Human Resources Professionals' Perceptions and
Use of Asynchronous Video Interviewing

By

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Abstract

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Asynchronous video interviews (AVI) have the potential to change the way that HR professionals perform interviewing though limited research has been done regarding AVI use by HR professionals. This research examines the relationships between current interviewing practices, technology anxiety, perceptions of AVI features, and intentions to use such features. Participants ($N = 160$) completed an online survey measuring perceptions about AVI (perceived usefulness, perceived ease of use, behavioural intent) as well as levels of current interview structure and technology anxiety. Correlational analyses were used. It was found that both perceived usefulness and perceived ease of use were strongly and positively related with behavioural intent, current interview structure was positively related with perceived usefulness for AVI users, and technology anxiety was negatively related with perceived ease of use. Implications are that AVI usefulness and usability should both be considered seriously when assessing behavioural intent of potential new users.

Human Resources Professionals' Perceptions and

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Introduction

Technology continues to advance quickly, offering innovative ways to streamline business processes. One area of business that is being targeted by these technological advances is human resources (HR). Specifically, personnel selection within HR has the potential for significant change (Lievens, van Dam & Anderson, 2002). Personnel selection is often a time-intensive process for employers and requires time and input from various parties within a hiring organization. HR professionals have to coordinate and divide tasks with others on their teams. Together, this team divides the tasks of finding and recruiting capable applicants, reviewing applications, reaching out to applicants, interviewing, leading practical testing, job negotiations, and, later, onboarding. This is often a long process requiring manual back and forth communication and coordination between stakeholders. A typical recruitment process might look something like this: job applicants apply online for relevant positions. A recruiter would then scan the applications for fit along some general criteria (e.g. education leve and years of relevant experience). Strong applicants might then be called for phone screening to confirm general fit. Then, the remaining applications might be passed on to a hiring manager to screen. Top applicants would be scheduled for an interview with the hiring manager. The interview process can include a variety of stakeholders and take many forms depending on the position or company. All in all, the entire process might take weeks and numerous interactions (e.g. emails, calls, in-person meetings, and testing activities) between each applicant and various stakeholders in the company (Catano, Wiesner & Hackett, 2016).

In recent years, this process has been already changed in many ways due to globalization and the internet by making physical distance much less relevant than it has historically been. For example, between the years of 2010 and 2020, Google search queries for remote working situations have steadily increased (Google Trends, 2020a). The covid-19 pandemic has created an environment where physical distancing is occuring in many places (Government of Canada, 2020; Centers for Disease Control and Prevention, 2020) and so remote work and remote selection have become even more prevalent. Job seekers have more options to seek employment outside of their immediate geographical area. Similarly, employers have more means of seeking out the best talent in their industries through popular professional networking sites like LinkedIn (LinkedIn, n.d.). Methods for attracting and keeping talent have changed and employers are needing to adapt their personnel selection practices to keep up with the increasing competition that is the result of globalization. The most common adaptation of employers has been moving their recruitment practices online, using various online platforms (Khan, Awang & Ghouri, 2013) such as company websites, online job boards, and social media sites. This change has brought about both benefits and obstacles. This expanded reach has brought employers a large increase in applicant numbers (Verhoeven & Williams, 2008). HR professionals now face numbers of applications never seen before that they must vet to find the best applicants. Looking through so many applications takes time that can exceed HR's working capacity (Smith & Rupp, 2004) which can slow down the hiring process. Additionally, applicants can apply for more jobs than ever before and so if the hiring process is slow, the best applicants may no longer be available by the time an employer

has vetted their application. Together, these factors may be leaving personnel selection up to chance more than employers would want.

To address these changes in the world, Asynchronous Video Interviewing (AVI) proposes an innovative and automated approach. AVI enables employers to automate many of the tasks that have traditionally been required for personnel selection such as holding interviews and rating applicants.

AVI has been faced with mixed responses from recruiters and job applicants. HR professionals have praised AVI in the field of recruitment for its potential to streamline the hiring process (Kutik, 2015). It has also, however, been met with negativity and even disgust as it goes steps further than other methods to remove even more human interaction from the selection process, according to popular media pages (Corcodilos, 2016).

AVI has the potential to improve the selection process when used in conjunction with other tools (e.g. applicant tracking system and video-based situational judgement tests), yet little research has been done to inform academics and practitioners alike about HR professionals' usage behaviours and perceptions of AVI. This is especially important as AVI is becoming more commonplace and has been adopted by large companies around the world such as Unilever, IBM Watson, and Mercedes Benz and will likely become more commonplace (Field, 2017). According to a popular media article, the AVI platform, HireVue, has hosted more than 10 million AVIs (HireVue, 2020). At the time of this research, only a few articles have examined AVI showing how research aimed to fill this gap in the literature is of great importance. This paper will explain the AVI process in-depth along with what the experience looks like from an HR professional's

perspective. It will examine the advantages and disadvantages that come with AVI, such as increased interview structure, and optional features for users, such as automated rating. It will incorporate the technology acceptance model (Davis, 1989) and how it may be of use in understanding user adoption of AVI. Lastly, it will describe a new research study which will increase understanding of AVI use from HR professionals' perspectives.

Asynchronous video interviewing

What It Is

As there are different terms for AVI, it is important to define its exact meaning for this work. For our purposes, AVI will refer to video-recorded applicant responses to interview questions independent of an employer's live-time presence. In other words, an applicant will receive interview questions either through text or video-prompt and will record and upload their responses digitally. This has also been referred to as video interviewing and digital interviewing in the literature (Levashina, Hartwell, Morgeson & Campion, 2014; Suen, Chen & Lu, 2019; Suen, Hung & Lin, 2019; Suen, Hung & Lin, 2020; Langer, König & Krause, 2017). It is important that AVI is distinguished from videoconferencing or synchronous video interviewing in which an applicant and interviewer communicate in live time through a video interface.

Implications for Employers

To aid understanding of HR professionals' experience with AVI, the process of building, viewing, and rating an AVI will be explained with specific focus on the feature

options available to them[1]. To build an interview, users begin by entering basic

information about the position for which the interview will be held for (e.g. title and due

date). They will then clarify the type of interview it will be (audio-video responses vs.

audio-only responses), the method of scoring (applicants can either be scored for each

question response or given a single, comprehensive score), and access option for others

within the company. HR professionals can then choose to create if/then rules to

streamline their process, e.g. if an applicant scores above 7 overall, they will be

automatically sent an email inviting them to attend an in-person interview. If/then rules

can relate to interview scores, ratings, or recommendations. Employers can choose to

upload an intro video or a conclusionary (outro) video to provide information about the

company that applicants will watch before or after their AVI, respectively; these are

opportunities to show applicants about things such as their brand and culture. Afterwards,

the interview questions must be created. Questions can be created new, chosen from a

question bank, modified from available templates, or chosen from previously built

interviews. New questions can be typed only (basic requirement) or recorded as a video

prompt; they can also be supplemented with additional files or various media. Applicant

interview responses can be restrained within time limits or re-record opportunities. Lastly,

once applicants have completed their interviews, professionals can watch responses to

rate them manually for which they can choose ratings (1-5 stars), comment, and label

(yes, maybe, or no), or opt for automated rating which is offered by some AVI platforms.

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[1] Employer AVI process was discovered through accessing a HireVue license and

documenting the process first-hand.

Automated rating is a system which employers can choose to use or not; it uses algorithms to rate applicants based on the content of their responses, tone of voice and facial expressions. No research has been published about how these automated rating systems correlate with human HR professionals' ratings. It then rates each applicant either per question response or as a whole which HR professionals can then view. Additionally, even if automated scoring is used, professionals still have the option of rating applicants themselves. Whether or not this is utilized, AVI technologies make it simple to compare applicants and share interviews between coworkers. Considerations of the features mentioned above will be addressed later in this paper.

Advantages and Disadvantages

Technology has increased the efficiency of personnel selection in the past (Bauer, Truxillo, Paronto, Weekley, & Campion, 2004) and AVI has the potential to bring about many similar benefits for companies. It can increase an employer's capacity to interview applicants significantly. This is a shift from only having the capacity to interview the top few applicants after vetting applications. From there, HR professionals can move forward with the top performers and even utilize automatic scheduling systems. If the system is sophisticated enough to rank applicants accurately, then this could reduce the demand on HR professionals as the system could perform all preliminary screening of eligibility and first interviews, according to some practitioners (Kutik, 2015). Some systems even offer job-specific online testing as a part of the AVI process to assess job skills (HireVue, n.d.).

AVI can cut costs by freeing up scheduled interview time for both parties, employer and applicant, as neither need to set aside a specific interview time and applicants need not travel to the interview. As interviews often include multiple

interviewers, this can also bypass the process of scheduling in advanced due to having to find common availability which allows for a great deal of flexibility for both the applicant and interviewer alike as respective tasks (performing and reviewing the interview) can be completed at any time and at any place which is convenient for each (HireVue, 2020). These are important because increasing employee efficiency and reducing costs are some of the top reasons that companies adopt new HR technologies (Chapman & Webster, 2003). This has been criticized in the popular media as a shift from investing in meeting and connecting with people and reallocating that investment into impersonal computer systems (Corcodilos, 2016).

