and easily without information loss (e.g., due to the short-term memory constraints or biased memory). AVIs can thus support a panel rating system without being impacted by the issues associated with panel interviews, such as the inflationary effects panel discussion can have on ratings (see Huffcutt et al., 2013). Moreover, unlike video-taped interviews, evaluators are not influenced by the interviewer and their behavior or reactions to the candidate. All of this may increase interview reliability.

Despite these general benefits, to truly understand AVIs one must consider the extensive variation in how these interviews are designed and executed. To this end, an organizing framework that can accommodate the plethora of AVI design decisions, and the theories

underlying these processes, is a necessary foundation for researchers and practitioners. In the next sections, we discuss the elements of the conceptual model presented in Figure 1. We organize the paper around the key forms of applicant reactions and behavior potentially impacted by pre-interview AVI design decisions made by organizations, including fairness perceptions, social presence perceptions, interview anxiety, and impression management. We also discuss the potential (direct or indirect) influence of AVI design decisions on interview outcomes, such as interview performance, accessibility, or evaluation bias.

AVI Design Decisions and Applicant Reactions and Behaviors

Justice and Fairness Perceptions

To date, a large portion of AVI research has focused on applicants' reactions to AVIs in general (e.g., Guchait, Ruetzler, Taylor, & Toldi, 2014; Langer, König, & Papathanasiou, 2019). For example, research using the lens of the Technology Acceptance Model (Davis, 1993) has found that perceived ease of use and perceived usefulness are associated with attitudes towards AVIs (Brenner et al., 2016). At this stage, however, we know little of the specific features influencing applicant acceptance of AVI technology, and so we explore some of these below.

Theoretically, we propose that applicant fairness perceptions underlie many of the effects of AVI design. Accordingly, we build on Gilliland's (1993) justice-based model to examine the effects of organizational pre-interview design decisions on applicant reactions in the interview phase. Gilliland's model proposes that a selection system's adherence to procedural and distributive justice rules promote perceptions of fairness. Procedural justice rules generally relate to processes used to derive decisions and encompass the *formal characteristics* (job relatedness, opportunity to perform, reconsideration opportunity, and consistency of administration), *explanation* (feedback, information, and honesty), and *interpersonal treatment* (effectiveness,

two-way communication) throughout the selection process. Distributive justice rules encompass adherence to *equity*, *equality*, and *needs* when determining selection outcomes. Procedural and distributive justice rules predict reactions during (application decisions, motivation to perform) and after hiring (performance, citizenship), and applicant self-perceptions (esteem, efficacy) (see Bauer et al., 2001; Bell, Wiechann, & Ryan, 2006; Hausknecht, Day, & Thomas, 2004).

General justice and fairness perceptions towards AVIs. General reactions to AVIs are mixed, and existing evidence suggests that these are tied to justice perceptions. For example, meta-analytic findings at a general level demonstrate that reactions to videoconference interviews are significantly lower ($d = -.36$) than face-to-face interviews (Blacksmith et al., 2016). However, reactions specifically to AVIs may differ from videoconference interviews, with AVIs rated lower in fairness than face-to-face or videoconference interviews (Basch & Melchers, 2019a), but conversely AVIs can be rated positively on job-relatedness and opportunity to perform (Zibarras et al., 2018). Demonstrating the importance of these more nuanced justice constructs when understanding AVIs, Langer et al. (2017, 2018) found that fairness of AVIs was positively associated with opportunity to perform perceptions. Opportunity to perform can be particularly impactful when applicants are given negative feedback or not offered the job (Schleicher, Venkataramani, Morgeson, & Campion, 2006).

At a broad level, organizations must carefully consider how even the act of inviting an applicant to complete an AVI may impact justice perceptions and attitudes. Asking an applicant to do an AVI instead of an in-person interview may decrease perceptions of two-way communication or fair interpersonal treatment, two factors which can reduce applicant attraction to the organization (Uggerslev, Fassina, & Kraichy, 2012). Applicants may also question whether this new method is a fair and equitable way to make hiring decisions. Regardless of how

one designs the AVI, these general perceptions of being asked to do an AVI could potentially result in qualified applicants declining to complete the AVI at all. Given the novelty of AVIs, providing justifications or information to candidates is likely important. In support of this, research demonstrates that in general, explanations can influence applicant perceptions of fairness and the organization, as well as their motivation to perform, especially in field settings (Truxillo, Bodner, Bertolino, Bauer, & Yonce, 2009). In line with Gilliland's (1993) consistency of administration element, participants asked to imagine completing an AVI rated fairness higher when interview standardization was emphasized (Basch & Melchers, 2019b). Such findings might guide how to shape applicant initial impressions.

AVI design decisions and justice and fairness perceptions. Although these findings indicate that a justice-based lens is useful for understanding initial impressions and reactions to AVIs in general, specific AVI design features may explain some of the differences in applicant reactions and perceptions of fairness discussed above. For example, many of the pre-interview AVI design decisions by the organization shown in Figure 1, such as longer response preparation time, re-recording responses, and allowing interrupted interview completion, could differentially impact different elements of fairness perceptions from applicants.

First, longer response preparation time could increase applicants' perceptions of fairness, particularly their opportunity to perform (i.e., to answer interview questions well). At one extreme, the question may be presented for a very short duration (e.g., 10 seconds) before the system begins recording the applicant's answer. At the other extreme, applicants can have unlimited time to prepare their response before initiating recording on their own. Langer and colleagues (2017) found that participants rated fairness or opportunity to perform similarly in a (live) videoconference interview and in an AVI with 60 seconds of preparation time. Yet, it is

possible that shorter (or no) preparation time could be seen as more unfair, while longer preparation time could increase perceptions of opportunity to perform.

Re-recording is another design feature that could influence fairness perceptions. Some AVI configurations offer applicants the opportunity to record multiple response attempts and choose which one to submit, whereas others only allow one opportunity. Organizations can thus limit the number of recordings that can be made (ranging from zero to as many as the applicant desires). Offering re-recording options can improve applicants' perceptions of reconsideration opportunity, and lead to seeing the AVI as more fair.

