

New Interviewing Technologies: What do job applicants think?

By

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ABSTRACT

Recently, organizations have begun utilizing asynchronous online video interviewing platforms which combine video streaming technology with artificial intelligence to facilitate the interviewing step in their personnel selection process. As with many emerging technologies, little research exists to investigate how these platforms may be received by job applicants. The goal of this study is to examine how applicants may react to requests from organizations to complete asynchronous video interviews and the differences in perceptions of fairness, organizational attractiveness and job pursuit intentions, based on what information, if any, is provided about the decision-making agent. Participants ($n = 287$) completed a study where they were assigned a role as a recent job applicant that received an invitation to complete an interview using the organizations' online video interview platform as the next step in the selection process. Participants were then randomly assigned to one of three conditions: the first provided no information about how the selection decision would be made, the second informed them that an artificial intelligence (AI) algorithm would make the decision, and the third that a recruiter [human] would make the decision. Hypotheses stated that participants would rate the human decision maker more favorably than the AI decision maker and would rate both the human and AI decision maker conditions more favorably than the no information condition. Results indicated that perceptions of organizational attractiveness and job intentions were significantly influenced, but only for the human decision maker over the AI decision maker. Gender,

comfort level and previous experience with recording asynchronous interviews were found to have moderating effects.

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Introduction

Over the years, in the quest to attract more and better-qualified candidates, organizations have continuously integrated more and more technology into their personnel selection processes in order to remain competitive in the hiring market (Stone et al., 2013). Technology use in selection processes accelerated greatly beginning in the 1990s when the widespread use of the internet first allowed electronic job applications to pour in. While this greatly increased the volume of candidates applying, it also created a challenge for recruiters and hiring managers of how to efficiently filter through all those candidates to identify the best ones. To help with this, many organizations began integrating technology with artificial intelligence into their applicant databases to match job requirements with candidates' skills as listed on the resume (Stone et al., 2013). Today, use of artificial intelligence has spread all throughout the talent acquisition process, from job analysis, to employment tests and personality inventories, interactive voice response systems, and most recently it has extended its presence into interviewing (Liem et al., 2018). Companies like HireVue (<https://www.hirevue.com>) have begun promoting "Hiring Intelligence" platforms which combine video streaming technology, industrial organizational (I/O) psychology psychometrics, and artificial intelligence to facilitate the interviewing step.

The term "artificial intelligence" (AI) may evoke a wide spectrum of definitions based on complexity for information scientists, however, in this context as I/O Psychologists we will use the term taken from Turner's 2018 SIOP article: "The term

‘artificial intelligence’ encompasses a vast range of technologies that enable computers to solve specific problems in ways that at least superficially resemble human thinking. Behind each advanced AI technology are algorithms, or sets of step-by-step rules that determine a machine’s actions in any given situation. Using algorithms, computers process large amounts of data and recognize patterns within the data in order to complete complex tasks (SAS, 2017).”

As with any major technological advancement, organizations utilizing AI interviewing tools need to be aware that these process changes can have both advantages and disadvantages, and further research is needed to fully understand the impact to their personnel selection process (Liem et al., 2018).

The goal of this study is to examine how applicants may react to requests from organizations to complete asynchronous video interviews utilizing artificial intelligence technology as a first interview step, and the differences in those perceptions based on what information, if any, is provided about the decision-making agent. To do this we will start by examining how technology and use of artificial intelligence has evolved over the years in personnel selection. We will then provide two important theories about how technological factors may affect perceptions that will provide a framework for how we will develop our hypotheses. Next, we will take a closer look at previous research findings on how these different selection processes may influence applicant reactions, including key perceptions of their fairness and how it may influence candidates’ attraction to the organization and job pursuit intentions. Finally, we will examine how

contextual explanations that organizations provide about how the interview platform will make decisions about candidates can impact the perceptions of the applicants who are required to utilize this emerging technology.

Background and Hypotheses Development

Technology Evolution in Personnel Selection

There are a number of reasons that organizations have chosen to implement new technology over the years into their recruitment and selection processes.

Technology has been shown to greatly expand the size of the applicant pool, increase speed and efficiency, reduce costs and provide a standardized system from which to administer selection and hiring processes (Chapman & Webster, 2003).

In I/O Psychology, job analysis is the cornerstone of much of what we do in human resources. Job analysis is “the structured process of discovering the nature of a job by dividing it into smaller units, where the process results in one or more written products with the goal of describing what is done in the job or what capabilities are needed to effectively perform the job” (Morgeson et al, 2020). Originally done via a tedious paper and pen process via surveys, face-to-face interviews and phone calls, technology has made communication and gathering information in this process much more efficient. To start, instead of having to look up occupational information in the *Dictionary of Occupational Titles*, the U.S. Department of Labor now has a web-based database, O*Net online (<https://www.onetonline.org>), that provides highly detailed information including tasks, technology skills, knowledge, skills, and abilities on a wide

array of occupations. Utilizing internet and other web-based technologies, job analysts can quickly send surveys, aggregate responses, and perform statistical analysis on the data. Also, video conferencing has eliminated many of the geographic constraints that comes with meeting applicants face-to-face (Stone et al., 2013), and while used some prior to the COVID-19 pandemic, video conference interviews have now become mainstream. Artificial intelligence has taken this a step further by automating some of these processes and becoming more efficient. Although the research on the effectiveness of technology utilization is sparse, one study led by Reiter-Palmon et al. (2006) compared traditional job analysis methods with electronic job analysis methods. They found that electronic job analysis resulted in more comprehensive description of the job and could be completed in a shorter period of time than traditional methods (Reiter-Palmon et al., 2006, Stone et al., 2013).

Once a job analysis has been completed and a job description written, an organization has the necessary information to advertise the job opening and accept applications. Again, what used to be a paper process submitted by hand or via mail has evolved greatly thanks to technology. Human Resource Information Systems (HRIS), Applicant Tracking systems (ATS), and resume databases such as Careerbuilder and Indeed, have greatly increased the speed and efficiency with which resumes and applications can be generated, as well as tracked, stored and shared between members of an organization (Chapman & Webster, 2003). Although the increased size of the candidate pool has many benefits, it does not mean that the quality of candidates is

high and can require more time to screen through them. Integrating AI algorithms into HRIS, ATS and similar systems, has helped reduce time for screening, as well as, administrative tasks such as candidate communication. For example, a commonly used algorithm is key word matching between the job description and the candidate's resume/application, that can be used to determine if candidates meet the job requirements, and/or force rank those candidates so that ones with the highest degree of matching appear at the top of the candidate list for review (Stone et al., 2013).

AI has been used to further vet candidates through the utilization of digitalized psychometric testing such as general mental acuity, personality assessments, situational judgment tests, and, more recently, the quickly rising use of gamified assessments where candidates are exposed to a virtual world which may be similar to real work settings in an effort to prompt job-relevant behaviors from candidates to make predictions about potential job performance (Woods et al., 2020).

One of the most common selection tools utilized by employers is the job interview which traditionally has been conducted face-to-face with candidates. While this method is widely accepted by both hiring managers and candidates, face-to-face interviews can be time consuming for both parties. One alternative was to interview candidates via telephone which greatly expanded in late 1990s and 2000s as costs for long-distance calls dramatically decreased at the same time as more workforce candidates began carrying mobile phones allowing employers to more easily connect with candidates throughout the day. As phone screening became more common,

artificial intelligence was incorporated and interactive voice response (IVR) interviews provided organizations a way to collect basic information about candidates by asking them a series of simple yes or no type questions and having the candidate “respond” to each by hitting a number on the phone key pad. Based on how the candidates responded to the questions, the IVR interview is then able to screen candidates in or out for the position (Stone et al., 2013).

Just as the increased mobile phone usage led to increased use of phone and IVR screening by organizations, the increased presence of more advanced home computers with better audio and video technology, combined with wide-spread internet access and greater broadband speeds, changed how business was done. The newer technologies allowed hiring managers and candidates to use videoconference technology for interviews, increasing scheduling flexibility while also reducing time and costs for travel, particularly for candidates who are not in the immediate area where the job is located. Although there was not an artificial intelligence decision making component in these videoconference interviews, it did not take long for AI to be incorporated with these audio and video capabilities to progress to the types of asynchronous video interviews we are starting to see organizations utilize today (Liem et al., 2018; Stone et al., 2013; Woods et al., 2020).

Technical Acceptance Model

As the use of technology and personal computers became more common in the workplace during the 1980s, I/O Psychologists began to question what factors influence

their usage (Davis, 1989). One of the difficulties in initially trying to answer this question was the lack of a theoretical framework and valid measures with which to conduct studies. In 1989, Davis proposed a theoretical Technology Acceptance Model which hypothesized that the two most important factors were what he coined “perceived usefulness” and “perceived ease of use”. Davis defined perceived usefulness as “the extent they [the user] believe it will help them perform their job better.” While perceived ease of use refers to “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989).

To test his theory, Davis created scales for each variable, and tested for reliability and validity. The result was the development of scales with significant correlation to technology usage. The final scale for perceived usefulness ($r = .85$) had six items capturing perceptions of the ability to work more quickly, job performance, increase in productivity, effectiveness, makes the job easier, and is useful. The second scale for perceived ease of use did not have as strong of a relationship ($r = .59$), but was still significant with six items assessing whether the technology was easy to learn, controllable, clear and understandable, flexible, easy to become skillful, and easy to use (Davis, 1989). A key piece that was noted in his theory was the relationship between the two variables themselves. While ease of use is an important factor, it is secondary to how useful the system is perceived to be. When perceived usefulness is controlled for, the relationship between perceived ease of use and technology usage becomes insignificant (Davis, 1989). In other words, perceived ease of use is an antecedent to

perceived usefulness, as ease of use is relative to whether the benefits using the system provides are outweighed by how much effort it requires.

Over the years, multiple follow-up studies have been conducted and the model refined to better demonstrate the nature of the relationship between perceived ease of use and perceived usefulness (Venkatesh et al., 2003; Venkatesh & Davis, 2000). A 2005 meta-analysis based on 26 studies continued to support the significant relationship between perceived usefulness and technology acceptance, as well as the antecedent relationship between usefulness and ease of use (Ma & Liu, 2011).

