

**Achieving interview equilibrium: Striking balance between technology and human-centered approaches in asynchronous video interviews**

by

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## Abstract

Asynchronous video interviews (AVI), or one-way video interviews, are becoming increasingly popular in organizations' hiring processes despite the limited and mixed empirical support for this newer technology procedure. Researchers have suggested that the unique and customizable features in AVIs may lead to differences in validity, reliability, applicant reactions and outcomes. Thus, a call has been made for studies to examine which features impact applicant outcomes most positively. Turning to the selection literature, one of the largest distinctions and apparent downsides of AVIs compared to other interview modalities, such as face-to-face or videoconference interviews, is the lack of human interaction with an organizational representative. The current study examined two unique AVI features that allow for the direct inclusion of an organizational representative in the AVI process, namely evaluator type (human or AI) and media type (presentation of introduction/questions via video or text). Results from a 2x2 experimental lab study indicate that using video media can significantly increase feelings of social presence, which is further associated with increased fairness perceptions, motivation, and organizational attractiveness. Rater type was not found to significantly impact social presence. Additionally, interview scores were not impacted by variables in the present study. Through partnering with a leading AVI vendor, Hireflix, the current study took an interdisciplinary approach, blending research and theory from communication, technology, and I/O psychology. The findings from the current study have important practical implications for organizations seeking to implement AVIs in their selection process.

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## **Achieving interview equilibrium: Striking balance between technology and human-centered approaches in asynchronous video interviews**

With the gradual maturity of intelligent technologies comes the rapid adoption of these products by organizations seeking a competitive advantage. However, the integration of these technologies often lacks comprehensive evaluation or supporting empirical evidence in their ability to aid organizational goals. Academics have warned about the uncertainties surrounding the adoption of these innovations due to the lack of research and potential risks of using them in high-stake workplace decisions (Hunkenschroer & Luetge, 2022). Additionally, due to the rapid pace at which these innovations diverge and develop, it becomes increasingly difficult to manage the gap between science and practice (Woods et al., 2020). Thus, it is imperative that studies be conducted to answer *why* and *how* new technology impacts important workplace outcomes (Morelli et al., 2017).

A prevalent application of these emerging technologies in personnel selection is asynchronous video interviews (AVIs). An AVI is a personnel selection method in which applicants participate in a one-way video interview. Candidates start by following a link sent by the hiring organization to an online platform. There they record themselves responding to pre-determined interview questions via their video webcam. Hiring committee members or artificial intelligence (AI) then rate applicants' recordings at a later time (Brenner et al., 2016). Although possible to be used at any stage in the selection process, it is common for AVIs to be used in the screening stage (Nikolaou, 2021) as a replacement for a phone interview (Torres & Mejia, 2017) or to decrease a large applicant pool (Lukacik et al., 2022).

The usage of asynchronous video interviews is on the rise (Lukacik et al., 2022). One vendor reported delivering 5 million AVI's in just 18 months in 2019 (HireVue, 2019), a number

that has undoubtedly continued to surge after the onset of the Covid-19 pandemic (Dunlop et al., 2022). With the popularity of AVIs in applied practice on the rise, organizations are seeking to gain benefits for themselves and their applicants by implementing these interviews in their hiring practices (Lukacik et al., 2022). These benefits include reduced hiring costs, decreased time-to-hire, minimized travel, flexible scheduling, and the ability to reach a wider applicant pool (Brenner et al., 2016; Roulin et al., 2021). Additionally, the standardized structure and format of the interviews and questions allow for consistency across applicants. This structured interview format has been shown to lead to more valid results than an unstructured format (Huffcutt et al., 2013). Finally, when scoring applicant performance, several organizational representatives can rate the interviews as well as review and replay the recordings several times, rather than relying solely on memory or interview notes (Gorman et al., 2018).

Despite these benefits, AVI research is still nascent, and existing research on AVIs remains mixed (Lukacik et al., 2022). Researchers have pointed to vendors' vast array of customizable features (See ModernHire.com, Hirevue.com, and Hireflix.com for examples) as the culprit behind these conceptual incongruences (Lukacik et al., 2022). For example, organizations can pre-select features such as the type of media used to present information and questions (video or text). They can choose the length of time applicants have to prepare and answer questions and decide whether applicants are allowed to re-record responses. Additionally, some vendors even promote the use of AI, instead of a human, as an evaluator for scoring and rating applicant videos (Michelotti et al., 2021). Researchers have speculated that variations in AVI features may result in differences in validity, reliability, applicant reactions, and behaviors (Lukacik et al., 2022). As such, researchers have called for studies to examine which individual design features of these interviews most positively (or negatively) impact applicant outcomes (Woods et al., 2020; Lukacik et al., 2022).

Research on this matter would help organizations design and implement fair and sound AVIs in their hiring practices, as well as positively impact the applicant experience (McCarthy et al., 2018).

Thus, the current study examines how two AVI features, namely media type (the presentation of the introduction/questions via video or text) and evaluator type (a human or AI), affect feelings of human presence in the asynchronous environment. Additionally, this study evaluates the association of these feelings with subsequent applicant reactions, attitudes, and interview performance. In the following sections, I will first set the stage for reviewing technology-mediated interviews by examining important applicant reaction frameworks and selection outcomes. Next, I will present a thorough examination of the studies conducted on AVIs thus far. Following, I will introduce the construct of social presence and examine the research and the unique role increased social presence may play in improving AVI outcomes. Finally, I will integrate the aforementioned literature into a joint framework to be tested with participants using the platform from a leading AVI vendor, Hireflix.

### **Technology in the Selection Process**

It is important for organizations to recognize that several applicant outcomes may be impacted by the implementation and modification of new technology procedures in the hiring process. Therefore, it can be beneficial to lean on prior frameworks and research in the selection literature to better understand the dynamic relationships between these new tools, such as AVIs, and important applicant outcomes. Frameworks around applicant reactions can help researchers and practitioners better understand why certain features, such as media or evaluator type, might impact critical selection outcomes. Thus, the following sections aim to review prominent applicant reaction frameworks, critical outcomes that organizations should pay particular attention to when implementing technology-based selection procedures, and finally, the most current findings on

AVIs, their contrast with other interview modalities, and how past researchers have also used applicant reaction frameworks to understand critical applicant outcomes.

### **Applicant Reactions to Selection Procedures**

When implementing new technology in the selection process, organizations should take care to understand how applicants perceive these processes. Focus on applicant reactions emerged as a movement in the 1980s (Ryan & Ployhart, 2014). The applicant reaction literature shifted the focus from the *organization* to the *applicant* to explain “how job candidates perceive and respond to selection tools on the basis of their application experience” (McCarthy et al., 2017, p. 1695). These reactions can include (but are not limited to) perceptions of fairness, justice, motivation, anxiety, perceived usefulness, and ease of use (McCarthy et al., 2017; Lukacik et al., 2022). Several applicant reaction frameworks have emerged to explain how characteristics of the selection tool, organization, and individual can act as antecedences to applicant reactions, impacting subsequent proximal and distal outcomes (McCarthy et al., 2017). These outcomes include attitudes (e.g., organizational attractiveness, self-efficacy, self-esteem), intentions (offer acceptance intentions, recommendation intentions, litigation intentions), and actual behaviors (e.g., test/interview performance, job performance) (Hausknecht et al., 2004; McCarthy et al., 2017; Lukacik et al., 2022).

One of the earliest theoretical frameworks in the applicant reaction literature is Gilliland’s (1993) procedural and distributive justice model (McCarthy et al., 2017). Gilliland based this model on the organizational justice literature, with the main premise being that if applicants perceive the selection procedure as fair, they are more likely to have positive attitudes and behaviors toward the organization. These reactions stem from two sets of justice rules, procedural justice and distributive justice, with the former focused on fairness perceptions of the selection

*process* and the latter focused on fairness perceptions of the selection *outcome*. Gilliland (1993) proposed that the consequences of positive fairness reactions could impact not only applicant attitudes and intentions but even subsequent job performance. Several researchers have tested this model, with meta-analytic evidence supporting the notion that fairness reactions do play a relatively large role in several applicant outcomes. For example, fairness perceptions have been shown to relate to organizational attractiveness ( $r = .44$ ), job acceptance intentions ( $r = .28$ ), and recommendation intentions ( $r = .46$ ) (Hausknecht et al., 2004).

Although Gilliland's justice model has attracted considerable attention in the applicant reaction literature, researchers have echoed the importance of examining the role of other candidate reactions as well (Nikolaou et al., 2015; McCarthy et al., 2017). Another theoretical model, developed by Arvey et al. (1990), examined several attitudinal and dispositional reactions toward selection procedures, including test-taking motivation and test-taking anxiety. The authors proposed that increased motivation would lead to better testing outcomes. In contrast, higher levels of test-taking anxiety may impair someone's ability to perform well on an assessment and thus lead to decreased scores (Nikolaou et al., 2015). Meta-analytic evidence has also supported these relationships with both anxiety ( $r = -.28$ ) and motivation ( $r = .21$ ) relating to test/interview performance (Hausknecht et al., 2004). Thus, practitioners should be cognizant of these well-supported links between various applicant reactions and subsequent outcomes when implementing new tools.

### **Outcomes of Technology-Mediated Selection Procedures**

There has been a long-withstanding tradition in the selection literature for researchers to focus on how applicant performance may vary in different selection tools, given the link to subsequent job performance (Truxillo et al., 2018). With the continued implementation of

technological advancements in selection processes, researchers continue to focus on how applicant performance is impacted by these new tools (Woods et al., 2020). While researchers have found that computer-mediated tests produce similar scores to traditional paper-and-pencil tests for cognitive ability assessments and personality inventories (Anderson et al., 2003; Woods et al., 2020), the same has not been true for interview scores. Meta-analytic evidence suggests that interview scores in technology-mediated formats (videoconference (VC)) are significantly lower than in traditional face-to-face (FTF) methods (Blacksmith et al., 2016). Thus, researchers have called for studies to evaluate further the entangled processes between new technology tools and interview performance (Woods et al., 2020; Lukacik et al., 2022).

In addition to interview performance scores, organizations should also be concerned with the attitudes applicants form from their selection procedures. Results from a LinkedIn survey found that 83% of respondents reported acquiring negative opinions of a company they once favored after experiencing a poor selection process (Folger et al., 2021). These negative attitudes could become increasingly problematic. One survey reported that 72% of job applicants shared their negative experiences online (David, 2016). As such, it has become common practice for applicants to share and post their experiences online at sites like Glassdoor.com, a website where individuals can leave anonymous reviews of their interview experience with a company (Van Hoyer, 2014). Additionally, applicants may influence others within their social network if they post about their experiences on their personal social media profiles (e.g., Facebook, Twitter, LinkedIn) (Tippins et al., 2021). Therefore, while attitudes formed from the selection process 20 or 30 years ago may not have had detrimental consequences at the time, nowadays, positive or negative views have the potential to significantly impact an organization's reputation and brand (Woods et al., 2020; Tippins et al., 2021). Thus, organizations should take special care to consider the impact

their selection procedures might have, not only on applicant performance but on applicant attitudes as well, and as such, the current study will examine the effect of evaluator type and media type on these two types of applicant outcomes.