AVI designs allowing for interrupted interviews may also improve applicant fairness perceptions. Indeed, AVIs may be set to "time out" after a predetermined duration (e.g., "this interview must be completed within two hours after it is started") or cannot be interrupted (i.e., applicants must complete the interview they started in one go). Alternatively, organizations can let applicants choose to complete the interview at their own pace, or take breaks, leave the AVI platform, and return later. Whether or not applicants utilize opportunities for interrupted interview completion is their choice. Yet, interrupted interview completion could allow for longer interviews without the fatigue that may accompany face-to-face interviews and increase perceptions of the opportunity to perform.

Proposition 1: AVI designs that (a) increase response preparation time, (b) allow re-recording responses, and (c) allow interrupted interview completion increase applicant fairness perceptions.

Evaluation design decisions and justice and fairness perceptions. One significant factor that has differentiated AVIs has been the rise of automated assessment. Organizations can incorporate automated assessment with artificial intelligence (AI) and machine learning.

Machine learning is a subdomain of AI that automatically detects patterns from data (Liem et al., 2018). This can be used to automatically process video data to detect non-verbal behavior such as facial movements and gaze, as well as lighting and composition, to compute first impression assessments or personality judgements (Liem et al., 2018). These assessments are used for algorithmic candidate selection. Machine learning and automated evaluation is also being used to analyze text for selection (McClure Johnson, & Gray, 2019). For example, videos can be analyzed for key phrases, number of words spoken, language complexity, and first-person language.

From the applicants' perspective, we have much to learn about how automated assessment impacts fairness perceptions. Concerns about AI and fairness for applicants has begun to have legal implications. For instance, as of January 2020, in the State of Illinois, the Artificial Intelligence Video Interview Act legislates that applicants (1) must be informed if AI will be used for the analysis of video, (2) informed of the general characteristics evaluated by the AI, and (3) must provide consent to have their videos analyzed with AI (ILGA, 2020). Indeed, it is likely that automated evaluation may have an extensive impact on how procedurally just applicants find AVIs as a selection process. From a justice-based perspective (Gilliland, 1993), applicants may judge automated assessment systems as less able to evaluate them on job-related information as compared to a human evaluator, perceive less opportunity to perform, and decrease their perception of two-way communication. In one study, individuals randomly assigned to complete an AVI scored by AI versus human evaluators reported similar levels of fairness (Suen, Chen, & Lu, 2019). However, all participants had to complete the interview, whereas in a natural job search context, applicants may be less likely to accept AVI invitations that inform them that AI will be used. Additional research on pre-interview perceptions and

across hiring contexts is required, as well as post-interview reactions, particularly when one is eliminated from contention after the AVI.

Langer, König, and Papathanasiou (2019) found some evidence to suggest that applicants are sensitive to the context of the interview and may be more critical of interview evaluation automation in high-stakes (i.e., selection) versus low stakes (i.e., training) situations. Langer, König, and Fitali (2018) examined reactions to technologically-advanced interactive interviews and found that privacy concerns, situation ambiguity, perceived job-relatedness, and information about the system were complexly related. However, applicants were allowed to interact with a digital character posing as an interviewer before reactions to automated evaluation were assessed, which differs from most AVIs. Further, applicant reactions to the use of text analysis, automated assessment to determine personality, and deception detection in AVIs are yet to be examined. Overall, more research is needed to understand applicant reactions to AI integration.

Proposition 2: Automated (AI, machine/deep learning) AVI assessment is associated with (a) increased AVI invitation refusal and (b) lower fairness perceptions from applicants.

Fairness perceptions and applicant outcomes. Gilliland's (1993) model further emphasizes how negative justice perceptions can ultimately lead to negative applicant outcomes, including lower motivation to perform in the selection process and a decreased likelihood to accept a job offer. Similarly, AVI research should explore how perceptions of justice/fairness mediate the relationship between key design features and applicants' motivation to perform in the interview. The implications of perceived fairness can extend to post-AVI outcomes like organizational attraction and job offer acceptance. Indeed, applicants who perceive that recruitment and selection processes are fair are more attracted to the organization (Chapman et al., 2005; Schinkel, van Vianen, & van Dierendonck, 2013; Truxillo, Bauer, Campion, &

Paronto, 2002). However, negative reactions may make applicants less willing to accept job offers from technology-mediated interviews (Chapman, Uggerslev, & Webster, 2003).

Applicants also perceive AVIs as inappropriate for making a final job offer (Guchait et al., 2014). As such, fairness dimensions likely mediate the relationship between AVI design and job offer acceptance.

Proposition 3: Fairness perceptions mediate the relationship between AVI design decisions (e.g., response or evaluation features) and applicant (a) motivation to perform in the AVI, (b) organizational attraction, and (c) job offer acceptance.

Perceptions of Social Presence

Two other core theoretical constructs through which design may distinctly impact applicant reactions and behaviors are social presence and media richness. Generally, social presence is the “degree to which a medium is perceived as conveying the presence of the communicating participants” (Rice, 1993, p. 452) or “the sense of being together” (IJsselsteijn, van Baren, & van Lanen, 2003, p. 2). Lombard and Ditton (1997) define six conceptualizations of social presence, and we postulate that *presence as social richness* (i.e., the extent to which a medium is perceived as sociable, warm, or personal when used to interact with others) is most relevant for understanding AVIs. When social presence is high, users are less likely to acknowledge the existence of a medium in their communication and respond as if mediation was not present. Social presence plays a central role in trust, enjoyment, and the perceived usefulness of the technological medium (Oh, Bailenson, & Welch, 2018), which makes understanding the psychologically triggering effect of “perceived presence” on users’ behaviors (Biocca, Harms, & Burgoon, 2003) critical to developing effective AVIs.