Media Framework for Personnel Selection

When examining the effects of different interviewing formats in the personnel selection process, it is important to realize that with broad categories of interview types such as face-to-face, phone, IVR, videoconferencing, there could be as much variation within categories as between categories. In other words, not all face-to-face interviews are equal. For example, research has shown significant differences in outcome variables for structured interviews versus unstructured interviews (Gatewood et al., 2018). There are a number of studies that compare outcomes between different media formats, but it is like comparing apples to oranges. Recognizing this, in 2008, Potosky laid out a framework of the attributes of the different interview formats that are consistent across all categories. She proposes examining all interviews as a communication process involving four key attributes during the administration of that interview: transparency, social bandwidth, interactivity and surveillance (Potosky, 2008).

She defines transparency as “the extent to which the medium facilitates a clear or unobstructed communication exchange” (Potosky, 2008, p.634). The same media can have a wide variety of transparency. For example, if a candidate is having broadband issues while completing a videoconference interview causing lag times in communication will be assessed as having low transparency.

The concept of social bandwidth builds off the ideas of Barry and Fulmer (2004) who describe social bandwidth as a concept that “captures aspects of the use of communication media related to the presence and transmission of social information” (Potosky, 2008, p.636). Whereas transparency is focused on whether the media used for the interview distracts the participants from communicating, social bandwidth examines the number of social cues that a format enables. For example, in a face-to-face interview, the interviewer and interviewee are receiving verbal, nonverbal and paralinguistic cues. Whereas via phone, the latter two are lost and the communication process is limited to verbal cues.

Interactivity “refers to the pace of mutual or reciprocal exchange (i.e., turn taking) between communicating parties” (Potosky, 2008, p.636). Another way to say it is how quickly is information and feedback being passed back and forth between two people. The last attribute, surveillance, “refers to the extent to which an outside party could monitor or intercept the information being exchange by that interview format” (Potosky, 2008, p.637).

Potosky's framework is important for consideration in this study because it provides us attributes about the interview exchange that are not based solely on the media format of the interview. First, it is important to remember that applicant reaction outcomes are not influenced only by the format of the interview. There are number of confounding variables which can affect these attributes and skew the perception of the format itself. Second, if a specific format lacks in one of these areas, the organization can look for other means to provide those attributes. For example, with asynchronous AI interviews, the interviewee is typically recording their responses via phone or video and submitting them to the company, meaning interactivity will be lower than live interview methods as the candidate will not have opportunity to ask any questions. Knowing this, at the end of the interview the organization might decide to include a page displaying to the candidate a list of frequently asked questions and the answers, such as feedback on what the next step in the process will be. The goal is that by examining how all these factors can affect applicants' perceptions of the technologies being used in the selection process, we can help organizations identify potential solutions that will have better acceptance by applicants.

Applicant Reactions

When examining selection processes, much research has been devoted to examining applicants' perceptions of fairness and the relationship with outcomes such as organizational attractiveness and job pursuit intentions. Fairness is a broad term, but in I/O psychology it is usually examined through the lens of Gilliland's model based on

organizational justice theories. Gilliland's (1993) model of applicants' reactions to selection systems builds on earlier theories such as Adams' (1965) Equity theory which states that people are motivated to achieve a condition of fairness or equity in their dealings with other people and with organizations. Leventhal (1980) took Adams' ideas a step further with the perspective that procedural justice is a function of the extent to which a number of procedural rules are satisfied or violated. Gilliland built upon these ideas creating a model which lists ten procedural justice rules and three distributive justice rules. Procedural justice is focused on the fairness of procedures that are used to divide valued organizational outcomes. For example, conditions such as test type, human resource policies and practices, or recruiting personnel influence applicants' perceptions of the procedural justice of the selection system, which in turn affect the overall evaluation of the selection system. While procedural justice is focused on the selection process itself, distributive justice looks at fairness in terms of the distribution of outcomes among people. For example, the hiring decision, salience of discrimination or applicants' special needs contribute to the evaluation of test outcome and the fairness of that hiring decision. Both are moderators for each other in the process relationship for outcomes such as job application decisions, test taking motivation, whether one would recommend the company and its products, and future job-search intentions (Gilliland, 1993).

In 2001, Bauer et al., developed a measure, the Selection Procedural Justice Scale (SPJS), which they used to demonstrate how the different justice rules established

earlier by Leventhal and Gilliland fit into specific justice categories how these correspond to dimensions such as job-relatedness, chance to perform, two-way communication, and consistency of administration (see Appendix B for full scale). When one reviews the SPJS dimensions, it is easy to see how the procedural justice rules can be tied in with aspects of the Technical Acceptance Model and Media Framework for Personnel Selection models.

Numerous studies have established the relationship between perceived fairness and applicants' affective reactions to the selection process (e.g., Bauer et al., 1998; Macan et al., 1994; Truxillo, Bauer & Sanchez, 2001). These studies have been further supported via meta-analysis (Hausknecht et al., 2004). Fairness perceptions have been further linked to perceptions of organizational attractiveness (Bauer et al., 2001; Cunningham-Snell, Anderson & Fletcher, 1999; Macan et al., 1994) and again supported via Hausknecht's (2004) meta-analysis. These fairness perceptions have the ability to influence candidate's test taking motivation and willingness to recommend the organization to others (Hausknecht et al., 2004), as well as, pursuit intentions (Konradt, Warszta & Ellwart, 2013), withdrawal decisions (Schmitt & Ryan, 1997), litigation intentions (Bauer et al., 2001), and even whether or not candidates intend to accept the job offer (Hausknecht et al., 2004; Macan et al., 1994). A relationship between fairness and organizational commitment and job satisfaction was established in studies by Bauer et al. (2001) as well as Otting and Maier (2018), however, the study by Cunningham-Snell, Anderson & Fletcher (1999) did not find this same relationship to be significant.

The Otting and Maier (2018) study also found a relationship between the procedural justice perceptions and later work outcomes for cooperation and organizational citizenship behaviors.

Similar to Bauer et al. developing the SPJS, in 2003, Highhouse, Lievens and Sinar, examined earlier theories on organizational attractiveness (e.g., Fisher et al., 1979; Highhouse et al., 1998; Ployhart & Ryan, 1998) and identified three key dimensions and developed an Organizational Attractiveness Scale (OAS) to measure dimensions of general company attractiveness, pursuit intentions toward the company, and company prestige (see Appendix A for full scale). Both of these scales have been used in numerous follow-up studies to examine how various selection instruments and specific components of those instruments impact applicant's affective reactions as to the fairness of the selection instruments and process, as well as organizational outcomes such as organizational commitment, job pursuit and recommendation intentions, litigation intentions, etc.

As mentioned earlier, many of the procedural justice dimensions align with components of the media framework model, such as applicants who perceived they had an opportunity to perform during the selection process led to better affective reactions (Bauer et al., 1998). Similarly, a study by Konradt, Warszta, and Ellwart (2013) has supported relationships between fairness perceptions and opportunity to perform, propriety of questions, treatment during the selection process, and reconsideration opportunity. A study Brenner et al. (2016) established associations between applicants'

reactions and both the perceived usefulness and perceived ease of use of the selection system.

AI vs Human Decision Maker

Using interviews is one of the most commonly accepted screening and selection tools available to organizations. Historically, interviews have been conducted by a human of the organization representative (or multiple representatives) – such as a recruiter or hiring manager – and the applicant. Interactive voice response (IVR) systems did utilize artificial intelligence to screen candidates, but the algorithms behind it were highly simplified yes or no style decision trees, usually tied into published aspects of the job posting confirming minimum criteria such as whether the person meets the education requirement, or other basic requirements such as being able to work a specific schedule (Stone et al., 2013). At the end the system would make a decision whether or not to continue a candidate in the selection process. Although candidates may not have preferred this method compared with speaking to an organizational representative, the AI being used by IVR systems did not raise anywhere near the level of scrutiny that the new AI-enabled interviewing platforms are currently, probably because of the simplicity in design and fairly transparent nature of the IVR decision-making algorithm. In contrast, the AI-enabled video interviewing platforms that have been launched into market and started being implemented by organizations in the last five to ten years have caused a whirlwind of questions from the I/O and HR communities. The algorithms behind these platforms are highly complex, and few

people, outside of those programming the systems, have any visibility as to the how or why the algorithms make the specific hiring decisions that they do (Liem et al., 2018). As is often the case, research is once again behind practice, and we are struggling to catch-up so that we can understand the limitations of these new techniques.

There are some clues from research that has been done with AI algorithms in other practices, piecing together what we know about other types of selection interviews, as well as, very recent studies on AI-enabled video interviews that have been started to come out in the last few years. A study by Dietvorst, Simmons, and Massey (2014) suggests that even when people are provided evidence that an algorithm can predict outcomes more accurately than humans, people still prefer to use a human decision maker over an algorithm. The type of task has been identified as one potential factor that can influence people's preferences for using an AI or human decision agent. In 2018, Lee found that for mechanical tasks (e.g., determining work assignments and work scheduling) the AI and human decision agent are perceived as being equally fair and trustworthy. However, for human skill tasks, which includes hiring and work evaluation, participants perceive the human to be significantly more fair and trustworthy, and the that AI decision agent evokes more negative emotions when used. Similarly, Newman, Fast, and Harmon (2018) looked at the type of information being gathered and used by the decision agent and whether it qualitative or quantitative to explore people's reactions to AI or human decision agents. Here participants perceived the AI and human decision agents to not be different in how accurately/completely they

will make the decision based on the quantitative information, but that the AI decision agent would be less accurate in its decision when it came to qualitative information. Overall, the AI decision maker was perceived as being less fair for promotion and layoff decisions because it was a combination of both quantitative and qualitative information being used.

