Future of Work Institute; School of Management and Marketing

I Can't Get No (Need) Satisfaction: Applying Basic Psychological Needs Theory to Foster Human Connection and Improve Applicant Reactions in Asynchronous Video Interviews.

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # HRE2021-0015.

Signature: …….…………......
Date: 14th September 2023

My favourite humans (and one non-human):

To Leah, who turned 'peer support' into an art form of venting and dark humor. As you welcomed a new life, you still found time to be an unwavering sounding board. I'm readying myself for a marathon of babysitting to repay your endless patience. Babies are allowed to rappel down skyscrapers with a diaper harness, right?

To Lucinda, my PhD sister. Our shared journey has been punctuated by viper-quick jabs of snarky humor, and fuelled by enough coffee to keep Finns in business for the next decade. Through your quest for the coziest cry spots, and endless hours in bizarrely non-ergonomic seating positions, you've been my steadfast partner in crime. Well, maybe not quite crime...*yet*.

To Mel, Kirsten, Hovey, Kait, Hawa, Caz, Gracie, Mitch,..you all make the list. Partly because you all know *way* too much at this point, but mostly just because I love you all to your very cores.

To Mr Maggie, my most assertive feathered friend with a flair for the dramatic. Thank you for gracing me with your unlikely companionship, and, in your boundless generosity, sparing my eyes from your sharp affections.

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To current and future FOWI PhD students (except Ilker, obviously):

Get yourself a good soundtrack. Opeth somehow creates songs that sound exactly how a PhD feels when you're having a bad day (and if anything in life will turn you to death metal, it will be the experience of having a bad day during a PhD). The Prodigy will give you a boundless source of energy when your body can't handle any more caffeine, sugar, or Irn Bru. The Hives are yet to release anything but a phenomenal album, however rumours say Randy Fitzsimmons might've gone missing under the weight of my PhD drafts. Whoops.

Watch The Office. Over and over. Apply Michael Scott's philosophy when you have writer's block (S5, E12; from 10:25 to 11:12).

Finally, and most importantly...remember you're still learning. It won't be perfect, and it's not meant to be. Eat well. Exercise. Lots of sleep. Don't stress. And breathe.

> *I mean...I didn't do any of that last stuff, but it sounds like solid advice.*

Acknowledgement of Country

I acknowledge that Curtin University works across hundreds of traditional lands and custodial groups in Australia, and with First Nations people around the globe. I wish to acknowledge the Whadjuk people of the Noongar nation as the cultural custodians of the lands on which the Future of Work Institute, and the Curtin Bentley campus, sits (Boorloo / Perth), and pay my respects to their elders, past and present. I recognise the rich cultural education they have passed down from generation to generation for thousands of years, and acknowledge that their sovereignty has never been ceded.

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Abstract

Previous research suggests that some job applicants tend to express negative perceptions of *asynchronous video interviews* (AVIs), a type of technology-mediated interview absent of real-time human interaction between the hiring organization and applicants. While the precise effects of AVIs on applicant reactions are not yet well understood, principles from basic psychological needs theory (BPNT; Ryan & Deci, 2000) may suggest that the absence of human interaction within the assessment may fail to satisfy an applicant's innate need for *relatedness,* a fundamental human requirement to feel connected with others. This unmet need might result in an unpleasant assessment experience, unfavorable views of the hiring organization, and lower likelihood to pursue or accept the role. Comprising one qualitative study and three experimental studies, the research within this dissertation investigates ways to 'humanize' the AVI experience through designing and examining interventions aimed at satisfying job applicants' need for relatedness during the assessment. Results from the qualitative content analysis identified that the need for relatedness was potentially the psychological need most negatively impacted by the AVI experience (compared to *competence* and *autonomy*), predominantly due to how the absence of human interaction during the assessment was perceived by applicants and participants. The three experimental studies investigated the efficacy of interventions within organizational materials presented during an AVI. Specifically, the studies examined if humorous and empathetic video content, clear knowledge of the evaluator's identity coupled with their communication warmth, and individually tailored messages could enhance relatedness satisfaction, applicant reactions, and AVI evaluation scores relative to AVIs absent of these interventions. The experiments sequentially targeted the interventions at increasingly narrower levels of individualization. Experimental Study 1 adopted a broad, non-individualized approach, offering a universal intervention. Experimental Study 2 targeted

participants as part of a specific group. Finally, Experimental Study 3 provided AVI materials custom-made for each participant. The results showed varied outcomes; however, the most individualized approach in Experimental Study 3 proved most effective in enhancing relatedness satisfaction within an AVI context. Collectively, this research program highlights the value of BPNT as a complementary theoretical lens through which to study applicant reactions, and provides insights into fulfilling relatedness needs in contexts not yet addressed by BPNT. Furthermore, this research advances our practical understanding of how AVIs may be designed to better meet the human needs of candidates, while still harnessing the advantages of scalable assessment technologies.

Author's Note

This thesis adopts a hybrid format. Chapters 4, 5, and 6 are presented as standalone journal articles - either currently under review or soon to be submitted. Due to this standalone nature, some repeated content, particularly related to theory-building, is unavoidable in each article's introduction section. Outside of these journal-style chapters, the remaining portions of this thesis follow a traditional structure. Specifically, the journal articles' background and rationale are grounded in the theoretical frameworks detailed in the initial chapters. For greater cohesion, each journal chapter begins with a brief preamble to establish its connection to the overall thesis. Lastly, all references across the chapters have been consolidated and can be found at the end of the thesis.

Chapter 1: General Introduction and Overview of Studies

The intersection of technology and the field of employee selection and assessment has undergone a dramatic transformation in recent years. While historically, traditional tools such as paper-and-pencil testing were common (Buckley et al., 2000), a multitude of novel, technology-driven methodologies have emerged such as remote internet-based testing, assessments being conducted on mobile devices, and assessments utilizing gamified interfaces (Landers & Sanders, 2022). The driving forces behind this shift towards technology-infused methods are multi-faceted, but two predominant reasons are accessibility and scalability. The ability to reach a broader applicant pool through remote access, coupled with the potential to process a large volume of assessments simultaneously, offer compelling advantages for hiring organizations to use such digital assessment (Basch et al., 2021). Similarly, the process of interviewing has transformed significantly. The traditional method of conducting face-to-face (F2F) interviews evolved into modern practices reflecting technological advancements over time, such as phone interviews, live video interviews conducted over Zoom, Teams, Skype, etc. (Chapman et al., 2003), and asynchronous video interviews (AVIs), which are the subject of this dissertation. AVIs are video-mediated interviews involving no real-time interaction between the hiring organization and applicants (Langer et al., 2021). These technology-driven interviews significantly streamline the interview process, providing a level of efficiency and in scheduling and conducting interviews unattainable with traditional methods (Basch et al., 2021). However, applicants' perceptions of AVIs and how they react to this assessment method is not yet well understood (Lukacik et al., 2020). Consequently, the research presented in this dissertation aims to provide more insight into this area to inform future directions for practice and research.

The Critical Role of Applicant Reactions in Organizational Hiring Success

Hiring the most qualified applicants can be a critical determinant of organizational success (e.g., McCarthy et al., 2009; Ployhart et al., 2017), helping to ensure efficient operations, foster innovation, and enhance the organization's competitive advantage (Beck & Walmsley 2012; Yu & Cable, 2012). It is therefore of paramount importance for any organization to maximize the size and quality of their talent pool. Applicant reactions, the "attitudes, affect, or cognitions an individual might have about the hiring process" (Ryan & Ployhart, 2000, p. 566; commonly referred to as the "candidate experience" by industry practitioners), can play a significant role in shaping the attractiveness of an organization to potential employees, the decision to accept or reject a job offer, and whether or not to recommend the hiring organization to others (McCarthy, Bauer, Truxillo, et al., 2017).

A recent review by Woods et al. (2020) describes how organizations actively seeking candidates for open positions (hereafter referred to as "hiring organizations") are often quick to incorporate novel methodologies, even ahead of conclusive evidence supporting their efficacy, or without sufficient awareness of recent research and recommendations. The review also highlighted that the accelerated pace of technology-driven change in the selection and assessment processes necessitates a deeper understanding of applicants' perceptions to these novel assessments. It is essential to ensure that selection systems, while being efficient and innovative, are also experienced and perceived positively by applicants (Blacksmith et al., 2016) to minimise risk to an organization's brand reputation and to ensure access to top talent. This underscores the importance of delving deeper into applicant reactions to technology-mediated assessments, a vital consideration in our continuously advancing digital era.

Applicant reactions research has shown that job applicants may perceive technology-driven selection and assessment processes more negatively than traditional methods (e.g., Blacksmith et al., 2016; Basch et al., 2020; Langer et al., 2020; Wesche & Sonderegger,

2021). In high-stakes situations such as job application processes, applicants may especially value human interaction and personal connection, as it provides the opportunity to ask questions, develop rapport, and provides a sense of mutual engagement (Potosky, 2008). By contrast, technology-driven processes that lack direct human involvement might be perceived as impersonal or distant, potentially diminishing applicants' overall experience and satisfaction, leading to negative reactions and possibly withdrawal from the application process (Langer et al., 2019). In addition, the lack of human interaction may feel unfamiliar to applicants, increasing their anxiety (Lukacik et al., 2020) and changing how they may normally behave, potentially affecting their interview performance and ultimately, their interview evaluation scores (Morelli et al., 2017). The use of assessment methods lacking in human interaction may therefore result in organizations unintentionally alienating and misevaluating applicants, potentially missing out on applicants that may be the best-fit for both the role and their organization.

One such selection method that may unintentionally cause negative applicant reactions to a selection process is the asynchronous video interview (AVI). To briefly restate, AVIs are a type of job interview conducted entirely online, and without any real-time interaction between the hiring company and the job applicant (Brenner et al., 2016). A typical AVI assessment process may be summarized as follows: The hiring organization creates their AVI template by uploading interview questions and any other materials (e.g., organizational videos, text or picture messages for applicants, etc.) into an online *AVI platform*, which is often hosted by a third party SaaS (software as a service) provider. There are many options available to hiring organizations when creating an AVI template, such as the length of time applicants receive to prepare their response and record their response, whether applicants are allowed to rerecord their responses, the presence and format of organizational materials presented to applicants, etc., all of which are likely to have unique impacts on applicant

reactions (Lukacik et al., 2020). Once the hiring organization has prepared their AVI template, they may commence evaluating applicants. Applicants are invited to complete the AVI within a given window of time by logging into the AVI platform, and are then presented with the predetermined materials and interview questions as per the hiring organization's template. Applicants then video-record themselves answering the interview questions, and once completed, the AVI platform alerts the hiring organization that the applicant has completed their 'interview'. Employees within the hiring organization (i.e., recruiters or members of the human resources team) can then log back into the AVI platform to watch and evaluate each applicant's video answers.

As previously outlined, despite the abundance of evidence suggesting that applicant reactions can have important consequences for organizations and applicants alike (see McCarthy, Bauer, Truxillo, et al., 2017, for a comprehensive review), hiring organizations' usage of AVIs has far outpaced evidence-based research into how AVIs may affect applicant reactions (Dunlop et al., 2022). A multitude of commercial AVI platforms exist online, many with impressive marketing claims. For example, a report from one AVI vendor states that 85% of applicants from one of their client organizations— which had incorporated the vendor's AVI platform into their selection process—reported a positive applicant experience specifically attributed to applicants' engagement with the vendor's AVI platform (Hirevue, 2021). However, there is limited evidence supporting these claims. Moreover, applicants who give feedback to AVI vendors might be inclined to offer predominantly positive remarks, stemming from concerns that the hiring organization might be able to view their feedback, potentially affecting their application status. Indeed, some applicant feedback available on online forums such as Reddit, particularly the "recruiting hell" subreddit (www.reddit.com/r/recruitinghell), suggests that some applicants view AVIs negatively, describing the experience as "impersonal" and "dehumanizing." Neither vendors' claims, nor

online comments from job applicants may present the full picture of applicants' perceptions of AVIs, and no known current research exists that has systematically collected or analysed applicants' reflections on their AVI experiences. As such, my first Research Question (RQ1) simply asks:

RQ1: What reactions do applicants have to AVIs?

In Chapter 3, I present a qualitative content analysis of written feedback from Reddit users and from participants who completed my first experimental study (Experimental Study 1; Chapter 4, see Figure 1.1). The results of the qualitative content analysis lends rich empirical support to prior resarch, indicating that applicants tend to view technology-driven selection processes unfavorably (Blacksmith et al., 2016), and that the lack of human interaction in AVIs may be a major contributor to applicants' negative reactions to the assessment. Given the stark contrast between AVI vendors' assertions that applicants highly favor AVIs and the findings from the qualitative analysis suggesting the lack of human interaction within AVIs may be particularly jarring to job applicants, further research is essential to unpack the mechanisms driving the formation of applicant reactions to AVIs.

As such, the research presented in this dissertation seeks to investigate how the lack of human interaction within AVIs affects applicant reactions during a selection process, and whether interventions seeking to create a sense of 'connection' between applicants and the hiring organization may help to improve applicant reactions to AVIs, and applicants' AVI performance. To do this, I will use basic psychological needs theory (BPNT; Ryan & Deci, 2017) as the theoretical lens through which to investigate applicant reactions within three experimental studies. BPNT posits that humans have innate drives to satisfy three universal needs of relatedness, autonomy, and competence. As the element of human connection is the focus of this dissertation, the research will focus on the need for relatedness, defined as the need "…to seek attachments and experience feelings of security, belongingness, and intimacy

with others" (Deci & Ryan, 2000, p. 252). Chapter 2 outlines how BPNT may provide a complementary lens to existing applicant reactions frameworks, proving new insights into our current understanding of applicant reactions, particularly to technologically-mediated assessments that are lacking in human interaction. My second, third, and fourth research questions are therefore:

RQ2: Can BPNT provide a complementary lens to existing theories through which to understand applicant reactions?

RQ3: To what extent does completing an AVI affect applicants' relatedness need satisfaction?

RQ4: To what extent does relatedness satisfaction affect applicant reactions to an AVI, and AVI performance?

In Chapters 4, 5, and 6, I will investigate whether interventions intended to increase participants' sense of human connection during an AVI are able to increase participants' relatedness-need satisfaction, and whether relatedness-need satisfaction has any influence on or relationships with other applicant reactions outcomes. In so doing, I will demonstrate how using a BPNT lens may be useful to researchers and industry practitioners alike, and argue that BPNT may present an improved alternative in explaining applicant reactions to AVIs relative to the current dominant models of applicant reactions. Furthermore, drawing from the outcomes of the experimental studies, I integrate principles from additional theories focused on relationship formation. These theories may shed light on novel processes for satisfying the need for relatedness in contexts not extensively covered by BPNT, deepening our understanding of how the fulfillment of relatedness needs can be achieved.