General perceptions of social presence in AVIs. The social presence of AVIs differs dramatically from face-to-face interviews. In a traditional face-to-face interview, social presence is high. The applicant meets a representative of the organization and there are identifiable verbal and non-verbal cues over the course of the interaction. In this environment, interviewer warmth (e.g., positive statements to build a bond with the applicant and positive non-verbal behavior like smiling and nodding) is associated with procedural justice and job offer acceptance (Frago, Zide, & Shahani-Denning, 2013). In contrast, 46% of respondents who completed an AVI characterized it as “impersonal and cold” (Guchait et al., 2014), suggesting perceptions of social presence may be weaker in AVIs. A challenge is how the social processes during in-person exchanges can be mimicked in technology-mediated communications (Rice, 1993). Social presence research often explores how technology design mediates communication and the effect it has on interpersonal behaviors in human-computer interactions (Biocca et al., 2003). For example, it is unclear whether and how rapport can be built in AVIs because there is great ambiguity about *who* the interviewer or evaluators are for an applicant.

Media richness is an avenue for increasing the low baseline of social presence in AVIs. Media Richness Theory (Daft & Lengel, 1986) is an information processing theory used to “determine which technologies best reduce uncertainty and equivocality in business settings” (Liu, Liao, & Pratt, 2009, p. 601). *Uncertainty* is defined as an absence of information and *equivocality* is defined as ambiguity or the existence of conflicting interpretations (Daft & Lengel, 1986). To reduce uncertainty and equivocality, lean (e.g., text-based) and rich (e.g., video) media can be used to present different information. Chapman et al. (2003) outline how rich media transmits multiple nonverbal and verbal cues, uses natural language, allows for immediate feedback, and conveys personal emotions and feelings. The more interviews embody

these qualities, the more they are perceived as fair by applicants (Chapman et al., 2003). Social presence may not be defined by media richness alone, and even lean media can invoke social presence with time (Oh et al., 2018). However, an AVI is a discrete event and the level of media richness can be increased with several pre-interview design decisions, as discussed below.

AVI design decisions and perceptions of social presence. A primary way that organizations can increase media richness in an AVI is through question formatting and video features. For instance, video introductions can capitalize on branding opportunities, show the organization's culture, and provide a "human touch" (HireVue, 2018). Such video introductions could feature employees of the company extending a welcome to give the impression that the AVI is connecting the applicant to members of the organization.

Second, organizations can use richer question formats. Instead of presenting interview questions via text, organizations can choose to include videos featuring an "interviewer" who asks the questions. Presenting a human interviewer and then having the applicant respond may more closely mimic an in-person interview, increasing attributions of interactivity and promoting perceptions of presence. As an aside, interviewer videos could convey increased procedural justice by boosting perceptions of interpersonal treatment with simulated two-way communication, or explanation by providing more information to the applicant. Interestingly, observers of videoconferences versus automated interviews (where the interviewer is represented by a responsive virtual character) did not rate social presence or fairness differently (Langer et al., 2019). Future research could explore if video recorded questions compensate for dynamic interaction while avoiding the "creepiness" associated with artificially intelligent interviewing characters (see Langer, König, & Fitali, 2018; Langer et al., 2017).

Proposition 4: Question formatting and media features that increase media richness, such as (a) video introductions or (b) video recorded questions instead of written questions increases perceptions of social presence.

The relationship between media and social presence may also be moderated by media quality. Generally, realism in visual representation and improved audio quality promote social presence (Oh et al., 2018). Yet, the benefits to social presence gained by including richer and high-quality media should be weighed against the cost of production. Video production would make AVIs costlier for an organization and, importantly, may only be effective if they are done well. A high-production video of the CEO's greeting as he or she strolls through the company's headquarters might be inviting and boost social presence, whereas a low-production video may lower psychological fidelity and signal the organization as lacking resources.

Proposition 5: The relationship between question formatting and media features (i.e., those with high media richness) and perceived social presence is moderated by media quality, such that richer media is associated with stronger perceptions of social presence when using higher (vs. lower) media quality.

Media richness and applicant outcomes. Finally, pre-interview design decisions, such as video introductions and video recorded questions (i.e., enhanced media richness), could have effects that extend beyond the interview phase onto post-interview outcomes (i.e., the right part of Figure 1). Video introductions can include a breadth of information about the company, such as values, facilities, and information relevant to the selection process itself. Recruitment media, such as video messages, can convey organizational image information that signals what the company deems important (Cable & Yu, 2006) and what it is like to work for the organization (i.e., fit information). In one case, the use of hiring manager impression management (attempts to

present specific, often positive, qualities) in company presentation videos influenced organizational attractiveness (Langer, König, & Scheuss, 2019). Although leaner media (like text-based information) may result in more accurate recall of factual company information, richer media (like video introductions) may be more appropriate for presenting ambiguous information (Badger, Kaminsky, & Behrend, 2014). The media richness of online recruitment materials can increase organizational attraction through its positive effects on employer familiarity, employer reputation, and job information (Baum & Kabst, 2014). It may also influence perceived source credibility, mediating the relationship between richness and organizational attraction (Frasca & Edwards, 2017). The relationship between media richness and organizational attraction is also likely moderated by media quality as discussed above.

Proposition 6: Question formatting and media features that increase media richness (i.e., video introductions or video recorded questions) are (a) associated with increased organizational attraction, but (b) this relationship is moderated by media quality (i.e., stronger with higher vs. lower media quality).

Interview Anxiety

AVI design decisions can also play an important role in influencing applicants' experiences during the interview, such as interview anxiety. Applicant anxiety can have serious ramifications for performance. Meta-analytic findings demonstrate that state, trait, and interview-specific anxiety negatively impact interview performance (ρ 's ranging from -.08 to -.24; Powell, Stanley, & Brown, 2018). AVI design features could have significant implications for all five of the dimensions of interview anxiety specified by McCarthy and Goffin (2004): *communication anxiety* (i.e., apprehension about one's verbal, non-verbal, and listening skills), *appearance anxiety* (i.e., apprehension about one's physical appearance), *social anxiety* (i.e., apprehension

about one's social behavior resulting from a desire to be liked), *performance anxiety* (i.e., worry about performance outcome), and *behavioral anxiety* (i.e., bodily tension or autonomic arousal produced by interview situation), and subsequent applicant outcomes resulting from this anxiety.

General AVI-related applicant anxiety. AVIs are likely to trigger more applicant anxiety than in-person interviews. For example, the fact that many applicants are using unfamiliar technology may increase behavioral anxiety. Moreover, because AVIs involve one-way communication, there is no interviewer to control the flow of the interview or indicate non-verbally that a response should be “wrapped up”, which may increase applicants' communication anxiety. Applicants with high levels of anxiety or discomfort in the interview may have less organizational attraction and remove themselves from selection (McCarthy & Goffin, 2004). If high quality applicants are lost, this would lower the viability of AVIs as a selection tool.