When examining potential changes to personnel selection due to AVI, the process of vetting applications may be impactful for the following reasons. In current processes, highly qualified applicants can go unnoticed. For example, when applicant tracking systems' vetting features are used, they often rely on HR professionals to search keywords of applications; those with more keyword matches rank higher on the page for review. Although keyword matching has proven a good way to cut down on time expenses of HR professionals (Laumer, Maier & Eckhardt, 2015), there are chances that qualified applicants are not recognized due to synonym use in their writing. The automated scoring function of some AVI platforms can improve in this area as all text input is considered rather than only keyword matching along with machine learning algorithms (e.g. HireVue, Montage; Gonzalez et al., 2019).

One negative consequence of utilizing AVI technologies is their perceived intrusiveness as compared to more traditional forms of interviewing such as in-person or videoconference interviews (Langer, König & Krause, 2017; Langer, König &

Papathanasiou, 2019). Increases in perceived intrusiveness occur because of increased informational privacy concerns which can be caused by the permanency of recorded video as compared to in-person/telephone interviews or videoconferencing. Here, power over how applicants' private data is handled is given up which can be worrying especially when there is little transparency over how it is handled by both the employer and the AVI platform which will be discussed further. As noted by Stone-Romero, Stone, and Hyatt (2003), when applicants agree to provide their information during the hiring process, it is not necessarily by choice because it is a required hurdle towards their goal of employment. The more private applicants feel the information collected is, the lower applicant satisfaction and willingness to participate in further testing (Stone, Gueutal, Gardner & McClure, 1983). Additionally, increased perceived privacy risk to applicants is associated with decreased company attractiveness which will be of special interest for companies interested in ensuring positive applicant experiences (Bauer et al., 2006).

Features, perceptions, and their impacts

Video Introduction

AVI platforms offer a variety of features available to users that have yet to be studied. These options include how companies present and promote themselves to applicants, how interview materials are presented, and how applicant responses are collected. These are opportunities to enhance recruitment process characteristics which in turn promote the company and its image as an employer which positively influences company attractiveness to applicants (Uggerslev, Fassina, & Kraichy, 2012).

Structure and Questions

The role of structure in AVI is of great importance as structure increases interviews' predictive validity through the standardization of interview experiences across applicants (Levashina, Hartwell, Morgeson & Campion, 2014). AVI are created so that each applicant for the same position has the same opportunities to present themselves as all other applicants. This structure reduces opportunities for rater conscious or subconscious biases to affect applicant interviews by limiting things like small-talk, unstandardized probing questions or even alma mater affiliations.

Historically, interviews and applicant assessments relied greatly on the expertise of interviewers. Interviewers have preferred to rely on their own intuition when assessing applicants as demonstrated by the high acceptance of unstructured interviews (Highhouse, 2008; van der Zee, Bakker & Bakker, 2002) despite the demonstrated superior validity of structured interviews for decades (McDaniel, Whetzel, Schmidt & Maurer, 1994). Unstructured interviews are those in which there is no standardization between applicant interviews. Structured interviews are those in which many precautions are taken ahead of time to standardize as much of the applicant experience as possible between interviews so to increase the validity and fairness of the interview process. These often include the use of a standard list of identical questions, anchored rating scales, and standardized follow-up questions, among other techniques (Levashina, Hartwell, Morgeson & Campion, 2014).

AVI allows for a straightforward way to standardize interviews between all applicants for the same position in that all applicants will be asked the same questions, will have the same opportunities for response (feature settings), and share the same

interview experience. This standardization can also be attractive to employers because it is one of the top reasons that new technologies are adopted by companies (Chapman & Webster, 2003). Also, by standardizing interview experiences between applicants, it is providing a more equal opportunity and so is more legally defensible (Government of Canada, 1995). By removing the live-time interaction between interviewer and applicant, the risk of small-talk, unequal use of probing questions, and questions unrelated to the position will be diminished. Additionally, if the automated rating system is programmed without bias, it may provide fairer ratings than humans often do as first impressions and job suitability rating are partially based on appearance regarding race, gender, and weight (Derous, Buijsrogge, Roulin, & Duyck, 2016; Purkiss, Perrewé, Gillespie, Mayes, & Ferris, 2006). Fairness of automated rating will be discussed in depth later in this paper. As standardized conditions between applicants is by default, there is less opportunity for biases or other influencing human tendencies such as preferring people with a certain appearance (Dipboye, 2005) or physical ability (Hebl & Skorinko, 2005), asking follow-up questions to only certain applicants or favouring an applicant due to a shared alma mater. Use of AVI can limit these chances.

The asynchronous video format benefits interview predictive validity due to the high structure and face validity as applicants prefer technological interfaces when participating in highly structured interviews (Chapman & Rowe, 2002). Applicants' perceptions of AVI improve when the high structure and standardization of AVI are explained as ways to increase fairness (Basch & Melchers, 2019). However, because it lacks the two-way communication of conversations, it has less media richness than real-time interviews (Lievens & Sackett, 2017).

Timing and Response Format

When creating AVIs, HR professionals have many options to choose from in order to align the interview with their preferred interview style. They can choose the format of the response they would like (e.g. audio or audio-video) though no research here has been done yet.

Other logistical restrictions can be placed upon applicant responses. For example, applicants can be allowed to re-record their responses to questions if they were not satisfied with their initial performance. This will likely decrease anxiety of using the technology with the assurance that if they make a mistake with it, they will have another chance. By allowing this type of practice, submitted responses are likely to have fewer technical flaws as well, meaning that allowing for re-recording may reduce many facets of interview anxiety that stem from worries about how clearly one will communicate their thoughts and the physical reactions of the body to a stressful situation as corrections can be made the second time (Mccarthy & Goffin, 2004). A potential downfall to this is that submitted responses may be less authentic if applicants are able to rehearse or change their answer, though this is not unique to AVI. This is accounted for in Levashina and Campion's (2006) model of faking which is built upon three functions: applicants' capacity, willingness, and opportunity to fake. By allowing applicants to rerecord their responses, they have an increased opportunity to fake.

A partial solution to this problem of faking may be in another feature: time limiting responses. If this feature is activated, applicants have a set amount of time to respond to each question. This may limit faking as applicants only have a set amount of time to artificially construct their responses (Levashina & Campion, 2006); however, it

may also increase pressure on the applicant and distract them from focusing on their

response (Keinen, Friedland, Kahneman & Roth, 1999; Karau & Kelly, 1992) which can

increase stress and anxiety.

Additionally, applicants can be given a specified amount of time to prepare for

their response prior to accessing the response recording tool. This essentially enforces

that applicants mentally prepare for their response which may again decrease anxiety to

perform or that caused by new technology use.

Automated Rating

An advanced option of AVI is automated video assessments. HR professionals can

opt to use artificial intelligence to rate applicant video responses before the HR

professional has had to even watch them. These technologies assess emotion through

facial expression, voice tone and variability, and content through language patterns and

word choice. This can yet again cut down time costs for HR professionals allowing them

to assess more qualified applicants (Gonzalez et al., 2019; Luacick, Bourdage & Roulin,

2020).

Questions of fairness of automated rating have been prompted as validity studies

for the technology have not been released to the public. As the technology offers a

competitive advantage for some companies over others, technical information about it is

kept secret and so we can only speculate about its validity. This ambiguity may increase

applicants' worries about how their private data is used once submitted. The algorithms

that are used to rate video responses are built upon a database of real-life videos from

which patterns are found. These patterns guide how the artificial intelligence rates the

videos. This can be problematic because the validity of the automated scores are

dependent on an unbiased dataset from which to learn. In summary, it cannot be assumed

that the automated scores are fair and unbiased because the data that it is based on is

human-generated and so often contains bias (Caliskan, Bryson & Narayanan, 2017).

From the applicants' perspective, analysis of body language from videos has also

been criticized in the popular media. Specifically, facial expression and eye contact are

considered when formulating scores which has been criticized as an unrealistic

expectation in that applicants have no person with whom to make eye contact, but only a

small camera lens to look at (Corcodilos, 2016). Although automated rating has the

potential to save the resources of HR professionals largely, it is up to individuals to weigh

the potential benefits with the drawbacks and unknowns about it when making these

decisions. Research has recently begun to discover best practices for AVI use and provide

them to practitioners such as Mejia and Torres' (2018) recommendation for hospitality

employee selection. As an example, AVI should be utilized early in the selection process

in the hospitality industry in order to help the employer build a relationship with the

applicants, but also to screen for higher quality applicants to bring into a first in-person

interview (Mejia & Torres, 2018).