Figure 1.1

Overview of Dissertation Chapters

Chapter 1: General Introduction
Introduction to key concepts and research questions

Chapter 2: Theoretical Development
Literature review of key theories and concepts

Chapter 3: Qualitative Analysis
Content analysis of comments about the AVI experience from Reddit users and Experimental Study 1 participants

RQ1 RQ2 RQ3

Chapter 4: Experimental Study 1
"Generally-targeted" intervention
Each participant receives the same level of relatedness-support
Informed by established BPNT interventions

Chapter 5: Experimental Study 2
"Group-targeted" intervention
Participants belong to a specific "group" with an "important other" to build a connection with
Informed by BPNT interventions and Mediated Immediacy principles

Chapter 6: Experimental Study 3
"Individually-targeted" intervention
Each participant receives individually personalized content during their AVI
Informed by BPNT interventions and Social Exchange Theory principles

Chapter 7: Quantitative Text Analysis
Measuring positive and negative emotion of applicants' online reviews of a selection process

Chapter 8: General Discussion
Consolidating results from previous studies, discussing the strengths, limitations, and directions for future research

Research Questions (RQs) Investigated in the Empirical Chapters

RQ1 What reactions do applicants have to AVIs?

RQ2 Can BPNT provide a complementary lens through which to understand applicant reactions?

RQ3 To what extent does completing an AVI affect applicants' relatedness need satisfaction?

RQ4 To what extent does relatedness satisfaction affect applicant reactions to an AVI, and AVI performance?

RQ5 What types of interventions can improve relatedness need satisfaction and applicant reactions to AVIs?

RQ6 To what extent can text analysis methods help to identify and understand applicant reactions?

RQ5: What types of interventions can improve relatedness need satisfaction and applicant reactions to AVIs?

Finally, in Chapter 7 I will explore how quantitative text analysis methods may provide valuable insights to researchers and industry practitioners in understanding applicant reactions to AVIs. Quantitative text analysis can dissect large volumes of textual data to identify patterns, frequencies, and relationships of words or phrases. Online forums like Reddit and various review sites contain vast amounts of data accessible to broad audiences. Consequently, these reviews and comments could impact an organization's brand reputation. While consumer marketing literature frequently explores the analysis of online reviews, there is currently no known research specifically investigating job applicants' feedback on their experiences during a selection process. For researchers, this means an opportunity to uncover latent themes or sentiments in applicant feedback that might not be immediately evident through traditional qualitative methods. For industry practitioners, especially those in human resources or recruitment, utilizing such data-driven techniques may be advantageous in ensuring that the recruitment process remains both efficient and applicant-friendly.

RQ6: To what extent can text analysis methods help to identify and understand applicant reactions?

Chapter 8 forms the general discussion and final chapter of this dissertation, in which I integrate the results across the qualitative and quantitative empirical studies. I discuss their collective findings, address potential limitations, delve into their theoretical and practical implications, and suggest potential directions for future research.

In summary, this dissertation aims to better understand how applicants perceive AVIs and whether the degree of human interaction presented to applicants during an AVI affects applicant reactions, as well as any resulting effects on interview performance. Employing a multi-method approach encompassing a qualitative investigation, three experimental studies,

and a quantitative text analysis exploration, I aim to thoroughly examine and clarify the

experience of applicants while undertaking an AVI, and provide theoretical, methodological,

and practical insights to inform future research directions and implications for practice.

Chapter 2: The Rise of Technology in Selection and Assessment, and the Impact on the

Candidate Experience

Recruitment, selection, and assessment processes have changed dramatically with the implementation and adoption of technology over the past four decades. Desktop computers became more commonplace in the home and office in the 1980s, allowing recruiters to store resumes and CVs digitally. Candidate relationship management (CRM) and applicant tracking system (ATS) software followed shortly after, allowing applicant details to be stored electronically and reducing the need for paper-based processes. Online job boards appeared in the early 1990s moving job advertisements from newspapers to online advertising, and by the end of the decade 22% of job applications were made by either email or online (The Access Group, 2020). Online job portals became available in the early 2000's, allowing applicants to set up their own application profile directly within the organization's CRM/ATS and track their own progress through the selection and assessment process. LinkedIn was founded in 2002 and had 300 million users within 12 years (D'Onfrom & Thomas, 2014), becoming a professional social network of organizations and active and passive job seekers. The last decade has seen a move to almost exclusive online job advertising and data-driven attraction methods (The Access Group, 2020), while chatbots and virtual and robotic interviewing systems are currently being developed and trialled (e.g., Stepstonegroup.com; Tengai.io).

Similarly, the evolution of job interviews has reflected broader social, technological, and organizational trends. The face-to-face (F2F) interview method, which remains one of the most widely used selection methods (Brenner et al., 2016), has been a crucial assessment in the hiring process (Buckley et al., 2000). Interviews allow an exchange of verbal and non-verbal cues between the applicant and the interviewer, and facilitates a comprehensive evaluation of the candidate's skills, knowledge, personality, and potential fit with the

company culture (Platt, 2002). F2F interviews demand substantial investment in terms of time, resources, and logistics, especially when candidates and employers are not located in the same geographic area. Telephone interviews subsequently emerged as telecommunication technology evolved, allowing employers to screen candidates remotely and thereby expanding the pool of potential applicants beyond the immediate geographical area. However, telephone interviews limit the capacity for non-verbal communication, potentially affecting the richness of the interaction. With the advent of the internet and digital technology, live video interviews have increasingly been utilized in the selection process. These interviews, typically conducted through platforms like Skype, Zoom, or Microsoft Teams, offer a balance between the benefits of face-to-face and phone interviews. They allow real-time interaction and the ability to read non-verbal cues while eliminating geographical constraints. Despite these advantages, they also present new challenges such as technical difficulties or issues related to internet connectivity. Additionally, scheduling of interviews remains a challenge, especially for applicants in different time zones or working day-jobs, because both the interviewer and applicant need to be online at the same time. As technology continues to forge ahead, it is reasonable to anticipate that new challenges will continue to arise in response to each new wave of innovation.

Asynchronous Video Interviews

Asynchronous video interviews (AVIs) are a contemporary, technology-driven approach to candidate assessment that allows organizations to evaluate large numbers of applicants more efficiently and at lower cost than face to face (F2F) interviews. The use of AVIs has gained traction over the past few years, partly brought on by the COVID-19 pandemic which saw unemployment rates rise rapidly in a short period of time combined with social distancing measures (Dunlop et al., 2022), and also due to the assessment's purported advantages compared to F2F interviews (e.g., HireVue, 2020; Vieple, 2020). For

instance, AVIs allow for geographical and temporal flexibility; candidates can record their responses regardless of their location or time zone, and recruiters can review these responses at their convenience. This significantly reduces the logistical challenges and resources required often associated with scheduling traditional interviews. AVIs also allow applicants to complete an interview, which is often a nerve-inducing experience for many job seekers (Feiler & Powell, 2016), from the comfort and familiarity of their own home, potentially lowering applicants' interview anxiety. Another potential advantage is that AVIs offer a highly standardized interview process as every applicant receives the same interview content and delivery, and the lack of human interaction offers less opportunity for interviewers and interviewees to influence each other (Langer, König, & Krause, 2017). Standardized interviews have been shown to be more valid and reliable than unstructured or semistructured interviews (Highhouse, 2008; Roulin & Bangerter, 2012; Rynes et al., 2018; Sackett et al., 2021; Van der Zee et al, 2002) suggesting that AVIs have the potential to be a useful, psychometrically sound selection instrument.

Despite these benefits, AVIs also pose potential and underresearched challenges. Firstly, AVIs may inadvertently disadvantage candidates who lack access to reliable technology or who are less comfortable with a digital format (Basch et al., 2022; Suen & Hung, 2023). Secondly, scholars have not yet researched how AVIs are evaluated within hiring organizations, which could greatly affect how standardized (and therefore how reliable and valid) the AVI process is. Additionally (and of the most relevance to this dissertation), the lack of real-time human interaction may limit the depth of interpersonal connection or understanding that can be established between the candidate and the hiring team, which may unintentionally, affect applicant reactions. Drawing on signalling theory (Spence, 1973), an organization's selection process can have profound implications for applicant reactions, as it signals critical information about the company's culture, values, and expectations (Connelly

et al., 2011). In contrast to traditional interviews where there is a back-and-forth dialogue between the interviewer and interviewee, the absence of an immediate human response may create an impersonal experience. Candidates may perceive the asynchronous format as a signal that the organization lacks personal engagement and does not value human interaction, or indeed - that the organization does not value its applicants or employees.

AVIs possess a high degree of flexibility in their setup, in what Lukacik et al. (2020) termed 'AVI design" (p. 5). This flexibility refers to the customization of as many design aspects as allowed by the AVI platform, including the duration of question presentation, the time allocated for applicants' response recording, the choice to permit applicants to redo their responses, the content and volume of information presented to candidates, and whether this information is presented as audio/visual content, or static text on the screen. A hiring organization's choice to use any of these features has the potential to affect applicant reactions in unique ways (Lukacik et al., 2020), however as yet there is little research to suggest which of these features, or combinations of features, improve the applicant experience during AVIs.

Applicant Reactions

The field of applicant reactions first emerged in the 1980s as researchers began to seek understanding in how selection procedures were viewed from the applicant's perspective (Liden & Parsons 1986; Taylor & Bergman, 1987). The field is primarily concerned with the "attitudes, affect, or cognitions an individual might have about the hiring process" (Ryan & Ployhart, 2000, p. 566), and how these reactions affect applicants' psychological wellbeing, performance on selection tests, and intentions to pursue, recommend or accept a role with the hiring organization (Gilliland, 1993; Hausknecht et al., 2004). The field gained momentum in the early 1990's (Sackett & Lievens, 2008) with the publication of Gilliland's (1993) model, which views applicant reactions through an organizational justice lens. Subsequent applicant

reactions research has seen alternative models and frameworks introduced, such as attributions theory (Ployhart & Harold, 2004), and expectancy theory (Sanchez et al., 2000), and the exploration of applicant reactions such as interview anxiety (McCarthy & Goffin, 2004) and outcomes such as organizational attraction (Highhouse et al., 2003), and assessment performance scores (Powell et al., 2018).

In the following sections, I will begin by highlighting the current applicant reactions literature pertinent to this dissertation and provide an overview of the most widely accepted theoretical models. I will then outline some potential limitations of current applicant reactions models, and present the BPNT as a potential complementary framework that may address these limitations. Finally, I will outline the specific, practical interventions used in my experimental studies that aim to help practitioners improve applicant reactions to their organization's AVIs.

While the rise of technology in recruitment has allowed organizations to increase the size, quality, and diversity of the applicant pool, technology-mediated interviews are not necessarily equivalent to their F2F counterparts in terms of applicant reactions (Langer et al., 2020), and how applicants' interview performance is evaluated (Langer et al., 2017). Technology and its implementation can have significant effects on how applicants feel about the selection process and how they view the hiring organization (Chapman & Webster, 2003; Blacksmith et al., 2016), therefore organizations need to carefully consider, design, and manage their selection processes to ensure they send the desired signals to potential employees. F2F interviews are one of the most and accepted and expected assessments by applicants (e.g., Jackson et al., 2018; König et al., 2010), and implementing an AVI removes the real-time interaction from this method. Yet, how this drastic change to an interview format might affect applicant reactions and interview performance had barely been studied prior to industry's adoption of AVIs. This dissertation hopes to, in part, bridge that gap to

provide industry with evidence-based insights on how to improve the AVI experience for applicants, while making new and substantial theoretical contributions to the applicant reactions literature.

Applicant Reaction Research: The State of the Field

A key reason that organizations should be concerned with applicant reactions is the impact that these reactions can have on the organization's reputation, and the organization's access to the most suitable applicants in the talent pool (Chapman et al., 2005). As previously discussed, applicants may use their experiences during assessment and selection processes as 'signals' about the perceived culture of the hiring organization (Cortini et al., 2019). Research has shown that applicants who perceive the selection process more positively show more attraction to the organization, more motivation, and more intent to accept role offers and make recommendations about the company to others (Hausknecht et al., 2004; McCarthy et al., 2013). In today's digitally connected world, individuals are also able to readily share their experiences online, including their experiences with job applications (Woods et al., 2020). Negative applicant reactions may lead to unfavorable reviews on online platforms like Glassdoor, Reddit, or other social media, which could deter potential future applicants and harm the organization's reputation, similar to how negative consumer reactions affect organizations' reputation (Wu & Gao, 2019; Wu et al., 2022). Applicant reactions may also provide valuable feedback for organizations by helping them refine their selection processes (Stoughton, Thompson, & Meade, 2015); by understanding what aspects of the process applicants find alienating, anxiety-inducing, or unfair, organizations can adjust their selection processes to improve the applicant experience and the effectiveness of their hiring practices.

Some researchers have suggested that the field of applicant reactions has, so far, lacked specificity on how organizations can make impactful change, leading to a wealth of applicant reactions research but little practical change in how organizations develop and

design their selection systems (Ryan & Huth, 2008; McCarthy, Bauer, Truxillo, Campion, et al., 2017). These authors set an agenda for the field to look at applicant reactions in terms of how findings can be translated to industry to drive practical change, rather than accumulating a body of theoretical knowledge that is not readily available and accessible to industry. In addition to garnering new knowledge, this dissertation aims to provide practical recommendations that are relatively simple to implement within the constraints of an AVI, retaining the scalability of AVIs that are attractive to industry, while improving applicants' sense of personal connection to the hiring organization using basic psychological needs theory (BPNT).

Models for Applicant Reactions

Organizational Justice Lens to Understanding Applicant Reactions

Gilliland's (1993) organizational justice model of applicant reactions is the most dominant theory through which applicant reactions has so far been studied (McCarthy, Bauer, Truxillo, et al., 2017). This model aims to explain how applicants' perceptions of fairness influence outcomes such as the level of attraction to the organization (Highhouse et al., 2003). The model is based on three distinct but interrelated dimensions of justice: Distributive justice, procedural justice, and interactional justice. Distributive justice refers to the fairness of the outcomes of the selection process, which applicants may perceive based on equity, equality, or need principles. Procedural justice pertains to the fairness of the methods and procedures used in the selection process, including the perceived job relatedness, consistency of administration, and the opportunity to perform afforded within the procedures. Lastly, interactional justice concerns the quality and propriety of the interpersonal treatment applicants receive during the selection process (Gilliland, 1993). This involves aspects such as the propriety of questions, two-way communication, and the interpersonal effectiveness of

people involved in the selcection process (e.g., interviewers, hiring managers, human resources and recruitment staff, etc.).

Gilliland's model suggests that applicants' perceptions of these three forms of justice influence their attitudes and behaviors. High perceptions of justice can lead to positive reactions such as increased job acceptance rates, favorable organizational image, and positive word of mouth (Truxillo et al., 2004). Conversely, negative perceptions can result in job refusal, negative word of mouth, and possible litigation. Thus, while the model underscores the importance of fairness perceptions in the selection process and has provided a solid theoretical foundation for applicant reactions research thus far, I will demonstrate in a further section that basic psychological needs theory (Ryan & Deci, 2017) may prove useful as a complementary theory in explaining applicant reactions from the perspective of applicants' basic psychological needs.