AVI design decisions and applicant anxiety. While AVIs in general may increase anxiety, some AVI design decisions by the organization may actually have the potential to *reduce* applicant anxiety. We argue that three response design features can reduce applicant anxiety. First, organizations can design AVIs to provide more or less preparation time to applicants, which can influence applicants' communication and performance anxiety. Applicants are likely more anxious when provided with short preparation time than when they have more (or unlimited) time to prepare and formulate their responses.

Second, performance and behavioral anxiety may be reduced by allowing applicants to complete their interview over an extended time or have interrupted interview completion. Interrupted interviews can lower applicants' performance anxiety because they have the opportunity to complete the interview, or parts of the interview, when they feel rested or able to perform, and can accommodate unforeseen interruptions (e.g., childcare, work demands).

Allowing interrupted interview completion could reduce behavioral anxiety, as applicants who become physically anxious could take a break and resume the interview when ready.

Third, communication anxiety may be reduced by increasing the length of allowed response. For example, applicants with three minutes of recording time may feel they have the opportunity to express themselves more than applicants told to give concise one-minute responses. Online sources for interview preparation recommend interviewees stick to responses that are between 30 seconds to two minutes (interviewgenie.com) or under 90 seconds (monster.com). However, it is uncertain what evidence these recommendations are predicated on or how optimal they are in practice. AVI research has used three minutes as a response cap (Langer et al., 2017) – enough time to meet these recommendations – but it is unclear how the knowledge of a time limit, or how the time is displayed, may also influence applicants' anxiety. For instance, commercial AVI software has question timers which can display a countdown as the response recording is made, which makes the time pressure more salient for applicants. There may also be an interaction between the length of allowed response and question complexity on interview anxiety or other negative reactions (e.g., frustration). For instance, allowing longer responses may decrease anxiety when answering difficult (but not easy) interview questions.

Proposition 7: Response formatting features that (a) increase response preparation time, (b) allow for interrupted interview completion, and (c) increase the length of allowed response time, are associated with lower interview anxiety.

Impression Management

Although many of the response design options are proposed to reduce anxiety, the mechanisms through which this reduction occurs (e.g., more time to process questions and more time to prepare responses) could also have implications for applicant impression management

(IM) in AVIs. IM refers to the behaviors people use to shape how they are viewed by others (Bolino, Long, & Turnley, 2016), and captures a broad array of behaviors applicants use that can be *deceptive* (e.g., faking past job experience to appear qualified), *honest* (e.g., emphasizing true qualifications), *self-focused* (e.g., using self-promotion), and/or *other-focused* (e.g., using ingratiation to flatter an interviewer) (Bourdage et al., 2018; Kacmar, Delery, & Ferris, 1992).

General applicant IM in AVIs. The effect of AVIs on applicant IM behavior is important to consider for a number of reasons. In general, unlike in face-to-face interviews, in an AVI the “interviewer” or evaluator is not visible or clearly identified. As such, AVIs should involve less other-focused IM (such as ingratiation) than traditional interviews. Basch, Melchers, Kegelmann, and Lieb (2020) found lower general intentions to use IM in AVIs than in-person or videoconference interviews. However, there is no empirical evidence about applicants’ actual IM use in AVIs. Applicants may compensate by using more self-focused strategies overall. In addition, we argue that various AVI design features will have different and important implications for applicant use of different IM behaviors. Some features may be beneficial by helping applicants to engage in more honest IM to better articulate their actual knowledge, skills, and abilities, whereas other features may also be detrimental by facilitating deceptive IM use.

AVI design decisions and applicant IM. At a more granular level, specific AVI design features can impact the theoretical processes that govern IM behaviors: willingness, capacity, and opportunity (Levashina & Campion, 2006). More specifically, we predict that AVI designs that provide more (1) media features with more job or organization information, (2) increase the amount of preparation time, and (3) allow for re-recording could increase applicant IM by increasing capacity or opportunity to engage in IM.

First, some designs may increase other-focused IM. IM behaviors are typically target-specific, where the characteristics of the targeted person can influence which strategies are used and how effective they are (Bolino, Kacmar, Turnley, & Gilstrap, 2008; Ferris & Judge, 1991). Video recorded questions or “interviewer videos” were proposed above to increase social presence. As such, they may provide a target for the applicant to ingratiate, allowing applicants to use other-focused IM strategies like opinion conformity or flattery. Interestingly, interviewer videos may also allow *organizations* to engage in IM towards the applicant, and influence applicant perceptions of the company (see Wilhelmy, Klienmann, König, Melchers, & Truxillo, 2016).

Second, allowing applicants longer response preparation time may provide more opportunity for applicants to tailor their response. For instance, while applicants may initially have difficulty thinking of a response to a behavioral question, they may use the extra preparation time to engage in more self-focused IM, either by being able to recall and use a more relevant experience (i.e., honest IM; Bourdage et al., 2018) or by borrowing or inventing an experience (i.e., deceptive IM; Levashina & Campion, 2007).

Third, the option to re-record allows applicants to change their response entirely. A dynamic approach to IM suggests that applicants respond to the competitive nature of selection and adapt their behavior if they realize that their performance may not be enough to outperform other applicants (Roulin, Krings, & Binggeli, 2016). Re-recording could increase the opportunity for applicants to engage in self-focused IM (e.g., listing more accomplishments or ones that are better tailored to fit the job). This could be done more honestly (e.g., by remembering a more relevant work experience and using it in a second attempt) or deceptively (e.g., by engaging in exaggerations or inventions in second attempts).

Proposition 8: Question formatting and media features that (a) include richer media (e.g., video introductions and video recorded questions) increase applicant other-focused IM, whereas response formatting features that (b) increase response preparation time and (c) allow re-recording increase applicant self-focused IM.