It is in the interest of this research to understand which AVI features are used and

preferred by HR professionals. It would follow logically that different selections of

features would make for a different applicant experience and different information gained

from each applicant; this study is interested in how these decisions are made. This can be

valuable information as no research has yet looked at the interviewer perspective of this

technology other than Mejia and Torres (2018) who examined AVI use in the hospitality

industry. The little research that has been done on AVI has only assessed the applicant

experience of it (Guchaita, Ruetzlerb, Taylorb & Toldi, 2014; Langer, König & Krause, 2017). It is important to understand both the perspectives of the applicant and interviewer in order to utilize and improve the AVI process. Without understanding the practices of both employers and applicants, choosing the interventions that correct for mistake or issues will be less likely.

Technology Acceptance Model

This research will be based upon the technology acceptance model (TAM) to assess the use and perceptions of various AVI features. TAM, which was proposed by Davis (1985) and is widely accepted within the information systems literature (King & He, 2006) attempts to explain how technologies are adopted into use which is especially useful within organizations. It states that behavioural intention (BI) on whether to adopt a new technology is determined by its perceived usefulness (PU) and perceived ease of use (PEU). PU is defined as the probability and perceived degree to which utilizing this technology will increase job performance. PEU refers to the degree to which use of the technology will be free from effort. BI is defined as the likelihood that one will use the technology in the future (Davis, 1989).

Much research has supported this model. Evidence has found that PU and PEU are distinct factors (Hauser & Shugan, 1980; Larcker & Lessig, 1980; Swanson, 1987) which predict BI. Davis, Bagozzi, and Warshaw (1989) found that BI fully mediated the effects of other variables on technology usage. Since its creation, there have been many adapted versions of TAM (e.g. TAM2, TAM3, the Unified Theory of Acceptance and Use of Technology), though TAM continues to be the most widely-used version.

Of specific interest for the current research, one study found that after introducing a new technology to participants for one-hour, similar to the exposure that HR professionals would have when trialing a prospective technology (Alavi, 1984), TAM proved a useful model to predict usage (Davis, Bagozzi & Warshaw, 1989). It also further supported TAM in that BI was a full mediator of future technology usage of all other factors predicted by both TAM and the theory of reasoned action (Fishbein & Ajzen, 1975), another model of decision making. It also found that as experience with the technology of interest increases, the influence of PEU diminishes. With regards to similar research applications, TAM has been widely used in research about the acceptance of electronic human resources management systems (Winarto, 2018).

Technology Anxiety

This research will also examine technology anxiety (Meuter, Ostrom, Bitner & Roundtree, 2003) in relationship with TAM constructs. People with technology anxiety are less interested in adopting new technologies than those without technology anxiety. When they do adopt new technologies, they do so at a slower rate than others Additionally, those with technology anxiety have been shown to report lower levels of satisfaction while using a technology (Meuter, Ostrom, Bitner & Roundtree, 2003).

Hypotheses

TAM has been supported by research throughout the past 3 decades and is still one of the most accepted models of technology adoption. A more recent study found that TAM was a useful model to explain employee adoption of videoconferencing use and adoption in meeting settings (Park, Rhoads, Hou & Lee, 2014).

Hypothesis 1a and 1b: (a) PU and (b) PEU will both be positively correlated with BI to use AVI.

TAM will be applied to assess the PU and PEU of AVI as a whole rather than to assess the PU and PEU of AVI features. This was to account for most participants not having been using AVI. Without experience with these features, it would be difficult for participants to give valid assessments of AVI features' usefulness and ease of use since participants would have had to speculate about the user interface. BI was measured for each feature as well as AVI as a whole.

Current interview practices regarding interview structure will be assessed to gain a contextual understanding of how AVI adoption may be perceived as easy/difficult to use and more/less useful. As AVI uses highly structured interview techniques, HR professionals who use highly structured interview techniques in their in-person interviewing practices will likely show positive bias towards AVI as they are already familiar with similar structured interviews (Park & Lessig, 1981). If HR professionals use structured interviews, they are likely to appreciate the benefits of structured interviews more readily, whereas the opposite would be true for those who use unstructured interviews (Fox & Levav, 2000).

Hypotheses 2a and 2b: HR professionals who currently use more structured in-person interview practices will report (a) higher PU and (b) PEU for AVI.

HR professionals who currently use more structured in-person interview practices will report higher BI to use more structured features as they will be more likely to accept or seek features that replicate their current practices. Those who use less structured interviews will seek features that allow for more flexibility and freedom to applicants.

Hypotheses 3a, 3b, 3c, and 3d: HR professionals who use more structured in-person interview practices will (a) allow fewer opportunities to re-record responses, (b) allow a shorter amount of response time, (c) allow a shorter amount of preparation time, and (d) be more inclined to use automated rating.

Lastly, HR professionals with negative predispositions about new technologies, conceptualized by technology anxiety, are less likely to use new technologies when given the option (Meuter, Ostrom, Bitner & Roundtree, 2003). Because people with technology anxiety report lower satisfaction with new technologies, it is expected that participants with higher technology anxiety will perceive AVI, a new technology, to be less easy to use and will be less inclined to use it.

Hypotheses 4a and 4b: HR professionals who report higher levels of technology anxiety will report (a) lower PEU and (b) lower BI to use AVI.

This research will bring value to HR professionals by shedding light on the usage of AVI among the industry. It will also be of interest for technology developers to better understand the adoption process of their products by HR professionals.

Methods

Participants

This study was administered through a web-based survey to Canadian and American HR professionals – people whose jobs included the task of interviewing job applicants for employment. In total, there were 231 participants. After screening for minimum interviewing experience (held a minimum of 10 interviews), attention checks, answer consistency, speeding, and completeness, 160 valid participants remained. Of them, 124 (78%) had not been using AVI at that time and 36 (23%) had been using AVI.

53% were female and 47% were male. 65% of the participants were American while 35% were Canadian. The mean age was 40.84 (SD = 8.27). 54% of participants worked at small companies (1-99 employees), 25% worked at medium-sized companies (100-499 employees), and 41% worked at large companies (500 or more employees). Participants were quite experienced in holding in-person interviews with 58% having held 50 or more interviews. Regarding participants' highest educational levels, 54% held a bachelor's degree, 14% held a master's degree, 12% held an associate's degree, 11% held a high school diploma, 6% held a doctorate or professional degree, and 4% had a different type of education.

Procedure

Participants were recruited through 5 channels: Amazon Mechanical Turk (MTurk), Canadian HR professional organizations, a Canadian industrial-organizational (I-O) psychology professional association, direct emails, and social media posts. Regarding recruitment through MTurk, participants were recruited from an existing database of users who had been pre-screened for having experience in a hiring role. This database was part of a collaborative effort by various researchers to enable more cost-effective participant recruitment. Of the 160 valid participants, 113 (71%) were sourced from MTurk while 47 (29%) were sourced from the mix of professional associations, direct emails, and social media posts. For the professional associations, emails were sent to the associations informing them about this study and asking permission for a study invitation email to be forwarded to members or for a spot in their newsletter. Direct email invitations were sent to personal connections working in HR and social media platforms were also used to invite HR professionals to the study. The invitation email included a

brief introduction to the study and a link to the online survey, hosted on Qualtrics. Interested participants clicked on the link and were brought to the informed consent page prior to starting the survey. This page informed participants about the purpose of the study, potential benefits of participation, risk level, and confidentiality as per Research Ethics Board standards. Consent was given if participants choose to continue to the study; this was made clear to participants. Participant identities remained anonymous and identifying information was not collected.

The study began by introducing participants to the concept of AVI to ensure that they understood the technology in question (Appendix A). It then asked participants about whether they use AVI (Appendix B) in order to distinguish between participants who are already currently using AVI in their work and those who aren't. Participants who had been using AVI at that time were asked different, but parallel questions to participants had not been using AVI (e.g. "Using video interviewing makes it easier to do my job." Vs. "Using video interviewing would make it easier to do my job."). Participants who were already using AVI were then asked about their use of various AVI features as well as their PU and PEU of AVI, generally (Appendix C). Participants who were not using AVI were asked about their intentions to use various AVI features as well as their PU, PEU, and BI towards AVI (Appendix D).

Following this, participants' current interview structure (Appendix E) and general technology anxiety (Appendix F) were measured before demographic information was collected (Appendix G). Lastly, participants were asked general open-ended questions about the benefits and drawbacks of AVI that they perceive for themselves (e.g. "For you, what are the key benefits of video interviewing?") (Appendix H).