Expectancy Theory

Expectancy theory, initially proposed by Victor Vroom in 1964, is a motivational theory that has been widely applied across various areas of organizational psychology. Sanchez et al. (2000) expanded expectancy theory into the applicant reactions literature by measuring applicants' expectations toward selection tests and the resulting effects on applicants' resulting test-taking motivation, and performance. In the context of applicant reactions and test-taking motivation, these authors postulate that individuals are likely to be motivated to apply for and accept job offers from organizations where they perceive high expectancy, instrumentality, and valence. Expectancy refers to the belief that increased effort will result in improved performance; instrumentality is the belief that enhanced performance will lead to desired outcomes or rewards; and valence pertains to the perceived value or attractiveness of the potential rewards. For instance, if applicants believe that their efforts (such as preparing for interviews or job tests) will improve their chances of performing well

in the selection process (expectancy), and that performing well will increase the likelihood of

job offer (instrumentality), and that the job offer is highly desirable (high valence), then they

will likely be motivated to remain in the selection process (rather than withdraw) and

perceive the selection process as fair (Sanchez et al., 2000), positively affecting the resulting

applicant reactions such as job acceptance intentions (Chapman et al., 2003). Thus,

expectancy theory seeks to understand the mechanisms through which justice perceptions are

formed (Bell et al., 2006), and several studies (e.g., Acikgoz & Sumer, 2018; Acikgoz &

Sumer, 2019; Derous et al., 2004; Geenen et al., 2012; Schreurs et al., 2010) have so far

found support for the notion that applicants' expections about the selection process influence

subsequent justice perceptions.

Attributions Theory

Applicant Attribution-Reaction Theory (AART) is a psychological framework

developed by Ployhart and Harold (2004) to understand the cognitive and emotional

responses of job applicants during selection processes. The theory synthesizes principles from

cognitive psychology, attribution theory, and organizational justice theory to predict how

applicants perceive, interpret, and react to selection procedures. According to AART,

applicant reactions are influenced by both situational cues from the selection procedure (e.g.,

the level of the interviewer's interpersonal warmth) and individual differences of the

applicants (e.g., personality traits, past selection experiences, etc.) that inform applicants'

attributions (i.e., causal explanations), that individuals generate to make sense of the selection

process or its outcomes (Hart, 2022). Internal attributions occur when applicants attribute the

outcome of a selection process to their own abilities or efforts. For example, if an applicant is

rejected and believes it was due to their inadequate preparation or skills, they have made an

internal attribution. In contrast, external attributions are ascribed to factors outside the

individual's control, such as the fairness of the selection procedure or biases of the selectors.

Several studies have found support for applicants' attributions influencing applicants' subsequent emotional reactions (e.g., satisfaction, frustration, or anxiety) and overall fairness perceptions, which in turn, affect behavioral outcomes such as intentions to pursue the job, accept a job offer, or potentially litigate (Ababneh et al., 2014).

Limitations of Current Models for Applicant Reaction Research

As discussed previously, organizational justice theory (Gilliland, 1993), is the most dominant theory in the field of applicant reactions, with attributions theory (Ployhart & Harold, 2004), and expectancy theory (Sanchez et al., 2000) also making notable contributions to the literature. All of these theories have either a dominant or sizeable focus on perception of fairness as a key applicant reaction (McCarthy, Bauer, Truxillo, et al., 2017), and investigate the antecedents of fairness such as the satisfaction of procedural justice rules, the causal attributions applicants make about the selection process, or applicants' expectations of fairness. These theories have enabled undeniable strides in our understanding of applicant reactions. However, these theories possess certain limitations which may have been augmented by the introduction of modern assessment methods such as AVIs, prompting the need to critically assess the applicability and scope of these theories in current applicant reactions research.

While Gilliland's (1993) model has offered a strong theoretical framework thus far for the field of applicant reactions (McCarthy, Bauer, Truxillo, et al., 2017), the model has also been criticized for providing insufficient insight into the mechanisms of exactly how the procedural and distributive justice rules are satisfied (Ployhart & Harold, 2004). Perceptions of fairness was largely introduced by Gilliland (1993) as a way to address the "social" aspects of fairness (p. 685) and the psychological wellbeing of applicants, which the selection field had previously overlooked in favor of "test-fairness" (i.e., the strength of a test's psychometric properties, or a test's lack of adverse-impact on protected classes of applicants).

However, while "test-fairness" can be measured objectively, by evaluating assessments in relation to validity, reliability, and utility properties, fairness perceptions are subjective, so that two applicants could possibly perceive the same psychometrically-sound assessment very differently based on past experiences, their own performance, or individual differences (Bell et al., 2004).

Accordingly, Ployhart and Harold (2004) developed the AART in response to their concerns that Gilliland's model gave insufficient insight into the psychological mechanisms of how applicant reactions are formed. These authors noted the "strong theoretical foundation" of Gilliland's (1993) organizational justice model of applicant reactions, but that the theory "gives little indication as to how and why people form justice judgments," (p. 84). Similarly, Sanchez et al.'s (2000) expectancy theory investigated applicants' expectations of fairness as a potential antecedent of procedural and distributive justice perceptions. Expectancy theory, with its focus on anticipated outcomes, provides a strong framework for understanding how applicants' perceptions of prospective rewards and recognitions can shape their reactions, while attribution theory highlights the role of causal attributions in shaping individuals' perceptions and behaviors, offering critical insights into applicants' interpretation of selection processes and outcomes. However, expectancy theory has been criticized in broader contexts as being "virtually untestable" mathematically (Behling et al., 1979, p. 336). This is attributed to the relative weights that one may choose to assign to its three components, which may then lead to significantly different interpretations. Furthermore, the largely cognitive focus of both the expectancy and attribution theories may overlook the more nuanced, non-rational, and social aspects of human motivation and behavior, thus limiting their explanatory and predictive potential in the context of applicant reactions research.

Additionally, commonly used measures of overall fairness may not provide enough specificity and/or practical utility in understanding how and why perceptions of fairness are formed, particularly in the context of a modern selection assessment. The lack of specificity issue arises when we consider the measurement of "global" fairness perceptions (e.g., Gilliland, 1994; sample item: "Whether or not I got the job, the selection process is fair"). Consider a researcher (or practitioner) who is using this scale to measure applicant reactions to a particular AVI selection process without also measuring more specific fairness predictors, as is common practice with industry-based candidate experienced surveys (e.g., Hirevue 2023; Talentegy 2019; The Talent Board 2020). Imagine that the feedback from participants/applicants returns a low score for global fairness perceptions to the AVI. While it may be somewhat useful to understand that the participants/applicants do not perceive the AVI as fair, using this global scale in isolation does not give enough specificity as to why participants/applicants perceived fairness during the AVI to be low, nor does it provide the researcher or practitioner with any evidence-based direction into how they might direct their efforts to improve fairness perceptions.

Increased specificity may be found in more nuanced organizational justice-based applicant reactions measures, however these measures may also present alternative potential issues, especially in terms of modern assessments that did not exist when these measures were developed. The Selection Procedural Justice Scale (Bauer et al., 2001) consists of 35 items representing Gilliland's 10 procedural justice rules, allowing researchers to narrow explanations of fairness perceptions down to subconstructs such as "opportunity to perform" and "two-way communication." However, Gilliland (1993) proposes that "not all of the procedural rules will be salient in all selection situations," (p. 711), and that "the types of selection procedures experienced will have an impact on the relative weighting of the 10 procedural rules in overall evaluations of procedural fairness" (p. 712). A challenge for

researchers or practitioners is then to make decisions about which procedural justice subscales they believe may be salient for the assessment they are researching, and which subscales to include and/or omit.

Consider the same example as above, of a researcher or practitioner measuring applicant reactions to an AVI. Our researcher/practitioner has decided not to include the "Two-way communication" subscale in their survey, as AVIs are inherently a one-way communication tool. However logical this decision may seem (i.e., one would not expect a great degree of variation in scores of two-way communication for an assessment tool that does not include any two-way communication), it may be that this inherent lack of two-way communication is the root cause of the low fairness perceptions score. Alternatively, should the researcher choose to include this subscale, specific questions such as "I was able to ask questions about the test" do not apply to an AVI (whereas they would have been perfectly suited to paper and pencil-type assessments which were commonplace when the SPJS was developed), so would have to be omitted or adapted, potentially affecting the psychometric properties of the scale (Heggestad et al., 2019). As such, the number of decisions the researcher/practitioner would need to make in adapting the SPJS for use with their AVI research may make the results of their research more difficult to synthesise with other research findings from the field. In the next section I will propose that measuring satisfaction of the three needs outlined in basic psychological needs theory may provide complementary insights which could be beneficial and practicable in understanding applicant reactions, particularly in the case when measuring reactions to single assessments or modern assessments such as AVIs.

An Alternative Applicant Reactions Lens: Basic Psychological Needs Theory

Basic psychological needs theory (BPNT; Ryan & Deci, 2000) is one of the six sub-theories of the self-determination macro-theory (SDT; Deci & Ryan, 1980). BPNT proposes

that human beings have three fundamental psychological needs: autonomy, competence, and relatedness. Autonomy refers to the need for personal agency and volition in one's actions. It is the desire to act in ways that are congruent with one's authentic self. Competence represents the need to be effective in interactions with the environment, such as the desire to exercise one's capabilities and to achieve mastery. Finally, relatedness, the focus of this dissertation, signifies the desire for connectedness with others, to care for and be cared for by important others, and to feel that one belongs. According to BPNT, these needs are universal, innate, and essential for psychological well-being and self-motivation. The satisfaction of these needs leads to optimal functioning, growth, and integrity, while the thwarting of these needs leads to diminished motivation and well-being. It is worth noting that while the needs are distinct, they are interrelated and often satisfied in tandem within supportive social contexts.

BPNT has found support from empirical research across a wide range of cultures and contexts. Chen et al. (2015) studied need satisfaction in participants across four countries and distinct cultures (Belgium, China, USA, and Peru). Their studies found positive correlations between the satisfaction of the three needs and wellbeing variables (e.g., life satisfaction and vitality), while need frustration predicted higher levels of depression. The studies also found that these results did not differ significantly between the four country/culture groups. The application of BPNT is prominent in organizational research, offering insights into workplace motivation, engagement, and well-being. Studies have examined how job characteristics, leadership behaviors, and organizational practices impact the satisfaction of employees' basic psychological needs for autonomy, competence, and relatedness. A meta-analysis by Van den Broeck et al. (2016) found that need satisfaction in employees was positively related to task performance, affective commitment to the organization, perceptions of fairness, and general wellbeing. However, despite empirical research finding that need satisfaction predicts

positive outcomes across a variety of contexts and cultures, the use of BPNT within applicant reactions literature is so far limited to a small number of studies investigating the effects of gamified cognitive assessments on need satisfaction (e.g., Buil, Catalán, and Martínez, 2020; Ferrell et al., 2015).

In relation to organizational justice theory, BPNT may potentially offer a broader perspective that takes into account the fundamental psychological needs of individuals, providing additional nuance in our understanding of applicant reactions. For example, consider the satisfaction of Gilliland's (1993) procedural fairness rule of 'interpersonal effectiveness of the interviewer.' An interviewer who can quickly develop strong rapport with an applicant is likely to leave a positive impression with the applicant, satisfying this particular justice rule, and in turn, creating a positive impression of the company. However, Gilliland's model does not explain what specifically has driven the applicant's positive impressions and at least three explanations can be offered: First, it may be that the applicant feels a sense of warmth from the interviewer; the beginning of a positive interpersonal relationship. Second, it could also be that the interviewer's verbal and non-verbal social cues allowed the applicant to feel competent in using familiar impression management tactics to influence the interviewer's ratings. Lastly, the interviewer may have offered the applicant the chance to ask questions, giving the applicant some control over part of their interaction. Each of these three scenarios are all possible explanations as to how Gilliland's rule could be satisfied. However, each explanation contained the satisfaction of a different psychological need (relatedness, competence, and autonomy, respectively); the three needs outlined by BPNT (Deci & Ryan, 1980; Ryan, 2017). Examining applicant reactions through an BPNT lens may therefore help us to more specifically measure, and further delineate, the psychological mechanisms as to how applicant reactions are formed.

Specifically in the context of AVIs, BPNT might provide particularly valuable insights into how applicant reactions to the assessment method are formed. The use of AVIs inherently changes the interpersonal dynamics of the selection process, which may influence how applicants' basic psychological needs are satisfied. Firstly, the structured format of AVIs might constrain applicants' ability to express themselves fully, potentially undermining their need for autonomy. Secondly, applicants' unfamiliarity with the AVI format or perceived complexity with the technology has the potential to challenge applicants' sense of competence, which may affect applicant reactions negatively. Finally (and most relevant to the context of this dissertation), the lack of human interaction in AVIs may limit the satisfaction of the need for relatedness, which could negatively impact applicant reactions. While it is probable that AVIs potentially fail to satisfy all of these three needs in unique ways, the way in which the interpersonal dynamics applicants are fundamentally altered within an AVI may suggest that satisfying the need for relatedness may pose a particular challenge for AVI providers and hiring organizations alike. However, research using BPNT as a theoretical lens through which to study applicant reactions does not yet exist to a point that can support this rather intuitive research question; some preliminary analyses would be required to provide some initial support in exploring this direction.

A Brief Qualitative Illustration

As I will present fully in Chapter 3, text-based opinions expressed by real-life job applicants who had completed an AVI (publicly available on Reddit), as well as comments from Experimental Study 1 participants (presented in Chapter 4) were analyzed through qualitative content analysis. Briefly for context, I coded textual comments about AVIs with regard to how much the three psychological needs were satisfied, or unsatisfied, as a result of completing an AVI. Results in both the Reddit data and comments from Experimental Study 1 participants suggested that the lack of satisfaction for relatedness needs was mentioned by a

larger proportion of applicants/participants than the other two needs, and that the "negative" comments (i.e., lack of relatedness-need satisfaction) far outweighed the number of positive, relatedness-satisfying, perceptions. Insights from these preliminary analyses suggest that the need for relatedness may be more negatively affected by an AVI compared to the needs of autonomy and competence. As such, the research agenda for this dissertation was set to focus exclusively on investigating how applicants' relatedness-need satisfaction was affected by AVIs, and whether interventions could be developed and implemented within an AVI that may improve applicants' relatedness-need satisfaction, and subsequent applicant reactions.