Other designs may *reduce* the capacity of applicants to use IM effectively. For example, AVIs often have a video recording preview window, similar to the picture-in-picture display of a videoconference, that displays live video playback as it is recorded. Horn and Behrend (2017) in their investigation of videoconferences found that picture-in-picture windows did not influence applicant interview performance or reactions; however, it increased cognitive load. Increased cognitive load can influence the effectiveness of incongruent (i.e., deceptive) self-focused IM (Levashina & Campion, 2006; Pontari & Schlenker, 2000), for instance because the self-monitoring required to present incongruent images may require more cognitive resources. As such, the presence of the preview window and other cognitive load inducing features in an AVI may make it more difficult for applicants to use deceptive IM effectively.

Proposition 9: The impact of applicant deceptive IM on interview performance is smaller in AVIs with video recording previews (vs. no recording preview).

Evaluation design decisions and applicant IM. Decisions around the use of automated assessment could also influence the likelihood that applicants engage in IM. This may be predicated on the notion that automated assessment can detect a candidate's deception. To this end, the use of machine learning in detecting deceptive IM in interviews is growing. Algorithms are being developed to assess the "leakage" (the natural human responses that a deceiver tries to mask) and the "strategic indicators" (the purposeful behaviors a deceiver uses to appear truthful) that applicants exhibit in online interviews (Twyman, Pentland, & Spitzley, 2018). This can be

done by tracking behavior (e.g., eye movement, hand gestures) over baseline questions, and then comparing responses to critical questions to pinpoint deviations (Bhaskaran, Nwogu, Frank, & Govindaraju, 2011). There has been some support for verbal (reduction of vocal excitement – including vocal pitch and intensity) and non-verbal (movement dropping across the face and increased fear expression) cues of deception in video interviews (Twyman et al., 2018).

Importantly, despite this increased emphasis on detecting applicant deception, there is otherwise little empirical data to support deception detection with open-ended questions. Most of those indicators also work only if “faked” responses can be compared to a truthful baseline, which organizations generally do not have access to in a real selection context. However, for the future, work on content analysis (i.e., examining the content and structure of applicants’ responses to interview questions) suggests that differences between how people talk about self-experienced events, versus fantasy or borrowed experience, could potentially be used to detect deception (Roulin & Powell, 2018).

Regardless of the accuracy of such approaches, there is evidence that when an applicant believes they will be automatically evaluated, it can affect their use of deceptive IM. For example, research demonstrates that applicants’ awareness of the use of AI in evaluation may alter their behavior and reduce IM attempts in online interviews (Langer, König, & Hemsing, 2019). This is in line with findings by Law, Bourdage, and O’Neill (2016) that warnings that one’s deception can be detected reduces deceptive IM and the perceived capacity to engage in such behavior. Together, these findings imply that if deception detection is part of the automated evaluation applicants may be more reluctant to use IM – although with the dubious accuracy of this automated detection, organizations should be cautious not to mislead applicants.

Proposition 10: Automated assessment that includes deception detection decreases applicant (a) other- and (b) self-focused IM.

AVI Design Decisions, Applicant Decisions, and Interview Outcomes

The previous discussion focused on how pre-interview organizational AVI design decisions can influence applicant reactions or behaviors during the interview. We also covered the mediating effects applicant reactions and behaviors have on the relationship between AVI decisions and the post-interview outcomes. However, as illustrated by the dashed lines in Figure 1, response design decisions and applicant pre-interview completion decisions can have direct relationships with interview outcomes, especially when it comes to how applicants are evaluated by managers reviewing the video-responses. We first turn to a discussion of AVIs and applicant accessibility.

AVI Design Decisions and Applicant Accessibility

One potential positive component of the flexible formatting of AVI questions and response formatting features is that it may increase the ability to convey questions in a less “rich” medium. This could be very useful in *removing* barriers that hinder certain applicants in a traditional interview, such as applicants with disabilities or those with lower language fluency. AVIs limit the travel required for those with financial constraints (e.g., lower SES), parental responsibilities, or those with mobility impairment, potentially increasing their representation in the applicant pool. In addition, hearing impaired applicants may benefit from an interview experience where questions are presented in a written format. Applicants with the national language as their second language may also benefit from seeing written questions or having more time to prepare and process the question.

Proposition 11: AVI designs with (a) lower media richness (e.g., non-video recorded questions) and (b) longer response preparation time increase accessibility, and (c) lower media richness and (d) longer response preparation time will reduce adverse impact for applicants with disabilities and lower language fluency.

AVI Design Decisions and Applicant Decisions on Evaluation Bias

General evaluation bias in AVIs. Extant research suggests that applicants can be evaluated differently in AVIs than in other mediums. Meta-analytic findings (Blacksmith et al., 2016) demonstrate that videoconferencing is associated with lower performance ratings than face-to-face interviews. This work indicates that the difficulty of using technology may disadvantage those who interview electronically versus face-to-face. However, much of the work to date examines synchronous video interviews, and we do not know how AVI evaluations compare to face-to-face interviews. Differences could be particularly problematic if different candidates interviewing using different mediums are being compared for the same position.

Dual-process theory can inform how AVI design may intensify the use of stigma-laden heuristics to bias evaluations. In an interview context, some information can be processed easily (e.g., appearance and visual cues) and lead to a heuristically driven automatic (*Type 1*) impression formation (Deros, Buijsrogge, Roulin, & Duyck, 2016). *Type 2* processes are conversely conscious, deliberate, and more cognitively demanding, but result in thoughts, judgements or behaviors under the control of the evaluator (Deros et al., 2016).

There are a number of reasons why *Type 1* (i.e., automatic) processing may play a larger role in ratings of applicants in AVI versus face-to-face interviews, and why AVIs may lead to greater potential for bias. First, the way that AVIs are evaluated may exacerbate reliance on *Type 1* processing and the role of initial impressions. In traditional interviews, interviewers' judgments

are influenced by applicants' non-job-relevant factors such as physical attractiveness or professional appearance (Barrick, Shaffer, & DeGrassi, 2009). This appears to be at least as pronounced in AVIs, with one study finding hiring managers' combined ratings of physical attractiveness and style being strongly correlated ($r = .71$) with invitations to advance to the next stage of selection (Torres & Gregory, 2018). Importantly, in traditional interviews, applicants have an opportunity to change interviewers' Type 1-based initial impressions by performing very well when answering questions. However, in AVIs, human evaluators can decide to skip submissions that they do not find promising based on initial impressions (Torres & Mejia, 2017). This ability to skip or stop watching an interview is a unique component of AVIs that merits further investigation in the context of early impressions.