Measures

AVI use

In order to determine whether participants had been using AVI, the question, "Do you currently use video interviewing?" was used where participants could answer either yes or no. After a brief introduction to each of the different AVI features in question, participants were asked about their use or intended use of each feature. For example, with regards to the introduction video feature of AVI, AVI users were asked, "Do you use an introduction video?" where answer choices were yes or no. Regarding the conclusion video feature, AVI users were asked, "Do you use a conclusion video?" where they could answer either yes or no. Regarding the audio-only response feature, AVI users were asked, "Do you ask for audio-only responses?" where they could answer either yes or no. With regards to the audio-video response feature of AVI, AVI users were asked, "Do you ask for responses with audio-video recording?" where answer choices were yes or no. Regarding the AVI feature which allows for applicants to re-record their responses, AVI users were asked, "Do you allow candidates to re-record their response?" where choices were either yes or no. Participants were then asked how many re-record opportunities they allows applicants using the question, "If so, how many redoes do you allow?" Response options were 0, 1-2, 3-4, and 5 or more. With regards to the feature limiting response time given to an applicant, AVI users were asked, "Do you limit the time candidates have to answer each question?" where answer choices were yes or no. This was followed by, "If so, how much time do you allow?" where response choice were up to 2 minutes, up to 5 minutes, up to 10 minutes, and more than 10 minutes. One AVI feature allows HR professionals to score candidates with one composite score or to score

them on each question individually. AVI users were asked, "Do you rate candidates with one composite score or with a score per question?" and response options were one composite score or a score per question. Lastly, regarding the automated rating feature of AVI, AVI users were asked, "Do you use an automated rating system?" where they could respond either yes or no.

Technology Acceptance

PU and PEU were measured using adaptations of Davis' TAM (1989) (Appendices C and D). PU was measured using a 6-item scale (e.g. "Using video interviewing would improve my job performance.", $\alpha = .98$), as was PEU (e.g. "I would find video interviewing easy to use.", $\alpha = .94$) (Davis, 1989). All scales used in this study were rated on a 5-point, Likert-type scale (1 = strong disagree, 5 = strongly agree). A composite score of PU was created by calculating the mean score of its related questions. A composite PEU score was created by calculating the mean score of its related questions. Higher scores indicated an increased PU and PEU, respectively.

Behavioural intention was measured using a scale adapted from Armenteros, Liaw, Fernández, Díaz, and Sánchez (2013). It consisted of 5 items also rated on a 5-point, Likert-type scale (e.g. "I intend to use video interviewing for employment interviews", $\alpha = .96$).

Current interview structure

Current interviewing practices were measured using a 24-item rated scale on a 5-point Likert-type scale (Appendix F). This scale was based on those created by Chapman and Zweig (2005) as well as Roulin, Bourdage, and Wingate (2019) which, together,

consisted of a set of four factors: evaluation standardization, question sophistication, question consistency, rapport-building, and note-taking. Evaluation standardization consisted of 6 items (e.g. "I use a formal rating system that I apply to each candidate."; α = .81). Question sophistication was made up of 4 items (e.g. "I use hypothetical or situational questions."; α = .59). Question consistency was made up of 6 items (e.g. "My questions are consistent across candidates."; α = .84). Rapport-building consisted of 5 items (e.g. "I ask questions to get to know the candidate as a person."; α = .73). Note-taking consisted only of 1 item ("I take detailed notes during the interview to help me make my evaluation.").

Technology anxiety

Lastly, technology anxiety was measured using the 9-item Technology Anxiety Scale (Meuter, Ostrom, Bitner & Roundtree, 2003) (Appendix G). This scale has a Cronbach α score of .90. This was also rated on a 5-point Likert-type scale of levels of agreement to each statement (e.g. "I feel apprehensive about using technology.").

Results

To address all hypotheses, Spearman's rho correlations were performed. As preliminary analyses, t-tests were run to assess if participants from the different recruitment sources led to meaningfully different means for the main variables of this study. Of the total 160 participants, 113 were recruited through MTurk and 47 were recruited through other means (i.e. professional associations, direct emails, and social media posts). There was a significant difference in the in use of AVI between participants recruited through MTurk (M = .27, SD = .44) and participants recruited through other

sources (M = .13, SD = .34); $t(158)$ = 1.91, p < .001.With regards to BI, there was a

nonsignificant difference in the scores for participants recruited through MTurk (M =

3.27, SD = 1.11) and participants recruited through other sources (M = 2.95, SD = 1.12);

$t(122)$ = 1.49, p = .14. Regarding PU, there was a nonsignificant difference in the scores

for participants recruited through MTurk (M = 3.76, SD = 1.03) and participants recruited

through other sources (M = 3.59, SD = .92); $t(158)$ = .96, p = .34. Regarding PEU, there

was a significant difference in the scores for participants recruited through MTurk (M =

4.30, SD = .67) and participants recruited through other sources (M = 3.89, SD = .72);

$t(158)$ = 3.40, p = .001. For current interview structure, there was a nonsignificant

difference in the scores for participants recruited through MTurk (M = 3.24, SD = .646)

and participants recruited through other sources (M = 3.31, SD = .44); $t(158)$ = -.86, p =

.39. Regarding technology anxiety, there was a significant difference in the scores for

participants recruited through MTurk (M = 1.45, SD = .65) and participants recruited

through other sources (M = 1.72, SD = .59); $t(158)$ = -2.43, p = .02.

  Spearman's rho correlations were chosen over Pearson's r correlations due to the

variables in question being ordinal in nature. Correlations, means, and standard deviations

of variables pertaining to non-AVI users can be found in Table 1. Correlations, means,

and standard deviations of variable pertaining to AVI-using participants can be found in

Table 2. Correlations, means, and standard deviations of variables pertaining to all

participants can be found in Table 3.

Table 1. Means, Standard Deviations, and Correlations Among Study Variables Pertaining to Participants Not Using AVI

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1	Perceived Usefulness[2]	3.54	.97											
2	Perceived Ease of Use[2]	4.10	.71	.37**										
3	Behavioural Intent[2]	3.16	1.12	.81**	.42**									
4	Current Interview Structure[3]	3.22	.46	.14	.01	-.14								
5	Re-record Opportunities[4]	.85	.85	.10	.09	.06	-.12							
6	Response Time[5]	2.15	1.00	-.05	.04	-.12	-.01	.18*						
7	Preparation Time[6]	1.56	1.23	.03	-.03	-.01	-.01	.54**	.22*					
8	Automated Rating Use[7]	.34	.48	.28**	.02	.36**	.05	.04	-.07	-.14				
9	Technology Anxiety[2]	1.54	.65	-.13	-.58**	-.14	-.04	-.06	-.20*	-.12	-.01			
10	Age	42.19	10.77	-.08	.01	.03	-.16	-.07	-.16	-.03	-.03	.08		
11	Gender	1.51	.50	-.09	-.13	-.10	.13	-.02	-.07	-.07	.02	.24**	-.32**	
12	Recruitment source	1.33	.47	-.07	-.32**	-.16	.07	-.16	-.16	-.10	.08	.30**	-.25**	.35**

Note. N = 124 HR professionals who had not been using AVI. * $p < .05$. ** $p < .01$.

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[2] Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5

[3] Never = 1, Sometime = 2, About half of the time = 3, Most of the time = 4, Always = 5

[4] 0 redoes = 0, 1-2 redoes = 1, 3-4 redoes = 2, 5+ redoes = 3

[5] Up to 2 minutes = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[6] No preparation = 0, Up to 1 minute = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[7] No = 0, Yes = 1

Table 2. Means, Standard Deviations, and Correlations Among Study Variables Pertaining to Participants Using AVI

		Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Perceived Usefulness[2]	4.30	.86										
2	Perceived Ease of Use[2]	4.46	.66	.72**									
3	Current Interview Structure[3]	3.40	.41	.35*	.23								
4	Re-record Opportunities[4]	.78	.99	-.02	-.09	.27							
5	Response Time[5]	2.61	1.13	-.43**	-.27	-.47**	-.02						
6	Preparation Time[6]	1.75	1.50	-.32	-.24	-.27	.02	.37*					
7	Automated Rating Use[7]	.06	.23	.30	.18	-.27	-.04	.00	.05				
8	Technology Anxiety[2]	1.48	.63	-.48**	-.57**	-.10	.10	.45**	.08	.04			
9	Age	38.63	8.44	.23	-.07	-.03	-.08	-.20	-.05	-.23	-.07		
10	Gender	1.61	.49	-.15	-.05	-.22	-.02	-.02	-.25	-.06	.03	.03	
11	Recruitment source	1.17	.38	-.04	.04	.24	.20	-.09	-.44**	.22	.24	-.29	.36*

Note. $N = 36$ HR professionals. * $p < 05$. ** $p < .01$.

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[2] Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5

[3] Never = 1, Sometime = 2, About half of the time = 3, Most of the time = 4, Always = 5

[4] 0 redoes = 0, 1-2 redoes = 1, 3-4 redoes = 2, 5+ redoes = 3

[5] Up to 2 minutes = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[6] No preparation = 0, Up to 1 minute = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[7] No = 0, Yes = 1

Table 3. Means, Standard Deviations, and Correlations Among Study Variables Pertaining to All Participants

		Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Perceived Usefulness[2]	3.71	1.00										
2	Perceived Ease of Use[2]	4.18	.71	.48*									
3	Current Interview Structure[3]	3.26	.45	.24**	.11								
4	Re-record Opportunities[4]	.83	.88	.06	.03	-.05							
5	Response Time[5]	2.26	1.04	-.04	.02	-.07	.12						
6	Preparation Time[6]	1.60	1.29	-.04	-.08	-.06	.40**	.26**					
7	Automated Rating Use[7]	.28	.45	.14	-.05	.02	.05	-.10	-.11				
8	Technology Anxiety[2]	1.53	.64	-.22**	-.56**	-.09	-.02	-.05	-.07	.02			
9	Age	40.84	8.27	-.06	-.04	-.17*	-.03	-.19*	-.03	-.03	.03		
10	Gender	1.53	.50	-.06	-.08	-.07	-.02	-.05	-.11	-.01	-.18*	-.24*	
11	Recruitment source	1.29	.49	-.12	-.27	.07	-.08	-.16*	-.18*	.13	.29*	-.22*	.33*

Note. $N = 160$ HR professionals who were a mix of both AVI users and non-users. * $p < .05$. ** $p < .01$.