Several additional studies support similar findings. One study looked at reactions to job ads which provided information about the hiring process and informed candidates they would need to submit an interview video which would be reviewed by either an AI or human decision agent; participants reported lower application and job pursuit intentions for the AI decision agent (Mirowska, 2020). Similarly, Gonzalez et al. (2019) found that participant reactions in terms of interactional justice, trust, communication and privacy were less favorable to selection decisions made by AI vs. a human decision agent. Further, this study showed that after participants were informed they had been “hired” (other participants in the study were “rejected”), they were still more distrustful and less likely to recommend the organization to others when an AI agent was used. When looking deeper into candidate reactions on AI vs human decision agents for selection decisions, participants have favored AI for consistency in application of the selection process, but favored human decision makers in terms of their job relatedness, opportunity to perform, openness, two-way communication, and treatment (Acikgoz et al., 2019). Research is continuing to emerge in this area.

Contextual Explanation

In the previous section we examined how the selection process can greatly affect applicant reaction outcomes, both positively and negatively. Fortunately, research has also established that organizations can use explanations to try and manipulate those outcomes (Gilliland, 1993; Langer et al., 2018; McCarthy et al., 2017; Truxillo et al., 2009). When considering perceptions of fairness, Greenberg (1990) established that a key technique is the use of explanations during the selection process (Greenberg, as cited in Truxillo et al, 2009). Both explanations that come before and after the selection assessment have been shown to have significant outcomes (Gilliland, 1993). A meta-analysis conducted by Truxillo et al, (2009) confirmed that regardless of the outcome of the selection process (pass or fail), providing justifications and excuses can have a significant positive effect on the applicant's perceptions.

The principal idea is that explanation provides additional information to the candidate which in turn increases transparency as to the organization's process. This in turn increases perceptions of fairness and candidates are more motivated to pursue the position (Gilliland, 1993; Ryan & Ployhart, 2000). Transparency can also serve to reduce test-taker anxiety (Arvey & Sackett, 1993 as cited in McCarthy et al., 2017).

When examining organizational justice theory, McCarthy et al. (2017) outlined three key categories of explanations related to test-taker reactions. The first is informational fairness. These explanations provide the candidate with information about the test and testing method. For example, we've seen how varying degrees of job

relatedness can impact applicants' perception outcomes (Gilliland, 1993). Providing information on how the assessment is related to the position could increase fairness perceptions. One of Gilliland's follow-up studies (2001) supported this showing that candidates' receiving a rejection letter with explanations focused on fairness was associated with those candidates' likelihood of applying again for future positions. Social fairness explanations seek to enhance positive emotional affect by treating participants respectfully and with appreciation. The third type of explanations are uncertainty reduction, intended to lower the test taker's anxiety by providing support and reassurance. The relationship between test anxiety and test performance was supported by the Hausknecht et al., 2004 meta-analysis.

When organizations consider using new technologies for candidate selection such as AI, they should consider using explanations in order to pre-emptively mitigate any negative fairness perceptions. Explanations that provide contextual information can serve as a simple, common intervention to make the candidate feel better about the selection assessment. A meta-analysis by Truxillo et al., (2009) supported relationships between providing explanations to applicants and their affective reactions, perceptions of fairness, their test-taking motivation, and their perceptions of the organization. However, there is some conflicting research out there regarding explanations as not all studies have found significant relationships (Konradt, Warszta & Ellwart, 2013; Langer & Konig, 2018).

Research Hypotheses

Hypothesis 1: Participants invited to complete an online recorded asynchronous video interview who are provided with an explanation of how selection decisions are made, as compared to those who receive no information about how selection decisions are made, will show more favorable perceptions of: a) fairness (i.e., procedural justice), b) organizational attractiveness, and c) job pursuit intentions.

Hypothesis 2: Participants invited to complete an online recorded asynchronous video interview when informed a human evaluator will make the selection decision, as compared to an AI algorithm making the selection decision, will show more favorable perceptions of: a) fairness (i.e., procedural justice), b) organizational attractiveness, and c) job pursuit intentions.

METHODS

Participants

Participants for this study were recruited using Prolific Academic (<https://www.prolific.co>), an online research platform that facilitates the collection of data from a large pool of individuals. The participants recruited from the Prolific research pool for this study were required to live in the United States, be at least 18 years of age, and speak English fluently. Participation was voluntary and participants were required to consent to the research study, which allowed them to discontinue participation at any point during the study. Those participants who completed the study received \$2.40 in compensation.

Of the 313 participants recruited, two were eliminated because they did not provide consent, one was eliminated because they answered “No” to the survey item “Should your responses be used in this study?”, and twenty-three were eliminated because they did not take the minimum amount of time required (at least five minutes) to complete the study. Of the remaining 287 participants, all passed the various response quality and attention check requirements utilized in cleaning the data.

The sample was 54.7% male, 43.2% female and 2.1% nonbinary/other. Participants in the sample were 77.7% White, 9.4% Black or African American, 4.5% Asian, 4.2% Hispanic or Latino, 3.1% identified as two or more races, 0.3% American Indian or Alaska Native, and 0.7% identified as Other. The average age of participants was 37.61 years ($SD = 13.40$). For self-reported education, 0.7% had less than a high

school diploma, 12.2% had a high school diploma, 19.5% had some college, 10.8% had a two year degree, 41.5% had a four year degree, 13.6% had a professional degree, and 1.7% had a doctorate. In terms of employment status, 56.1% said they were employed full time, 13.2% employed part time, 9.1% unemployed and looking, 5.9% unemployed and not looking, 4.9% retired, 7.0% student, and 3.8% said they were disabled. For job level, the sample self-identified as 41.8% being in a support role, 30.1% in a professional role, 21.3% in a management role, and 6.7% as an executive role (see Appendix B for a full description of the job levels). Finally, in terms of years of professional working experience, the sample was composed of 9.4% with less than one year, 14.3% with one to five years, 21.6% with five to ten years, 15.7% with ten to fifteen years, 11.1% with fifteen to twenty years, 11.8% with twenty to twenty-five, and 16.0% with more than twenty-five years of experience.

Design

This study utilized a one-way ANOVA between-subjects research design. The participants were presented with an email styled message from the organization asking them to complete an asynchronous interview using the organization's online video interview platform in order to be considered further for the position. The invitation contained the contextual information specified for the independent variable condition they were randomly assigned to, along with instructions on how to complete the interview. Participants did not actually complete an interview; their reactions were gathered based on the email invitation only.

In the first condition email invitation, participants were informed a decision would be forthcoming, but no information was provided about how that decision will be made (see Appendix A-1). In the second condition email invitation, the participant was provided an explanation that the decision would be made by an artificial intelligence algorithm (see Appendix A-2). In the third condition email invitation, the participant was provided an explanation that the decision would be made by a human recruiter (see Appendix A-3).

The dependent variables assessed differences in participants' job pursuit intentions, perceptions of organizational attractiveness, and perceptions of fairness. Demographic information and additional exploratory information were collected. Key demographic differences for gender and race were analyzed as a second independent variable to identify if differences existed between groups. Level of education and job level, as well as participants' comfort with and previous experience using similar technologies, were analyzed to identify if any covariates exist. To ensure that the IV manipulations were effective, attention and manipulation checks were utilized.

Procedure

The research experiment was conducted by accessing a Qualtrics survey administered through the Prolific Academic website. At the beginning of the survey, participants were taken to an information and disclosure page explaining the general purpose of the study, how long the experiment is expected to take, any technology requirements that must be met, and any other information they should be aware of

(i.e., compensation, benefits and risks, confidentiality, etc.). Next participants were asked to review an informed consent statement and provide their authorization to proceed or withdraw from the study.

Those who consented to the study were then asked to reconfirm their minimum qualifications to participate in the study. Participants were asked to confirm that they are 18 years of age or older, that they are fluent in English, and live in the United States. Next, participants were presented with a brief scenario informing them of their role as candidate who had recently applied for a position with an organization who requested them to complete an online recorded video interview. At this point, participants were randomly assigned to one of the three experimental conditions (see Appendix A-1, A-2 and A-3). The participants were presented with an email styled message from the organization asking them to complete an interview using the organization's online video interview platform in order to be considered further for the position. The invitation contained the contextual information specified for the condition they were randomly assigned to, along with instructions on how to complete the interview. Participants did not actually complete an interview; their reactions were gathered based on the email invitation only.

Participants were then asked to judge and self-report their feelings and perceptions regarding fairness of the selection process, organizational attractiveness and job pursuit intentions by responding to survey items using the measures listed in the next section below. Additional exploratory measures were asked such as general

affective reactions and about participants' comfort and previous experience using similar technologies. Next, participants were asked in the survey to provide demographics (such as age, race, gender, etc.) and background information about their job and professional experience level. During the survey, participants also encountered one or more attention checks as detailed in the section below. After the survey has been completed, as a final step, participants were debriefed on the study and provided contact information for further information.

Attention Checks

In order to confirm that participants were carefully reviewing the information in the randomly assigned condition, three different types of attention checks were used. First, after the participant had been shown the email invitation, there were three multiple choice questions asking them about the email presented. If needed, participants had the option to use the "<<" [back] button to reread the email before answering the questions. The next type of attention check questions included four items that were spread out within the scale items for the measures and asked participants to choose a specific answer (e.g., "Please select 'Agree' for this item") to show that they are paying attention. The last attention check, directly asked participants at the end of the survey "Should your responses be used in this study?" with options for Yes or No. If participants failed more than three attention check questions, or answered "No" to the final question, their responses were removed from the data set prior to analysis.

Measures

This study used and adapted several measures from existing literature, as well as, including several exploratory items written to collect general affective reactions and information about the participants' comfort with and previous experience with various interview processes and technologies. All measures used a 5-point likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants were able to advance through or skip any or all items without penalty; however, they did need to meet the requirements for the attention check questions in order for their data to be included.