### **AVI Research**

Prior AVI research can be divided into two groups: studies comparing AVIs to other interview modalities and studies looking at the unique antecedents and features within AVIs alone. By examining both groups, we can gain clarity on the progress made toward understanding these novel interviews. Although AVIs are unique in their own way, by comparing them to other interview modalities, we can work to understand their weaknesses and strengths against more traditional interview approaches. This may help identify aspects of traditional approaches that could be implemented into AVIs to further improve their outcomes. Additionally, by looking within AVIs at their unique features and antecedents, we can better understand the fluctuations that exist within different AVI formats. As a whole, this research can help us identify the gaps that still exist in the AVI literature and how we may work to further improve these interviews.

As AVIs were introduced into the interview arena, many selection researchers took to comparing AVIs to other technology-mediated interviews (VC, phone) or FTF interviews. Apart from a few favorable outcomes, most studies have reported mixed or poor results of AVI outcomes compared to other interview modalities. For example, Folger et al. (2021) asked participants to rate outcomes for several selection procedures that have varying degrees of digitalization (e.g., low digitalization being FTF interviews; high digitalization being AVIs). They found that organizations implementing highly digitalized selection methods were perceived as more innovative, leading to higher organizational attractiveness (Folger et al., 2021). However, these authors also found that implementing highly digitalized methods, particularly in the interview

stage, may lower organizational attractiveness due to impaired fairness perceptions. Another example of mixed results comes from Suen et al. (2019). These authors found that AVIs and VC interviews were not rated differently on fairness perceptions. However, VC interviews were ultimately rated higher on favorability by participants. Lastly, Langer et al. (2020a) found highly automated interviews as rated more consistent than VC, but automated interviews ultimately led to lower organizational attractiveness.

Additional studies examining interview modality have found consistent adverse applicant outcomes for AVIs. Basch et al. (2020) reported lower fairness perceptions of AVIs compared to FTF and VC interviews. Acikgoz et al. (2020) found a similar pattern of low levels of fairness perceptions for AVIs when compared to FTF interviews. Others have found that AVIs induce more privacy concerns and instate higher perceived creepiness than VC interviews (Langer et al., 2017). Additionally, in a cross-cultural study examining 644,905 virtual interviewees from 46 countries, Griswold and colleagues (2021) found that AVIs led to lower overall satisfaction and lowered perceived interview effectiveness compared to VC interviews. Researchers have suggested that these poorer outcomes in technology-mediated interviews may be due to the lack of social cues or the impersonal nature of these methods (Blacksmith et al., 2016). In line with this, a qualitative study of students seeking employment found that despite more than 70% of respondents viewing AVIs as reasonable, thorough, and timely, 46% of the participants found AVIs to be cold and impersonal (Guchait et al., 2014). Thus, it appears that although AVIs may be a more innovative interview approach, the lack of social interaction and cues may be problematic.

The second approach selection researchers have taken in examining AVIs, is to examine the antecedents and features that may impact AVI outcomes, such as unique AVI design components and the role of individual differences. For example, Basch et al. (2021b) examined

the AVI feature of preparation time. They found that individuals who were allowed 1-2 minutes of preparation time, and who used it (active response preparation), had higher interview performance than individuals authorized no preparation time (note that the “no preparation” group still had 16-seconds to read the interview question). Mirowska (2020) examined evaluator type and found that candidates reported a higher intention to apply and pursue a job when reading that a human, rather than AI, would rate their AVI. Langer et al. (2020b) also examined evaluator type and found that individuals reported decreased opportunity to perform when rated by AI, while overall fairness perceptions did not significantly differ between evaluator types.

Other approaches for understanding and improving AVI outcomes have included varying the amount and type of information provided before an AVI. For example, researchers have found that spotlighting the advantages of AVI flexibility can improve perceptions of usability and providing information on the advantages of the standardization allowed from AVIs can increase perceived fairness perceptions and organizational attractiveness (Basch & Melchers, 2019). Others have found that providing individuals information on the process (i.e., how the algorithm rates the interview) leads to more significant privacy concerns. However, by supplementing this process information with justification information (i.e., that the selection method predicts job performance), the combination of information leads to higher fairness perceptions and organizational attractiveness (Langer et al., 2021).

Researchers have also examined the role of applicant personality in AVI perceptions. Hiemstra et al. (2019) had applicants rate fairness perceptions of AVIs as well as complete a personality inventory. The authors compared the fairness scores to Anderson et al. (2010)’s meta-analysis that gathered fairness perceptions on a variety of selection tools. Hiemstra et al. (2019) found that AVIs resulted in lower fairness perceptions compared to preferred (FTF interviews,

work samples) and favorable selection tools (resumes, personality, cognitive tests, biodata). Additionally, when examining personality, they found that individuals high on extraversion reported higher opportunity to perform than individuals high on introversion (Hiemstra et al., 2019). The second study found that applicant reactions of perceived usefulness, perceived ease of use, and the interaction of perceived usefulness and openness significantly predicted positive attitudes toward AVIs (Brenner et al., 2016). Thus, certain AVI features, specific information, and personality traits may play a role in impacting AVI outcomes.

All things considered, although applicants may perceive AVIs as having increased consistency and being an innovative approach (Langer et al., 2020a; Folger et al., 2021), the research ultimately shows that in comparison to other interview modalities, AVIs still have room for improvement (e.g., Acikgoz et al., 2020; Basch et al., 2020; Griswold et al., 2021). For example, when applicants receive a link to an AVI, this may come in a standardized email, followed by standardized instructions and interview questions on a generic-looking webpage. All of this may occur without the applicant truly understanding who is on the other side of the interview; is it a human resource recruiter, a hiring manager, or a robot? The interpersonal connection allowed for in FTF and VC interviews is missing in AVIs. If organizations want to garner the unique benefits of AVIs, such as decreased time to hire, reduced costs, and flexibility, researchers will need to continue refining approaches and testing AVI features that may improve applicant experiences in this innovative procedure. One such method would be the inclusion of an organizational representative in the interview process. By strategically utilizing the features of media type and evaluator type, organizations may be able to decrease the impersonal nature of AVIs and increase feelings of social presence in the asynchronous environment, leading to subsequent positive applicant reactions and outcomes.

## Social Presence

In working towards understanding why applicants may respond more favorably to AVI features that involve organizational representatives, we can turn to research in the computer-mediated communication (CMC) literature. One prevalent concept in this literature is Social Presence Theory (SPT). Social presence was a term coined by Short et al. (1976), who sought to explain why communication may suffer in telecommunications. The authors defined social presence as “the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationship” (pg. 65). Thus, technology-communication channels will differ based on “the degree to which a medium is perceived as conveying the presence of the communicating participants” (Rice, 1993, pg. 452). The original term has developed over the years to focus on the subjective warmth allowed by the communication medium and the psychological perceptions of the other person’s verbal and nonverbal communication (Lukacik et al., 2022).

In a systematic review of the technical literature on social presence, Oh and colleagues (2018) examined the most established antecedents of social presence. In reviewing 233 findings, the authors found that modality significantly increased or decreased feelings of social presence. FTF communication consistently led to higher levels of social presence than CMC. Additionally, text-based CMC led to the lowest levels of social presence within technology-mediated communication compared to communication via “richer” communication modalities (e.g., audio, video, avatar). These results align with Media Richness Theory (MRT), an information processing theory often linked to social presence. MRT discerns between communication methods based on their ability to reduce uncertainty and ambiguity (Daft & Lengel, 1986; Lukacik et al., 2022). Communication mediums can be classified on a continuum from *lean media* (e.g., text) to *rich media* (e.g., video) (McColl & Michelotti, 2019). Videos are considered a richer media because

they “transmit multiple nonverbal and verbal cues, use natural language, allow for immediate feedback, and convey personal emotions and feelings” (Lukacik et al., 2022, pg. 7).

Establishing social presence has been critical to researchers in various fields, given the clear link of the construct to positive outcomes. For example, researchers in e-commerce found that higher levels of social presence on company websites led to higher levels of perceived usefulness, trust, and enjoyment which further impacted shoppers' positive attitudes toward the company (Hassanein & Head, 2007). Robotics researchers have found that higher levels of social presence led to more positive evaluations of one's interactions with, and general assessments of, an embodied social agent (Lee et al., 2006). Educational researchers have found meta-analytic support for social presence leading to higher satisfaction levels and perceived learning in online courses (Richardson et al., 2017).

More recently, psychology researchers have examined the role of social presence in interviews and found similar results to Oh et al. (2018). Basch and colleagues (2020) surveyed 154 working adults on their perceptions of various interview modalities. The authors found that FTF interviews led to the highest levels of social presence, followed by VC interviews and then AVIs. They further found that social presence acted as a mediator between interview type and fairness perceptions. Lastly, impression management (IM) mediated interview modality serially with social presence for FTF vs. VC interviews, but not between VC and AVI. In a later study, Basch et al. (2021a) found similar patterns when comparing FTF and VC, such that social presence positively acted in serial mediation with IM to impact fairness perceptions and interview performance for FTF interviews. However, it should be noted that the ability to use IM tactics significantly decreases in AVIs, and, as such, may not be as important of a mediator in this interview modality (Basch et al., 2020). In examining just technology-mediated interviews, Langer and colleagues

(2020a) found similar results, such that VC interviews had higher levels of social presence than highly automated interviews. In this study, social presence significantly mediated interview type and organizational attractiveness.

Research and theory on social presence lay the framework for understanding the connection between novel technology, such as AVIs, and important applicant outcomes. Through richer media and human raters, organizations may establish feelings of social presence in AVIs, which may benefit both applicants and organizations.

### **Current Study**

The extant literature provides convincing evidence relating applicant reactions in selection procedures to critical outcomes. However, few provide actionable steps organizations can take to improve applicant reactions in the first place (McCarthy et al., 2018). The current study examines how the implementation of two AVI features affects social presence and how this may impact outcomes in two important yet distinct applicant reaction pathways. By inserting an organizational representative in pre-recorded videos *and* in the rating process, organizations can target the less favored aspects of AVIs by increasing feelings of connectedness with applicants. For example, without utilizing these two design features, applicants may feel that organizations are not taking their application process seriously or putting in the same amount of effort as the applicant. Understanding the relationship between these two features and social presence would help advance theory and research in AVIs.

By examining two distinct pathways of applicant reactions, we can understand how social presence impacts both attitudinal and behavioral outcomes in technology-mediated interviews. As previously noted, applicants' reactions to selection procedures can have important implications on subsequent outcomes like attitudes, intentions, and behaviors. Regarding applicant attitudes and

intentions, researchers have proposed and supported the notion that organizational attractiveness acts as an antecedent to other intention-based selection outcomes (Highhouse et al., 2003). Due to the proximal location of organizational attractiveness on subsequent intention-based outcomes, this can be a critical attitudinal outcome for researchers to study. Thus, given the meta-analytic link between fairness perceptions and organizational attractiveness, and the research support for the link between social presence and fairness perceptions, the first attitudinal pathway can be hypothesized. Regarding behavioral outcomes, applicant interview performance is the most proximal of the behavioral outcomes and, thus, the second pathway of the proposed model. By harnessing applicant reaction meta-analyses and research from the education literature, we can hypothesize how social presence may impact performance through increased motivation (the conceptual model is presented in *Figure 1*). The current study takes an interdisciplinary approach, blending research and theory from communication, education, technology, and I/O psychology, to better understand the unique role of two AVI features, namely evaluator type and media type, in impacting applicant reactions, organizational attractiveness, and interview performance. These two features may be the key to achieving interview equilibrium by striking a balance between AVI technology and human presence in this innovative selection procedure.