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[2] Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5

[3] Never = 1, Sometime = 2, About half of the time = 3, Most of the time = 4, Always = 5

[4] 0 redoes = 0, 1-2 redoes = 1, 3-4 redoes = 2, 5+ redoes = 3

[5] Up to 2 minutes = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[6] No preparation = 0, Up to 1 minute = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4

[7] No = 0, Yes = 1

In response to hypothesis 1a, a strong, positive, and statistically significant relationship

was found between PU and BI, $r_s(122) = .81$, $p < .001$, $r^2 = .65$, such that participants who

perceived higher AVI usefulness intended to use it more than those who perceived lower

AVI usefulness. This and all analyses including BI only included data from participants

who had not been using AVI at that time as otherwise BI data would have been less valid

by including participants' existing behaviours of using AVI.

Regarding hypothesis 1b examining the relationship between PEU and BI, a

moderate and statistically significant relationship was found, $r_s(122) = .42$, $p < .001$, $r^2 =$

.17, meaning that participants who perceived AVI to be easier to use intended to use it

more than those who perceived AVI to be more difficult to use. In addition, a multiple

linear regression was used to test whether PU and PEU predicted BI of participants who

hadn't been using AVI. It was found that PU and PEU explain a significant amount of the

variance in BI, ($F(2, 121) = 172.26$, $p < .001$), where R = .86 and $R^2 = .74$. Both PU (B =

.81, $t(123) = 16.78$, $p < .001$) and PEU (B = .14, $t(123) = 2.88$, $p = .005$) predicted BI

uniquely and significantly which is aligned with earlier research.

Hypothesis 2a was tested for all participants and resulted in the finding of a

statistically significant relationship between current interview structure and PU, $r_s(158) =$

.24, $p = .002$, $r^2 =$ .06, such that participants with higher current interview structure also

perceived AVI to be more useful. When participants were separated into groups of AVI

users and non-AVI users, there was also a significant relationship between current

interview structure and PU for AVI users, $r_s(34) = .35$, $p = .03$, $r^2 = .13$ though there was

an nonsignificant relationship for non-AVI users, $r_s(122) = .14$, $p = .11$, $r^2 = .02$. When a correlational comparison analysis was run between correlations from AVI users and non-AVI users, a nonsignificant result was found, $z = 1.14$, $p = .25$. Regarding PU, there was a significant difference between AVI users ($M = 4.30$, $SD = .86$) and non-AVI users ($M = 3.53$, $SD = .96$); $t(158) = -4.23$, $p < .001$. Regarding current interview structure, there was also a significant difference between AVI users ($M = 3.40$, $SD = .41$) and non-AVI users ($M = 3.22$, $SD = .46$); $t(158) = -2.25$, $p = .04$.

Hypothesis 2b examined the relationship between current interview structure and PEU with a statistically nonsignificant result, $r_s(158) = .11$, $p = .18$, $r^2 = .01$. There was a nonsignificant relationship for participants who were non-AVI users, $r_s(122) = .01$, $p = .87$, $r^2 = .02$, and also a nonsignificant relationship for AVI users, $r_s(34) = .23$, $p = .18$, $r^2 = .05$. A correlational comparison analysis found a nonsignificant difference between correlations of AVI users and non-AVI users, $z = 1.14$, $p = .25$.

To assess the relationship between current interview-structure and number of opportunities given to interviewees to re-record a response in a AVI for hypothesis 3a, the correlations resulted in a statistically nonsignificant finding, $r_s(158) = -.05$, $p = .54$, $r^2 = .002$. When responses from current AVI users and non-AVI users were examined separately, there was a nonsignificant relationship between current interview structure and re-record opportunities allowed for participants who did not use AVI, $r_s(122) = -.12$, $p = .18$, $r^2 = .01$, and a nonsignificant relationship between them for participants who did use AVI, $r_s(34) = .27$, $p = .11$, $r^2 = .07$. A correlational comparison analysis found a

significant difference between correlations of AVI users and non-AVI users, $z = 2.02$, $p =$ .04.

A similar statistically nonsignificant result was found for hypothesis 3b when examining the relationship between current interview structure and amount of allowed response time given to an interviewee of a AVI, $r_s(158) = -.07$, $p = .36$, $r^2 = .005$. Again, when responses from current AVI users and non-AVI users were examined separately, there was no significant relationship between current interview structure and response time allowed for non-AVI users, $r_s(122) = -.01$, $p = .90$, $r^2 < .001$, though there was a significant relationship for AVI users, $r_s(34) = -.47$, $p = .004$, $r^2 = .22$. This negative relationship entails that AVI users with higher current interview structures allowed applicants less response time than AVI users with lower current interview structure. When a correlational comparison analysis was run between correlations from AVI users and non-AVI users, a significant result was found, $z = 2.55$, $p = .01$.

Current interview structure and amount of allowed preparation time were correlated to test hypothesis 3c resulting in a statistically nonsignificant relationship, $r_s(158) = -.06$, $p = .43$, $r^2 = .004$, in that participants with higher current interview structure allowed applicants less preparation time to respond. There were also nonsignificant relationships between current interview structure and preparation time allowed for both groups of participants; non-AVI users, $r_s(122) = -.01$ $p = .96$, $r^2 < .001$; AVI users, $r_s(34) = -.27$, $p = .11$, $r^2 = .07$. A correlational comparison analysis found a significant difference between correlations of AVI users and non-AVI users, $z = 1.46$, $p =$ .14.

Hypothesis 3d looked at the relationship between current interview structure and use of automated rating features of AVI technologies and found nonsignificant results, $r_s(158) = .02$, $p = .81$, $r^2 < .001$. There was also nonsignificant relationship between current interview structure and automated rating use for participants who did not use AVI, $r_s(122) = .05$, $p = .59$, $r^2 = .003$, and a nonsignificant relationship between them for participants who did use AVI, $r_s(34) = .27$, $p = .11$, $r^2 = .07$. When a correlational comparison analysis was run between correlations from AVI users and non-AVI users, a nonsignificant result was found, $z = 1.16$, $p = .25$.

To assess hypothesis 4a which addressed the relationship between technology anxiety and PEU, a correlational analysis including data from all participants found statistical significance and a strongly negative relationship, $r_s(158) = -.56$, $p < .001$, $r^2 = .31$, such that participants with higher technology anxiety perceived AVI to be more difficult to use. There were also significant relationships when just looking at non-AVI users, $r_s(122) = -.58$, $p < .001$, $r^2 = .33$, and at AVI users, $r_s(34) = -.57$, $p < .001$, $r^2 = .32$. When a correlational comparison analysis was run between correlations from AVI users and non-AVI users, a nonsignificant result was found, $z = .08$, $p = .94$.

Lastly, regarding hypothesis 4b, there was a nonsignificant correlation between technology anxiety and BI, $r_s(122) = -.14$, $p = .12$, $r^2 = .02$. This correlational analysis only included response data from participants who had not currently been using AVI as this would have muddied the data for behavioural intent.

Some exploratory analyses were performed in addition to the hypothesis tests.

An analysis was run to see if there was any relationship between using AVI and technology anxiety. The correlation found no significant relationship, $r_s(158) = -.06$, $p = .45$, $r^2 = .004$.

Tests were also performed to see if participants' demographics affected PU, PEU, or BI. Correlations were performed between demographic information (age, company size, highest education level, and number of in-person interviews performed) and PU, PEU, and BI. Of these, there was only a significant relationship between BI and amount of in-person interviews participants had led by non-AVI users, $r_s(122) = -.39$, $p < .001$, $r^2 = .15$.

When examining the written responses about what participants perceived to be the largest benefits of using AVI, current users of AVI stressed the importance of efficiency. One participant said, "In the time it used to take me to interview 1-2 candidates I can get through 10-15 video interviews. It saves me and the company so much time and it's just as effective as face to face." They also all stated that AVI allowed them to interview more candidates and to speed up the interviewing process. They noted the convenience of not having to schedule a time with applicants as well as the ease with which they were able to share rating responsibilities with others on their teams. Participants who hadn't been using AVI mostly cited the convenience factor for both interviewers and applicants; they can take part during times that are convenient for them. In the words of one participant, "Both the interviewee and their interviewer can look through it on their own time, and it also benefits the interviewee as they don't have to travel to the interview. They can answer questions from their home". They also cited improving the applicant experience

by reducing the stress caused by a face-to-face interaction and improving interview consistency between applicants.