Fairness

Perceptions of fairness were adapted from Bauer and colleagues (2001) Selection Procedural Justice Scale (SPJS), as well as, and four items from Langer et al. (2021). For the SPJS, the original items in the scale reference the fairness of an organization's "test" or "testing process". For the purposes of this study, items were updated to reflect an "interview" instead of a "test". For example, the original SPJS item is "*Doing well on this test means a person can do the job well*", while the adapted item is "*Doing well on this interview means a person can do the job well.*" The scale was also adapted in that not all the original items were used given the narrow focus of this study. The adapted measure contains three items each for the following seven subscales (with subscale reliability results included for each): job relatedness ($\alpha = .87$), information known ($\alpha = .84$), chance to perform ($\alpha = .94$), reconsideration opportunity ($\alpha = .82$), consistency ($\alpha = .83$), openness and treatment ($\alpha = .89$), and two-way communication (α

= .86). Reliability with all items was high at ($\alpha = .93$). The Langer items on fairness were grouped into their own subscale with satisfactory reliability ($\alpha = .87$).

Organizational Attractiveness & Job Pursuit Intentions

Organizational attractiveness and job pursuit intentions will be assessed using an adapted version of the Organizational Attractiveness Scale (OAS; Highhouse, Lievens, & Sinar, 2003). Because of the scope of this study, items were edited to refocus the item on companies “that use this interviewing process”. For example, an item in the original scale is “*This company is attractive to me as a place for employment.*” The adapted version is “*Companies that use this interviewing process are attractive to me as a place for employment.*” The original OAS has five items each for three subscales: general attractiveness, intentions to pursue, and prestige. The adapted version for this study (with subscale reliability results included for each) has: four items for general attractiveness ($\alpha = .92$), five items for intentions to pursue ($\alpha = .87$), and five items for prestige ($\alpha = .89$), with overall reliability for all items higher than the subscales ($\alpha = .95$).

Exploratory Items

Four additional groups of items, unrelated to the present study, were utilized for exploratory purposes for potential future research. These groups of items are focused around the following areas (although these are not formalized scales reliability results are included for each group of items): participants’ comfort level with different types of interview formats (such as via phone, face-to-face or video conference) ($\alpha = .86$), participants’ previous experiences using online recorded interviews ($\alpha = .91$), the

participants' perceived ease of use and usefulness of online recorded interview technology ($\alpha = .79$), and the participants' perceptions of how using online recorded interview technology may or may not be a benefit to the organizations that use it ($\alpha = .79$). The items around participant's perceived ease of use and usefulness are adapted from Davis' (1989) study, while the others are new items created for this study.

Results

Introduction to Analyses

To ensure data quality, before data analysis was conducted, the data was screened to ensure that all study minimum requirements were met, informed consent was received, attention check and time requirements were met. Of the 313 participants recruited, data was used for 287 participants. Data for the remaining 287 participants was then coded as needed (i.e., reverse coding for two items, coding for demographic questions, etc.) For the demographic item, Age, one extreme outlier was identified and removed from the dataset. Homogeneity of variances assumption was assessed on all scale level variables using Levene's test. The subscales for two-way communication, organizational attractiveness, and the Langer-fairness scale were significant indicating a potential homogeneity of variance violation, so a follow-up Welch test was conducted and yielded the same results. The study's main hypotheses were then investigated by running one-way between-subjects ANOVAs, and Bonferroni's post-hoc multiple comparisons when appropriate. A familywise alpha of .05 was used for all analyses.

Hypothesis 1: Participants invited to complete an online recorded asynchronous video interview who are provided with an explanation of how selection decisions are made, as compared to those who receive no information about how selection decisions are made, will show more favorable perceptions of: a) fairness (i.e., procedural justice), b) organizational attractiveness, and c) job pursuit intentions.

Hypothesis 2: Participants invited to complete an online recorded asynchronous video interview when informed a human evaluator will make the selection decision, as compared to an AI algorithm making the selection decision, will show more favorable perceptions of: a) fairness (i.e., procedural justice), b) organizational attractiveness, and c) job pursuit intentions.

Hypotheses 1a & 2a - Fairness

Using the Selection Procedural Justice Scale (SPJS) overall scale, there were no significant effects reported for fairness based on the what information (or lack thereof) was provided to the participants, $F(2, 284) = 1.51, p = .222$. There were also no significant main effects for any of the SPJS subscales including: Information known, $F(2, 284) = 1.57, p = .210$, Job relatedness, $F(2, 284) = 0.72, p = .490$, Chance to perform, $F(2, 284) = 2.48, p = .086$, Reconsideration opportunity, $F(2, 284) = 1.45, p = .238$, Consistency, $F(2, 284) = 1.16, p = .315$, Openness & Treatment, $F(2, 284) = 0.76, p = .467$, and Two-way communication, $F(2, 284) = 1.00, p = .370$. Using the Langer scale items, the main effect of providing information about how the selection decision would be made did report significant results, $F(2, 280) = 3.70, p = .026$. However, supplemental pairwise comparisons were conducted to compare between conditions and they show that significance for the main effect does not come from the difference between the no information condition and the conditions where participants are provided information on how the selection decision will be made (hypothesis 1a). Rather the main effect is created because of the significant difference in how participants perceived fairness

between the AI and human decision maker conditions (hypothesis 2a). See Table 1 for means and standard deviations of fairness ratings by condition, and Table 2 for pairwise comparisons of fairness ratings of significant results between provided conditions.

Table 1

Means and standard deviations for fairness ratings by information condition about decision maker

Fairness Variable		No Info (<i>n</i> = 100)	AI Decision Maker (<i>n</i> = 94)	Human Decision Maker (<i>n</i> = 93)
SPJS Overall	<i>M</i>	3.55	3.50	3.65
	<i>SD</i>	0.57	0.63	0.54
Information Known	<i>M</i>	4.00	4.10	4.16
	<i>SD</i>	0.72	0.63	0.59
Job Relatedness	<i>M</i>	3.31	3.17	3.25
	<i>SD</i>	0.76	0.95	0.79
Chance to Perform	<i>M</i>	3.07	2.89	3.22
	<i>SD</i>	1.01	1.05	0.91
Reconsideration Oppty	<i>M</i>	3.39	3.32	3.53
	<i>SD</i>	0.83	0.95	0.81
Consistency	<i>M</i>	4.15	4.03	4.15
	<i>SD</i>	0.63	0.63	0.60
Openness & Treatment	<i>M</i>	3.78	3.86	3.90
	<i>SD</i>	0.74	0.71	0.71
Two-way Communication	<i>M</i>	3.17	3.15	3.32
	<i>SD</i>	0.88	1.00	0.79
Larger Fairness Items	<i>M</i>	3.43	3.24	3.58
	<i>SD</i>	0.83	1.00	0.76

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Table 2

Bonferroni pairwise comparisons of Langer's fairness item ratings by information condition about decision maker (no information, AI decision maker, human decision maker)

Fairness Variable	(I)	(J)	Mean Difference	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Langer Fairness	No Info	AI Decision	.206	.125	-.096	.508
	No Info	Human Decision	-.140	.126	-.444	.164
	AI Decision	Human Decision	-.346*	.128	-.654	-.037

Note: * significant based on a familywise alpha = .05

Hypotheses 1b, 2b, 1c & 2c – Organizational Attractiveness and Job Pursuit Intentions

Using the General Attractiveness subscale, participants did show significant main effects between those who received no information and those who received information about how the selection decision would be made, $F(2, 280) = 4.86, p = .008$. Also, when combining all three OAS dimensions – organizational attractiveness, pursuit intentions and prestige, in the OAS Overall scale, again significant differences were noted, $F(2, 280) = 3.59, p = .029$. Main effects for the pursuit intentions subscale did not result in significant findings, but it just missed the mark, $F(2, 280) = 2.97, p = .053$. See Table 3 for means and standard deviations of organizational attractiveness and job pursuit intention ratings by condition, and Table 4 for pairwise comparisons of organizational attractiveness and job pursuit intention ratings between provided conditions.

It is important to note that although there were significant main effects reported for the organizational attractiveness subscale and OAS Overall scale, using follow-up

pairwise comparisons, we see that there are not any significant results when comparing the no information condition with either the AI or Human decision maker conditions (hypotheses 1b and 1c). By examining the means in Table 3, for OAS Overall, we can see that mean scores are higher for the no information condition ($M = 3.14$, $SD = 0.73$) than the AI decision maker condition ($M = 3.00$, $SD = 0.80$), but lower than the human decision maker condition ($M = 3.27$, $SD = 0.61$). This pattern repeats across all three OAS subscales for organizational attractiveness, job pursuit intentions and prestige. In Table 4, we can see that the significant results are in participants' perceptions when comparing the AI decision maker vs human decision maker conditions. Out of the three conditions, the human decision maker condition provides the most favorable ratings from candidates, but it is only significantly higher over the AI decision maker.

Table 3

Means and standard deviations for organizational attractiveness scale ratings by information condition about decision maker

Fairness Variable		No Info (n=100)	AI Decision Maker (n=94)	Human Decision Maker (n=93)
OAS Overall	<i>M</i>	3.14	3.00	3.27
	<i>SD</i>	0.73	0.80	0.61
Org Attractiveness	<i>M</i>	2.93	2.66	3.07
	<i>SD</i>	1.00	1.04	0.84
Job Pursuit Intentions	<i>M</i>	3.25	3.13	3.39
	<i>SD</i>	0.75	0.85	0.70
Prestige	<i>M</i>	3.25	3.21	3.34
	<i>SD</i>	0.64	0.68	0.53

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Table 4

Bonferroni pairwise comparisons of organizational attractiveness scale ratings by information condition about decision maker

Fairness Variable	(I)	(J)	Mean Difference	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
OAS Overall	No Info	AI Decision	.166	.104	-.084	.416
	No Info	Human Decision	-.116	.104	-.367	.135
	AI Decision	Human Decision	-.282*	.106	-.537	-.027
Org Attractiveness	No Info	AI Decision	.297	.139	-.038	.632
	No Info	Human Decision	-.135	.140	-.472	.202
	AI Decision	Human Decision	-.432*	.142	-.774	-.090
Pursuit Intentions	No Info	AI Decision	.146	.111	-.121	.413
	No Info	Human Decision	-.129	.111	-.397	.139
	AI Decision	Human Decision	-.275*	.113	-.548	-.003
Prestige	No Info	AI Decision	0.55	.089	-.160	.269
	No Info	Human Decision	-.084	.089	-.299	.132
	AI Decision	Human Decision	-.138	.091	-.357	.080

Note: * significant based on a familywise alpha = .05

Gender Differences

Once the main hypotheses questions had been answered, some additional analyses were conducted to examine what, if any, covariates may exist. First, analyses were conducted to determine whether there were any significant differences in ratings based on gender. Because only 2.1% of the sample identified as non-binary (while 54.7% were male and 43.2% female), these were removed from the dataset. For gender, a 2X3 between subjects ANOVA was used, followed by Bonferroni pairwise comparisons when appropriate.