The Need for Relatedness

Relatedness is the psychological need "...to seek attachments and experience feelings of security, belongingness, and intimacy with others" (Deci & Ryan, 2000, p. 252), and is satisfied "...when people see themselves as a member of a group, experience a sense of communion, and develop close relations" (Van den Broeck et al., 2016, p. 1199). This involves a desire to be connected, to care for others, and to be cared for, fostering a sense of belonging and attachment. The satisfaction, or deprivation, of relatedness needs can have significant consequences on individuals' well-being, motivation, and overall functioning (Ryan & Deci, 2000). For instance, research has shown that fulfilling relatedness needs promotes psychological well-being which, in turn, can enhance self-esteem, self-confidence, and overall life satisfaction (Sheldon & Niemiec, 2006). Conversely, when relatedness needs are not adequately satisfied, individuals may experience a range of negative consequences such as feelings of loneliness, isolation, and alienation (Wei et al., 2005; Smith, 2021). These emotional states can have detrimental effects on mental health, potentially leading to symptoms of depression, anxiety, and decreased overall life satisfaction (Olafsen et al., 2018). In an organizational context, relatedness need satisfaction might be achieved through supportive and trusting relationships with colleagues and supervisors, a sense of camaraderie

and shared purpose within work teams, or an inclusive and respectful organizational culture (Van den Broeck et al., 2016). All of these ways to satisfy relatedness need satisfaction involve some form of human interaction or personal connection, which is inherently lacking in AVIs.

Additional theories complement BPNT's understanding of relatedness need satisfaction, such as the need to belong (Baumeister & Leary, 1995), psychological immediacy (Short et al., 1976; O'Sullivan 2004), and social exchange theory (e.g., Blau, 1964; Cropanzano, 1995). For instance, the need to belong describes humans' innate drive to form and maintain relationships as evolutionary in nature, and is pervasive across cultures and contexts. Psychological immediacy describes the amount of "psychological distance" one person perceives in relation to another, particularly in communication contexts. Social exchange theory attempts to understand social interactions in terms of differing types of exchanges and relationships, on the basis of reciprocity. In the following section I will outline these theories in more depth describing their relationship to relatedness satisfaction, as well as the conditions that may assist the satisfaction for this need in a selection context according to those theories. In a later section, I will also outline the practical, theory-driven experimental manipulations that form the basis of the experimental work presented in this dissertation.

The Need to Belong Theory

Baumeister and Leary's (1995) need to belong theory proposes that humans have a fundamental "pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (p.497). This theory is rooted in evolutionary psychology, which suggests that humans, as social creatures, have evolved to seek social bonds as they offer survival and reproductive advantages. This intrinsic drive comprises two primary features. First, there is the need for frequent, affectively positive or

neutral interactions with a few other individuals. These interactions must be reasonably stable, with the expectation of continued relational permanency. Second, it involves engaging in these interactions within a framework of long-term, caring, concern-filled relationships, where there is a mutual expectation of enduring connectivity. Empirical research supports the need to belong theory, demonstrating that fulfilling the need to belong is associated with a host of physical and psychological benefits, including improved mental and physical health, greater happiness, and increased resilience (Jobe, 2003). Conversely, thwarting this need - through social rejection, exclusion, or isolation - can lead to a range of negative outcomes including heightened anxiety and depression, impaired cognitive performance, and in extreme cases, increased risk of mortality (Pereira et al., 2014).

In a selection process, the need to belong might be satisfied in a variety of ways. Primarily, this process could involve creating a sense of inclusion for all participants, fostered by communication practices that demonstrate empathy and respect for all applicants regardless of their outcome in the process. Exhibiting empathy for, and perceiving empathy from, others is a primary way in which humans both demonstrate care for and form bonds with one another (Davis, 1980). Applicant reactions such as organizational attraction and the intent to recommend the organization to others have recevied higher ratings from applicants who perceived empathy, friendliness, and positive affect from the employer during their assessment process (Carless & Imber, 2007). The selection process can often be the first "relationship" that the applicant has with the organization, therefore using communication practices that are able to quickly foster a caring, respectful, and solid relationship with a hiring organization may be able to foster relatedness-need satisfaction.

From a need to belong perspective, AVIs might inadvertently signal a lack of interest in forming meaningful and/or positive relationships with applicants. The absence of a live interviewer may give applicants the impression that the organization does not prioritize

personal connections, cannot empathize with how completing an AVI may feel for applicants, and might not provide a supportive and inclusive work environment. Thus, the lack of interaction during an AVIs could potentially undermine applicants' perceived sense of belonging, leading to a less favorable perception of the hiring organization and their overall evaluation of the selection process.

Psychological Immediacy, and Mediated Immediacy

Psychological immediacy is conceptualised as "The psychological distance which a communicator puts between himself (sic) and the object of his communication" (Short et al., 1976, p. 72). Often used in the context of communication and interpersonal relationships, it refers to the sense of closeness, intimacy, or connection one feels towards another individual or group (Mehrabian, 1971). Psychological immediacy can manifest both emotionally and cognitively, encompassing feelings of emotional closeness and respect, as well as a sense of shared identity or similarity (Messman & Jones-Corley, 2001). Mediated immediacy (O'Sullivan et al., 2004) describes the perception of psychological immediacy when communication is mediated by technology, as opposed to F2F communication. While certain behaviors can foster immediacy (e.g., a manager speaking to an employee with a warm and caring tone, rather than a cold and curt tone), perceptions of immediacy may also be affected by the type of communication medium being used. For instance, a manager choosing to speak to an employee via telephone when F2F conversation would have been equally feasible may signal (perhaps unintentionally) that the manager is not interested in close forms of communication, thereby creating a sense of "distance" from the employee (Short et al., 1976; Kamps, 2022). The psychological distance that the employee perceives may be experienced as negative emotions or cognitions, and may ultimately lead to a more negative perception of the manager.

One of the principal ways psychological immediacy can be created is through effective communication (Short et al., 1964). For instance, engaging in open and honest conversations, expressing empathy, and demonstrating active listening can all foster a sense of psychological closeness (Walther, 1992). Non-verbal cues, such as eye contact, facial expressions, and body language, can also contribute to psychological immediacy by signaling interest, engagement, and understanding (Mehrabian, 1971). These behaviors have been shown to increase students' sense of connection and psychological closeness with their course instructor in asynchronous learning environments (O'Sullivan et al., 2004; Borup et al., 2012), and also have the potential to improve relatedness satisfaction (e.g., Sparks, 2015; Tan et al., 2019; Wang et al., 2019). In the context of selection and assessment, a selection process that demonstrates a sincere effort on the hiring organization's part to foster psychological closeness with applicants may be able to create a positive applicant experience. Real-time interactions such as F2F or live video interviews, allowing applicants to meet potential colleagues or their interviewer/s, or inviting applicants to engage with the organization through events or social media are all strategies that could potentially foster a sense of psychological closeness, thereby enhancing relatedness need satisfaction.

In terms of psychological immediacy, the choice to use an AVI rather than a F2F interview may create the perception that the hiring organization is attempting to create a "distance" or "barrier" between themselves and candidates by investing in an assessment that, by its very nature, removes the interpersonal dynamics that can establish personal connections and foster the sense psychological closeness. The lack of human feedback or acknowledgment may create a sense of isolation, as applicants might feel they are communicating with a machine rather than establishing a relationship with the person responsible for conducting and/or evaluating their interview. Therefore, the impersonal nature of AVIs may potentially undermine the sense of psychological immediacy, leading to

diminished perceptions of connection and engagement with the hiring organization. This perceived distance may impact applicants' perceptions of the process, potentially affecting their motivation and performance, as well as their overall assessment of the selection experience.

Social Exchange Theory

Social Exchange Theory (SET) is a broad theoretical framework often used in the social sciences which uses a cost-benefit analysis approach to understand and explain social interactions between two parties (Cropanzano & Mitchell, 2005). Originating from the work of Blau (1964), Homans (1974), Cropanzano & Mitchell (2005), SET postulates that human interactions and relationships can be analyzed in terms of exchanges, where individuals attempt to maximize their rewards and minimize their costs, and are driven by an expectation of return. The return may not be immediately apparent or material, but could involve intangible benefits such as approval, respect, or the feeling of being valued (Uhl-Bien & Maslyn, 2003). SET proposes that relationships evolve over time, influenced by the history of exchanges between individuals. Positive exchanges can lead to the strengthening of relationships, while negative or unbalanced exchanges can cause relationships to weaken or dissolve. Therefore, in any social exchange, individuals are motivated not only by immediate outcomes but also by the potential future returns of maintaining a positive relationship (Cropanzano & Mitchell, 2005).

According to Cropanzano and Mitchell (2005), both transactions and relationships can be described as either economic or social, and the authors make important distinctions and describe the interplays between the type of transaction, and the type of relationship, that typifies any social exchange. A transaction's classification as economic or social depends on whether the type of resources being exchanged in that transaction are economic (e.g., tangible/material goods, wages, services, etc.) or social (e.g., respect, support, trust, value,

etc.) in nature. Relationship development, however, "is not a matter of a single stimulus-response" (Cropanzano and Mitchell, 2005, p. 890). Relationships develop over time and over a series of interactions and exchanges. An economic relationship is one fundamentally based on the exchange of economic resources (e.g., a shopkeeper / customer relationship), whilst social relationships develop based on exchanges of social resources (e.g., friendships and familial relationships).

Economic transactions typically occur within economic relationships, where the exchange of tangible goods or services is based upon explicitly defined rewards and costs (Shore et al., 2009). For example, an employee provides their labour and, in return, receives a wage from their employer. On the other hand, social transactions occur within social relationships and involve the exchange of intangible resources (Oparaocha, 2016). These transactions are less contractual and more reciprocal, often guided by norms of reciprocity and mutual benefit. For example, an employee may assist a co-worker with a task, expecting that the co-worker will reciprocate in kind in the future. However, while economic and social transactions are distinct, they often coexist within relationships (Cropanzano & Mitchell, 2005). An example of an economic transaction within a social relationship could be a friend offering to pay for another's meal during a social outing. Here, the act of paying for the meal (an economic transaction) occurs within the broader context of the friendship (a social relationship), and the expectation of reciprocity may not be immediate or materially equivalent, reflecting the relational rather than contractual nature of social exchanges. An example of a social transaction within an economic relationship may be a psychologist providing emotional support (i.e., social resources) to a client in the course of a counselling session for which the client is paying the psychologist (economic relationship). Understanding the distinctions and interplays between transaction-types and exchange-types can help us understand the nuances as to how relationships develop over time, and can also

provide insights into how both transaction-types may be able to influence relatedness satisfaction in assessment contexts.

Both social and economic transactions may have the potential to affect relatedness satisfaction. Social transactions, with their focus on resources such as support, care, affection, and information, may directly satisfy the need for relatedness by facilitating emotional connections and fostering a sense of belonging (e.g., Baumeister & Leary, 1995). For example, the simple act of sharing personal experiences or providing emotional support during difficult times can greatly strengthen the feeling of relatedness between individuals. Economic transactions may also potentially play an important role in satisfying the need for relatedness by ensuring that economic exchanges are fair and mutually beneficial; in this way, individuals may feel valued and respected within the relationship or interaction (Loi et al., 2009). For example, in a friendship, the act of giving and receiving gifts can serve as an economic transaction that strengthens the bond between friends. The reciprocity of such actions also emphasizes the value placed on the relationship, contributing to the satisfaction of the need for relatedness. In the context of applicant reactions, SET could be applied by ensuring the exchange of resources between the organization and applicants is perceived by applicants as equitable and beneficial. Offering comprehensive feedback, maintaining transparency about the process, and investing time in personalized communication are strategies worth exploring to investigate whether they may be perceived by applicants as beneficial returns for their effort and time spent in the application process. Such actions may facilitate a sense of mutual respect and connection, thus increasing relatedness satisfaction and improving applicant reactions.

Job interviews, specifically, may be viewed as a largely social transaction within an economic relationship. The economic relationship is established by the inherent nature of the prospective ongoing relationship - a job offer and employment - being predicated on tangible

resources and outcomes such as wages, benefits, and the delivery of job-related duties. However, while some resources exchanged during the job interview might be considered economic (i.e., both interviewers and applicants expend their time to participate in the interview process), many of the resources are largely social. The candidate and the interviewer would generally be expected to engage in a process of mutual respect, developing rapport, and trust-building. The interviewer, representing the organization, offers impressions of the organizational culture, work environment, and potential opportunities for growth, while the candidate offers impressions of their personality, work ethic, and alignment with the company's values. The successful exchange of these social resources can significantly impact the overall outcome of the interview process (i.e., the interviewer's evaluation of the applicant; Nguyen, & Gatica-Perez, 2015) underlining the complex nature of job interviews as social transactions within economic relationships. The reciprocity and mutual benefit expected by applicants in a typical F2F interview process align well with the principles of social exchange theory and relatedness-satisfaction, illustrating the relevance of these theories in this context.

From a SET perspective, AVIs might be seen as providing an unbalanced exchange. In the absence of real-time interaction, candidates may perceive that they are investing significant effort in recording their responses without mutual reciprocity, or personalized feedback, from the hiring organization. This perceived imbalance may result in a feeling of disconnection and a sense of being undervalued, thus failing to satisfy the need for relatedness. Such perceptions may negatively impact applicants' attitudes towards the selection process, diminishing their overall satisfaction and potentially influencing their decision to continue with the application process.

In conclusion, the need to belong theory, psychological immediacy, and SET, as discussed previously, may help to provide more specific insights into how relatedness need

satisfaction may be satisfied. By implementing communication strategies that foster a sense of belonging, creating psychological closeness, and ensuring equitable exchanges, organizations may be able to improve applicants' sense of connection to the organization, their relatedness-need satisfaction, and their overall applicant experience, potentially attracting and retain top talent. Thus, these theories have offered valuable guidance for designing the interventions presented in this dissertation, all of which are aimed at improving relatedness satisfaction within AVIs. Interventions intended to enhance relatedness satisfaction could potentially be used by hiring organizations when designing their AVIs, to ensure that the AVI design and/or content has the most chance at signalling the organization's interest in forming and maintaining positive interpersonal relationships, closeness, and equitable reciprocity in the exchange of resources during the assessment.

Customising AVI Design to Support Psychological Needs

As briefly mentioned previously, it is possible that AVIs may not strongly satisfy all three basic psychological needs in some way; this could depend on which AVI design features are included or omitted, and how they are implemented. In terms of relatedness need satisfaction, the main target mechanism of this dissertation, video materials (such as introduction videos from the hiring organization) could help to offer a glimpse into the organization's culture, potentially fostering a sense of connection. Compared to presenting information solely as static text, including video content could potentially make the process feel more personal and less detached, potentially strengthening the sense of connection with the interviewer or organization. By gaining insights into the team they may join, or the people who may be evaluating their responses, applicants might feel more engaged and less alienated by the asynchronous process. In the next section, I will outline the experimental interventions conducted in this dissertation that were informed by principles from the need to belong

theory, psychological immediacy, and SET, which attempt to improve relatedness need satisfaction and applicant reactions during AVIs.