Second, AVIs may allow for increased availability of biasing information. While traditional interviews are generally conducted in a neutral location (e.g., an office in the hiring organizations), applicant's chosen physical location to record responses to can present evaluators with more personal (and potentially biasing) information. Applicants can complete their interview at the office, at home, in a coffee shop, in a public location, outside, etc. The location and/or background items (but also connection speed, image quality, or camera positioning) can introduce information that interviewers would not otherwise have access to. When applicants record their responses from home, their background content (e.g., pictures, artwork, or iconography) could inform evaluators about legally protected statuses (e.g., family status, religious affiliation) or socioeconomic status. Similarly, applicants completing their interview at a public library instead of a private home might signal low socioeconomic status. This is also true of slow connection speeds and poor image quality that result in lagged or choppy video recordings or those with low resolution. Ultimately, the constellation of non-job relevant data

made available could result in adverse impact. Alternatively, applicants' background content and location can be used to manage impressions (e.g., books, artwork, and home furnishings) that can cue fit information about compatibility within a work group or the organizational culture.

Finally, the choice of device utilized may also play a role in evaluations. Applicants have the option to use AVI software on their computer, smartphone, or tablet, with many utilizing mobile devices (HireVue, 2018). Although the constraints of the AVI platform (data storage, retrieval) may restrict the quality of the video responses that are saved, noticeable differences in the image clarity or resolution across applicants may impact evaluators' impressions of the applicant (e.g., socioeconomic status, technological competence). Evaluators might negatively react to problematic lighting or inappropriate image contrast. Similarly, the way that applicants interact with their device when recording video responses (e.g., movement/lack of stability if using a hand-held device) may negatively impact evaluators' perceptions of applicants' motivation, interest in the position, or professionalism.

Proposition 12: Applicants' (a) chosen location of interview, (b) background content, (c) connection speed, and (d) image clarity and stability influence evaluators perceptions of the applicant's fit with the organization.

Proposition 13: Inclusion of background content may result in performance evaluations that demonstrate higher levels of bias.

Proposition 14: The aesthetic characteristics of applicants' video recordings impacts evaluation, such that recordings with (a) appropriate lighting, and (b) high image clarity/stability are rated more positively.

Some of these biases may be mitigated by incorporating high-structure interview practices into AVIs. For instance, organizations could provide clear and consistent recording

instructions or recommendations to applicants. Organizations could also require evaluators to use anchored rating scales, provide clear instructions or training to evaluators, use multiple raters, or provide audio-recording only. Yet, nuanced research needs to be conducted to test the effectiveness of such practices.

Evaluation design decisions and evaluation bias. In choosing whether to include automated assessment, organizations need to consider the validity of these tools. Although systems are being developed to automatically assess applicants, there is a lack of empirical work to support the quality of the decisions that are being made, and thus caution is warranted. Automated assessment is a departure from traditional interviews that has the potential to reduce evaluation bias in some respects but problematically exacerbate it in others. Machine learning may reduce some of the biases that result from human appraisal (e.g., attractiveness), but may suffer other biases resulting from its development. Algorithms can be a “black box” in that they can be unclear on what criteria are used or how a decision was derived (Gonzalez et al., 2019). Machine learning algorithms can become biased when the data used to train them is skewed (or non-representative of the environment it will function in). For example, if a system is not trained with proportional representation of skin tones, the algorithm – as it seeks to maximize prediction – will favor data that represents the majority (Zou & Schiebinger, 2018). Another example of machine learning bias relates to word embedding, as algorithms are trained using text, they may exhibit gender stereotyping (Bolukasi, Chang, Zou, Saligrama, & Kalai, 2016) or bigotry (Garcia, 2016). If AI exhibits bias against certain sexes or races, it will do little to improve hiring decisions beyond its human counterparts. As such, the use of AI to evaluate candidates needs to be critically examined and considered carefully and practitioners should be cautious regarding

claims to date. However, while there is current need for caution, it is possible that automated assessment may eventually be able to compensate for human biases.

Proposition 15: Automated assessment (AI, machine learning) may have the potential to help reduce (a) adverse impact against protected groups (e.g., based on age, gender, or ethnicity) and (b) the impact of biasing factors (e.g., attractiveness, visual stigmas), but only when trained on a large, diverse, and representative dataset including AVI and job performance.

Directions and Considerations for Future Research

Studies that have compared face-to-face to technology-mediated interviews expanded our understanding of how applicants react to these modalities. However, AVIs are mostly uncharted territory. Although we have attempted to lay out some of the core features and processes that may be at play within the study and practice of AVIs, there are many questions that need to be answered about both AVIs in general and specific design features. For example, where in the selection process should AVIs be situated? After an initial blind screening of resumes/applications? Or as a preliminary recruitment opportunity to get job seekers into the applicant pool? If AVIs are used at a later stage in the selection process, how do applicants react to the “ask” of an AVI versus a face-to-face (or even videoconference) interview? AVIs will also need to be studied over time to see how reactions change as applicants and organizations adapt. For example, due to the COVID-19 pandemic, people spend more time using communication technology (Marr, 2020), and may be more aware of changes to digital privacy (Klonowska, 2020). These changes may influence how adept people are at using AVI technology and how it is accepted. As such, context is another prime area for exploration.

Although attention should be paid to these areas, our framework emphasizes that specific AVI design decisions likely have the most significant impact on applicant attitudes and behaviors during the interview, as well as interview outcomes. This area is ripe for exploration, and important to inform organizational use and best practices. To prepare for this endeavor, we have answered the call of Morelli and colleagues (2017) and proposed the conceptual model in Figure 1 to study AVI technology, primarily from the lens of applicant behavior and reactions. We have highlighted areas we believe are essential to understanding AVIs as a selection tool for organizations while considering the experience of applicants and evaluators. This model integrates key theories and constructs that are central to a finer understanding of AVIs, incorporates outcomes, and consolidates research findings as we advance this domain. As features will change over time, understanding the core theoretical constructs at play is important to understand the potential impact of those features. Overall, we believe that considering the specific AVI design features (rather than AVIs as a general method of selection) is critical to stimulate future AVI research and derive best-practice recommendations for organizations. To best examine the propositions derived from our framework, we encourage researchers to additionally consider the following areas.