In expanding on this framework further, while there are several features organizations can modify in AVIs, media type and evaluator type are the only two features that are fully controlled by the organization and that may impact psychological perceptions of social presence. For example, features like preparation time, response preview, and re-recording are focused on system design components that applicants may or may not choose to utilize in the interview and would not likely impact perceptions of social presence. However, evaluator type and media type are the two features that, if chosen to include, all applicants experience equally and could impact feelings

of social presence through the inclusion of an organizational representative. Although past studies have examined the feature of evaluator type on applicant outcomes in AVIs (Mirowska, 2020; Langer et al., 2020b), these studies only focused on how information of the evaluator impacted fairness perceptions and follow-up intentions, excluding the impact this feature may have on interview performance.

Understanding how to maximize feelings of social presence is imperative given the positive implications high social presence has in interviews. However, no AVI studies were identified that examine the interaction effect of media type and evaluator type on social presence. Although including videos of an organizational representative may increase feelings of social presence, the media type-social presence relationship may be strengthened even further by also informing applicants that an organizational representative will rate their interview. Not only do applicants see a representative during the interview, but they are also reminded that the representative will continue to be involved in the process even once the interview is over. Thus, the inclusion of the second AVI feature of an organizational representative may further strengthen feelings of social presence.

Finally, the three previously mentioned studies that examine social presence in interviews (Basch et al., 2020; Basch et al., 2021a; Langer et al., 2020a) focused on comparing how *different* interview modalities impact social presence. The current study focuses solely on AVIs and how the adjustment of their unique features may impact social presence. While theory supports the notion that social presence will be higher when the communicating partners are directly interacting (as in FTF and VC interviews), organizations adopt AVIs *because* of their asynchronous nature and the various benefits unique to this modality, such as flexibility in scheduling and reviewing. Organizations should not be forced to choose between positive applicant outcomes or

implementing AVIs; instead, research could focus on how to increase feelings of social presence in an asynchronous environment. By harnessing the two AVI features that allow for this, organizations could improve feelings of social presence in AVIs without jeopardizing the unique benefits of an asynchronous approach.

Therefore, the current study’s contributions to the literature are threefold. First, the current study examines two unique AVI features, media type and evaluator type, which have not yet been examined in a framework with both attitudinal and behavioral outcomes. Second, the study examines how the interaction of media type and evaluator type may further strengthen the relationship with social presence. Third, this study examines the mediating role and antecedents of social presence in technology-mediated interviews, which may provide much-needed guidance to organizations when structuring and implementing AVIs.

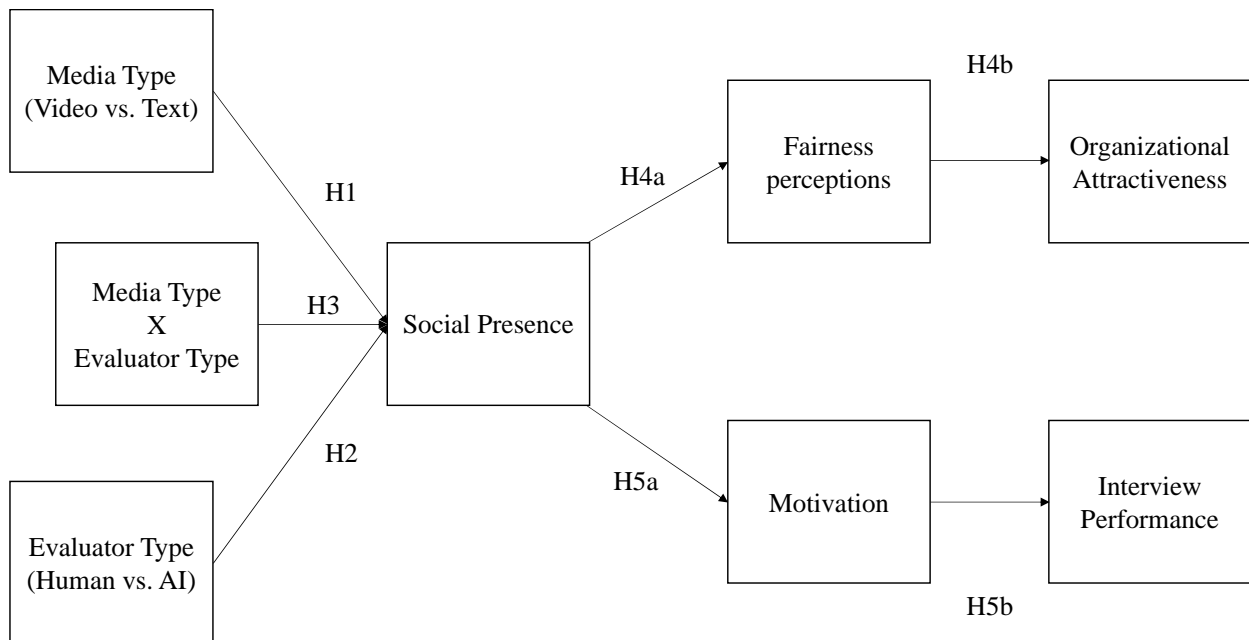


Figure 1. Conceptual Model

## **AVI Features and Social Presence**

The first approach for increasing underlying low levels of social presence in AVIs is to utilize rich media when presenting information to the applicants. Building rapport in interviews becomes difficult in low social presence situations like AVIs, where it is often unclear who the interviewer or evaluators are (Lukacik et al., 2022). By allowing applicants to see and hear their recruiter during the interview process through rich media, applicants can better grasp whom they are interacting with, even if it is in an asynchronous capacity (Langer et al., 2020b). Most AVI platforms allow organizational representatives to include video introductions and video-recorded interview questions as an alternative to text introductions and text questions. Recruiters have suggested that utilizing this feature may add a layer of personalization and brand recognition for the company (Mejia & Torres, 2018). Although most vendors appear to encourage the use of this feature, a literature search revealed no published studies examining its impact in AVIs. However, education researchers have examined the impact of pre-recorded videos in asynchronous course offerings. When instructors included pre-recorded videos of themselves teaching content and providing feedback, the students reported increased feelings of the instructor's social presence and connectedness to the instructor (Borup et al., 2012). Thus, in borrowing from MRT and research on social presence, it is proposed that by providing media-rich videos instead of text, applicants may feel higher levels of social presence in the asynchronous environment. Thus,

***Hypothesis 1:*** Participants who receive the introduction and questions via a pre-recorded video of an organizational representative will report higher levels of social presence than those who receive the introduction and questions via text.

The second AVI feature that may impact applicants' perceptions of social presence in the selection process is who evaluates their interview. While there has been considerable debate in the

literature from academics and practitioners around the usage of AI in workplace decisions (Hunkenschroer & Luetge, 2022), some AVI vendors nevertheless encourage the use of AI systems to rate applicants' interviews (See Hirevue.com, Talview.com). Some believe AI can reduce human bias in the selection process by ignoring qualities such as physical appearance and focusing more closely on the words spoken and the applicant's body language (Hunkenschroer & Luetge, 2022). However, others are not so certain of the effects of using algorithms in hiring decisions. Fritts and Cabrera (2021) reviewed results from a survey gathering feedback and attitudes of human resource professionals towards AI in the workplace, reporting that the most-cited concern of using AI as a decision agent in hiring is that it would dehumanize the hiring process.

Echoing the desire for humans to be involved in workplace decisions, Newman et al. (2020) examined the usage of AI in various workplace settings (hiring, promotions, layoffs). The authors found that in all five studies, AI was rated as less fair than the human decision-maker. Two of these studies indicated this occurred through reductionism of the process. Participants reported feeling as though they were merely reduced to numbers and that AI would fail to gather adequate information to gain a clear picture of them as an applicant/employee. Thus, it is not just that individuals view AI as less fair; they do so because of an innate desire to have humans involved in important workplace decisions. Others have observed that even when people understand the objectivity that goes into AI and that it can reduce bias in selection decisions, applicants still prefer human decision-makers. Applicants seemingly prefer “the devil they know (human biases and intuition) rather than the one they do not (AIE algorithm)” (Mirowska & Mesent, 2021, pg. 1). Thus, despite what organizations may find beneficial, it appears that humans are hesitant to adopt positive views of AI.

Additionally, beliefs surrounding the use of AI may be weighted differently based on the context in which the decisions occur. Langer et al. (2019a) examined responses to a 2x2 scenario in which a human vs. AI was used to make decisions/provide feedback in a low-stakes situation (training) or a high-stakes situation (interview). Participants in the high-stakes situation with decisions made by AI reported the lowest process attractiveness ratings. Additionally, the situation and decision agent interacted to predict fairness perceptions, such that participants rated the use of AI in a high-stake selection decision as significantly more unfair than the use of human rater or AI in low-stakes decisions. Lastly, the authors found that both social presence and fairness perceptions were significant mediators in predicting the attractiveness of the procedure.

Thus, applicants view the presence of another human in the decision process as essential, especially in a selection context. The current study asks participants to imagine they are applying for their dream job and thus sets the stage for a selection context. If told that a human, rather than AI, will rate their AVIs, feelings of social presence may increase. Participants will understand that eventually, an organizational representative will view their response and, therefore, feelings of interacting with another human may be induced, even with an asynchronous time delay. Whereas if told AI will rate their interview, they may view the process as cold and impersonal, and report decreased feelings of social presence. Thus,

***Hypothesis 2:*** Participants who are told their interview will be rated by a human will report higher levels of social presence than participants who are told AI will rate their interview.

Although each AVI feature is important to understand independently, the role they play together in the interview process may be even more telling. Just as adding media-rich videos may increase feelings of social presence, so may informing the applicants that a human will rate their interview. One study found that in situations where AI is an evaluator, participants discussed the

desire to add realism to AI by adding human-like features to the decision agent. The researchers proposed that the individual's desire to do so would allow the participants to act on pre-established behavioral frameworks of appropriate behavior in an interview (Mirowsk & Misent, 2021). Thus, there may be an interactive component at play.

Understanding the potential interaction between these two AVI features could be imperative. Nevertheless, only one study was identified that examined the impact of media type (text, audio, or video) and feedback source (AI vs. human) on social presence (Walter et al., 2015). The researchers found that each feature directly affected social presence, with the video and the human feedback leading to the most favorable outcomes; however, there was no significant interaction between the two. Individuals in this study, however, were lab participants tasked with solving various IT problems. This environment is very different from a selection situation. Selection procedures have been said to create a high-stakes environment due to the decisions and consequences made based on the outcome of the selection tools (Pearlman, 2009). Therefore, applicants may place more weight on humans in the decision process when it occurs in a selection setting.