Experimental Study 1: Creating AVIs that Demonstrate Empathy

The BPNT literature offers a rich array of strategies proven to boost the satisfaction of the need for relatedness. Key strategies include fostering empathy, practicing perspective taking, recognizing and validating feelings, extending warmth and inclusivity, emphasizing an individual's inherent worth, demonstrating respect, and showcasing genuine regard (e.g., Ntoumanis et al., 2020; Slemp et al., 2021). While these methods vary, they are united by a core principle: enhancing interpersonal comprehension, acknowledgment, and bonding, which resonates with the essence of satisfying relatedness needs. For instance, both empathy, the ability to resonate with another's emotions, and perspective taking, which involves stepping into another's shoes, actively nurture a deeper interpersonal rapport and mutual respect, creating an environment where people genuinely feel acknowledged (e.g., Friederichs et al., 2015; Arrogi et al., 2017). Validating one's feelings gives merit to their emotional journeys, reinforcing their feelings of worth and acknowledgment (Kinnafick et al., 2016). When warmth and inclusivity are exhibited, it heightens the sense of belonging and reminds the individual of their valuable place within a group or organization (Edmunds et al., 2008; Albaram & Lim, 2023). When one's inherent value and respect are communicated, it underscores their significance, further nourishing the relatedness need (Weman-Josefsson et al., 2017). Encouraging an atmosphere of non-judgment or genuine positivity fosters an environment conducive to genuine expression, enhancing relatedness satisfaction (Mack et al., 2011; Hsu et al., 2013).

Affiliative humor stands out as a unique, yet potentially potent strategy. This lighthearted and inclusive form of humor seeks to entertain others, fortify social ties, and deepen interpersonal relations (Martin et al., 2003). In terms of addressing relatedness needs,

affiliative humor may help to amplify a sense of unity and connection among people, satiating our deep-seated need for meaningful bonds and mutual understanding. In my first empirical study (Chapter 4), I delve into these dynamics by experimentally adjusting the use of affiliative humor and empathetic, warm messaging in video materials shown to participants during the AVI.

Experimental Study 2: Creating AVIs that Demonstrate Empathy and Immediacy

In my second empirical study, I again explore the impact of warm and empathetic messaging, comparing its presence with its absence in video messages delivered during an AVI. Concurrently, this study also examines whether identifying the 'communication agent'—the individual conveying the AVI message—as a generic employee of the hiring organization or as the specific evaluator responsible for assessing the participants' AVI, influences relatedness satisfaction and subsequent applicant reactions. In the context of asynchronous video interviews, introducing the evaluator to the applicant beforehand could play a pivotal role in enhancing psychological immediacy. This approach could foster a sense of connectedness and familiarity between the evaluator and the applicant, thus bridging the gap imposed by the temporal and spatial separation inherent in asynchronous communication. As the evaluator becomes more than an abstract entity, the applicant may better empathize and connect with them, enabling a more engaged and psychologically immediate assessment process. Previous research in the context of asynchronous learning environments suggests that identifying the evaluator could also mitigate the impersonal nature of asynchronous communication by humanizing the process, allowing for a deeper understanding of the applicant beyond their on-screen presentation (e.g., Borup, 2016, Dixson et al., 2017). Ultimately, such introductions could potentially result in richer communication dynamics, thereby increasing psychological immediacy within the AVI context.

Experimental Study 3: Creating Personalized AVIs

Another potential intervention to enhance relatedness need satisfaction within AVIs could be the personalization of content tailored to each applicant. Personalizing AVIs towards individual applicants may help applicants feel uniquely acknowledged and valued, behaviors which have been shown to increase relatedness need satisfaction (Ntoumanis et al., 2020). The personalization could take various forms, such as incorporating elements of the applicant's background or work history into the AVI, or including personalized messages from the hiring organization's recruitment team. If this information was stored in a database (such as the applicant's resume stored in the hiring organization's applicant tracking system), then tailoring an AVI to include personal information may not pose an insurmountable challenge to the scalability of AVIs. By contrast, if the information needed to personalize an AVI experience for each applicant is readily available, personalization may make the interview process feel more reciprocal and engaging, thereby satisfying the need for relatedness. My third empirical study will therefore investigate whether the presence or absence of personalized written messages presented to participants during an AVI affects relatedness satisfaction and subsequent applicant reactions. Should personalization measures prove beneficial, it may be of interest for further research to determine other ways for personalization to be implemented during AVIs in a manner that retains the scalability of the format, thereby balancing individualized applicant experiences with organizational efficiency.

The Combined Research Program

Overall, this program of research aims to offer potential avenues for enhancing relatedness satisfaction in AVIs. The interventions presented have been developed to highlight the importance of considering human needs and psychological principles in the design of modern selection assessments, particularly those without live human interaction. Additionally, this research seeks to explore at what level relatedness-supportive interventions

should be applied to maximise positive applicant reactions (Figure 2.1). For instance, Experimental Study 1 presents a general one-size-fits-all strategy that is implemented to provide relatedness support to all experimental participants uniformly. Experimental Study 2 narrows the scope by also advising participants in relevant experimental conditions that they belong to their specific evaluator's group of applicants, thereby targeting "group-level" relatedness support. Finally, Experimental Study 3 represents individual-level relatedness support by customizing AVIs to the unique characteristics and preferences of each individual participant. By implementing manipulations at different levels, this research program aims to determine whether any of the "levels" of relatedness support are more successful than others in enhancing applicant experiences and outcomes within the AVI context. Investigating these levels may prove useful to researchers in better understanding how relatedness needs can be best satisfied, and to industry in striking a balance between meeting the individual needs of applicants and ensuring the practicality and scalability of AVIs as a selection tool.

Figure 2.1

Model of Intervention Target Levels Between the Three Experimental Studies
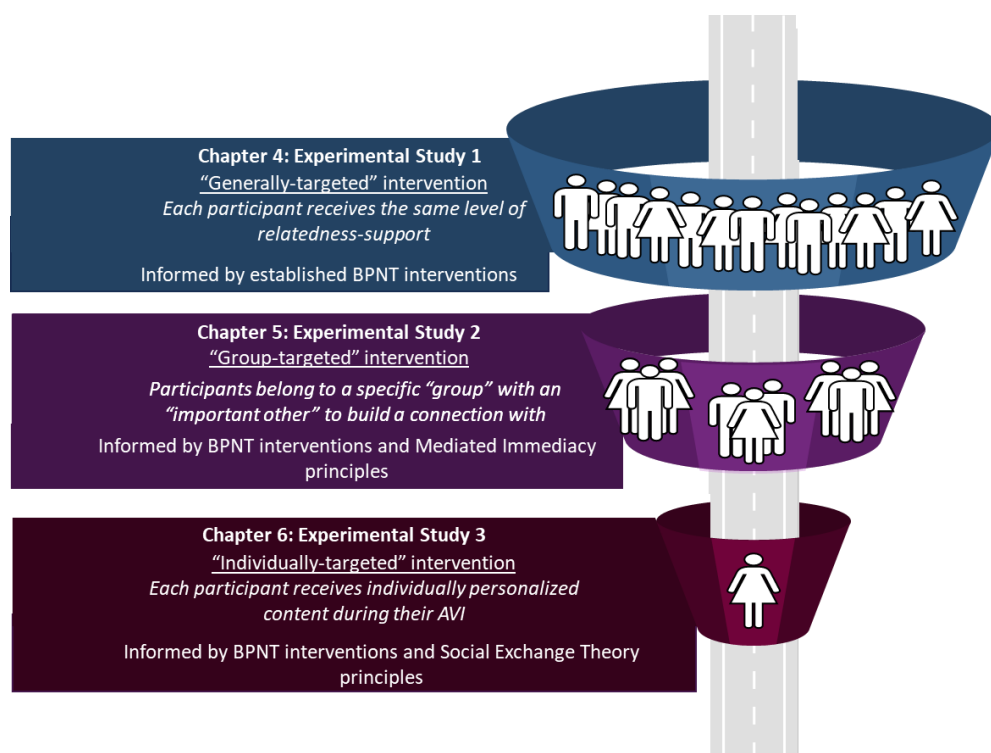
In Conclusion

Whilst the advent of technology has provided an array of benefits for organizations in the selection and assessment domain, it has also simultaneously posed challenges which so far lack sufficient exploration, particularly in understanding applicant reactions. AVIs, an increasingly adopted selection tool over the past decade, presents a case in point. The psychological implications of this selection method on applicants, and how these perceptions subsequently shape their views of the recruiting organization, remain largely underexplored. Furthermore, current dominant models that explain applicant reactions may not capture a broad-enough spectrum of psychological phenomena required to suitably interpret reactions to technology-mediated assessments. This gap in understanding could potentially be bridged through using BPNT as a theoretical lens through which to study applicant reactions, providing a fresh perspective for both researchers and practitioners.

Through a series of three experimental studies, I will investigate applicant reactions to AVIs and evaluate the utility of BPNT in explaining these reactions. The results of these experiments could augment the existing applicant reactions literature by proposing a potentially more effective theory in explaining applicants' reactions than current dominant theoretical models. This dissertation also seeks to contribute to the BPNT literature by examining the efficacy of intervention strategies grounded in the complementary theories of belongingness, psychological immediacy, and social exchange. The objective is to discern if these interventions can enhance the satisfaction of relatedness, thereby adding new insights into how relatedness-satisfaction can be formed. Finally, this research aspires to be of practical relevance by providing industry with evidence-based strategies for applicant-satisfying AVI design, thus assisting organizations in their hiring endeavours and in maintaining their brand reputation.

Chapter 3: Dance, Monkey - Dance! A Qualitative Analysis of Reddit and Experimental

Study 1 Participants' Perceptions of AVIs

Research to date indicates a discernible preference among applicants for face-to-face (F2F) interviews over technologically mediated formats (Blacksmith et al., 2016). Specifically in regards to asynchronous video interviews (AVIs), Lukacik et al. suggest that the applicant experience may be "jarring," primarily due to the notable lack of real-time human interaction inherent to F2F interviews. As discussed in Chapter 2, this absence of immediate communication could mean that applicants perceive an AVI as 'cold' and 'impersonal,' potentially failing to satisfy an applicant's need for relatedness. However, this postulation lacked empirical evidence at the beginning of this research program, as there was very little research that applied basic psychological needs theory (BPNT) to the investigation of applicant reactions (e.g., Borman et al., 2023). This gap in literature underscored the need for an initial investigation to determine whether deeper explorations using BPNT to understand applicant reactions to AVIs were warranted, and to provide direction for future work.

To ascertain whether any initial support existed for using BPNT as a theoretical lens prior to embarking on an experimental study, I sought out accessible data that may shed light on candidate perceptions of AVIs. In our digital age, candidates frequently harness various online platforms to publicly share feedback and insights about their experiences. Reddit stands out as one of these platforms; known for its vast and diverse communities, users engage in discussions, share content, and form communities (called "subreddits") around various topics of interest. The www.reddit.com/recruitinghell subreddit encourages its 479 000 members to "post your horror stories" about their candidate experiences, giving members a public outlet to vent their frustrations about recruiters, recruiting practices, and hiring organizations generally. Consequently, these comments scraped (i.e., "collected") from the

r/recruitinghell subreddit offers an abundant supply of textual data suitable for content analysis, a qualitative research approach that aims to identify and interpret recurring patterns, themes, and meanings within a given dataset (Hsieh & Shannon, 2005).

Intended Analysis Strategy

My intended strategy was to scrape comments from relevant posts and threads on the r/recruitinghell subreddit, perform a qualitative content analysis, and harness the insights in several ways. Primarily, I sought to determine whether applicants discussed their AVI experiences in terms of how the assessment affected their psychological needs. Furthermore, I was interested in identifying whether participants emphasized either relatedness, autonomy, or competence more prominently, and the depth of such discussions. These findings would serve as a foundation for my initial experimental investigation.

While comments from Reddit users' represent a unique and valuable collection of applicants' firsthand narratives on AVI experiences, it is essential to acknowledge the specific nature of the r/recruitinghell subreddit, which focuses on recruitment "horror stories." This likely indicates a bias towards predominantly negative AVI feedback, possibly not representing a comprehensive view of applicant opinions. Therefore, I intended to use the qualitative analysis of Reddit comments to help inform the direction of my initial experimental study, during which I would incorporate two open-ended questions to collect study participants' perspectives on AVIs. I aimed to analyze participants' responses using the same qualitative content methodology employed for the Reddit data, believing that Experimental Study 1 participants' responses might represent a wider range of opinions, potentially more balanced in sentiment. I intended to integrate these additional qualitative insights to inform Experimental Study 2 and the broader direction of the research program. Figure 3.1 shows the chronological sequence of data collected for both the Reddit and Experimental Study 1.

Figure 3.1

Sequence of Activities Involved in Qualitative Data Collection and Analysis.

Step 1 (Chapter 3)

Initial Qualitative Content Analysis – Comments from Reddit Users

Scraping and content analysis of publicly available qualitative data (via Reddit) regarding AVI experiences

Aims of qualitative elements : Help to assess BPNT's viability as an alternative applicant reactions lens; help to inform direction for Experimental Study 1

Step 2 (Chapter 4)

Experimental Study 1 (Quantitative and Qualitative elements)

(a) *Quantitative analysis comparing applicants' reactions to an AVI containing the presence, or absence, of empathy and humour. Not directly related to this chapter; appears here for completeness and context only.*

(b) Collection of responses from study participants regarding their experiences and perceptions of AVIs.

Aim of qualitative elements : Collect qualitative data suitable for content analysis

Step 3 (also Chapter 3)

Qualitative Content Analysis – Comments from Experimental Study 1 participants

Content analysis of responses from study participants regarding their experiences and perceptions of AVIs.

Aims of qualitative elements: Help to assess BPNT's viability as an alternative applicant reactions lens; help to inform direction for further experimental studies and the research program at large.

Step 4 (Chapters 5 & 6)

Experimental Studies 2 & 3

Quantitative analysis comparing applicants' reactions to AVIs embedded with intervention strategies partly informed by the results of the qualitative analysis.

This chapter outlines the data collection and analysis methods used to derive the qualitative insights pivotal in directing the trajectory of this research program. To begin, I will briefly outline content analysis as a qualitative analysis method, and show how its utility in the current context. To ensure clarity between the analyses of the two data sources, I will begin by explaining the qualitative analysis conducted on Reddit data, pinpointing emerging themes that shed light on real-world applicants' perceptions of AVIs. Subsequently, I will provide a similar breakdown for data procured from Experimental Study 1 participants. The General Discussion will then center on discussing insights from both qualitative studies, and the common narrative between the two sets of participants: That both Reddit users and study participants frequently articulate their AVI experiences in the context of how their basic psychological needs are impacted by the assessment. Delving deeper, the focus will concentrate on the frequency and themes of conversations around the three psychological needs: Relatedness, autonomy, and competence. It becomes evident that relatedness takes precedence over the other two needs, with participants discussing relatedness need satisfaction (or the lack thereof) more frequently and across more themes than autonomy or competence. In light of these results, this chapter will conclude by detailing the rationale behind the research program's emphasis on satisfying to the need for relatedness in AVIs, describing how insights from these qualitative analyses helped to inform the interventions employed in the three experimental studies.