Individual Differences

Although we describe a number of general propositions and theoretical phenomena that may be at play, we recognize that a number of individual differences may impact the associations between design and applicant reactions and behaviors. For example, when faced with an AVI, applicants' familiarity or comfort with technology, and associated individual differences such as age, may impact fairness perceptions, motivation to perform, and whether they accept the invitation to complete an AVI.

Second, individual differences could be important for understanding the relationship between design and anxiety. For example, in examining whether response review or re-recording increases or decreases anxiety, this effect may depend on the applicant's interview self-efficacy (an applicants' belief about their interviewing capabilities which can impact performance; Tay, Ang, & Dyne, 2006). Response reviews may increase the confidence of those with high self-efficacy and facilitate adjustments to response content and non-verbal behavior if re-recording is allowed. Conversely, for those with low self-efficacy, negative appraisals while reviewing responses may increase self-doubt. Absent the belief that they can identify and correct their errors, re-recording might lead to a spiral of increasing anxiety with each attempt.

Finally, the impact of designs maximizing social presence may depend on applicants' trait level social anxiety. Indeed, although AVI designs that are associated with low social presence (e.g., with text-based questions only) may normally be negative, they may also eliminate the very features of traditional interviews that are anxiety-inducing for some individuals, such as the unfamiliar physical environment and a face-to-face social interaction with a person judging you. Leaner media with lower social presence may be preferred by those with higher social anxiety. To explore these individual differences, we encourage researchers to use diverse samples (i.e., age, gender, ethnicity, cultural background, accessibility, socioeconomic status, job experience, technological expertise, personality) to assess the influence of design on interview reactions and outcomes for different populations.

AVI Study Context

One current issue is that extant research is largely limited to lab studies and scenario-based designs. Studies with lower-stakes can be informative, but it is necessary to see how the experience of applicants in lower-fidelity studies maps onto the behavior and experience of

applicants in high-stakes selection conditions. Field studies or studies with actual job applicants using AVIs are needed to evaluate the effects of AVI design in high-stakes settings. For instance, studies with diverse samples could empirically compare fairness perceptions (propositions 1*ab*), anxiety (propositions 7*ab*), and IM (propositions 8*b* and *c*) of actual job applicants' completing AVIs with short versus long response preparation time, or allowing for re-recording (versus not), and assess outcomes such as short-listing, follow up interviews, and hiring rates. Further, there is a need for more studies incorporating criterion data for individuals selected with AVIs, such as job performance, organizational citizenship behaviors, or turnover.

Organizational Perspectives

In addition, while this review and extant research has focused primarily on applicant attitudes, we also have accumulated some knowledge about potential challenges around practitioner reactions. For instance, if automated assessment threatens to eliminate HR jobs it may be perceived negatively (Liem et al., 2018). Similarly, because interviewers often believe they have expert insight or put stock in their intuitive "gut feeling" (Miles & Sadler-Smith, 2014), and are generally overconfident in their ability to accurately judge deception (DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997), interviewers may have negative reactions to automated evaluations because they believe they are better equipped for the job than a computer. Organizational reactions to the use of automated assessment may be nuanced because these features are both time-saving and challenging. Additional studies could examine evaluators' reactions and biases when varying applicant choices for completing AVIs (e.g., location, background, medium, appearance). Studies could also explore how long it takes evaluators to make a decision, how much information they review before moving to the next applicant, or how evaluation design options impact their confidence and perceptions of decision quality. Research

should also explore how design decisions (e.g., human vs. A.I.-based evaluation) impact reliability and validity of AVIs.

Conclusion

Where can AVI research go in the future? Technology and the regulations surrounding how digital data are collected, used, and stored will change (for example, see the implementation of the EU GDPR regulations at [GDPR.org](https://gdpr.org)), but it seems that AVIs are here to stay. Practitioners should carefully consider the impact AVI design and automated assessment can have on applicants' reactions and behaviors before, during, and after the interview, as well as their impact on the psychometric properties of the interview. Not all AVIs are created, and will perform, equally well. Future AVI research should thus rigorously examine how AVI design influences key impressions, behavior, reactions, and outcomes. We proposed a framework for this research that remains adaptable and flexible enough for the ever-changing technology and context AVIs will be conducted in, and the core theories through which these features may operate. We encourage researchers to join us in this pursuit as we build an empirical foundation for AVI design to benefit organizations and applicants alike. Over the past century we have learned a lot about interviewing, and it's time to find out if this literature translates into 1's and 0's as we go digital.