Although viewing videos of an organizational representative may increase feelings of social presence, this relationship may be further strengthened when participants are also told they will be evaluated by a human. For example, during the interview, applicants who receive video media may feel an increased feeling of connectedness and interaction with the organizational representative, displayed through increased feelings of social presence. This may occur because they can visually see and hear the representative and can put "a face to the name." When also informing these applicants that the representative will rate their AVI, the connectedness and feelings of interaction from the video media may be strengthened. This may occur because the

feelings of warmth and personal connection felt from visually seeing the representative during the interview (through video media), may be strengthened by the knowledge that the organizational representative will be involved in the decision-making process as well. If an applicant were to be told that a human would rate their interview, but they never saw who this person was (text media), the feelings of social presence may not be as strong because applicants may have a harder time connecting who the representative is. Thus, the interactivity and feelings of social presence may be strongest when receiving an organizational representative at two points, during the interview through richer media and from the knowledge that the representative will also be involved after the interview. The feelings of social presence that were increased from media type, will be further strengthened by adding a human evaluator.

Thus, the effectiveness of rich media (video introduction/questions) on increasing feelings of social presence may depend on evaluator type. When participants are told AI will rate their interview, the positive relationship between rich media and social presence may be decreased. However, when told a human will rate their interview, the positive relationship between video media on feelings of social presence may be increased. The combination of video media and a human rater may lead to the highest levels of social presence, while text media and an AI rater may lead to the lowest reported levels of social presence. As such,

***Hypothesis 3:*** Evaluator type will moderate the relationship between media type and social presence, such that the positive relationship of media type on social presence will be weaker when participants are told AI will evaluate them; however, when told a human will evaluate them, the positive relationship of media type on social presence will be stronger.

## **Social Presence, Fairness, and Organizational Attractiveness**

Understanding the role of social presence on applicant reactions is imperative, given the common association between applicant reactions and subsequent attitudes, behaviors, and beliefs (Nikolaou et al., 2015). As initially proposed by Gilliland's (1993) justice model, variations in the selection procedure can impact perceptions of procedural fairness. For example, researchers have found that using algorithms in screening (Dineen et al., 2004) and rating selection interviews (Langer et al., 2019a; Gonzalez et al., 2022) led to lower fairness perceptions. Given the high-stakes environment that the selection context induces (Pearlman, 2009), it seems reasonable that these studies have shown that applicants view the inclusion of an organizational representative in the selection process as more fair.

Since its initial conceptualization, social presence has been utilized as a key mediating variable in technology and education literature to explain the relationships between technology mediums and user satisfaction (Biocca et al., 2003; Richardson et al., 2017; Oh et al., 2018). Thus, it is not surprising that psychology researchers have also started to utilize this construct to understand why different interview modalities lead to more favorable perceptions and outcomes (Langer et al., 2019a; Langer et al., 2020a). In particular, two studies found a positive association between social presence and fairness perceptions in interviews (Basch et al., 2020; Basch et al., 2021). By inducing higher levels of social presence in the selection process, applicants may perceive the process as fairer. Thus,

***Hypothesis 4a:*** There will be a positive relationship between social presence and fairness perceptions.

As further proposed by Gilliland (1993) and tested meta-analytically by others (Hausknecht et al., 2004; Chapman et al., 2005), fairness reactions impact various subsequent outcomes such

as job acceptance intentions, job pursuit intentions, recommendation intentions, and organizational attractiveness. Organizational attractiveness has been described as an applicant's "affective and attitudinal thoughts about particular companies as potential places for employment" (Highhouse et al., 2003). Researchers have proposed and supported organizational attractiveness as an antecedent of other selection outcomes such as job acceptance intentions, recommendation intentions, and organizational pursuit (Highhouse et al., 2003). Given the proximal location of organizational attractiveness on subsequent outcomes (Highhouse et al., 2003), and the link with fairness perceptions, this can be an important attitudinal outcome to examine when testing new technology. Additionally, several studies have supported the positive link between fairness perceptions and organizational attractiveness in interviews (Folger et al., 2021; Basch & Melchers, 2019; Newman et al., 2020). Thus,

***Hypothesis 4b:*** There will be a positive relationship between fairness perceptions and organizational attractiveness.

By using features of AVIs that allow for the inclusion of an organizational representative in the interview process, via means of richer media in the introductions and questions, and utilizing a human evaluator, organizations may increase feelings of social presence in the interview process. These higher levels of social presence may be associated with more positive fairness perceptions and subsequent attitudes of organizational attractiveness. However, if organizations remove these human components by presenting information via text and informing the applicants that AI will rate their interview, they may decrease feelings of social presence. Lower feelings of social presence in the AVI may be associated with decreased perceptions that the interview process is fair, and further decreased positive perceptions of the organization. Thus,

*Hypothesis 4c:* The relationship between interview features and organizational attractiveness will be serially mediated by social presence and fairness reactions.

### **Social Presence, Motivation, and Interview Performance**

As previously noted, there are additional applicant reactions that can play an essential role in the selection process (McCarthy et al., 2017). One such response is applicants' test-taking motivation. While initially proposed as a dispositional characteristic in the interview process, Arvey and colleagues (1990) predicted that specific test characteristics or interventions may have the ability to increase or decrease motivational levels during selection procedures. Truxillo et al.'s (2009) found this to be true when their meta-analysis revealed that explanations in the selection process could increase test-taking motivation, which in turn increases test scores on cognitive ability tests. In line with Arvey et al.'s (1990) expectations, it appears that contextual characteristics of selection procedures can impact motivation.

To better understand the role of social presence as an antecedent of motivation in online environments, we can turn to the education literature. Social presence has played a critical role in understanding the link between motivation and success in online courses. For example, one study aimed to induce feelings of social presence in online courses by sending five motivational instructor emails throughout the semester. The researchers found that individuals who received these emails reported higher levels of motivation than those who did not receive the emails. These students also had higher final course grades (Robb & Sutton, 2014). Another example comes from Swan & Shih (2005), who found that increased feelings of instructor social presence helped increase students' willingness to participate openly in online discussion boards, shown through increased statements of value and self-disclosure. A further qualitative exploration of this data showed that students who perceived high social presence found the discussions stimulating,

motivating, and challenging. In contrast, individuals who perceived low social presence found it uninteresting and a waste of time (Swan & Shih, 2005).

Just as the lack of social presence can be unmotivating to students in an online classroom, it may also impact applicants in the hiring process. The lack of an organizational representative in the AVI process may signal to the applicant that the organization does not value their time, resulting in applicants feeling unseen or like “just a number” in the interview process (Acikgoz et al., 2020). Similar to education settings, low social presence in interviews may also decrease applicant motivation. However, if the organization takes time to add a layer of personalization into the interview with video media, as well as have a human rate the interview, organizations could increase feelings of social presence. This result may lead to an added sense of value and motivation from the applicant’s perspective (Acikgoz et al., 2020). Thus,

***Hypothesis 5a:*** There will be a positive relationship between social presence and motivation.

Motivation in the selection process has been meta-analytically linked to subsequent test/interview performance, such that higher motivation is associated with higher test scores (Hausknecht et al., 2004; Truxillo et al., 2009). Some researchers have found that interview scores are lower in technology-mediated interviews (Blacksmith et al. 2016), and as such, organizations should be wary of the impact of their selection tool on applicants' motivation. If selection tools induce low levels of social presence, they may decrease applicants’ willingness to put forth an effort, which in turn may negatively impact interview scores. Additionally, one team of researchers found that longer response time, which could be considered an indirect measure of an individual’s motivation levels, was positively associated with higher interview performance in AVIs (Basch et al., 2021b). Thus,

**Hypothesis 5b:** There will be a positive relationship between motivation and interview scores.

As noted previously, certain selection procedure characteristics may impact individual's motivation levels (Truxillo et al., 2009). Thus, organizations would want to ensure that they do not negatively impact applicants' motivation through the design of their selection tools. Using features of AVIs that allow for the inclusion of an organizational representative in the interview process, such as video introductions/questions and utilizing a human evaluator, organizations may increase feelings of social presence. This social presence may signal to applicants that the organization values their time. Thus, applicants may feel more motivated, given that the organization is also putting forth effort in the interview process. However, when organizations choose to not include these human components by presenting information via text and informing the applicants that AI will rate their interview. In that case, applicants may take this decreased social presence as a lack of care on the organization's side, which may decrease their interview motivation, leading to less favorable interview performance. Thus,

**Hypothesis 5c:** The relationship between interview features and interview performance will be serially mediated by social presence and motivation.

## **Method**

### **Participants**

Participants were recruited via Prolific, a crowd-sourcing platform. The use of crowd-sourcing platforms to study the interview process has become more common in recent years (Gorman et al., 2018; Roulin, 2016). Based on the interaction term and main effects, a priori sample size calculations were done in G\*Power (Faul et al., 2007). It was found that for a moderate

effect size within an ANOVA with a power of  $1-\beta = 0.80$  a sample of  $N=125$  was necessary for the interaction effect, and a sample of  $N=128$  was necessary for the main effects. To account for potential technical issues or loss of data common in online data collection and in line with prior research (Langer et al., 2019a), the sample size was increased for a final sample of  $N=151$ .

To be included in the current study, participants had to be at least 18 years old, reside in the United States, and pass both manipulation checks. Additionally, the current study was only shown as an option to Prolific participants who had agreed ahead of time to participate in studies that require video recording. Of the 234 participants who completed the study on Prolific, 57 selected the third (“trick”) option of the manipulation checks (“It did not say” or “Audio”) and were therefore screened out. Finally, a remaining 22 incorrectly identified one or both manipulations and were also screened out. Three participants were removed due to insufficient responses, hallmarked by responses of less than 10 seconds. One participant was removed due to technical difficulties. Thus, a final sample size of 151 was collected.

Of participants who provided their demographic data to Prolific, 57.6% were male. Their ages ranged from 19 to 76 years old, with a mean age of 37.9 years. The ethnicity breakdown was as follows: 5.3% Asian, 6.6% Black, 2.7% Mixed, 2.0% Other, and 83.2% White. 13.2% of participants reported being students. The employment status breakdown of the participants was as follows: 53.6% full-time, 8.6% part-time, 7.3% other, 10.6% not in paid work, and 6.6% unemployed. The reported highest education level of the participants was as follows: 11.3% high school degree, 11.3% associates degree, 21.9% some college, 33.8% bachelor’s degree, 19.2% master’s degree, and 2.6% doctorate or professional degree.

## **Procedure**

The proposed study manipulated two factors: evaluator and media type, in a 2 (evaluated by AI vs. human) x 2 (text vs. video introduction/questions) between-subjects experimental design. After selecting the study on Prolific, participants were directed to a Qualtrics survey, where they completed demographic information and were provided an overview of the study. They were told to imagine they were applying for their dream job and encouraged to spend a few minutes preparing to answer interview questions.