When asked about the drawbacks of AVI, participants using AVI mostly wrote about how the process is very impersonal and so it is difficult to understand the applicants as people. For example, one participant wrote, "Sometimes people do not act authentically. For instance, many applicants give canned answers that don't illuminate their personality and work-style." They also cited that applicants could be nervous to use this new technology and that technical issues like a poor internet connection or poor audio quality could be issues. Non-AVI users also mostly mentioned how AVI wasn't a full substitute for live interviews because you can miss the nuance of peoples' character. Additionally, they were concerned about applicant faking and their inability to ask prompting follow-up questions. One participant summarized these points well by writing, "The drawbacks for me are not being able to ask follow up questions quickly. I think I pick up a lot of information about someone by interacting with them in person. I like to see how they make eye contact with me in interviews and I have a better grasp of when people are being misleading or dishonest."

Discussion

This research aimed to investigate the relationships between HR professionals' perceptions of AVI, their current interviewing practices, and technology anxiety. It is important as AVI seems to offer many benefits to employers looking to hire new employees: convenience, automated scheduling, added structured, and automated documentation. Because of this, there is reason to believe that AVI might become more commonly used and so should be better understood (Gonzalez et al., 2019). Existing

research is limited, but, except for Mejia and Torres (2018), has so far focused on the applicant experience. This research adds to this space looking at the employer experience from the perspectives of HR professionals. Hopefully, this work will help us to understand more about what innovations in the HR industry might look like as well as AVI's potential to enhance the standardization of hiring practices and, hence, its validity in selecting for high-quality talent (Basch & Melchers, 2019).

Firstly, the fact that both perceived usefulness and perceived ease of use were both strongly and positively related with behavioural intention shows the importance of these two aspects to technology adoption, adding support for the TAM (Davis, 1985). Regarding the relationship with PEU, this finding is aligned with a current trend in the technology industry; technology enterprises such as Atlassian, Dropbox, LinkedIn, IBM, and Uber are increasingly hiring product designers whose role it is to build intuitive and valuable user experiences (Field, 2017). If companies continue to understand the needs of their target users and design useful and usable products and communicate the benefits of them effectively, then we might expect to see a rise in usage of AVI.

The relationship between interview structure and PU might be explained by HR professionals recognizing the similarities between their interviewing tasks and those that AVI assist with. If these tasks are more related, which they would be if a participant were using structured interviews, then they might more readily see the usefulness of AVI.

HR professionals with higher current interview structure did not consider AVI any easier to use. There are two aspects of information technology that I believe affect ease of use: the content and the way it is presented to the audience. It seems that shared content

and PEU are not related in the context of AVI. I will discuss the findings about the relationship between AVI PEU and its medium when discussing hypothesis 4a.

It was surprising that of the analyses between current interview structure and use of/intention to use AVI features that the only significant relationship was between current interview structure and allowed response time for AVI users. One possible explanation for this is that HR professionals are not explicitly aware of the effect of interview structure on interview validity. This would prevent them from seeking out highly structured AVI features. Another possible explanation is that it was not clear to participants how each AVI feature would affect the structure level of the interviews. It is possible that with more information or consideration about the implications of each feature, they would recognize them as impacting structure, and, consequently, validity. These results might also be explained by a situation where HR professionals do not choose their method or structure of interviewing. Their interviewing practices might, instead, be dictated by things like company policies or norms.

It was unsurprising that participants with higher technology anxiety perceived AVI as more difficult to use. As mentioned prior, it seems the medium through which AVI is presented (i.e. technology) is related with its PEU.

A possible explanation for there being no relationship between technology anxiety and BI is that participants might perceive AVI to be a very simple technology to use. If it is perceived to be less complicated or error-prone than other technologies, then we might not see a relationship.

Limitations

This research had limitations that should be discussed. Firstly, there were significant differences between participants that were sourced through MTurk vs. the other methods (i.e. professional associations, direct emails, and social media posts). Specifically, participants from MTurk were more likely to use AVI, they perceived AVI to be easier to use, and they had lower technology anxiety.

Secondly, participants did not actually use AVI technology during the research. This limited the participants to their imagination and memory in order to rate various AVI features on usefulness, ease of use, and intention to use it. They also had only picture and textual descriptions of the technology in question. It is likely that a more realistic demonstration or hands-on activity could have garnered more in-depth data. Nevertheless, the methods used in this research were sufficient to assess the features in question being simple and straightforward (e.g. time to record).

Thirdly, this survey intended to represent HR professionals from Canada and the United States, however it is likely that provinces and territories were not equally represented within the sample. Recruiting occurred through Amazon Mechanical Turk, social media posts, and HR associations' newsletters from different provinces. Some provincial HR associations did not participate for various reasons. Also, some HR professionals from provinces such as Quebec and New Brunswick may have been prevented from participating due to the survey only being available in English.

Another limitation of this research is that the survey's sample size was relatively small, especially when looking at the subgroup of participants who did use AVI. This, though, was an expected limitation as AVI is still gaining acceptance.

Also, because there was such little variance in the responses to the technology anxiety scale and participants showed very little technology anxiety ($M = 1.53$, SD $= .64$), the validity of the technology anxiety scale should be reconsidered. The scale was published in 2003 and is worded in a way that many people might not interpret in the same way anymore. For example, the item "I feel apprehensive about using technology" and others like it use the term technology in a very general way that is not used commonly today. I imagine that most people think of their smartphone or computer when they think about the word technology. These technologies are pervasive in the everyday lives of many Canadians and so are not likely to cause anxiety for many. This is supported by the skewed data and low variance found for this scale. If it is the case that this scale is no longer valid, then the results of hypothesis tests 4a and 4b should also be reconsidered.

An important limitation of this work is that data was collected in a cross-sectional survey format. This may have created issues associated with common-method variance when examining relationships between PU, PEU, and BI.

AVI access for this research. For this research, access to a HireVue account was granted in order to understand AVI and its features better. Features in question in this study are based upon those available in HireVue. The options and experience provided by HireVue are assumed to be representative of the AVI software available and mostly used in industry as it is one of the most established AVI platforms available. Other AVI platforms were also assessed for comparison, but account access was not acquired.

Main Implications

AVI has the potential to streamline many currently manual tasks done in HR and can also facilitate the adoption of more valid forms of interviewing, but, in order to increase the adoption of the technologies, AVI platforms should focus on understanding their users' foundational needs to increase PU. They should also invest in understanding their users' work context, such as existing domain knowledge, in order to communicate clearly with their users and to guild them through intuitive workflows. It should be obvious to users how the AVI will assist with specific tasks that HR professionals are responsible for doing to increase PU and, thus, BI to use AVI.

One issue that can occur from AVIs that other forms of interviews may not face are the recording and publicising of interview questions. Due to the asynchronous and digital nature of AVIs, interview content is very vulnerable to being leaked. It is simple for an applicant to take screenshots or screen recordings of their AVI experience which, if distributed, can invalidate the responses from future applicants.

As research has shown that AVIs are perceived by applicants as creepier and less personal than other forms of interviewing (Langer, König & Krause, 2017), HR professionals should be aware that some applicants may self-select out of the application process. This is especially likely for applicants with skills that are in high demand. Additionally, AVIs might not be as effective in assessing certain types of skills such as interpersonal communication. Thus, AVIs might be better suited for some roles over others.

This research on the (potential) acceptance of AVI technologies by HR professionals is important not only because of the potential impact of AVI technologies

on the ways that hiring is done, but also because of the ethical implications of such

technologies.

One feature of AVI that warrants added discussion is automated rating. Laws in

some countries, including Canada and Germany, prohibit discriminatory hiring practices

based on things like race, ethnicity, and sex (Government of Canada, 1995;

Bundesministerium der Justiz und für Verbraucherschutz, 2006). It is difficult to ensure

non-discriminatory ratings from artificial intelligence systems as they do not understand

the tasks that they are performing, and instead simply look for the variables that are

predictive of the defined goal (Gumbus & Grodzinski, 2015). These variables are, by

default, unclear to the human observer (Gonzalez et al., 2019). This problem has led to an

entire field of study: artificial intelligence interpretability. Currently, there has been no

published evidence for the validity of automated rating systems used in AVIs, which

includes treatment towards protected groups. Even if the technical problem of interpreting

the AI logic is solved, these algorithms are proprietary to the AVI platforms and so

employers using the technology or the public might not have access to this knowledge.

Not only is this relevant for legal reasons in some places, but also for ethical reasons in all

places (including where such laws do not exist).