For fairness, we found a significant relationship for gender with the Information known subscale, $F(1, 280) = 5.56, p = .019$, as well as significant interactions between gender and dependent variable for the Chance to perform subscale, $F(2, 275) = 3.14, p = .045$, and the Reconsideration opportunity subscale $F(2, 275) = 3.77, p = .024$. For each of these subscales, ratings for males were not significantly different between the three conditions, but they were for females who rated the human decision maker condition much higher than the other conditions. No significant results were found for the SPJS Overall, other SPJS subscales and Langer fairness items. See Table 5 for means and standard deviations for males and females for the SPJS overall and fairness subscales.

Table 5

Means and standard deviations for SPJS scale and fairness subscale ratings by Gender and information condition about decision maker

Variable		Males (<i>n</i> = 157)			Females (<i>n</i> = 124)		
		No Info	AI	Human	No Info	AI	Human
SPJS Overall	<i>M</i>	3.58	3.53	3.53	3.50	3.47	3.81
	<i>SD</i>	0.58	0.64	0.56	0.57	0.63	0.47
Information Known	<i>M</i>	3.92	4.08	4.01	4.06	4.12	4.38
	<i>SD</i>	0.81	0.62	0.60	0.63	0.68	0.50
Job Relatedness	<i>M</i>	3.43	3.16	3.12	3.19	3.20	3.44
	<i>SD</i>	0.78	0.94	0.86	0.75	0.99	0.64
Chance to Perform	<i>M</i>	3.15	2.93	3.00	2.96	2.88	3.50
	<i>SD</i>	1.08	1.07	0.91	0.94	1.03	0.83
Reconsideration Opportunity	<i>M</i>	3.40	3.42	3.35	3.35	3.18	3.79
	<i>SD</i>	0.80	0.90	0.87	0.88	1.02	0.66
Consistency	<i>M</i>	4.09	4.01	4.17	4.21	4.07	4.13
	<i>SD</i>	0.56	0.69	0.56	0.70	0.54	0.61
Openness & Treatment	<i>M</i>	3.84	3.89	3.78	3.71	3.83	4.08
	<i>SD</i>	0.69	0.71	0.73	0.79	0.72	0.66
Two-way Communication	<i>M</i>	3.26	3.24	3.30	3.03	3.04	3.33
	<i>SD</i>	0.90	1.04	0.79	0.82	0.95	0.81
Langer Fairness	<i>M</i>	3.51	3.23	3.50	3.36	3.27	3.68
	<i>SD</i>	0.76	1.00	0.79	0.91	1.00	0.70

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Similarly, significant interactions were found when combining gender with the OAS scale and subscales as follows: OAS overall interaction $F(2, 275) = 4.91, p = .008$, General attractiveness subscale, $F(2, 275) = 4.52, p = .012$, Pursuit intentions, $F(2, 275) = 3.13, p = .045$, and Prestige, $F(2, 275) = 4.94, p = .008$. For OAS overall, Pursuit intentions and Prestige, ratings for males were not significantly different between the three conditions, but they were for females who rated the human decision maker condition

much higher than the other conditions. For Organizational attractiveness, there was a difference for males who significantly preferred the No information condition, while again females rated the human decision maker significantly higher. See Table 6 for means and standard deviations for males and females for OAS overall and subscales.

Table 6

Means and standard deviations for scales ratings by Gender and information condition about decision maker

Variable		Males (<i>n</i> = 157)			Females (<i>n</i> = 124)		
		No Info	AI	Human	No Info	AI	Human
OAS Overall	<i>M</i>	3.32	3.01	3.14	2.96	3.03	3.44
	<i>SD</i>	0.70	0.77	0.62	0.75	0.84	0.57
Organization	<i>M</i>	3.17	2.69	2.94	2.66	2.68	3.26
Attractiveness	<i>SD</i>	0.93	1.05	0.86	1.02	1.02	0.79
Job Pursuit	<i>M</i>	3.39	3.15	3.28	3.10	3.16	3.55
Intentions	<i>SD</i>	0.72	0.80	0.73	0.77	0.91	0.63
Prestige	<i>M</i>	3.40	3.19	3.22	3.12	3.26	3.50
	<i>SD</i>	0.60	0.66	0.50	0.67	0.74	0.53

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

One of the interesting items about the results incorporating gender is not just that it created significant interactions, but that two different patterns for favorability emerge. If you look at the means for females across the three conditions, with the exception of the Consistency subscale, the human decision maker is clearly preferable for females. For males, either the No information condition is preferred, or the mean differences are fairly small between the conditions. Pictorial representations of key scales and items may make this easier to observe. See Figures 1-4 below.

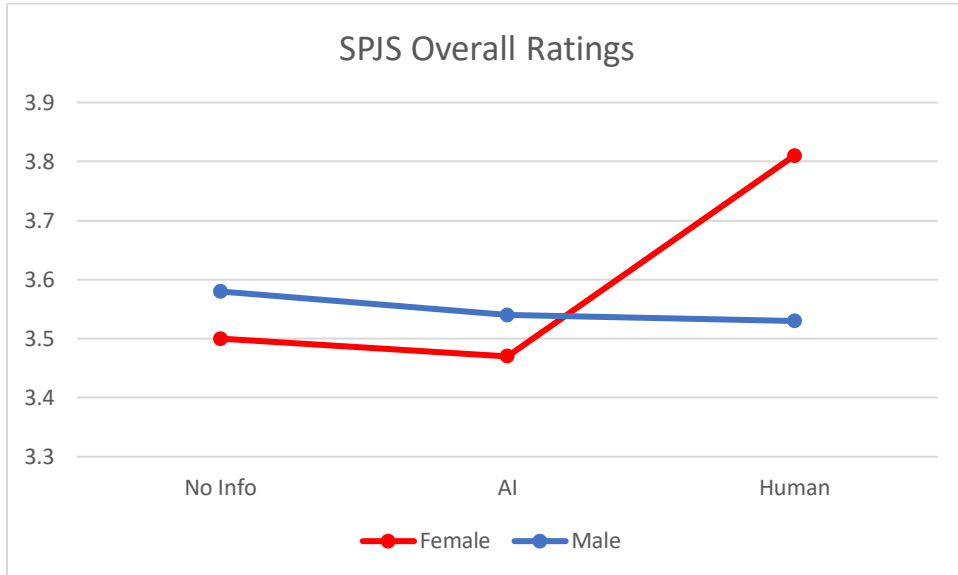


Figure 1. Mean ratings for males and females charted across Information Conditions for SPJS Overall scale.

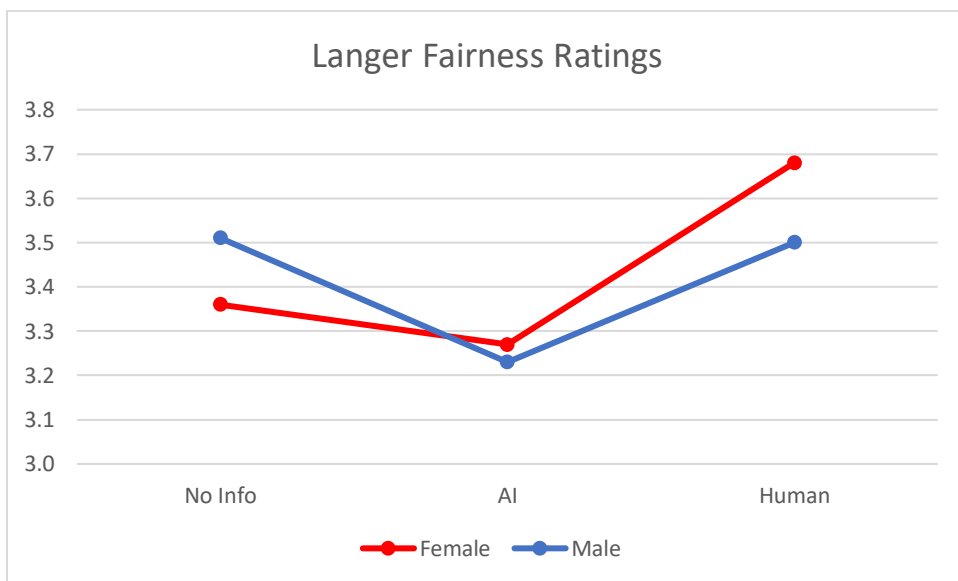


Figure 2. Mean ratings for males and females charted across Information Conditions for Langer Fairness items.