Next, participants read a mock email from a hiring organization asking them to complete an asynchronous video interview as part of the screening process (See Appendix A for scripts). The first manipulation occurred within the email, as half were informed a trained human resource recruiter would score their interview, and the other half were told artificial intelligence would score their interview. After, they followed a link to Hireflix's AVI platform. Once on the platform, they saw a welcome screen and received an introduction from the "recruiter" either via video or text. They then completed an interview consisting of three behavioral interview questions (See Appendix A for interview questions). Half of the participants were presented with these materials via text, and the other half again saw the "recruiter" reading the questions via a video recording (the lead author acted as the recruiter in the study). Afterward, they completed a follow-up survey in Qualtrics with manipulation checks and study variable measures.

***Interview.*** The AVI contained three behaviorally-based interview questions. This number was chosen based on practices encouraged by vendors of selecting 3-6 interview questions for AVIs used in the screening process. Additionally, given the expectations of pay for participants from Prolific when using video components and the limited budget resources of the current study, the decision was made to use only three questions. These questions reflect the competencies

expected of applicants across various job families and levels. The competencies were identified by the author and three subject-matter experts whom all hold PhDs in I/O Psychology. The competencies used in the interview were communication, interpersonal relationships/relationship building, and problem-solving. Questions were then identified from a large question bank from an I/O consulting firm. An example interview question is, “Tell me about a time when you faced a conflict with a coworker or peer. How did you handle the situation?” In line with prior best practices (Basch et al., 2021b), applicants received one minute of preparation time prior to the start of each question, and they had two minutes to record their responses (Dunlop et al., 2022).

## **Measures**

**Interview Performance.** Research assistants were trained to score the AVIs. The assistants were graduate students working towards their Master’s degree in I/O Psychology. All raters attended two training sessions. The first session was targeted at familiarizing the raters with AVIs, behaviorally anchored rating scales, and the rating process. The second training session was an hour-and-a-half long frame-of-reference training (Melchers et al., 2021; Roch et al., 2014). All raters independently rated several mock interviews. Next, they shared their ratings and reasoning for the provided rating. Then the group discussed, and raters were provided feedback on their ratings from the lead author. Each question was scored on a 5-point scale, with 1 = *does not meet expectations* and 5 = *far exceeds expectations*. Behavioral anchors were provided for poor, average, and excellent responses. Two raters rated each participant. The percent agreement among the raters was 98.9%. If ratings between the two raters differed by two or more points, they met to discuss the differences and to seek agreement within one point. After discussions occurred, the agreement was 100%. Overall interview performance was averaged across both raters and all three

questions. These practices align with best-practice recommendations and prior research on AVIs (Campion et al., 1997; Taylor & Small, 2002; Basch et al., 2021a).

(See Appendix B for the following measures).

**Social Presence.** Social presence was measured using four items developed by Short et al. (1976) and later utilized and adapted for other contexts (Tang et al., 2013; Basch et al., 2021a). Applicants were asked to respond to the following question, “How did you perceive the asynchronous video interview process?”. They rated their responses on four 5-point bipolar adjective scales measuring *unsociable-sociable*, *insensitive-sensitive*, *cold-warm*, and *impersonal-personal*. The Cronbach’s  $\alpha$  (internal consistency reliability) of the scale was .80.

**Fairness Perceptions.** Fairness perceptions were measured using an adapted 3-item global procedural justice scale from Bauer et al. (2001), which has also been adapted and used in other technology interview studies (Basch et al., 2021a; Langer et al., 2017). Items were rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item was, “I think the interview procedure was fair.” The Cronbach’s  $\alpha$  (internal consistency reliability) of the scale was .90.

**Motivation.** Motivation was measured using an adapted version of the 10-item Motivation subscale from Arvey et al. (1990)’s Test Attitude Survey. Items were rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item was, “I was extremely motivated to do well in the asynchronous video interview.” The Cronbach’s  $\alpha$  (internal consistency reliability) of the scale was .94.

**Organizational Attractiveness.** Organizational attractiveness was measured using the 5-item sub-scale of general organizational attractiveness from Highhouse et al. (2003). Items were rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). An example item

was, “This company is attractive to me as a place for employment.” The Cronbach’s  $\alpha$  (internal consistency reliability) of the scale was .89.

**Manipulation Checks.** To ensure that participants thoroughly read the mock email, which indicated evaluator type, the following question was asked, “In the mock email from the organization informing you of the interview, who did the company say would rate your asynchronous video interview?” Participants chose between three options, “Artificial Intelligence,” “Human Resource Professional,” or “It did not say.” To ensure the clarity of the second IV, media type, participants were asked, “In what format were your interview questions presented to you?” Participants chose between three options “Text only,” “A video of the human resource professional AND text,” or “Audio only.”

**Demographics.** Age, gender, ethnicity, and student status were gathered as demographic variables by Prolific and are available for export for every participant who completed the study. Education level and occupation were collected in the Qualtrics survey.

**Control Variables.** When examining applicants' reactions to selection tools, their past perceptions of, and experiences with, different selection tools may impact their subsequent reactions to those tools. Thus, the participants' prior perceptions of AVIs were gathered with a one-question item, “Prior to the current study, what were your overall perceptions of asynchronous video interviews?” This item was rated on a 5-point Likert scale from 1 (*extremely unfavorable*) to 5 (*extremely favorable*). Their prior AVI experience was also measured with one item, adapted from Suen et al. (2019), “Prior to this study, how many asynchronous video interviews have you participated in?”

## Analytic Approach

Rater and media type were coded 0 and 1 (Human rater = 1; AI rater = 0; Video media = 1; Text media = 0). To test the effect of the interaction on social presence, the interaction term was entered in a regression with the two main effects and the control variable, prior perceptions of AVIs, with social presence as the dependent variable. To test the full model, path analysis was used, a form of structural equation modeling via the lavaan package in R (Rosseel, 2012). For all analyses, a bootstrapping resampling technique with 5000 iterations was used.

To examine model fit, the following fit indices were examined, and the cutoff criteria were utilized as general guidance to determining the adequacy of model fit. The first model fit index is the Chi-square statistic. The chi-square statistic examines how well the data fit the model, with a non-significant p-value, indicating that the data do not significantly differ from the current model, whereas a significant chi-square would indicate that the data significantly differ from the proposed model (Keith, 2015). However, it should be noted that the results of this test are highly dependent on the sample size. Even if the model is well built, small sample sizes may not have the power necessary to reject the null hypothesis, whereas this test may show non-significance for minor deviations in large sample sizes (Steiner, 2005). The root mean square error of approximation (RMSEA) assess the *approximate* fit of the model. The general rule of thumb for RMSEA is that values below .08 represent a reasonable fit, and values greater than .10 indicate poor fit (Keith, 2015). The standardized root mean square residual (SRMR) examines the difference between the actual correlations among the variables and those predicted by the model. Researchers suggest that values lower than .08 (Hu & Bentler, 1999) suggest a good fit of the model to the data, with others suggesting values lower than .06 indicate a good fit (Keith, 2015). The Comparative Fit Index (CFI) and Tucker Lewis Index (TLI) both aim to compare the current model with the null, or

independence, model. CFI aims to provide a population estimate of fit improvement over the null model. TLI adjusts slightly for parsimony and is relatively independent of sample size (Tanka, 1993). Values over .95 indicate a good fit of the model to the data, and .90 indicates an adequate fit (Hu & Bentler, 1999).

## Results

Chi-square tests were conducted to determine if the manipulations were successful. Results using the full sample for rater type ( $X^2(2) = 122.23, p < .001$ ) and media type ( $X^2(2) = 207.01, p < .001$ ) indicated that the manipulations were successful. Further, after removing the third manipulation “trick” option, rater type ( $X^2(1) = 115.52, p < .001$ ) and media type ( $X^2(1) = 153.81, p < .001$ ) continued to show that the manipulations were successful. The data was checked for outliers, and the assumptions of normality, linearity, and homoscedasticity were observed via the P-P plots and scatterplots, with no major violations of the assumptions occurring. Prior to testing the hypotheses, group differences in demographic and control variables between the experimental groups were examined using ANOVAs. No significant differences existed among the experimental groups for any of the demographic variables or prior AVI experience. There were significant differences in prior AVI perceptions; therefore, it was the only variable included as a control in the following analyses. Means, standard deviations, and correlations for the study variables are presented in Table 1. A preliminary examination of the interaction term was tested using linear regression. Social presence was regressed on rater type, media type, and the interaction term of RaterxMedia, controlling for prior perceptions of AVIs. The interaction term was not significant ( $B = 0.18, p=.16$ ). Therefore, Hypothesis 3 was not supported, and the interaction term was removed from the path analysis model.

## Model Fit

The overall model fit was poor (represented in Table 2: Model 1). Modification indices were examined, and of those proposed, there were two that made theoretical sense. The first modification index suggested adding a link from motivation to organizational attractiveness. This path has received support in the applicant reaction literature. In particular, a significant positive relationship was found between motivation and organizational attractiveness in Hausknecht et al., 2004's meta-analysis ( $r = .45$ ). Others have suggested that an increase or decrease in motivation can cause similar affective feelings that further impact attraction to the organization (McCarthy et al., 2017). Thus, theoretically, it may be possible that the positive association between social presence and motivation may be further linked to organizational attractiveness. For this reason, this modification was accepted, and a path was added from motivation to organizational attractiveness. Although model fit significantly improved with this modification, model fit was still below acceptable (see Table 2: Model 2). Therefore, the second modification was examined.

The second modification index suggested a residual covariance link between fairness perceptions and motivation. This modification indicates that there is some unexplained variance that exists between motivation and fairness perceptions that is not currently being accounted for in the present model. Given the proposed proximal location of these applicant reactions together in applicant reaction frameworks and past findings, it seems logical that this may be the case. For instance, Hausknecht et al. (2004) found that test motivation positively correlated with procedural justice ( $r = .14$ ) and distributive justice ( $r = .36$ ) in their meta-analysis. Additionally, applicant reaction frameworks often posit that there are several characteristics of the selection test, organization, or individual differences that may play a role in impacting applicant reactions (McCarthy et al., 2017). Therefore, there may be unexplained variance in the current model that is

associated with these variables outside of the current manipulations. Some warn that if the residuals are actually correlated with each other and they are constrained to zero, the model may be misspecified (Preacher & Hayes, 2008). An observation of the residual covariance matrix shows that fairness perceptions and motivation have a covariance residual of .144. Therefore, the second modification was allowed (see Table 2: Model 3).

Model 3 acted as the final model and was used for further interpretation. Overall, the new model showed significant improvements in model fit. However, the fit indices are still borderline acceptable. For example, the current model's fit indices are as follows,  $\chi^2_{(12)} = 31.16$ ,  $p = .002$ , RMSEA = .10 with 90% CI = .06 to .15, SRMR = .07, TLI = .93, and CFI = .85. Based on the specified cutoff criteria, the current model shows that the chi-square value, CFI, and RMSEA near/border acceptable fit, with TLI and SRMR indicating good model fit. Taking this in sum, the model indicates an acceptable/borderline fit, and therefore, the parameter estimates will be evaluated to further examine the individual paths of the model. The direct effects of the final model can be seen in Figure 2, regression weights for the final model are in Table 3, and indirect effects are presented in Table 4.