Content Analysis - A Brief Overview

Qualitative methodologies aim to explore intricate phenomena across various fields and disciplines (Denzin & Lincoln, 2008; Tong et al., 2007). While numerous qualitative approaches exist, their shared goal is to understand experiences from those directly involved (Hsieh & Shannon, 2005). The choice of methodology depends on the specific research questions posed (Streubert Speziale & Rinaldi Carpenter, 2007); this chapter emphasizes

content analysis, specifically its application to data from Reddit and Experimental Study 1 participants. Content analysis is distinguished by the relatively low degree of data transformation during the analysis, compared to other methods such as grounded theory which demands extensive interpretive work (Powers & Knapp, 2010; Sandelowski and Barroso, 2003). Content analysis is used to systematically code and categorize large textual volumes to discern trends, patterns, word frequencies, and communication structures (Mayring, 2004; Pope & Mays, 2006). It seeks to interpret and explain the underlying essence of the data by evaluating the themes within the communication, dynamics between communicators, and the ensuing implications (Bloor & Wood, 2006).

Content analysis is typically conducted through either *inductive*, *deductive*, or *summative* coding of the data, or a combination of these methods. Inductive analysis is preferred when there's an absence of prior studies on the topic, or when existing theories do not accurately explain the phenomenon, with coded categories emerging directly from the text (Hsieh & Shannon, 2005). In contrast, a deductive approach is best used in instances where there is a need to test an existing theory under novel circumstances or to compare categories across timeframes (Hsieh & Shannon, 2005; Elo & Kyngäs, 2008). Through the summative content analysis approach, researchers can precisely measure word or theme frequencies within the data, effectively quantifying the data (Grbich, 2010). Using the summative approach in conjunction with either the inductive or deductive approach not only facilitates the identification of prevailing themes but also enables a comparative assessment of their prevalence (Hsieh & Shannon, 2005). This dual-edged capability ensures a comprehensive understanding, blending thematic depth with empirical metrics.

Elo and Kyngäs (2008) describe the content analysis process in three stages: Preparation, organizing, and reporting. Preparation involves researchers immersing themselves in the data, selecting the analysis unit (i.e., concentrating on specific *words* versus

themes), and deciding on which approach (i.e., inductive or deductive) to use. The organizing phase is where researchers conduct the coding, categorizing the data into codes and themes. Reporting outlines the analysis procedure used, and presents the outcomes of the analysis using models or narratives to outline the categories and themes uncovered, and their relevance.

Method

The qualitative studies of both Reddit and Experimental Study 1 share identical study designs and analytical tactics. To maintain clarity and conciseness, I will first outline the shared methods prevalent in both studies. Subsequently, I will delve into the methods exclusive to the Reddit study, followed by its results and discussion. This will be mirrored for the Experimental Study 1 qualitative analysis, ensuring a structured presentation of both studies. A General Discussion section integrating the results of both studies will then follow.

Shared Methods: Reddit vs. Experimental Study Participants

Study Design

The research design uses a realist/essentialist approach, which assumes that people share their experience, and the meanings derived from their experiences, in a straightforward way through their language use (Braun & Clarke, 2006; Widdicombe & Wooffitt, 1995). Using this approach, this study therefore acknowledges that the content generated by Reddit users and Experimental Study 1 participants reflects their subjective experiences, beliefs, and perspectives, which may provide valuable insights into the degree of satisfaction (or lack thereof) of their basic needs in relation to an AVI.

Analysis Strategy

I employed the deductive and summative content analysis methods to analyze the qualitative comments. Given that Research Question 2 seeks to investigate whether BPNT (a pre-existing theory now being explored in an unfamiliar context) can be useful in

understanding applicant reactions, the deductive method as outlined above proves fitting. This systematic approach allows for a hierarchical coding of the data (Figure 3.2), to further distinguish between experiences that either satisfy, or fail to satisfy, each of the three psychological needs. This approach also allows for data to be further categorised into specific subthemes based on need-supportive interventions previously shown to be effective in enhancing each psychological need's satisfaction (e.g., Ntoumanis et al., 2020; Slemp et al., 2021). To illustrate: The need for relatedness often aligns with warm, empathetic communication enhancing perceived satisfaction, while communication perceived as 'cold' or 'impersonal' may fail to satisfy relatedness. In the context of participants' comments, if a respondent perceives the AVI as "detached" or "impersonal," the comment could be classified as "Relatedness" (as the highest-order theme), and as "Relatedness - dissatisfaction," then finally as "Relatedness - dissatisfaction (warmth)." This approach serves a dual purpose. Firstly, it streamlines the coding of remarks into precise deductive themes. More crucially, it quantifies the prevalence of comments associated with higher-order themes. This quantification offers a lens to comparatively assess the psychological needs, pinpointing which might be most influenced by the AVI experience. It also enables a comparative evaluation of theme mentions, shedding light on recurring versus sporadic themes. I hoped that using both deductive and summative approaches may provide insights from the data that would help to shape and prioritize interventions for this research program's subsequent experimental studies.

Figure 3.2

Example of Hierarchical Content Analysis Coding Scheme Used in Both Studies
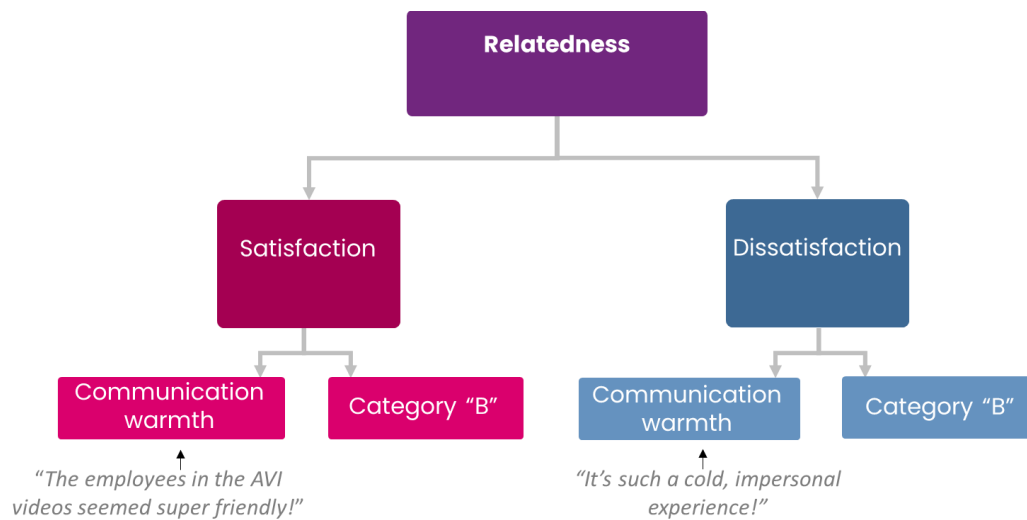
Preparation Phase. First, all comments were read and re-read to immerse myself in the data. I decided to use the hierarchical deductive approach outlined above, enabling comments (or parts thereof) to be coded according to (1) which basic psychological need they pertained to; (2) whether the comment spoke about need satisfaction, or a lack thereof; and (3) specific categories within each need inspired by the need-satisfaction intervention strategies outlined in recent BPNT intervention meta analyses (Ntoumanis et al., 2020; Slemp et al., 2021). Example categories included "Demonstrates warmth or inclusion" (relatedness satisfaction), "Reduces controlling behaviors" (autonomy satisfaction), and "Promotes self-efficacy" (competence satisfaction).

Organizing Phase. The deductive content analysis approach allowed comments to be subjected to empirically sound categorization into categories relating to the three basic psychological needs within BPNT, the satisfaction or dissatisfaction of each need, and sub-categories informed by prior BPNT research. Each comment was read and compared to the

definitions for each code based on descriptions of BPNT interventions in Ntoumanis et al. (2020) and Slemp et al. (2021). Comments, or relevant parts thereof, were coded into each category if they matched the definition of the category. Comments were also read to ensure that no possible dimensions of the needs were missed by the predetermined codes. To validate the category codings, I regularly reviewed the qualitative analysis with my PhD supervisors during our supervision meetings. One of my supervisors is notably renowned in the field of self-determination theory, and as such their extensive knowledge of BPNT principles was invaluable. Together, we examined the emerging categories within each need, ensuring that the coding of comments was consistent with BPNT's theoretical foundations.

Reddit Users' Perceptions of AVIs: A Qualitative Study

This section presents the remaining Method section pertaining to the analysis and interpretation of Reddit users comments, then presents the results and discussion of these analyses. An equivalent section for comments from the Experimental Study 1 participants follows.

Method

Data Collection and Participants

To collect the required data from Reddit users, I searched for 'posts' and 'thread comments' within the r/recruitinghell 'subreddit' that may contain applicants' thoughts and feelings about AVIs. On Reddit, a 'post' refers to content submissions, be it text, a link, or an image, shared within a 'subreddit', which is a specific community centered around a theme. A 'thread' is the cascade of individual comments responding to a post. Any comment added to a post gets woven into its respective thread, showcasing user interactions and discussions (Figure 3.3). Reddit allows users to search for keywords in order to find posts relevant to the user, so I first performed a search to find posts containing comments regarding users' AVI experiences. AVIs are often branded by provider platforms as "on-demand video interviews,"

"recorded video-interviews," therefore I used the keyword "video interview" as the search term in an attempt to capture as many posts as possible that may relate to AVIs. In total, 13 individual posts with a combined total of 731 thread were identified. Each post and comment was read to identify any mention of users' feelings towards, or subjective perceptions of, AVIs. Two posts (containing 252 comments) were excluded as neither the original post nor subsequent thread comments mentioned AVIs; these posts only mentioned F2F interviews or synchronous video interviews (i.e., real-time video interviews via Skype or Zoom, etc.). One thread post (containing 28 comments) was excluded as comments on this post dispassionately discussed some technical features of AVIs without mention of how those features affected users' feelings toward AVIs. Within the remaining 10 posts, 402 comments were also excluded as they did not include users' feelings about or perceptions of AVIs, resulting in 49 comments included for analysis.

Figure 3.3

Example of Reddit Posts, Comments, and Threads

Results

The main categories that emerged from Reddit users' comments related to the lack of relatedness need satisfaction. Specifically, Reddit users felt AVIs were disrespectful towards applicants, with a lack of reciprocity in effort from the hiring organization. Reddit users also lamented that AVIs lacked warmth or inclusion, making reference to the lack of human

interaction within the AVI. Applicants also made reference to not feeling valued as an individual, with comments describing the AVI experience as "factory-like" and feeling like "just a number." Table 3.1 shows example comments and the quantitative data (outlined below) within each category.

Reddit users' comments also pointed to a lack of competence satisfaction, particularly through AVIs not providing an optimal challenge level for applicants. These comments reflected the AVI procedure being perceived as too difficult, with specific AVI design features such as too many questions, or not enough time to complete their answer, leading to a lack of competence satisfaction. Similarly, some users reflected that their personal self-efficacy was negatively affected throughout the AVI process, with users doubting their ability to succeed in an AVI, often comparing their perceived sub-par AVI performance to their perceived success in F2F interviews. Finally, some users lamented a lack of autonomy satisfaction, feeling 'forced' to complete an AVI, pointing to a perceived lack of control in the process.

Table 3.1

Frequencies of the Analyzed Categories, and Example Comments From Reddit Users

Need / Category	*Example*	*F*	*n*	%
Relatedness				
Demonstrates warmth or inclusion				
Satisfaction	*N/A*	0	0	0
Dissatisfaction	*Time for a rant. [AVI vendor] is basically a webcam interview where you record yourself talking to yourself and you answer pre-made questions - you don't actually talk to anybody.*	3	3	6.1
Conveys that applicants are valued				
Satisfaction	*N/A*	0	0	0
Dissatisfaction	*It's a 'churn and burn mentality...being factory sorted by a company that cares so little about people that it has a robot conduct initial interviews.*	2	2	4.1
Conveys respect for applicants				
Satisfaction	*N/A*	0	0	0
Dissatisfaction	*If a company can't take a few minutes to interview a candidate even on the phone themselves, then maybe I don't want to work there. Dance for me, monkey, dance!*	13	12	24.5
Competence				
Provides optimal challenge level		0	0	0
Satisfaction	*N/A*	0	0	0
Dissatisfaction	*Also many of the questions asked had 3-4 parts to them, ex: "describe your professional history. What are your career goals? Where do you see yourself with our company in 5 years? Why did you choose us?" And you're given 3 minutes to respond to it all? That's way too hard for anyone.*	7	7	14.3

Need / Category	*Example*	*F*	*n*	%
Promotes Self-efficacy				
Satisfaction	*Sweet. Got a three minute question asking what I knew about the company, another one asking why I wanted to work for them. I prepared and did well. Then maybe just one question actually asking about process control for the job, again three minutes. It's doable...I answered it pretty well with examples from previous work experience.*	1	1	2.0
Dissatisfaction	*I've never had an interview where I wasn't hired or offered a position. I was completely qualified for this position, took many assessments to which I was even told I did extremely well on. Now...I had an "interview" on [AVI vendor]...I could hardly talk and stuttered most of the recording. Never received a call back. I've done live interviews multiple times on the news for my last position, and this thing for some reason made me absolutely terrified. I felt useless.*	6	5	10.2
Autonomy				
Reduces controlling behaviors				
Satisfaction	*N/A*	0	0	0
Dissatisfaction	*[Hiring organization] force applicants to upload these song and dance videos...Hard pass.*	4	4	8.2

Note. *N* = 49 comments. *F* = Frequency of comments within each category; *n* = the number of unique Reddit users that made reference to this category at some point during their textual response; *%* = percentage of the total sample that corresponds to *n*.

Using the summative content analysis approach enabled a quantitative understanding of the frequency of comments relating to the satisfaction, and lack thereof, of each basic psychological need in relation to Reddit users' experiences of AVIs, shown in Figure 3.4. Relatedness was the psychological need referenced most frequently, across three sub-categories, with all of these comments (representing 26.5% of all respondents) relating to how AVIs failed to satisfy relatedness needs. Competence was the next most frequently mentioned need, across two subcategories with six comments overall, five of which related to need dissatisfaction. Autonomy was the need mentioned the fewest number of times, with all four comments contained within one subcategory, and all relating to need dissatisfaction.

Figure 3.4

Frequency of Reddit User Comments on Basic Psychological Needs Satisfaction or Dissatisfaction in Relation to AVI Experiences.
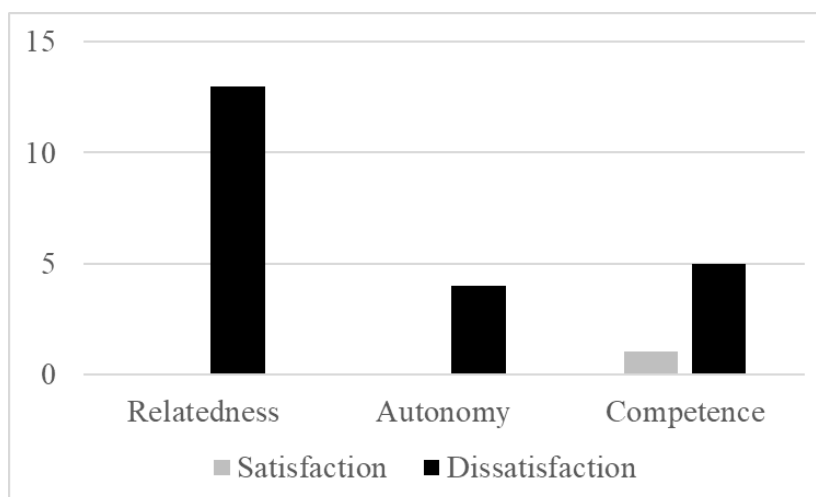
Note: $N = 49$ comments. Satisfaction (dissatisfaction) = satisfaction (or dissatisfaction) of the respective psychological need.