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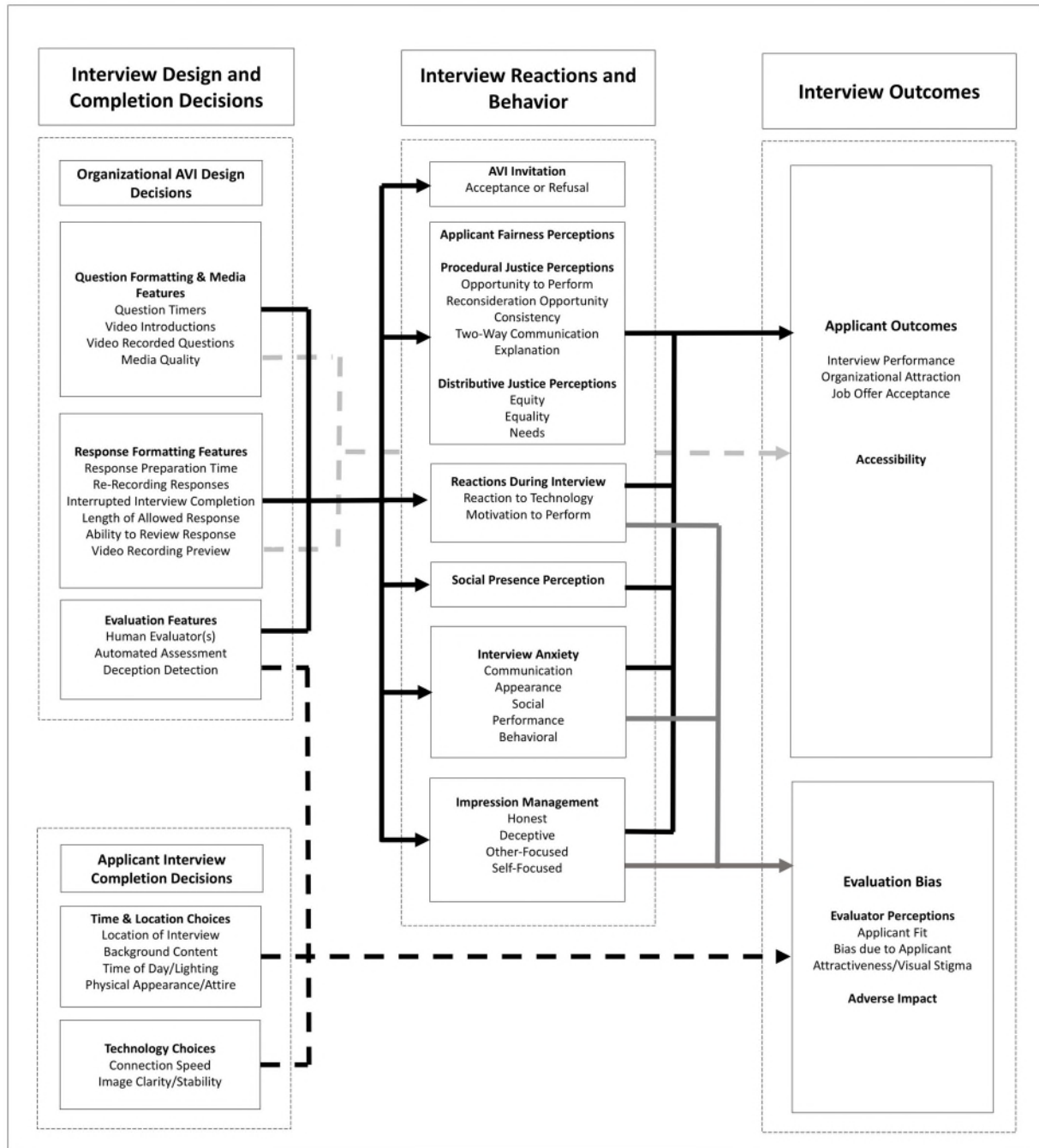
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Figure 1. Conceptual Model of the Effects of Pre-Interview AVI Design on Interview and Post-Interview Outcomes



Note: Dotted lines indicate direct relationships between interview design/completion decision and outcomes, whereas solid lines indicate indirect relationships via applicant reactions and behaviors during the AVI. Black versus grey lines indicate relationships to different interview outcomes.

Table 1. AVI software, technological, and evaluation features.

Structure and Formatting Features	
Question Timers	The length of time a question is presented to the applicant. Questions can be presented for a set duration (e.g., 30 seconds) or until the applicant performs an action (e.g., clicking a button to acknowledge they understand the question and wish to proceed).
Media Features	
Video Introductions	The inclusion of videos, audio clips, photos, music etc. in the AVI. This can include welcome video introductions to the organization or interview or videos of the workplace.
Video Recorded Questions	Video recorded questions include human “interviewer(s)” posing the interview questions to the applicant (versus questions presented in written format).
Media Quality	The production value of the media incorporated into an AVI. This can include image resolution, aesthetics, acting, sound quality, etc.
Response Formatting Features	
Response Preparation Time	How long applicants have to think about or generate a response before recording begins. Recording can occur immediately after the question is presented, when an applicant performs an action (e.g., clicking a button to begin recording), or applicants may be provided with the interview questions in their invitation to complete the interview.
Re-Recording Responses	The ability for applicants to re-record a response following a prior attempt. The number of potential re-recording opportunities can be limited (e.g., ability to re-record responses for each question 3 times) or indefinite.
Interrupted Interview Completion	The time allowed for the applicant to complete the interview. This includes unlimited time for applicants to complete the interview without it timing out, or the ability for applicants to leave the AVI platform and return to resume their interview at a later time.
Length of Allowed Response	The total time allotted for the applicant’s response to an interview question. The duration can be specified (e.g., 3 minutes maximum) or left indefinite until the applicant performs an action (e.g., clicks a button when they are done recording).
Ability to Review Response	The ability to review recorded responses before moving on to the next question or re-recording response.
Video Recording Preview	A live recording preview window (similar to picture-in-picture display in a videoconference).
Evaluation Features	
Human Evaluator(s)	The ability for the recorded interview to be shared and assessed by multiple reviewers/evaluators (e.g., HR, management)
Automated Assessment	The ability to have interviews evaluated mechanically (i.e., without human judgement) with the use of Artificial Intelligence or machine/deep learning. This can include personality assessment or deception detection.

Table 2. Choices made by applicants completing AVIs.

Time and Location Choices	
Location of Interview	The environment the applicant chooses to complete their interview in. For example, at home, at the office, in a public setting, etc. The chosen location will also provide the “backdrop” for the applicant.
Background Content	The objects or people visible in the background of the recording (e.g., furniture, artwork, photographs, children) that provide additional data about the applicant.
Time of Day/Lighting	When applicants choose to complete their interview (e.g., day, night, weekends). Chosen time may also affect lighting, or applicants may choose how videos are lit.
Physical Appearance/Attire	Applicants’ chosen aesthetics when recording responses. This can include clothing, hair styling, etc. as it relates to the applicants themselves.
Technology Choices	
Connection Speed	The speed of the internet connection between the applicants’ device and the AVI platform.
Image Clarity/Stability	The stability of the video may be influenced by the format of the interview that applicants choose to complete. An AVI can be completed using a desktop or laptop computer with an external or integrated webcam, or by using a mobile device with an integrated camera (e.g., tablet, cell phone). This may also impact the image quality or resolution of applicants’ recordings.