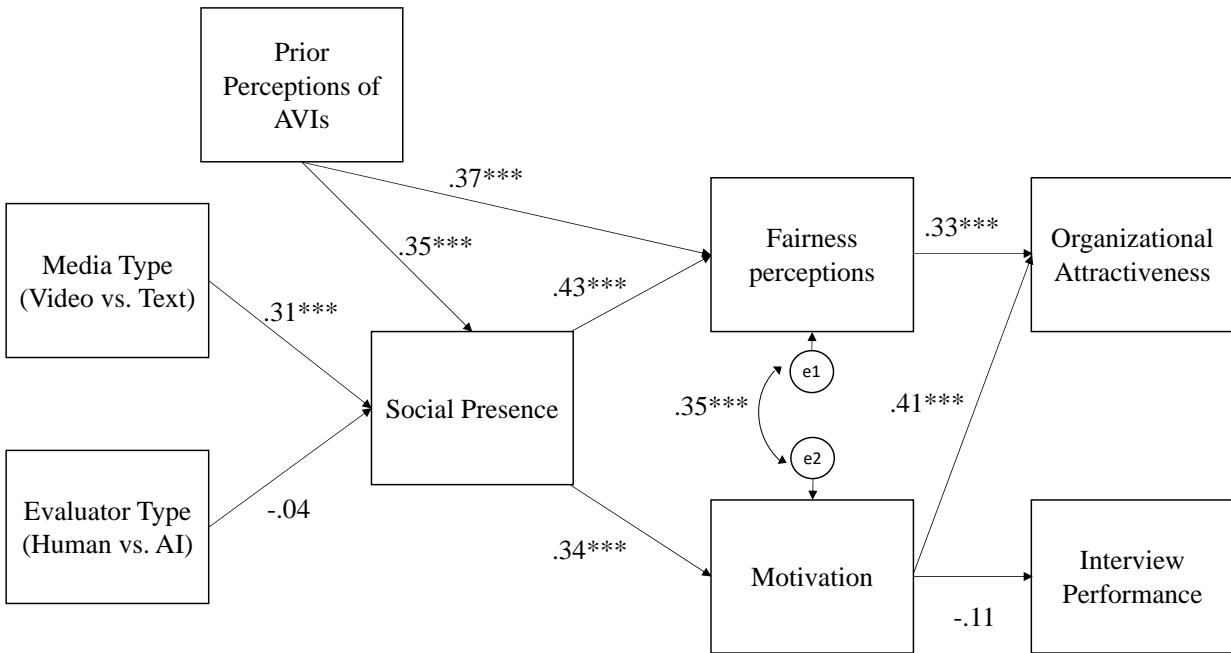


Figure 2. Final Model, controlling for prior perceptions of AVIs  
 Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (std. all: standard normalized parameter estimate).

### Hypothesis Testing

The first hypothesis proposed that participants who received their interview questions and introduction via a pre-recorded video would report higher levels of social presence than those who received this information via text. A significant and positive relationship was observed from media type to social presence ( $B = 0.31$ ,  $p < .001$ ), indicating that those in the video condition reported higher levels of social presence, thus supporting Hypothesis 1.

The second hypothesis focused on how feelings of social presence may vary based on who was rating one’s interview. In particular, it was proposed that participants who were told their interview would be rated by a human would report higher levels of social presence than those who were told their interview would be rated by AI. This relationship was not supported ( $B = -0.04$ ,  $p = .63$ ).

The third hypothesis was again tested in preliminary analyses, and the interaction between the two IVs was found to be non-significant, thus, the interaction between media type and rater type on social presence was not supported.

Hypothesis 4a, 4b, and 4c focused on the relationships from the interview conditions to organizational attractiveness through social presence and fairness perceptions. Hypothesis 4a proposed that social presence would have a positive relationship with fairness perceptions, this hypothesis was supported ( $B = 0.43$ ,  $p < .001$ ). Hypothesis 4b proposed that fairness perceptions would have a positive relationship with organizational attractiveness. This hypothesis was also supported ( $B = 0.33$ ,  $p < .001$ ). Lastly, Hypothesis 4c proposed that the interview conditions of video (rather than text) and human (rather than AI) would be positively related to organizational attractiveness through a serial mediation of social presence and fairness perceptions. This hypothesis was partially supported as the serial mediation effect of the media condition on organizational attractiveness via social presence and fairness perceptions was significant, 95% CI [0.02, 0.13], but the serial mediation effect of the rater condition on organizational attractiveness via social presence and fairness perceptions was not significant, 95% CI [-0.04, 0.03].

Hypothesis 5a, 5b, and 5c proposed relationships between the interview conditions and interview scores via social presence and motivation. Hypothesis 5a was supported, such that social presence was positively related to motivation levels ( $B = 0.34$ ,  $p < .001$ ). Hypothesis 5b proposed that motivation would be positively related to interview scores. This hypothesis was not supported ( $B = -0.11$ ,  $p = .22$ ). Finally, Hypothesis 5c proposed that the interview conditions of video (rather than text) and human (rather than AI) would be positively related to interview scores through a serial mediation of social presence and motivation. This hypothesis was not supported as the serial mediation effect of the media condition on interview scores via social presence and motivation

was not significant, 95% CI [-0.05, 0.02], and the serial mediation effect of the rater condition on interview scores via social presence and motivation was also not significant, 95% CI [-0.01, 0.01].

Although not originally proposed, in line with prior research and the modification indices, there was an additional path in the model that can be observed. In particular, we can assess the relationship between the interview conditions and organizational attractiveness through social presence and *motivation*. As was seen in Hypothesis 4, a significant positive relationship exists between social presence and motivation. A significant relationship was further found between motivation and organizational attractiveness ( $B = 0.41, p < .001$ ). Lastly, we can see that the serial mediation effect of media type on organizational attractiveness via social presence and motivation was significant, 95% CI [0.02, 0.12]. However, the serial mediation effect of rater type on organizational attractiveness via social presence and motivation is not significant, 95% CI [-0.04, 0.03], Lastly, prior perceptions of AVIs acted as a control variable in the path model, with significant paths to social presence ( $B = 0.35, p < .001$ ) and fairness perceptions ( $B = 0.37, p < .001$ ).

## Discussion

The usage of AVIs in organizations' hiring processes is on the rise (Dunlop et al., 2022). Therefore, it is imperative that researchers keep pace with the rapid adoption of these new tools and aid in the examination of their unique consequences. Scholars have advocated for the examination of these tools using theoretical frameworks and moving beyond equivalence studies, which focus on comparing standard/traditional selection procedures to technology-based formats of these methods (Morelli et al., 2017). Rather, these tools, such as AVIs, should be considered “a technique in their own right, rather than as an alternative for conventional interviews.” (Woods et al., 2020, pg. 73). The current study answers these calls by leveraging Social Presence Theory and

applicant reaction frameworks to examine how specific features of AVIs may improve outcomes, while still allowing for the benefits unique to an asynchronous environment. Through the partnership with an AVI vendor, a 2x2 experimental design was implemented to test the proposed hypotheses.

Overall, the current study found that presenting introductory information and interview questions via a pre-recorded video of an organizational representative significantly increased feelings of social presence in AVIs. This indicates that a feature offered by many AVI vendors should be strongly considered when designing and implementing AVIs. Further, it was found that media type was related to organizational attractiveness via a serial mediation of social presence and fairness perceptions, as well as social presence and motivation. Thus, by facilitating feelings of social presence via video media, participants in the current study viewed the procedure as more fair and were more highly motivated, which was ultimately associated with increased levels of organizational attractiveness. Organizations should pay particular attention to this attitudinal outcome which has been linked to subsequent attitudinal and intentional behaviors (Highhouse et al., 2003).

Counter to the proposed hypotheses, rater type was not found to predict social presence. Thus, regardless of whom participants were told would rate their interview, a human resource professional or artificial intelligence, it did not seem to impact levels of social presence. Past studies have supported the notion that individuals prefer to have a human involved in high-stakes workplace decisions, such as selection, out of fear of being reduced to mere numbers and AI's inability to identify unique contextual factors (Newman et al. 2020; Mirowska & Mesnet, 2021). However, in the current study, the method through which rater type impacted outcomes, such as fairness perceptions, was not through feelings of social presence. This is not to say that rater type

may not play a role in impacting applicant reactions and outcomes, as support has been given for these relationships in past studies (Langer et al., 2019a; Mirowska, 2020), but the role of social presence in these relationships was not supported in the present study. Alternatively, perhaps participants did not view the usage of AI ratings in a negative manner. For example, Suen et al. (2019) found no difference in applicants' fairness perceptions when told their AVI would be rated by a human vs. AI, indicating that perhaps participants view AI to be as trustworthy as humans.

Also, counter to the proposed hypotheses, interview scores did not vary as a result of increased motivation. Although social presence was positively associated with motivation, these higher levels of motivation were not associated with higher interview scores. Two past meta-analyses have found positive relationships between motivation and selection performance scores. Truxillo et al. (2009) found a positive relationship between motivation and scores on cognitive ability tests, and Hausknecht et al. (2004) found a positive relationship between test motivation and both self-reported and actual procedure performance. In the latter meta-analysis, applicant reactions were captured from studies using a variety of selection procedures. The authors reported that of those utilized, 46.0% were reacting to cognitive ability tests, 19.5% to personality tests, and only 12.6% to interviews. Therefore, it appears that the stronger link for motivation may be more applicable to cognitive ability tests rather than to interviews.

To further expand on this issue, it may be useful to note that researchers have found incremental validity for structured interviews above and beyond that of cognitive ability tests (Cortina et al., 2000). While situational interviews are positively correlated with cognitive ability, behavioral interviews are more strongly correlated with past experiences than cognitive ability (Day & Carroll, 2003). The reason for pointing out these findings is that perhaps increased levels of motivation can help applicants perform well on written tests, but perhaps regardless of

motivation levels, one's ability to recall past experiences is not linked to their motivation in the interview. Therefore, someone may be able to recall a past situation with lower effort than is necessary to perform well on a cognitive ability test.

### **Theoretical Implications**

The current study presents several theoretical contributions to the literature. First, media type as a unique feature of AVIs has yet to be studied in the selection literature. These findings add support to social presence theory and prior technology research, which indicate that modality can greatly impact feelings of social presence (Oh et al., 2018). These results are also in line with media richness theory (Daft & Lengel, 1986), which states that variations in outcomes occur as a result of *rich* media (e.g., video) vs. *lean* media (e.g., text). Recalling Basch et al.'s (2020) findings, the researchers found that participants rated perceptions of social presence highest in FTF interviews, followed by VC, then by AVIs. Given the apparent social presence-modality continuum that exists, this may be a way for organizations to add personalization and connectedness back into the asynchronous environment. Thus, even though applicants take the interviews at a time and location separate from that of the interviewer, they are still able to put a face to the name and may feel a stronger connection with the organizational representative.

Further, Lukacik et al. (2022) proposed that media quality may act as a moderator of video media and social presence, noting that higher quality media may be needed to reap the benefits of this feature which may ultimately be costly to organizations. In particular, the authors propose, "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." (Lukacik et al., 2022, p. 7). The current study helps gain clarity on this proposition. The recorded video in the

current study was done on a plain background and standard computer recording equipment, largely resembling that of an HR recruiter or hiring manager who would be conducting a videoconference interview from their work-from-home or office space. It may be argued that the authenticity of such a video may increase feelings of social presence, further from that of a well-produced video of an organizational executive. Although it may be useful to have a high-quality video as an introduction to showcase the company's culture, for the purpose of increasing social presence, including an HR recruiter or hiring manager in the video appears to produce feelings of genuineness that are impactful enough to lead to positive applicant outcomes.