Discussion

In evaluating the discussions on AVIs from Reddit users, a predominant theme underscoring the deficit in relatedness need satisfaction emerged. Strikingly, users felt a palpable disrespect from hiring organizations that use AVIs, pointing to an imbalance

wherein the hiring organization's effort did not reciprocate the effort invested by the applicants. Illustratively, several comments drew parallels with applicants being treated akin to "dancing monkeys," encapsulating feelings of objectification and commoditization in phrases like "Dance for me monkey, dance!" and "[they want me to] be an outgoing bubbly performing monkey." The void of warmth or inclusion in the AVI process was conspicuous to users, as evidenced by their allusions to the absence of human interaction. Comments describing the AVI experience as akin to a "factory" or reducing the applicant to "just a number" further testified to a deep-seated sentiment of their individuality being sidelined by hiring organizations.

The use of summative content analysis has provided an illuminating quantitative layer to this understanding. Figure 3.3 shows the distribution of comments regarding the satisfaction, or notable deficiency thereof, of each basic psychological need as experienced by Reddit users during their AVI encounters. Relatedness was clearly the most frequently highlighted psychological need, with every comment within this domain pointing towards AVIs falling short of satisfying relatedness needs. Competence followed, featuring in two subcategories with six comments in total, wherein the majority underscored the dissatisfaction of this need. Autonomy, although less frequently mentioned, echoed a similar sentiment of need dissatisfaction in all four comments pertaining to the category.

Reddit users' sentiments also indicated unmet competence needs, highlighting that AVIs seemed too difficult in the degree of challenge they posed. Specifically, some AVI design features emerged as impediments, such as an excessive number of questions or insufficient response times, as primary contributors to undercutting Reddit users' sense of competence. Furthermore, a decline in users' self-efficacy became apparent as they described their experiences throughout an AVI. There were recurring echoes of self-doubt and diminished confidence, especially when comparing their AVI experiences with F2F

interviews. In these comparisons, many users intimated that while they felt competent and successful during in-person interactions, the AVI format, perhaps through feeling unfamiliar with the technology, or through not being sure of what the recruiter was looking for, cultivated feelings of inadequacy. Such reflections are significant as they indicate that the medium itself, rather than the individual's inherent capability, might be influencing users' perceived self-efficacy deficits.

Autonomy also appeared to be compromised by the AVI procedure, with participants perceptions of being corralled into participating in AVIs without genuine agency. This sentiment seems to contradict the narrative put forth by some AVI vendors, who suggest that AVIs offer applicants unparalleled flexibility and autonomy by allowing them to choose the time and place of the interview. This discord suggests a possible gap between the intended user experience, as projected by AVI vendors, and the actual experiences and feelings of the users. Collectively, these insights illuminate areas where the design and execution of AVIs might be recalibrated to better resonate with and satisfy user needs.

The pattern of feedback across the data underscores a critical gap in the AVI process's human-centricity. The pronounced deficit in relatedness satisfaction, combined with noted shortcomings in competence and autonomy, may reflect systemic issues that AVI platforms and hiring organizations need to address. While technological advancements offer efficiency, the voice of the users serves as a poignant reminder that human needs and values must remain central in designing assessment processes. The results of this study give some initial support to understanding applicant reactions through a BPNT lens, and that the need for relatedness may be the need most negatively affected by the experience of completing an AVI. These findings provided some direction for the first experimental study to investigate whether using a relatedness supportive intervention could help to improve applicant reactions to AVIs, during which the qualitative data from Experimental Study 1 participants was collected.

Experimental Study 1 Participants' Perceptions of AVIs: A Qualitative Study

The qualitative analysis of Reddit users' comments on AVIs, combined with the theory detailed in Chapter 2, guided the direction of Experimental Study 1. While Chapter 4 provides a comprehensive description of this experiment, I will offer a brief summary here for context. Prior BPNT research has found that one effective approach to satisfying relatedness needs is warm and empathetic communication, and some Reddit users' comments indicated that AVIs were perceived as 'cold' and 'impersonal.' With this in mind, Experimental Study 1 examined if AVIs that included an introduction video using warm, relatedness-supportive communication could enhance applicant reactions compared to an AVI introduction video that used a purely professional communication tone. As the comments from the Reddit users had been insightful, but potentially negatively-biased due to the "post your horror stories" bent of the subreddit, I wanted to gather additional sources of qualitative data to analyze in a similar fashion. I gathered comments from participants in Experimental Study 1 (details of which are explained in the next section), believing this data might offer more nuanced insights than comments from the r/recruitinghell subreddit and encompass a wider participant pool. The goal was to compare the pattern of results between the Reddit and experimental participant samples and seek additional perspectives. This aimed to give further support to whether BPNT may be a valuable theoretical framework for understanding applicant reactions, and determine if the relatedness need was most notably impacted by the AVI experience.

Method

The study design and analysis strategy that was used to analyze the Reddit Users' comments were also applied to the analysis of comments from Experimental Study 1 participants. Full details are outlined in the "Shared Methods: Reddit vs Experimental Study 1" section presented earlier in this chapter.

Data Collection and Participants

At the conclusion of the experimental section of Experimental Study 1, participants were asked to respond to two open-ended questions that formed the basis for this qualitative analysis.

Question 1: "Feelings towards AVIs: How do you feel about these types of video interviews, i.e., what kinds of emotions would you feel if you were a real job applicant?"

Question 2: "Opinions of the companies that use AVIs: What kinds of thoughts and feelings would you have towards a company that wanted you to complete an AVI?"

These questions were designed to encourage participants to express their personal feelings and perceptions in relation to undergoing the AVI procedure generally, as opposed to eliciting participants' perceptions of the specific experimental materials encountered during their AVI. As detailed in Chapter 4, "Experimental Study 1" was divided into two sub-studies: "Experimental Study 1a" with 100 participants and "Experimental Study 1b" with 231 participants, totaling 331 participants. Both studies 1a and 1b concluded with the two open-ended questions. The analysis results will be presented in the following section.

Results

The qualitative analysis of comments from experimental participants largely echoed the findings from the Reddit users' analysis, however there were also more balanced perspectives on AVIs, with many comments highlighting potential benefits of AVIs in supporting participants' psychological needs. Figure 3.5 shows the data from the summative analysis, and Table 3.2 lists the categories identified for each psychological need, along with sample comments.

Figure 3.5

Frequency of Experimental Study 1 Participants' Comments on Basic Psychological Needs Satisfaction or Dissatisfaction in Relation to AVIs.
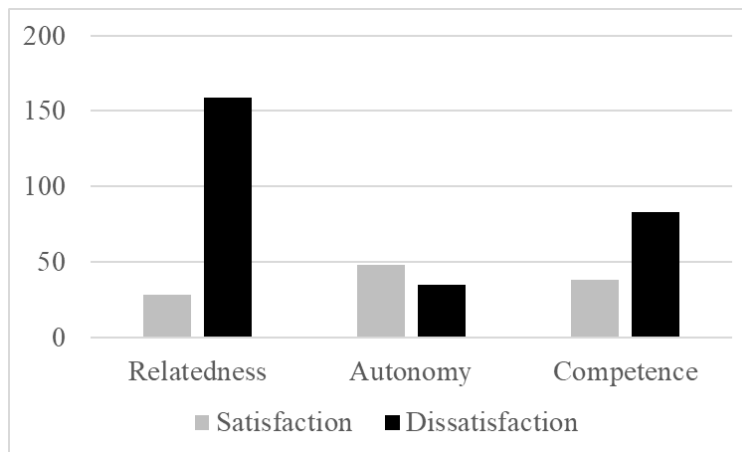
Note: N = 331. Satisfaction (dissatisfaction) = satisfaction (or dissatisfaction) of the respective psychological need.

Relatedness

The same three primary categories as in the Reddit Users' comments emerged regarding relatedness: Perceptions of an AVI's warmth, the value placed on applicants as individuals, and the level of respect demonstrated by the hiring organization. While some comments touched upon how an AVI might fulfill relatedness needs through these categories, the vast majority indicated a shortfall in satisfying this need. Some comments pointed out the potential inclusivity AVIs offer, especially for applicants with social anxiety or communication challenges, as AVIs might be more accommodating and inclusive than face-to-face (F2F) interviews for applicants with these needs. Comments on feeling "valued" by employers were predominantly negative, often describing feelings of being treated as "just a number." However, some participants believed that the use of AVIs indicated the organization's genuine interest in getting to know applicants beyond just a written application or resume. Lastly, the category of "respect for applicants" included comments about the

perceived power imbalances between employers and applicants, emphasizing the perceived

lack of reciprocal effort from hiring organizations in the interview process. A minor subset of

comments acknowledged AVIs as a tool that allows companies to respect applicants' time by

making the selection process more efficient. In summary,

Experimental 1 participants' perceptions largely centered around relatedness needs, with a

strong trend toward dissatisfaction.

Table 3.2

Frequencies of the Analyzed Categories, and Example Comments From Experimental Study 1 Participants

Need / Category	*Example*	*F*	*n*	*%*
Relatedness				
Demonstrates warmth or inclusion				
Satisfaction	*I may not see them as necessarily humanising, however I can see this being more accessible for people with communication problems. There may be an advantage for those with autism and speech disorders as they have time and space to speak as they can best without social pressure.*	25	23	7.0
Dissatisfaction	*It feels unnatural and awkward and lacks the rapport of a real job interview. If feels impersonal and cold.*	82	78	23.6
Conveys that applicants are valued				
Satisfaction	*[Hiring organizations] want to learn more about applicants than can be written in an application.*	6	6	1.8
Dissatisfaction	*It maybe seems as though companies are not interested in learning about the potential employees as individuals. It does also feel less personal so I'd be worried the company would just see me as another number.*	85	71	21.5
Conveys respect for applicants				
Satisfaction	*I would feel happy that they want to interview me, and glad that they consider both mine and their current employees' time valuable enough to be able to do an interview at home*	3	3	0.9
Dissatisfaction	*It gives the impression that they are 'above' you. They have so many applicants and they can't be bothered to interview them all individually. It speaks of laziness and disregard for the applicants.*	71	60	18.1

Need / Category	*Example*	*F*	*n*	*%*
Competence				
Provides optimal challenge level				
Satisfaction	*The 30 second time period before the recording begins allows the applicant more time to consider how they're going to answer a question which although this may provide more chance to show themselves off more, it will also likely result in more detailed and well-formed answers*	20	20	6.0
Dissatisfaction	*The down side is the candidate cannot react to visual/ linguistic clues and adjust their answers/ performance as they progress through the interview. I wouldn't really know if [the hiring organization] wanted a formal, professional 'performance' or to see a fun side.*	24	24	7.3
Promotes Self-efficacy				
Satisfaction	*I can complete the task in my own time so I could do it when I was feeling my best and have some bullet points I wanted to include to hand to make sure I didn't forget anything. I'd feel more at ease and perform to my best potential.*	19	19	5.7
Dissatisfaction	*I think they are not a fair representation of a candidate. I would consider myself a personable and confident person, but I am not that comfortable on camera specifically. I have public speaking experience but still find it hard to speak and present myself on camera...I would hate it and feel like I would fail.*	66	63	19.0
Autonomy				
Offers choices				
Satisfaction	*I would be more willing to do [an AVI]...it gives the freedom to complete them whenever, wherever instead of trying to arrange an in-person interview.*	19	18	5.4
Dissatisfaction	*I was quite tense simply because you only have one opportunity to record and so if you make a mistake you can't correct yourself.*	2	2	0.6

Need / Category	*Example*	*F*	*n*	*%*
Reduces controlling behaviors				
Satisfaction	*I think they do take a lot of pressure off the applicant as there is no one watching you talk and you are in your own space. This definitely puts you at ease and takes away the pressure, creating a more comfortable situation. If I was a real applicant I would definitely feel comfortable because of this and would feel like I would be in control.*	38	36	10.9
Dissatisfaction	*I would feel that the video and myself would have to be really perfectly presented due to the fact that it's a video that can be rewatched by the recruiter. There is little flexibility in the interview procedure...they often start recording your answer automatically and I think the timer ticking down can put a lot of added pressure on you.*	29	29	8.8

Competence

Comments from experimental participants fell into the same two categories as those of Reddit users: The perceived difficulty of the AVI process, and its impact on individual self-efficacy. Feedback was mixed regarding the AVI's perceived difficulty and its capacity to offer an optimal challenge level for applicants, with some participants expressing uncertainty about how to succeed in the interview. Common concerns revolved around the mystery of the interviewer's identity and how to leave a good impression, alluding to the loss of typical impression management tactics often employed in F2F interviews. Yet, there was a roughly equal number of comments appreciating features like the chance to prepare answers before recording, suggesting this might make AVIs slightly easier than F2F interviews where immediate responses are expected. Concerning personal self-efficacy, the sentiment was predominantly negative. Some participants expressed discomfort with being on camera and perceived AVIs as not allowing them to demonstrate their role-relevant skills. On the other hand, some participants felt that the preparatory aspect and flexibility of AVIs allowed them to participate when they were most prepared mentally, enhancing their performance potential.

Autonomy

In regards to autonomy, a new category, "Offers Choices" surfaced, focusing on specific AVI features that gave participants a sense of choice and control. The majority of comments in this category viewed the ability to decide the time and place for the AVI completion as a strong point in favor of autonomy satisfaction. However, certain AVI features seemed to obstruct this sense of autonomy. For instance, the inability to choose the final video submission, given that participants could only record their AVI responses once in this experiment (as opposed AVIs designed to allow for multiple recording attempts), detracted from the experience. The "Reducing Controlling Behaviors," generally mirrored findings from the Reddit dataset. Generally, comments were more positive than negative

regarding AVIs supporting autonomy needs; participants who expressed a favorable view felt less pressured than they might in a F2F interview and believed the AVI procedure gave applicants more control in the interview process. However, some participants felt more constrained by the AVI format, describing feeling pressured to deliver a "perfect" response because the evaluator can repeatedly view their recorded video. Also, specific design features, such as the recording sections starting automatically, were mentioned as contributors to participants' perceived lack of control during the AVI process.

Summative Results

Using the summative content analysis approach, focusing on the levels of satisfaction and dissatisfaction for each need, it is evident that relatedness was the most frequently mentioned. Furthermore, the disparity between satisfaction and dissatisfaction comments for this need was substantial, with dissatisfaction dominating. For competence, while there were more negative remarks, the gap between positive and negative feedback was not as pronounced as with relatedness. Interestingly, comments that indicated satisfaction with autonomy slightly outweighed those expressing dissatisfaction, though this difference was minimal. In summary, these results show that participants' comments can be viewed through a BPNT lens, and that prioritizing the design of interventions that aim to satisfy the need for relatedness might prove the most beneficial in improving applicant reactions to AVIs.