Automated rating systems have other ethical implications which should be

considered when discussing the adoption of AVI by employers, specifically the personal

data that is being collected and processed by employers and AVI platforms. AVI requires

that applicants submit more personally identifying information to a prospective employer

and the AVI platform than what has traditionally been asked of them: audio and video

recordings of themselves. In the past years, governments have passed new regulations

about how companies must treat this personally identifying data. For example, the

General Data Protection Regulation is in place in the European Union and European

Economic Area (European Union, 2016), the State of California has put into place a

similar regulation called the California Consumer Privacy Act (California Consumer

Privacy Act, 2020), and the State of Illinois has put into place the Artificial Intelligence

Video Interview Act (Illinois General Assembly, 2020). Generally, these all control the

types of personal data that companies are allowed to collect, how this data must be

handled and protected, and the requirement that consumers must provide informed

consent to companies collecting their data about the types of data collected and the

purpose of using that data.

I believe that the aspects of informed consent are most relevant to AVI technology

because of the context within which this consent is being asked. Specifically, if an

employer chooses to use an AVI platform to host interviews, then there might not be an

option for applicants who don't want to hand over this type of personal information to be

considered equally for the position. Giving up these data may be practically required if an

applicant wants to be seriously considered for the position. This is especially problematic

since employers are not the only ones with access to the data – the AVI platforms also do.

Another implication of AVI technologies being adopted by HR professionals is

that the applicant data collected can technically be used for other, more intrusive, means

without the control of the job applicant. For example, researchers have successfully

created AI algorithms who assess applicant personality traits by analysing the uploaded

videos (Suen, Chen & Lu, 2019; Suen, Hung & Lin, 2019; Suen, Hung & Lin, 2020). As

personality assessment is not the primary reason for applicants to provide their video data,

data privacy laws will become increasingly important. The ability to reliably assess

personality through short "thin slices" of expressive behaviors (e.g., Ambady, Bernieri, &

Richeson, 2000), for instance using video content analysis can also be used to refute the

concern brought up by both AVI users and non-AVI users in this research that utilizing

AVIs reduces interviewers to assess the personal fit of applicants.

A final ethical implication of AVIs is that they might bring about unintended

advantages for some groups over others. For example, due to the interview being digital

and without anyone present to assist if technical issues arise, applicants less comfortable

with technology might perform worse than others. This might give an advantage to

younger groups who are, generally, more skilled at working with new technologies.

Additionally, it might advantage applicants who have a higher socioeconomic status as

they might have access to better technology to perform the interview with such as a high-

quality microphone, high-quality camera, or higher-speed internet connection. They

might also have a more professional-looking location, such as a secluded home office, to

conduct the interview in.

Recommendations for Future Research

There are many future research opportunities in the area of AVI and especially from

the perspective of HR professionals and employers. Future research should focus more on

HR professionals with experience in working with AVI as this perspective is

underrepresented in the literature. Specifically, it would be helpful to know the reasons

behind adoption from AVI users. This way, we might know more about the magnitude of

change on HR work to expect due to AVI. To expand on this research, further research

should include a larger sample, especially with regards to current users of AVI, and one

more representative of all HR professionals across Canada and the United States. Even more, research should examine the use of AVI in more countries also. Future research should also explore new ways of reducing the impact of human biases on rating applicant responses. For example, one might replace raw video data with an animated avatar to prevent discrimination based on race, replace raw audio data with a standardized voice to prevent discrimination based on sex or gender, or track the time HR professionals spend rating each applicant's AVI. It might also examine techniques for how to prevent the recording and leaking of interview content. It should examine whether this type of interview advantages certain groups, such as younger applicants and applicants of higher socioeconomic status, over others. Research around automated rating validity should also be done as well as published.

Conclusion

AVI is a growing technology in personnel selection and has the potential to change many traditional practices in order to standardize and streamline the hiring process. Research has lagged behind though and there are still large gaps in it. Specifically, there is almost no research about HR professionals and employers who use AVI in their companies. This research aims to add to this field and push the conversation about AVI forward within academic literature.

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Appendix A – Introduction to video interviewing

Video interviewing is an interviewing process in which job candidates and interviewers do not

meet or speak in-person. Instead, interviewers create an online interview uploading written or

video-recorded interview questions for participants to view and respond to on their own time.

The candidate records themselves answering each question using a straightforward online

platform and sends their videos to the interviewer to assess. To clarify, video interviewing is

NOT videoconferencing (e.g. Skype); interviewers and job candidates complete their tasks at

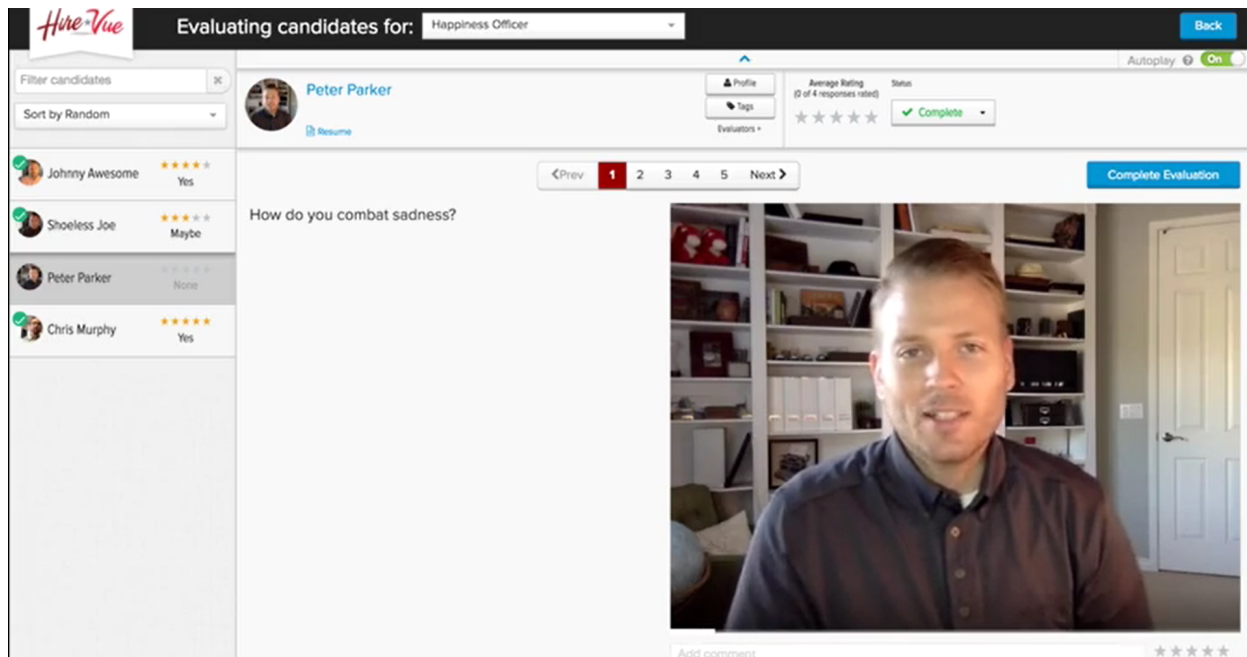different times and without direct communication.

Image 1. Screenshot of asynchronous video interviewing platform.

Appendix B – General questions of use

Do you currently use video interviewing? (No = 0, Yes = 1)

If yes, which jobs do you use video interviewing to select for? (open response)

If yes, how long have you used video interviewing for? (open response)

If no, have you previously ever used video interviewing? (No = 0, Yes = 1)

Appendix C – Questions for participants who use video interviewing

Video interview features

You will now be asked about various features available on video interviewing platforms. Please

answers with whether you currently use each feature.

1.   Organizations can decide whether to introduce candidates to the interview/company

with a video. Do you use an introduction video? (No = 0, Yes = 1)

2.   Organizations can decide whether to conclude the interview with a video, for

example, to thank candidates for their time. Do you use a conclusion video? (No = 0,

Yes = 1)

3.   Organizations can decide to ask that candidates respond to questions while only

recording their voice (and not video). Do you ask for audio-only responses? (No = 0,

Yes = 1)

4.   Organizations can decide to ask that candidates respond to questions while recording

both audio and video (i.e. video with sound). Do you ask for responses with audio-

video recording? (No = 0, Yes = 1)

5.   Organizations can decide whether they offer applicants the opportunity to record their

answer multiple times until they get one that they like. Do you allow candidates to re-

record their response? (No = 0, Yes = 1)

6.   If so, how many redoes do you allow? (0 redoes = 0, 1-2 redoes = 1, 3-4 redoes = 2,

5+ redoes = 3)

7.   Organizations can decide whether they limit the time that applicants have to respond

to questions. For example, candidates can use up to 3-minutes to answer a question or

they can use however much time they prefer to answer, without limit. Do you limit the time candidates have to answer each question? (No = 0, Yes = 1)

8. If so, how much time do you allow? (Up to 2 minutes = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4)

9. Organizations can decide whether they allow preparation time to applicants to think about their responses prior to recording their response. Do you allow time for participants to prepare their response before recording? (No = 0, Yes = 1)

10. If so, how much time do you allow them to prepare? (No preparation = 0, Up to 1 minute = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4)

11. Organizations can decide to score candidates as a whole, giving them one composite score overall, or for each question response. Do you rate candidates with one composite score or with a score per question? (1 composite score = 1, A score per question = 2)