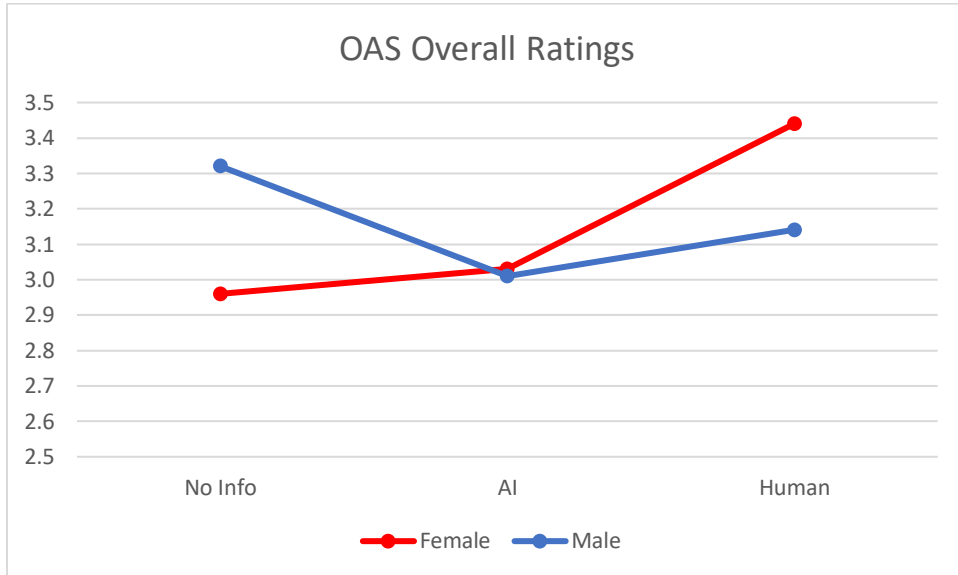


Figure 3. Mean ratings for males and females charted across Information Conditions for Organizational Attractiveness Overall.

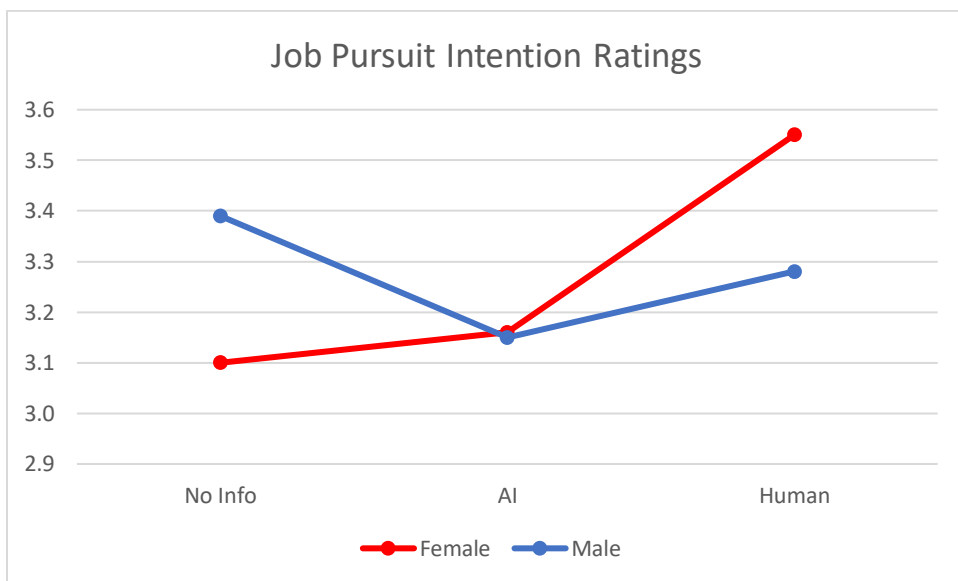


Figure 4. Mean ratings for males and females charted across Information Conditions for Pursuit Intentions subscale.

Comfort and Previous Experience with Asynchronous Online Interviews

In addition to items surrounding fairness, organizational attractiveness, and pursuit intentions, some of the exploratory items to be examined was to better understand participants' comfort level with different types of interview formats, as well as, the amount of previous experience, if any, that they have had with asynchronous online interviews. For comfort level, five items were asked of participants about how comfortable they feel with recording themselves on the computer and different interview formats. Table 7 contains the means and standard deviations for each comfort item, with lowest levels reported for "recording interviews of myself on the computer" and "with my asynchronous (i.e., recorded) video interviewing skills."

Table 7

Means and standard deviations for level of comfort ratings

Item: "I feel comfortable..."	<i>n</i>	Mean	Standard Deviation
"...recording interviews of myself on the computer."	281	2.98	1.32
"...with my face-to-face interviewing skills."	282	3.63	1.04
"...with my phone interviewing skills."	281	3.65	1.09
"...with my live video conference (e.g., skype or zoom) interviewing skills."	282	3.39	1.15
"...with my asynchronous (i.e., recorded) video interviewing skills."	282	3.05	1.19

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

In a second item for comfort, we asked participants to rate themselves on the statement "I feel comfortable with my asynchronous (i.e., recorded) video interviewing

skills”, with one being the lowest level of comfort and five being the highest. Results show the items score mean differences were highly significant for the SPJS Overall scale, $F(1, 285) = 93.023, p < .001$, and their interaction, $F(4,282) = 25.14, p < .001$. Similarly, for the OAS Overall scale significant results were posted for the item score differences, $F(1, 285) = 61.55, p < .001$, and their interaction, $F(4,282) = 28.206, p < .001$. Positive, moderate correlations were found between comfort level and SPJS overall ratings ($r = .50$) and OAS overall ($r = .53$). See Figure 5 below.

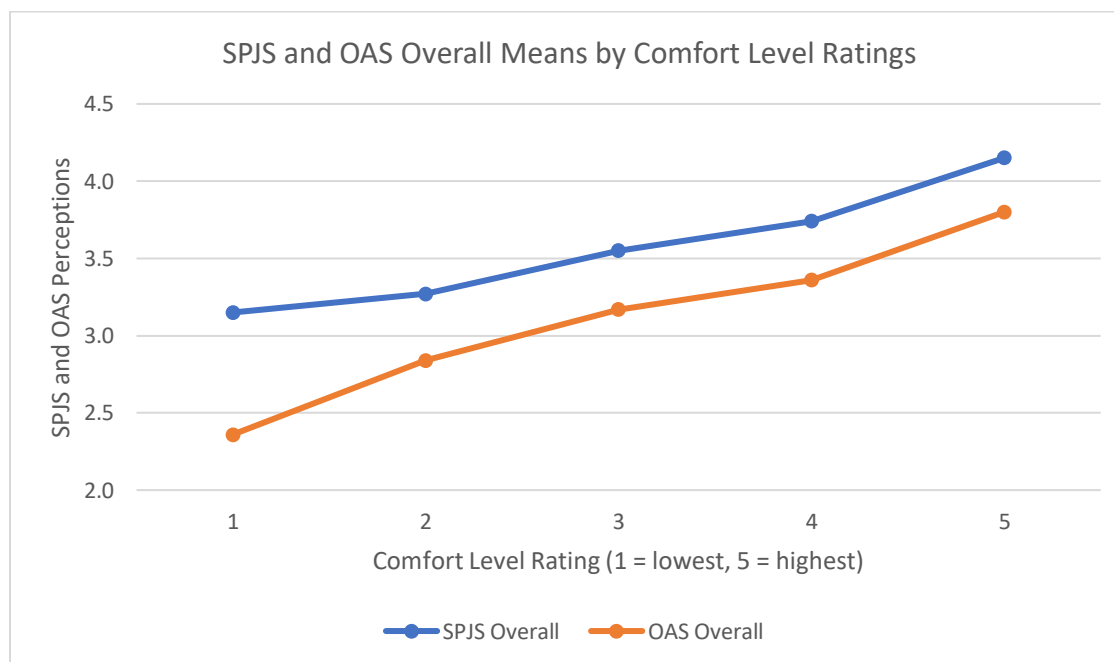


Figure 5. SPJS overall and OAS overall perception ratings based on participants’ self-reported comfort level with asynchronous interviewing skills.

For previous experience, four items were asked of participants about what experiences, if any, they have had with online recorded interviews as part of their job search. Table 9 contains the means and standard deviations for each previous

experience item. As expected with an emerging technology, many candidates have not yet completed this type of interview (68.8% answering “Strongly disagree” or “Disagree” vs 26.0% answering “Agree” or “Strongly Agree”). There are again significant differences in the SPJS Overall means for the item ratings, $F(1, 284) = 5.06, p = .018$, but the interaction was not significant $F(4, 282) = 1.72, p = .146$. Results for the OAS Overall means for item ratings followed the same pattern, significant mean differences based on item score, $F(1, 284) = 8.01, p = .005$, but the interaction was not significant, $F(1, 282) = 2.23, p = .066$.

Table 9

Means and standard deviations for previous experience item ratings

Item: “I have...”	<i>n</i>	<i>M</i>	<i>SD</i>
“...previously completed other online recorded interview(s) during a job search.”	281	2.32	1.34
“...previously completed other online recorded interview(s) using artificial intelligence analysis which determines whether a candidate is progressed in the selection process.”	282	1.95	1.08
“...been advanced to the next step in the selection process after having completed an online recorded interview.”	281	2.30	1.30
“...been hired for a position after having completed an online interview.”	282	2.08	1.18

M = mean, *SD* = standard deviation, scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*)

Discussion

The purpose of the present study was to examine how applicants may react to requests from organizations to complete asynchronous video interviews utilizing artificial intelligence technology as a first interview step, and the differences in those perceptions based on what information, if any, is provided about the decision-making agent. The study provided participants with an email scenario inviting them to complete a recorded asynchronous video interview using their online interview platform. Participants were randomly assigned to one of three conditions: the first provided no information about how the selection decision would be made, the second informed them that an artificial intelligence (AI) algorithm would make the decision, and the third that a recruiter [human] would make the decision.

The study first hypothesized that those participants assigned to the AI decision maker or human decision maker conditions would show more favorable ratings for a) fairness, b) organizational attractiveness, and c) job pursuit intentions. Two of these three hypotheses were partially supported by the study's research. It was found that fairness was significantly influenced when measured using the Langer items, but not any of the SPJS scales. Significant main effects for organizational attractiveness and job pursuit intentions were reported; however, it should be noted that for both of these areas, the follow-up pairwise comparisons showed differences between the AI and human decision maker condition.