A second contribution of the current study is gaining further clarification on the relationship between social presence and applicant reactions in AVIs. Participants in the current study who reported higher levels of social presence also reported perceiving the AVI process as fairer. This link has received support from past technology-mediated interview studies as well (Langer et al., 2019a; Basch et al., 2020; Basch et al., 2021a), however the current study differs in a few ways. All three of the aforementioned studies focused on comparing how social presence differed *between* interview modalities (Langer et al. 2019a compared VC and a highly automated interview<sup>1</sup>; Basch et al., 2020 compared FTF, VC, and AVI; Basch et al., 2021a compared FTF and VC). The current study took a step forward by examining how features *within* AVIs may increase social presence and subsequent outcomes; following calls by researchers to move beyond equivalency studies (Morelli et al., 2017) and to examine how variations in AVI features may impact interview outcomes (Lukacik et al., 2022).

Further, apart from Basch et al., 2021a, who did not examine AVIs, the other two studies asked participants to either read details about the interview modalities (Basch et al., 2020) or watch

<sup>1</sup>The highly automated interview utilized in Langer et al. (2019a) & Langer et al. (2020a) did not reflect the environment of an AVI as defined in the current study. Rather, the video of the highly automated interview in their studies showed an applicant (heard only through voice) talking to a virtual character who acted as an interviewer and the system responding to the verbal responses of the applicant.

participants complete an AVI through an established AVI vendor, thus further strengthening and generalizing the results of the current study, beyond that of past AVI studies. Thus, although it is still unknown whether including video media may increase social presence enough to be directly comparable to social presence in VC interviews, the current study does see improvements in social presence and fairness perceptions above and beyond text media, which is often the baseline in AVI studies. If organizations hope to generate perceptions of their selection procedures as fair, increasing perceptions of social presence through video media may be one method for doing so.

Not only was increased social presence positively associated with fairness perceptions, but it was also positively associated with applicant motivation. Researchers in the education field have examined the relationship between social presence and motivation (e.g., Robb & Sutton, 2014; Swan & Shih, 2005), however this is the first identified study to examine this relationship within AVIs. Therefore, the current study's findings support the notion that it may be demotivating for individuals to go through an entire interview process without ever interacting with an organizational representative. Including a video of an organizational representative may help the applicant take the process more seriously and maintain levels of motivation common in selection settings through increased feelings of social presence.

Lastly, this study contributes to the literature by uncovering the serial pathways through which media type impacts organizational attractiveness. To the best of our knowledge, this is the first study to identify the link between social presence and organizational attractiveness via both fairness perceptions and motivation within AVIs. Again, prior studies on interview modalities have found positive links between social presence and fairness perceptions (Basch et al., 2020; Langer 2019a; Basch et al., 2021a) and even between social presence and organizational attractiveness (Langer et al., 2019a; Langer 2020a). However, no studies were identified that indirectly linked

social presence to organizational attractiveness via means of increased fairness perceptions or increased motivation. Thus, the findings in the current study add meaningful support to the question of why social presence may be important in AVIs.

In sum, the current study contributes to the literature in three ways. First, it examined the effect of video media in AVIs. Second, it clarified the relationships between social presence and applicant reactions, and third, it uncovered the serial pathway through which organizational attractiveness is impacted in AVIs. If individuals go through the AVI process and put time and effort forth but do not feel that time and energy are being reciprocated by organizations, they may have negative applicant reactions. These negative reactions may further impact their perceptions of organizational attractiveness. Thus, a buffer for these negative organizational attitudes appears to be the inclusion of an organizational representative, which may increase perceptions of social presence and positive applicant reactions.

### **Practical Implications**

The results of the current study have several practical implications. First, the inclusion of introductory and interview question videos could be a key force in improving applicant experiences within AVIs, yet they may be one of the most underutilized features. A large-scale archival review of an AVI vendor's data indicated that of the 12,105 interview templates created, only 18.9% utilized a video-based introduction. Even more alarming, only 4.4% of the 57,475 interview questions reviewed were presented via video (Dunlop et al., 2022). Having hiring managers or human resource recruiters take time to record an introduction video or themselves reading the interview questions is a very simple yet plausible way to increase connectedness with applicants and for organizations to show they truly care about the candidate experience. Given the results of the current study, this small change in AVI implementation could significantly improve

applicants' experience with AVIs. Taking time to record these videos should not require more resources than conducting a single VC interview. The videos in the current study were done on standard computer equipment and did not require advanced technological skills. Therefore, organizations that are currently implementing AVIs in their selection procedures should strongly consider the usage of video media when creating their AVI introductions and questions.

Additionally, when implementing AVIs, organizations may want to be cognizant of the seemingly isolated environment that asynchronous procedures can introduce for applicants. Attempts made to decrease this isolation may have long-term positive benefits for both applicants and organizations. In particular, the current study found that if organizations can increase feelings of social presence in AVIs, applicants may feel that the procedure is fairer and have higher motivation levels, both of which may positively impact applicants' attraction to the organization. Given the increase in information sharing on both anonymous and social media websites, organizations may want to pay particular attention to the resulting perceptions applicants have of their selection procedures (David, 2016). If applicants continue to feel isolated and a lack of interpersonal connection during the interview process, they may share these feelings with others, resulting in negative organizational views. These attitudes are imperative for organizations to be attuned to, especially during the height of the "Great Resignation" (Stack, 2021).

Additionally, organizational attractiveness has been suggested to be an antecedent of other selection outcomes, such as job acceptance intentions, recommendation intentions, and organizational pursuit (Highhouse et al., 2003). Thus, organizations should pay particular attention to the downstream effects of the decisions made in their selection tools. Efforts to attract and retain top talent may be hindered if an organization's selection procedure is considered cold and impersonal. Taking time to add personalization into AVIs, can help candidates feel a sense of

connectedness while still reaping the benefits of the asynchronous environment. Given that AVIs are often implemented early in the selection process, these interviews may shape candidates' first impressions of the organization. By including videos of an organizational insider, applicants may feel less alone and thus have more favorable perceptions of the organization.

Finally, the current study found that participants who experienced different AVI features had differences in outcomes. Thus, when designing AVIs, organizations should take heed to present all applicants with the same interview formatting. Variations in features, such as presenting some applicants with video media, or varying the amount of time allowed to prepare responses (Basch et al., 2021b), could alter applicant outcomes. Although the current study found no indirect effect of these features on interview scores, if future studies found that interview scores were impacted by variations in AVI features, legal implications could occur for organizations choosing not to present all applicants with the same formatting. Thus, organizations should remain cautious of the variations in outcomes that may occur as a result of altering these unique design features.

### **Limitations and Future Directions**

Although this study contributes to the AVI literature, it is not without its potential limitations. First, the hypothetical nature of the selection context may decrease the generalizability and introduce underlying problems in the study design. Participants were asked to imagine they were applying for their dream job and to take time to prepare for an interview. The rater information was then presented in a mock email *before* the interview. Perhaps due to the hypothetical nature of the study, participants were not ultimately concerned with the outcome of the interview, and therefore the role of the rater type in this scenario may not have had as large of an impact on applicants' perceptions and outcomes. This also may explain the null finding of the interaction term. The proposition was that the relationship between the video condition and social

presence would be further strengthened by including a human in the rating process as well, as this may help individuals feel less alone in the AVI process both *during* and *after* the interview. However, there was no driving force for participants in the current study to be concerned with the long-term consequences. Further, the hypothetical nature of the study may have impacted the level of effort put forth by participants, ultimately impacting interview scores.

Second, the variables in this study were collected cross-sectionally, and therefore causal relationships cannot be determined. Although designed and driven by theory, that does not eliminate the cross-sectional nature of the study design. Caution should be taken when interpreting the results from the current model. Finally, the sample size was relatively modest for the complexity of the current model. Some researchers suggest having 10-20 participants per estimated parameter (Schreiber et al., 2006; Kline, 2015). With too small of a sample size, parameter and standard error estimates may be unstable. However, post hoc power analyses revealed that the observed power in the current model was sufficient.

Future research should look to clarify if the addition of video media can improve social presence to a level similar to videoconference interviews. Although two studies have examined the role of social presence in VC vs. highly automated interviews (Langer 2019a; Langer et al., 2020a), these studies used a unique interview approach, such that the highly automated interview occurred in a virtual environment in which participants watched an avatar present questions. This highly automated format also blends AI features and is very different from that of pre-recorded videos of a real person, thus making it difficult to parse apart individual interview features. Thus, although it is encouraged to move beyond equivalency studies, if questions arise that would be best examined by comparing interview modalities, researchers should look to include video media, as this appears to represent a superior version of AVIs.

Future research should look to replicate these findings with an established company. The human resource recruiter in this study was fictitious. Therefore, the extent to which participants felt they were truly in a selection process is unclear. Fairness perceptions, motivation, or organizational attractiveness could all vary due to preconceived notions of the brand or personnel in those organizations. Researchers should be conscientious of this potential confounding variable when examining applicant reactions.

Additionally, future researchers should continue to explore what may impact both motivation and fairness perceptions. The large shared unexplained variance between these two variables in the present study indicates that an important outside variable may have been missing in the current study. Researchers have noted that various features of the selection tool, organization, or individual differences may act as antecedents to applicant reactions. Although demographic variables were examined and no differences were found, perhaps variations in personality or other individual differences may play a role.

Finally, future research should continue to explore and build upon the unique features of AVIs. The current study built upon past research by allowing participants to prepare their response for one minute, the preparation time shown by Basch et al. (2021b) to lead to the most favorable outcomes. Although preparation time, rater type, and now media type has been explored, there are many other features that organizations can choose from when designing AVIs. For example, features related to response design, such as the amount of time allowed to record responses, whether applicants can preview their response, or whether applicants can re-record responses, have yet to be examined and may also play an important role in applicant outcomes. Thus, researchers should continue examining how to further improve AVIs in the same way that researchers have continually built upon and strengthened more traditional selection tools.

## **Conclusion**

Asynchronous video interviews can provide unique benefits to organizations and applicants alike. However, the isolated environment in which these interviews occur may leave applicants feeling as though the interview process is cold and impersonal. The current study found that organizations may reduce these feelings by creating feelings of social presence via video media, which may further increase fairness perceptions, applicant motivation, and organizational attractiveness. Through the partnership with an industry leader in AVI technology, the current study provides both theoretical and practical implications for multidisciplinary fields. Adding an organizational representative back into the AVI process may help organizations harness novel technology to create a positive candidate experience for the attraction, hiring, and retaining of top talent.