12. Some video interviewing platforms offer automated rating systems meaning that machine algorithms assess the content and body language of candidate responses and assign a rating score to them without human intervention. Do you use an automated rating system? (No = 0, Yes = 1)

13. If so, do you use the automated rating system independently or do you compare/combine automated scores with human-generated scores? In other words, do you use automated scores in conjunction with human-generated scores? (I use only automated scores = 1, I use both automated and human-generated scores = 2, I use only human-generated scores = 3)

Perceived Usefulness (Davis, 1989)

Please rate your level of agreement for each statement regarding video interviewing.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree

= 4, Strongly agree = 5)

1. Using video interviewing in my job enables me to accomplish tasks more quickly.

2. Using video interviewing improves my job performance.

3. Using video interviewing in my job would increases my productivity.

4. Using video interviewing enhances my effectiveness on the job.

5. Using video interviewing makes it easier to do my job.

6. I find video interviewing useful in my job.

Perceived Ease of Use (Davis, 1989)

Please rate your level of agreement for each statement regarding video interviewing.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree

= 4, Strongly agree = 5)

1. Learning to operate video interviewing is easy for me.

2. I find it easy to get video interviewing to do what I want it to do.

3. My interaction with video interviewing is clear and understandable.

4. I find video interviewing to be flexible to interact with.

5. It was easy for me to become skillful at using video interviewing.

6. I find video interviewing easy to use.

Appendix D – Questions for participants who do not use video interviewing

Video interview features

You will now be asked about various features available on video interviewing platforms. Please

answers with whether you would feel inclined to use each feature.

1. Organizations can decide whether to introduce candidates to the interview/company

    with a video. Would you be inclined to use an introduction video? (No = 0, Yes = 1)

2. Organizations can decide whether to conclude the interview with a video, for

    example, to thank candidates for their time. Would you be inclined to use a

    conclusion video? (No = 0, Yes = 1)

3. Organizations can decide to ask that candidates respond to questions while only

    recording their voice (and not video). Would you ask for audio-only responses? (No =

    0, Yes = 1)

4. Organizations can decide to ask that candidates respond to questions while recording

    both audio and video (i.e. video with sound). Would you ask for responses with

    audio-video recording? (No = 0, Yes = 1)

5. Organizations can decide whether they offer applicants the opportunity to record their

    answer multiple times until they get one that they like. Would you allow candidates to

    re-record their response? (No = 0, Yes = 1)

6. If so, how many redoes would you allow? (0 redoes = 0, 1-2 redoes = 1, 3-4 redoes =

    2, 5+ redoes = 3)

7. Organizations can decide whether they limit the time that applicants have to respond

    to questions. For example, candidates can use up to 3-minutes to answer a question or

they can use however much time they prefer to answer, without limit. Would you

limit the time candidates have to answer each question? (No = 0, Yes = 1)

8.   If so, how much time would you allow? (Up to 2 minutes = 1, Up to 5 minutes = 2,

Up to 10 minutes = 3, More than 10 minutes = 4)

9.   Organizations can decide whether they allow preparation time to applicants to think

about their responses prior to recording their response. Would you allow time for

participants to prepare their response before recording? (No = 0, Yes = 1)

10.   If so, how much time would you allow them to prepare? (No preparation = 0, Up to 1

minute = 1, Up to 5 minutes = 2, Up to 10 minutes = 3, More than 10 minutes = 4)

11.   Organizations can decide to score candidates as a whole, giving them one composite

score overall, or for each question response. How would you be inclined to score

candidates? (1 composite score = 1, A score per question = 2)

12.   Some video interviewing platforms offer automated rating systems meaning that

machine algorithms assess the content and body language of candidate responses and

assign a rating score to them without human intervention. Would you be inclined to

use automated rating systems? (No = 0, Yes = 1)

13.   If so, would you use the automated rating system independently or would you

compare/combine automated scores with human-generated scores? In other words,

would you use automated scores in conjunction with human-generated scores? (I use

only automated scores = 1, I use both automated and human-generated scores = 2, I

use only human-generated scores = 3)

Perceived Usefulness (Davis, 1989)

Please rate your level of agreement for each statement regarding video interviewing.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5)

1. Using video interviewing in my job would enable me to accomplish tasks more quickly.

2. Using video interviewing would improve my job performance.

3. Using video interviewing in my job would increase my productivity.

4. Using video interviewing would enhance my effectiveness on the job.

5. Using video interviewing would make it easier to do my job.

6. I would find video interviewing useful in my job.

Perceived Ease of Use (Davis, 1989)

Please rate your level of agreement for each statement regarding video interviewing.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5)

1. Learning to operate video interviewing would be easy for me.

2. I would find it easy to get video interviewing to do what I want it to do.

3. My interaction with video interviewing would be clear and understandable.

4. I would find video interviewing to be flexible to interact with.

5. It would be easy for me to become skillful at using video interviewing.

6. I would find video interviewing easy to use.

Behavioural Intention (Armenteros, Liaw, Fernández, Díaz, & Sánchez, 2013)
Please rate your level of agreement for each statement regarding video interviewing.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5)

1. I intend to use video interviewing for employment interviews.

2. I intend to use video interviewing in my work as much as possible.

3. I want to start using video interviewing.

4. I am going to talk about the positive aspects of using video interviewing with my coworkers.

5. I am going to recommend using video interviewing in HR or to other professionals.

Appendix E – Current interview structure measure (Chapman & Zweig, 2005)

Please rate your level of use for each statement regarding your current in-person interviewing practices.

(Never = 1, Sometime = 2, About half of the time = 3, Most of the time = 4, Always = 5)

1. I use a formal rating system that I apply to each candidate.

2. I use anchored rating scales to evaluate the candidate's response to each question.

3. I score the interview numerically in making an overall assessment.

4. Decisions about the candidate are made by combining scores statistically, rather than making a global impression of their attractiveness.

5. Each answer is rated against an ideal response.

6. I make decisions based on "gut" feelings about the candidates.

7. I use hypothetical or situational questions.

8. I ask questions about how the candidate would go about performing a task.

9. I use behavioural questions designed to get the candidate to relate specific accomplishments to the requirements of the job.

10. I keep my questions general rather than overly specific.

11. My questions are consistent across candidates.

12. I ask questions in the same order to every candidate.

13. Questions are tailored to each candidate.

14. Questions are linked to the job description that the candidate is interviewing for.

15. I have a list of questions I ask every candidate.

16. I ask questions to get to know the candidate as a person.

17. I ask the same questions to each candidate.

18. I ask the candidate personal questions (about hobbies, etc.).

19. I begin the interview with light conversation.

20. I ask many prompting/follow up questions when I want to get "more" from a candidate on a question.

21. I take detailed notes during the interview to help me make my evaluation.

22. If a candidate doesn't answer a question fully, I will ask them for more information.

23. I try to start each interview by putting the interviewee at ease and building a strong rapport.

24. I spend time trying to connect with each applicant and understand who they are outside of the work context.

Appendix F – Technology Anxiety Scale (Meuter, Ostrom, Bitner & Roundtree, 2003)

Please rate your level of agreement for each statement regarding technology use.

(Strongly disagree = 1, Somewhat disagree = 2, Neither agree nor disagree = 3, Somewhat agree = 4, Strongly agree = 5)

1. I am confident I can learn technology-related skills.

2. I have difficulty understanding most technological matters.

3. I feel apprehensive about using technology.

4. When given the opportunity to use technology, I fear I might damage it in some way.

5. I am sure of my ability to interpret technological output.

6. Technological terminology sounds like confusing jargon to me.

7. I have avoided technology because it is unfamiliar to me.

8. I am able to keep up with important technological advances.

9. I hesitate to use technology for fear of making mistakes I cannot correct.

Appendix G – Demographic information

Please answer the following questions regarding yourself, your job, and your industry. This information will remain anonymous, confidential. This information is very important to this research.

What industry do you work in? (open response)

What size is your company? (0-4 employees =1, 5-19 employees = 2, 20-49 employees = 3, 50-99 employees = 4, 100-299 employees = 5, 300-499 employees = 6, 500 and more employees = 7)

What is your job title? (open response)

Is personnel recruitment and selection a consistent part of your job? (No = 0, Yes = 1)

How long have you held your current position? (open response)

What is your highest level of education? (High school = 1, Associate's degree = 2, Bachelor's degree = 3, Master's degree = 4, Doctorial/professional degree = 5, Other (please specify): open response)

What is your age? (open response)

What is your gender? (Male = 1, Female = 2, Other = 3, I prefer not to say = 4)

What is your ethnicity? (Multiple response: Caucasian, Black/African, Hispanic/Latino, Asian, Middle Eastern, Native/Indigenous, Other (please specify): open response)

How many in-person interviews have you conducted in your career? (open response)

Appendix H – Open-ended insights

For you, what are the key benefits of video interviewing? (open response)

For you, what are the key drawbacks of video interviewing? (open response)