The second study hypothesized that participants who were assigned to the human decision maker condition would show more favorable ratings for a) fairness, b) organizational attractiveness, and c) job pursuit intentions, than those who were assigned to the AI decision maker condition. Results indicated that the hypothesis on fairness was partially supported when using the Langer items only, with pairwise comparisons showing that the human decision maker was seen more positively. It may be that significant results were reported using the Langer items, but not the SPJS items, because the SPJS items tend to ask participants their perceptions of very specific and granular components of procedural justice (i.e., seven dimensions ranging from job relatedness to two-way communication), whereas the Langer items ask for perceptions in simple broad terms of whether they view the process is fair (see Appendix B for more information about the specific survey items for SPJS and Langer). It may be that by asking participants such specific questions under the SPJS, it dilutes the participants' general affective reaction to a new and unfamiliar technology.

The hypotheses on organizational attractiveness and job pursuit intentions were fully supported reporting significant results with the human decision maker being favored over AI decision makers. This is in alignment with previous I-O literature, which has shown that even when AI algorithms are proven to be more accurate in making decisions, people still tend to prefer that a human be the one making the decision. [Note: It has not yet been proven that the AI algorithms being used on these platforms

can, in fact, make more accurate personnel selection decisions. More research is needed in this area.]

Additionally, this study sought to investigate whether there were any factors for individual differences which may influence participants perceptions of this new technology. Gender, comfort level and previous experience with recording asynchronous online interviews were examined for their possible relationships with perceptions of fairness, organizational attractiveness, and job pursuit intentions. We did find some support that gender affects perceptions in these areas, but primarily for females who showed strong favorability for the human decision maker condition. Both comfort level and previous experience with recording asynchronous interviews also influenced perceptions, with those persons who had lower levels of comfort or lacked previous experience having less favorable ratings.

Practical Implications

As organizations implement, or consider implementing, the use of online recorded interview platforms into their selection process, they need to consider that how it is utilized can affect job applicants' affective state and perceptions of the organization. These outcomes can influence whether prospective applicants want to apply to their organization and proceed through the selection process, as well as, whether the outcome of the selection decision was fair. This new technology may afford organizations and candidates greater flexibility and efficiency by not having to schedule candidates to meet or speak directly with recruiters and hiring managers, but

careful consideration needs to go into how it is used. Organizations that are utilizing these systems in conjunction with a human decision maker, should make it clearly known to candidates as such, given the higher favorability for the human decision maker, particularly for females.

When using the system with an AI decision maker, organizations may want to consider what, if any, information to provide. Although this study did not find any significant differences between the no info and AI conditions, Langer, et al. (2018) found that providing too much information about the AI algorithm can result in less favorable perceptions. In that study, candidates were not simply informed an AI decision maker was being used, but went into several paragraphs of detailed technical information about how the AI works. In this study, the difference between conditions is much more subtle. Correspondingly, as external job applicants often do not have much visibility into how organizations make their decisions, it may be candidates did not perceive the lack of information more negatively than the AI condition, simply because they are not used to getting the information in the first place.

Also, as the results have indicated, candidates who are not comfortable with this process, or those who have not yet experienced this type of interview are likely to view the process more negatively. As such, organizations who utilize these platforms may want should be sure to make resources available to job applicants allowing them to learn how to prepare for and record interview responses, and provide them options within the system for practice.

Limitations and Directions for Future Research

The current study had several limitations with the first being sample size. Although the sample size of just under one hundred participants per condition was sufficient, a larger sample size would have benefited the study and analysis. Many of the demographic and exploratory items could not be used to test for potential covariates and interactions, either because groups were too small or distribution across groups was highly uneven. For example, for the race demographic, 78% of the participants were white vs 22% for all other races combined, so we were not able to give any credence to the results had analyses been run for race, as we did for gender. Given the significant influence gender, comfort level and previous experience had on perceptions, it is also worth considering other individual differences that may influence perceptions, including personality factors such as degrees of extroversion and openness to experience.

Another limitation was that this was a hypothetical situation where only an email invitation to complete an online recorded interview was used for the manipulation, without an actual online interview platform being utilized. In reality, there is a huge degree of variation between different online interview systems, and not only in terms of the information provided about the decision maker. Some systems are highly simplified with minimal directions for candidates with questions simply appearing on the screen with a record button, while others are robust platforms with various avatars that interact with candidates, and allow extensive resources for training and practice. With

this being an emerging technology, there is a wide variety of questions that future research needs to examine about all the various components of these systems beyond the decision maker – ease of use (directions and navigation of the system), number of times candidates should be allowed to record/re-record answers, how many questions and what types of questions are being used – are just a few potential areas to explore.

Conclusion

The current study examined perceptions of fairness, organizational attractiveness and job pursuit intentions when job applicants are invited to complete an asynchronous online interview. Although somewhat narrow in scope by focusing on what information is provided to candidates about how the selection decision will be made, this study accomplished its purpose of expanding the body of research into this new technology. As with any emerging technology, current research is extremely limited and many areas are still to be explored. However, given past research in areas such as applicant reactions to different personnel screening media and techniques, factors for technology acceptance, and various dimensions of organizational justice, these can help point us in the right direction for future research studies. As this technology develops and increases in use, organizations are positioned to utilize these systems in ways that will be positively received by job applicants, while also efficiently and effectively identifying the best candidates for their organization.

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Appendix A

Experimental Conditions

All Participants will receive the following introduction:

“You have just applied for a job online. After completing the submission of your application, you receive an automated email response confirming your application was received and inviting you to complete an interview using their online video interview platform.”

Participants are then randomly assigned in the Qualtrics survey software to one of three conditions as follows in Appendix A-1, A-2 and A-3.

PLEASE NOTE: For easier reading in this thesis only, differences between the conditions have been put into *red, italics font*. However, when participants take the survey in Qualtrics, the text font is the same color throughout.

Appendix A-1

Condition 1 (email invitation to interview, but no information about how decision is made):

Thank you for your application for a position with our organization! In order to proceed in the selection process, **we require candidates to complete an interview using our online video interview platform**. Our interview platform allows candidates the opportunity to introduce themselves and their backgrounds. The interview will ask you a series of 6-8 questions specific to the position, and your responses and professionalism will be recorded.

Upon completion, candidate responses will be used to determine which candidates will be invited for an in-person interview with the hiring manager.

Additional important information about the online interview platform:

Candidates should record their interview within 48 hours of receiving this email. The interview takes candidates approximately 30-45 minutes to complete. Please be sure to plan adequate time to complete it in one sitting, as once you begin recording responses you will not be allowed to exit and come back to it later.

When you start the interview, **you will have the option to complete two short practice questions to become familiar with how the system operates** before starting the real interview questions.

Please be advised that the interview recommends that you be on a computer or laptop that has both audio and video capabilities, rather than a tablet or mobile phone, along with stable internet connectivity.

Candidates are encouraged to prepare for this similar to a live video interview (such as via zoom or skype), dress professionally, and be in a location free from outside noise and distractions.

Appendix A-2

Condition 2 (email invitation to interview with AI decision maker)

Thank you for your application for a position with our organization! In order to proceed in the selection process, **we require candidates to complete an interview using our online video interview platform.** Our interview platform allows candidates the opportunity to introduce themselves and their backgrounds. The interview will ask you a series of 6-8 questions specific to the position, and your responses and professionalism will be recorded.

Upon completion, our proprietary interview platform uses state-of-the-art artificial intelligence algorithms that analyzes data points in the candidate's verbal response to the question, voice and language usage, facial expressions, eye and body movements in order to determine which candidates will be invited for an in-person interview with the hiring manager.

Additional important information about the online interview platform:

Candidates should record their interview within 48 hours of receiving this email. The interview takes candidates approximately 30-45 minutes to complete. Please be sure to plan adequate time to complete it in one sitting, as once you begin recording responses you will not be allowed to exit and come back to it later.

When you start the interview, **you will have the option to complete two short practice questions to become familiar with how the system operates** before starting the real interview questions.

Please be advised that the interview recommends that you be on a computer or laptop that has both audio and video capabilities, rather than a tablet or mobile phone, along with stable internet connectivity.

Candidates are encouraged to prepare for this similar to a live video interview (such as via zoom or skype), dress professionally, and be in a location free from outside noise and distractions.

Appendix A-3

Condition 3 (email invitation to interview with human decision maker)

Thank you for your application for a position with our organization! In order to proceed in the selection process, **we require candidates to complete an interview using our online video interview platform.** Our interview platform allows candidates the opportunity to introduce themselves and their backgrounds. The interview will ask you a series of 6-8 questions specific to the position, and your responses and professionalism will be recorded.

Upon completion, our proprietary interview platform will automatically route your responses to the appropriate recruiter on our hiring team for play back and review. The recruiter will use your interview video to determine which candidates will be invited for an in-person interview with the hiring manager.

Additional important information about the online interview platform:

Candidates should record their interview within 48 hours of receiving this email. The interview takes candidates approximately 30-45 minutes to complete. Please be sure to plan adequate time to complete it in one sitting, as once you begin recording responses you will not be allowed to exit and come back to it later.

When you start the interview, **you will have the option to complete two short practice questions to become familiar with how the system operates** before starting the real interview questions.

Please be advised that the interview recommends that you be on a computer or laptop that has both audio and video capabilities, rather than a tablet or mobile phone, along with stable internet connectivity.

Candidates are encouraged to prepare for this similar to a live video interview (such as via zoom or skype), dress professionally, and be in a location free from outside noise and distractions.

Appendix B

Survey Items

The following set of survey items were adapted from Selection Procedural Justice Scale (SPJS) – Bauer, et al. 2001

All items were measured on a 5-point likert scale (strongly disagree = 1, Disagree = 2, Neither agree nor disagree = 3, Agree = 4, Strongly agree = 5)

Information known:

- I understood in advance what the interview processes would be like.
- I knew what to expect during the interview.
- I had ample information about what the format of the interview would be.

Job Relatedness:

- Doing well on this interview means a person can do the job well.
- A person who scored well on this interview will be good in this position.
- It would be clear to anyone that this interview is related to the position.

Chance to Perform:

- I think I could really show my skills and abilities through this interview format.
- This interview format gives applicants the opportunity to show what they can really do.
- I was able to show what I can do on this interview.

Reconsideration Opportunity & Feedback:

- I feel satisfied with the process for reviewing my interview results.
- The opportunity to review my interview results are adequate.
- I had a clear understanding of how my interview results would be used.