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Table 1.  
Means, Standard Deviations, and Correlations among Study Variables

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1.	Rater	.50	.50	-								
2.	Media	.47	.50	-.02	-							
3.	MediaXRater	.23	.42	.55**	.58**	-						
4.	Social Presence	2.98	.80	.09	.32**	.32**	-					
5.	Fairness Perceptions	3.77	.98	.27**	.08	.24**	.56**	-				
6.	Motivation	4.44	.61	.23**	.01	.21**	.39**	.50**	-			
7.	Org. Attractiveness	3.85	.80	.18*	-.06	.07	.46**	.57**	.59**	-		
8.	Interview Score	3.07	.76	.14	.11	.13	-.14	-.12	-.09	-.17*	-	
9.	Prior AVI Perceptions	3.21	.96	.37**	.02	.28**	.35**	.52**	.25**	.33**	0.04	-

Note: N = 151. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Media was coded 0 = Text, 1 = Video; Rater was coded 0 = AI; 1 = HR;

Table 2.  
Statistical parameters of structural models.

	Chi-square	Df	p-value	RMSEA	90% RMSEA CI		SRMR	TLI	CFI
					Lower	Upper			
Model 1	82.76	14	<.001	0.18	0.14	0.22	0.11	0.52	0.76
Model 2	51.28	13	<.001	0.14	0.10	0.18	0.08	0.71	0.87
Model 3	31.16	12	.00	0.10	0.06	0.15	0.07	0.85	0.93

*Note.* Model 1 indicates the baseline model with no interaction term and controlling for prior AVI perceptions. Model 2 indicates the implementation of the first modification indices. Model 3 represents the final model with both modification indices implemented.

Table 3.  
Path coefficients for direct effects

Dependent Variable	Predictors	<i>Coefficient</i>	<i>B</i>	SE	<i>p</i> value
Social Presence					
	Media	.49	.31	.11	<.001
	Rater	-.06	-.04	.12	.63
	Prior AVI Perceptions	.29	.35	.06	<.001
Fairness Perceptions					
	Social Presence	.54	.43	.09	<.001
	Prior AVI Perceptions	.38	.37	.07	<.001
Motivation					
	Social Presence	.26	.34	.07	<.001
	Prior AVI Perceptions	.08	.13	.05	.10
Org. Attractiveness					
	Fairness Perceptions	.27	.33	.07	<.001
	Motivation	.54	.41	.10	<.001
	Prior AVI Perceptions	.05	.06	.05	.35
Interview Score					
	Motivation	-.14	-.11	.11	.22
	Prior AVI Perceptions	.05	.06	.08	.51

*N* = 151. Media was coded 0 = Text, 1 = Video; Rater was coded 0 = AI; 1 = HR;  
*Coefficient* indicates unstandardized coefficient

Table 4  
Results for the indirect effects

Mediation or Serial Mediation	<i>Coefficient</i>	<i>B</i>	<i>SE</i>	<i>p</i> value	<i>Lower CI</i>	<i>Upper CI</i>
Social Presence → Fairness Perceptions → Org. Attractiveness	.14	.14	.05	.00	.05	.24
Media → Social Presence → Fairness Perceptions → Org. Attractiveness	.07	.05	.03	.01	.02	.13
Rater → Social Presence → Fairness Perceptions → Org. Attractiveness	-.01	-.01	.02	.64	-.04	.03
Social Presence → Motivation → Interview Score	-.04	-.04	.03	.27	-.10	.03
Media → Social Presence → Motivation → Interview Score	-.02	-.01	.02	.28	-.05	.02
Rater → Social Presence → Motivation → Interview Score	.00	.00	.01	.75	-.01	.01
Social Presence → Motivation → Org. Attractiveness	.14	.14	.04	.00	.05	.23
Media → Social Presence → Motivation → Org. Attractiveness	.07	.04	.03	.01	.02	.12
Rater → Social Presence → Motivation → Org. Attractiveness	-.01	-.01	.02	.66	-.04	.03

*N* = 151. Media was coded 0 = Text, 1 = Video; Rater was coded 0 = AI; 1 = HR;  
*Coefficient* indicates unstandardized coefficient

## Appendix A

### **Prolific Study Information:**

*Study Title:* Asynchronous Video Interview

*Participation Requirements:* The goal of this study is to examine asynchronous video interview technology. As a participant in this study, you will be asked to take an asynchronous video interview (sometimes called a one-way video interview) consisting of three interview questions. The interview questions will be in a behavioral interview format, asking about prior work or school experiences. You will be required to record yourself via video webcam responding to the three questions. No software downloads are necessary to complete the interview, everything will be completed through your internet browser. You will need video and audio access. In addition to the interview, you will spend time reading study materials and answering survey questions. The video interview should last no more than 10 minutes. Reading study materials and completing the follow-up survey should take no more than 20 minutes, for a total of approximately 30 minutes. Thank you for your time, and I appreciate your consideration.

### **Mock Email:**

I hope this finds you well. Thank you for your interest in *Our Company, LLC*. We would like to invite you to take a brief asynchronous video interview for the open position. The interview has three questions and will only take about 10 minutes. The questions will be behavioral style and ask about your past work experiences.

It is a good idea to take the interview in a quiet room with a good internet connection and good lighting. After you have completed the interview, a trained **[human resource professional / artificial intelligence system]** will rate your interview.

Follow the link on the next page to get started.

Let us know if you have any questions, and good luck!

Sarah Smith,  
*HR Recruiter*

*Our Company, LLC*  
123 North Street  
(123)456-7890

### **AVI Introduction (to be presented via text or video):**

Hello and welcome! My name is Sarah Smith, and I will be your recruiter for this hiring process. Thank you so much for taking time out of your schedule to participate in our asynchronous video

interview. We are so glad you are interested in a position with *Our Company, LLC*. The following video interview is an opportunity for us to learn a little bit more about you and your past work experiences. After receiving each question, you will have one minute to prepare your response. Then you will have two minutes to record your response. When you are ready, please click, “Start Interview”.

**Interview Questions**

*Interpersonal relationships/Relationship Building Competency:*

Tell me about a time when you faced a conflict with a coworker or a peer. How did you handle the situation?

BARS:

(1) Does not meet expectations	(2) Below Expectations	(3) Meets expectations	(4) Exceeds Expectations	(5) Far Exceeds Expectations
<ul style="list-style-type: none"> <li>• Intolerant of differing opinions/thoughts</li> <li>• Becomes upset during disagreements</li> <li>• Responds before listening to other’s thoughts</li> <li>• Aggressively confronts the other person OR passively accepts the situation and any difficulties associated with the problem</li> </ul>		<ul style="list-style-type: none"> <li>• Willing to listen to other’s opinions</li> <li>• Acknowledges differing viewpoints in providing a response</li> <li>• Retains a neutral or professional demeanor</li> <li>• Focuses on the work at hand</li> </ul>		<ul style="list-style-type: none"> <li>• Works to understand other’s thoughts/ opinions (asks questions)</li> <li>• Is courteous, respectful, and professional in the interaction</li> <li>• Proactively acknowledges underlying issues and attempts to resolve them</li> <li>• Is willing to compromise or work to improve the situation</li> </ul>
<p>What was the situation? What behaviors did they take? What was the outcome? Notes:</p>				
<p>_/5</p>				

*Communication Competency:*

Tell me about a time when you had to explain a complex or technical idea to a non-technical or unfamiliar audience. How did you go about doing that?

BARS:

<b>(1)</b> Does not meet expectations	<b>(2)</b> Below Expectations	<b>(3)</b> Meets expectations	<b>(4)</b> Exceeds Expectations	<b>(5)</b> Far Exceeds Expectations
<ul style="list-style-type: none"> <li>• Becomes frustrated or angry when providing explanations or answering questions</li> <li>• Belittles audience by providing explanations or answering questions in a condescending manner</li> <li>• Refuses to simplify the concept to the degree suitable for the audience</li> </ul>		<ul style="list-style-type: none"> <li>• Uses clear language and focuses on essential information but does not include analogies or examples</li> <li>• Breaks the concept down into more manageable components but does not provide notes, training, or demonstrations</li> <li>• Encourages questions but may provide overly complicated or incomplete answers</li> <li>• May simplify the idea too much</li> </ul>		<ul style="list-style-type: none"> <li>• Uses clear, simple language and avoids unnecessary terms or technical jargon</li> <li>• Uses appropriate examples (analogies, metaphors, real-life)</li> <li>• Breaks concept into smaller ideas</li> <li>• Provides notes, training, demonstrations</li> <li>• Encourages questions</li> <li>• Is patient and approachable</li> </ul>
<p>What was the situation? What behaviors did they take? What was the outcome? Notes:</p>				

  /5

*Problem-solving Competency*

Tell me about a time you solved a unique problem or challenge at work. What steps did you take?

BARS:

<b>(1)</b> Does not meet expectations	<b>(2)</b> Below Expectations	<b>(3)</b> Meets expectations	<b>(4)</b> Exceeds Expectations	<b>(5)</b> Far Exceeds Expectations
<ul style="list-style-type: none"> <li>• Fails to recognize problem in efficient time</li> <li>• Does not identify solutions to the problem</li> <li>• Does not implement any solutions</li> <li>• Looks to others to solve the problem</li> </ul>		<ul style="list-style-type: none"> <li>• Quickly and efficiently recognizes the problem</li> <li>• Identifies one or two solutions</li> <li>• Implements solution</li> <li>• Involves others at the appropriate time if necessary</li> </ul>		<ul style="list-style-type: none"> <li>• Proactively identifies a problem before it occurs</li> <li>• Brainstorms various creative solutions</li> <li>• Weighs pros and cons of proposed solutions</li> <li>• Implements solutions in an effective manner</li> </ul>
<p>What was the situation? What behaviors did they take? What was the outcome? Notes:</p>				

    /5

## Appendix B

**Social Presence.** Items adapted from Tang et al. (2013)

Please rate the following question using the scale below.

“How did you perceive the asynchronous video interview process?”

1	2	3	4	5
(a) Unsociable		Neutral		Sociable
(b) Insensitive		Neutral		Sensitive
(b) Cold		Neutral		Warm
(b) Impersonal		Neutral		Personal

**Fairness Perceptions.** Adapted from Bauer et al. (2001)

Please rate the following items on a scale from 1-5, with 1 = strongly disagree and 5 = strongly agree.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. Overall, this selection procedure was fair.
2. I think this interview process is a fair procedure to select people for a job.
3. I think the asynchronous video interview was fair.

**Motivation.** Adapted from Arvey et al. (1990)

Please rate the following items on a scale from 1-5, with 1 = strongly disagree and 5 = strongly agree.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. Doing well in the interview was important to me.
2. I wanted to do well in the interview.
3. I tried my best in the interview.
4. I tried to do the very best I could in the interview.
5. While taking the interview, I concentrated and tried to do well.
6. I wanted to be among the top scorers in the interview.
7. I pushed myself to work hard in the interview.
8. I was extremely motivated to do well in the interview.
9. I just did not care how I did in the interview.
10. I did not put much effort into this interview.

**Organizational Attractiveness.** Sub-scale from Highouse et al. (2003)

Please rate the following items on a scale from 1-5, with 1 = strongly disagree and 5 = strongly agree.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. For me, this company would be a good place to work.
2. I would not be interested in this company except as a last resort.
3. This company is attractive to me as a place for employment.
4. I am interested in learning more about this company.
5. A job at this company is very appealing to m