Consistency:

- It appeared the interview was administered to all applicants in the same way.
- There do not appear to be any differences in the way the interview was administered to different applicants.
- Interview administrators made no distinction in how they treated applicants.

Openness & Treatment

- I was treated honestly and openly during the interview process.
- Interview administrators did not try to hide anything from me during the testing process.
- I am satisfied with my treatment during the interview process.

Two-way Communication

- There was enough communication during the interview process.
- I was able to ask necessary questions about the interview.
- I am satisfied with the communication that occurred during the interview process.

The following set of survey items were adapted from Langer, et al. 2021

Measured on a 5-point likert scale (strongly disagree = 1, Disagree = 2, Neither agree nor disagree = 3, Agree = 4, Strongly agree = 5)

***Item was reverse coded*

Langer – Fairness Items:

- All things considered, this selection procedure was fair.
- I think this interview is a fair procedure to select people for the job.
- I think the interview itself was fair.
- The decision regarding who will be selected for a second interview is biased.**

The following set of survey items were adapted from the Organizational Attractiveness Scale (OAS) – Highhouse, Lievens, & Sinar, 2003

Measured on a 5-point likert scale (strongly disagree = 1, Disagree = 2, Neither agree nor disagree = 3, Agree = 4, Strongly agree = 5)

***Item was reverse coded*

Organizational Attractiveness:

[Based on the information received in the email and the interview process the company is using, please answer the following questions.]

- For me, companies that use this interviewing process would be a good place to work.
- I would not be interested in companies that use this interviewing process except as a last resort.**
- Companies that use this interviewing process are attractive to me as a place for employment.
- A job at a company that uses this interviewing process is very appealing to me.

Job Pursuit Intentions:

- I would accept a job offer from a company that uses this interviewing process.
- I would make this company one of my first choices as an employer.
- If this company invited me for a second job interview, I would go.
- I would exert a great deal of effort to work for a company that uses this interviewing process.
- I would recommend a company that uses this interviewing process to a friend looking for a job.

Prestige:

- Employees are probably proud to say they work at this company.
- This is a reputable company to work for.
- This company probably has a reputation as being an excellent employer.
- I would find this company a prestigious place to work.
- There are probably many who would like to work at this company.

The following set of survey items were adapted and highly modified for Perceived Ease of Use / Perceived Usefulness from Davis, 1989 and Ma & Liu, 2004

Measured on a 5-point likert scale (strongly disagree = 1, Disagree = 2, Neither agree nor disagree = 3, Agree = 4, Strongly agree = 5)

Perceived Ease of Use / Perceived Usefulness

- Using a recorded interview platform saves me time (compared to traditional interviews).
- Using a recorded interview platform provides me greater flexibility (compared to traditional interviews).
- Using online recorded interviews increases my chances of being selected for a position.
- I find learning to use new online audio and video technology to be easy.
- I feel comfortable using online recorded interview technology.

The following set of survey items were drafted by the researchers for this study

Measured on a 5-point likert scale (strongly disagree = 1, Disagree = 2, Neither agree nor disagree = 3, Agree = 4, Strongly agree = 5)

Level of Comfort:

- I feel comfortable recording videos of myself on the computer.
- I feel comfortable with my face-to-face interviewing skills.
- I feel comfortable with my phone interviewing skills.
- I feel comfortable with my live video conference (e.g., skype or zoom) interviewing skills.
- I feel comfortable in my asynchronous (i.e., recorded) video interviewing skills.

Previous Experience:

- I have previously completed other online recorded interview(s) during a job search.
- I have previously completed other online recorded interview(s) using artificial intelligence analysis which determines whether a candidate is progressed in the selection process.
- I have been advanced to the next step in the selection process after having completed an online recorded interview.
- I have been hired for a position after having completed an online recorded interview.

As Viewed from the Organization's Perspective:

- I believe using online recorded interviews enables employers to be more effective in screening candidates.
- I believe using online recorded interviews enables employers to screen more candidates quickly.
- I believe using online recorded interviews provides employers with more information about candidates that would lead to better decisions.

Additional information collected in this study:

Demographic items, with options for selection when appropriate listed below:

Gender

- Male
- Female
- Nonbinary / Other
- Prefer not to say

Please enter your age in years.

- [No options - participant enters numeric value]

With which of the following do you most identify?

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Hispanic or Latino
- Two or more races
- Other
- I prefer not to say

What is the highest educational degree you possess?

- Less than high school
- High school graduate
- Some college
- 2 year degree
- 4 year degree
- Professional degree
- Doctorate

What is your current employment status?

- Employed Full Time
- Employed Part Time
- Unemployed looking for work
- Unemployed not looking for work
- Retired
- Student
- Disabled

How many years of professional working experience do you have?

- Less than 1 year
- 1 to 5 years
- >5 years, up to 10 years
- >10 years, up to 15 years
- >15 years, up to 20 years
- >20 years, up to 25 years
- >25 years

What job level would you classify yourself as:

- Executive - generally refers to those who have authority over entire business units; they often manage managers
- Management - generally refers to those who manage other employees - whether they be other managers or individual contributors
- Professional - generally refers to individual contributors who prioritize, plan and execute long term work projects
- Support - generally refers to individual contributors whose work and its prioritization is done by a manager

What industry sector do you work in?

- Construction
- Education and Health Services
- Financial Activities (includes Real Estate)
- Information (includes Media, telecom, Data Processing and other information services)
- Leisure and Hospitality
- Manufacturing
- Natural Resources and Mining
- Professional and Business Services
- Trade, Transportation and Utilities (includes Retail)
- Other

Exploratory Question **Open-ended item*

- What is your understanding of “artificial intelligence”? Please describe.

Appendix C

Internal Review Board (IRB) Informed Consent

Information and Disclosure Section

The following information is provided to inform you about the research project in which you have been invited to participate. Please read this disclosure and feel free to ask any questions. The investigators must answer all of your questions and please save this page as a PDF for future reference.

- Your participation in this research study is voluntary.
- You are also free to withdraw from this study at any time without loss of any benefits.

For additional information on your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance (Tel 615-494-8918 or send your emails to irb_information@mtsu.edu. (URL: <http://www.mtsu.edu/irb>).

Please read the following and respond to the consent questions below if you wish to enroll in this study.

1. Purpose: This research project is designed to help us examine how job applicants may perceive and react to requests from organizations to complete asynchronous video interviews as a first interview, and the differences in those perceptions and reactions based on what information, if any, is provided about how the decision will be made about which applicants advance in the selection process.

2. Description: There are several parts to this project. They are:

- 7 items in the consent form
- 4 items to determine your qualifications for the study
- 3 items to confirm your Prolific screening profile
- 5 questionnaires with a total of 64 items
- 8 items measuring additional demographics
- This consent script only covers surveys conducted online.
- You will NOT be audio or video recorded during this study.

3. IRB Approval Details

- Protocol Title: New Interviewing Technologies: What do job applicants think?
- Primary Investigator: Holli Salley
- PI Department & College: Department of Psychology in the College of Behavioral and Health Sciences
- Faculty Advisor (if PI is a student): Judith Van Hein

- Protocol ID: 23-2048 Approval Date: 11/11/2022 Expiration Date: 12/31/2022

4. Duration: The whole activity should take approximately 10-15 minutes. The subjects must take at least 5 minutes to complete the survey for their data to be included in analysis.

5. Here are your rights as a participant: (MANDATORY)

- Your participation in this research is voluntary.
- You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below)
- If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions.
- Some items may require a response to accurately present the survey.

6. Risks & Discomforts: The potential risk of participating in this research study is minimal psychological discomfort. None of the questions in this study ask for sensitive information, and you may quit the study at any time.

7. Benefits:

- a. Benefits to you that you may not receive outside this research: There are no direct benefits to you from this study, aside from potential compensation as listed below.
- b. Benefits to the field of science or the community: A better understanding of how job applicants perceive organizations which use asynchronous interview technology.

8. Identifiable Information: You will NOT be asked to provide identifiable personal information.

9. Compensation: The participants will be compensated by one or more of the following as described below.

Value per participation: \$2.40

Compensation Requirements:

a) The qualifications to participate in this research are:

- You are at least 18 years of age or older
- Fluent in English
- Currently located in the United States

If you do not meet these qualifications, you will not be included in the research and you will not be compensated.

b) After you complete this consent form you will answer screening questions. If you fail to qualify for the research based on these questions, the research will end and you will not be compensated.

c) Please do not participate in this research more than once. Multiple attempts to participate will not be compensated.

d) Attention checks are embedded in the research. If you fail 3 or more of these, then you will not be compensated.

e) To be compensated, you must receive a completion code. That requires clicking on the final screen of the study. If you choose to stop for any reason, you will still need to click through until the end to receive compensation (just leave the items blank and click through until the end of the survey; if items require a response to present the survey accurately, you will need to respond to those items as your progress to the end of the survey).

10. Confidentiality. All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, *if you or someone else is in danger or if we are required to do so by law.*

11. Contact Information. If you should have any questions about this research study or possibly injury, please feel free to contact Holli Salley by telephone 949.278.1902 or by email has4r@mtmail.mtsu.edu OR my faculty advisor, Judith Van Hein, at Judith.VanHein@mtsu.edu or 615.898.5752. You can also contact the MTSU Office of compliance via telephone (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented again at the end of the experiment.

You are not required to do anything further if you decide not to enroll in this study. Just quit your browser. Please complete the response section below if you wish to learn more or you wish to partake in this study.

Participant Response Section

Please confirm your eligibility to participate in this study by selecting an answer to each item below.

- Yes No I have read this informed consent document pertaining to the above identified research
- Yes No The research procedures to be conducted are clear to me
- Yes No I confirm I am 18 years or older
- Yes No I am aware of the potential risks of the study

By clicking below, I affirm that I freely and voluntarily choose to participate in this study. I understand I can withdraw from this study at any time without facing any consequences.

- NO - I do not consent
- YES - I consent