Discussion

The results from the qualitative content analysis of Experimental Study 1 participants underscore the psychological dimensions of applicant reactions to AVIs, with indications of where the AVI process either supports or detracts from meeting the three primary psychological needs of relatedness, competence, and autonomy. Regarding the need for relatedness, the analysis revealed that AVIs may fall short in cultivating a sense of warmth, valuing applicants as individuals, and demonstrating respect towards applicants. Although

certain comments highlighted the potential for AVIs to be more inclusive than F2F interviews, particularly for candidates with specific social challenges, the overarching sentiment was one of dissatisfaction. Many participants expressed feeling reduced to a mere number, highlighting a potential gap in how AVIs currently foster a sense of genuine human connection. The implication here is that while AVIs offer some logistical and efficiency advantages, they might benefit from strategies that infuse a more personalized touch, thereby bridging the warmth gap evident in F2F interactions.

For competence, mixed reactions emerge. On one hand, some participants appreciated AVI features that allowed preparation time, suggesting that such features could make AVIs less intimidating and therefore easier to complete than real-time F2F interviews. On the other hand, there was a tangible undercurrent of unease, particularly about how to navigate the AVI process successfully, emphasizing a perceived loss of familiar cues and strategies often leveraged during in-person interviews. This reveals an area for potential intervention, such as clearer guidelines on how to succeed in an AVI or providing feedback mechanisms during- or post-interview that may enhance applicants' sense of competency.

Regarding autonomy needs, the emergence of a new category, "Offers Choices," underscores the importance of control in the interview process. While the flexibility inherent in AVIs – such as choosing the interview's time and place – was generally well-received, the limitations on re-recording and certain automatic features of the AVI process were viewed as constraints. Thus, while AVIs seem to offer a sense of autonomy to some degree, there are also design elements that could be refined to enhance this perception further.

In summation, this qualitative content analysis provides further support the relevance of BPNT in understanding applicant reactions to AVIs. While there are elements of AVIs that might indeed have potential to satisfy applicants' psychological needs, there are also pronounced gaps, particularly concerning relatedness. Future AVI designs might benefit

significantly from interventions aimed at enhancing the sense of personal connection and belonging, suggesting that while technology may be able streamline the recruitment process, the human element remains irreplaceably crucial.

General Discussion

Both qualitative studies, analyzing comments from Reddit users and experimental participants respectively, underscore the intricate interplay between applicants' psychological needs and their experience with AVIs. Results provide support for BPNT emerging as a potentially useful lens through which to understand the nuances of applicants' reactions, with recurring themes across both studies underscoring the importance of supporting applicants' relatedness, competence, and autonomy needs in the context of AVIs. A glaring concern echoed across the two studies is the pronounced deficit in the satisfaction of the relatedness need. Both Reddit users and Experimental Study 1 participants lamented the sentiment of being objectified or reduced to mere numbers persists, highlighting the lack of a human touch during the assessment. While there was some acknowledgment of the logistical efficiency AVIs afford, it is evident that this often comes at the cost of warmth, individual valuation, and respect. Such findings prompt a call to action for AVI platforms and hiring organizations: To weave human-centricity into the fabric of technology-driven recruitment processes. Interventions aimed at enhancing personal connection, belonging, and respect for applicants as individuals during the AVI assessment may be able to offer improvements to the current applicant experience.

The effect of completing an AVI on competence needs received mixed reactions in both studies. While some appreciate AVIs' preparatory features, others grapple with navigating unfamiliar territory that lacks interpersonal cues intrinsic to F2F interviews. This suggests the potential of more comprehensive preparatory materials or feedback mechanisms in being able to bridge the competence gap. Addressing these concerns may not only cater to

applicants' needs, but may also result in richer and more authentic responses, advantageous for the hiring organizations and the validity of the AVI assessment.

Comments relating to autonomy needs during AVIs suggest that, while AVIs inherently offer flexibility in scheduling and completing the assessment, the results of the qualitative analyses illuminate areas where other aspects of autonomy feels compromised. For instance, limitations on re-recording responses, or certain automated features seem to curtail applicants' perceived control. This raises pivotal questions: Are AVIs empowering applicants by choosing when and where they can complete their assessment, or is the purported autonomy from AVI vendors more illusory? Enhancements that lean into fostering genuine agency might help to improve how applicants perceive and navigate AVIs.

Conclusion

The two qualitative studies included in this chapter provide insights that underscores the need for a re-think in how vendors and hiring organizations approach the design of AVIs. The discord between AVI vendors' narratives and actual user experiences suggests that while technological advances may indeed bring increased efficiency to the assessment process, this should not be at the expense of the quintessential human element expected and appreciated by applicants. In conclusion, this qualitative analysis provides more than just a description and critique of the AVI experience as expressed by real-world applicants and experimental participants; it offers a roadmap. By taking cues from genuine user feedback and aligning AVI designs with principles from BPNT, potential exists for a transformative shift where technology and human interaction seamlessly blend in the AVI procedure. The pivotal takeaway from this chapter is, while the future of assessment and selection might be digital, it must remain undeniably human at its core.

Chapter 4: I Can't Get No (Need) Satisfaction: Using A Relatedness Need-Supportive Intervention to Improve Applicant Reactions to Asynchronous Video Interviews

Introduction to Chapter 4

Informed by the theory outlined in Chapter 2 and the results of the qualitative analysis in Chapter 3, the first experimental study presented in this dissertation uses a well-established relatedness-supportive strategy: Warm, empathetic communication, with the addition of a humorous "blooper reel,' in an attempt to foster relatedness satisfaction within participants.

Full details of the experimental methods are found within the included journal manuscript (currently under review at the time of writing), but to briefly summarize the approach taken: Two studies (Experimental Study 1a and 1b) were undertaken, where participants were randomized into one of two groups ("Empathetic and Humorous AVI" or "Professional AVI"), and were asked to complete an AVI as part of the experiment. As the names of the conditions suggest, the two versions of the AVI presented to participants featured either relatedness-supportive empathetic and humorous communication within the hiring organization's introductory video, or strictly professional communication. As per the intervention target model presented in Chapter 2, partly reproduced below (Figure 4.1), the intervention used in Experimental Study 1 represents a "generally-targeted" relatedness-supportive approach, as each participant in the experimental group receives the same, 'one-size-fits-all' level of relatedness support.

Figure 4.1

Experimental Study 1 Within the Sequence of Intervention Targets
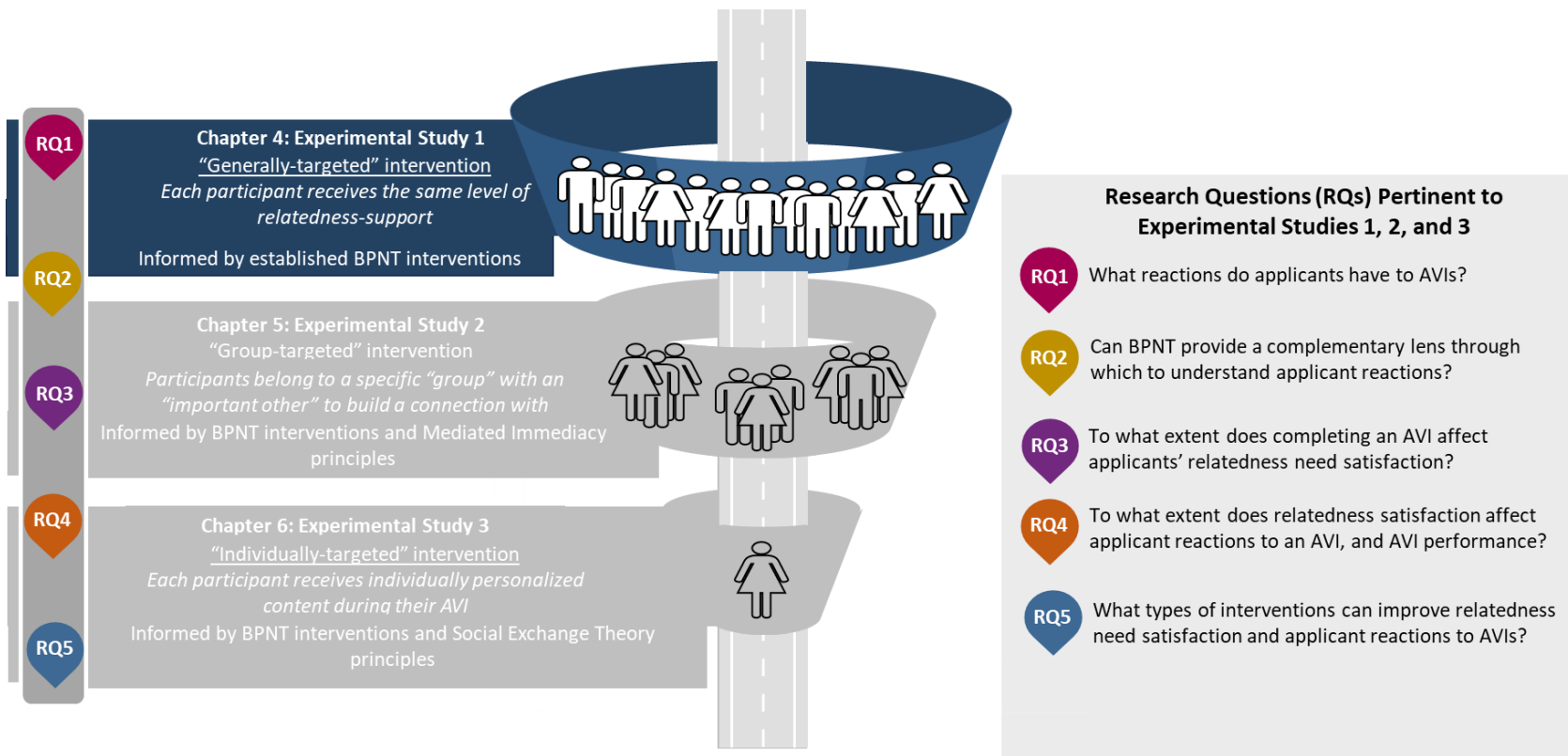
The empathetic content and tone of the communication attempts to make applicants feel understood and cared for by the hiring organization; by acknowledging the potential challenges and stress of the interview process, organizations can demonstrate care and consideration, which can potentially satisfy applicants' relatedness needs and improve applicant reactions to AVIs. The inclusion of affiliative humor, a strategy commonly employed to foster interpersonal relationships, attempts to display authentic, unplanned moments between the hiring organization employees when recording the introduction video. Overall, the intervention aims to create a sense of commonality between the hiring organization and the participants, attempting to humanize the AVI process.

This chapter follows the format of a journal manuscript and has been submitted for peer review. Due to its standalone nature, some repetition, especially in detailing the theoretical foundation and reasoning behind the paper, is unavoidable.

Please note that, in the submitted journal article, the two complementary studies are named "Study" 1 and "Study 2," however this has been changed for clarity within the dissertation, where these respective studies are now named "Experimental Study 1a" and "Experimental Study 1b."

Co-Author Attribution

| Author	Contribution	I acknowledge that these represent my contribution to the research output. Signed:
Hayley Ina Moore	Development of research question, data collection, data management, data coding, data analysis, interpretation, interpretation and discussion, manuscript preparation, review and editing of drafts	
A. Professor Patrick Dunlop	Development of research question, interpretation and discussion, review and editing of drafts	
Professor Marylène Gagné	Development of research question, interpretation and discussion, review and editing of drafts	
A. Professor Djurre Holtrop	Development of research question, interpretation and discussion, review and editing of drafts	

I Can't Get No (Need) Satisfaction: Using A Relatedness Need-Supportive Intervention to Improve Applicant Reactions to Asynchronous Video Interviews

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Abstract

Some research suggests that job applicants tend to express negative perceptions of asynchronous video interviews (AVIs), despite AVIs providing a marked reduction in resources needed to participate in the interview process. Drawing from basic psychological needs theory (BPNT; Ryan & Deci, 2000) we propose that these negative perceptions arise in part due to the lack of human interaction between job applicants and the organization during an AVI, failing to satisfy applicants' need for relatedness. We conducted two studies using 2-group randomized experimental designs, manipulating the level of relatedness support demonstrated in AVI video content. Participants in Experimental Study 1a (N = 100) watched either relatedness-supportive video content, or neutral video content, and rated their reactions; relatedness-supportive content resulted in higher ratings for relatedness need satisfaction and organizational attraction than the neutral content (d = 0.61 and 0.51, respectively). In Experimental Study 1b, participants (N = 231) completed an entire AVI which included either the neutral, or relatedness-supportive, video content. No significant differences were found between groups for relatedness need satisfaction, organizational attraction, candidate experience, or state anxiety. Our findings raise important considerations for AVI researchers and practitioners in regard to the placement and subsequent salience of intervention efforts.

Keywords: asynchronous video interviews, relatedness, basic psychological needs theory

Personnel selection continues to be a crucial function for organizations, with companies needing to source, assess, and select the employees that best fit their vacant roles (Ployhart et al., 2017). Modern selection methods that use online testing platforms to administer digital assessments are becoming more commonplace in organizations' selection and assessment processes (McNulty, 2018). One recent development in this space is the Asynchronous Video Interview (AVI). AVIs are one-way recorded digital interviews, conducted entirely online, and without any real-time interaction between the hiring organization and job applicants (Lukacik et al., 2020). AVIs have gained popularity with organizations in recent years (Bourdage et al., 2020; Strazzulla, 2020), marketed as a highly standardized, more cost- and time-efficient alternative to face-to-face (F2F) interviews (e.g., https://hirevue.com; https://vieple.com; https://sparkhire.com). Not surprisingly, AVIs have seen a rapid increase in their use since the onset of the COVID-19 pandemic, as organizations needed to adopt selection methods that allowed for social distancing (Dunlop et al., 2022).

However, applicants' reactions to technology-mediated interviews have been found to be more negative than reactions toward traditional F2F interviews (Blacksmith et al., 2016; Langer et al., 2017). On online forums where job applicants can share their experiences, such as the "r/recruitinghell" thread on https://www.reddit.com, it is not uncommon to view comments from applicants describing AVIs as "impersonal," "awkward," and describing the anxiety and social disconnection they felt while completing their AVI. Previous research has shown that negative applicant reactions can negatively affect an organization's reputation, ability to attract applicants, and applicants' intent to pursue or accept a role from the hiring organization (Hausknecht et al., 2004; McCarthy, Bauer, Truxillo, et al., 2017). As AVIs are becoming more commonplace in practice, we believe organizations and academics should prioritize identifying strategies to improve applicants' AVI experience.

In this paper, we adopt basic psychological needs theory (BPNT; Ryan & Deci, 2000) as the lens through which to understand how applicants experience an AVI. Briefly, BPNT proposes that satisfying humans' three universal needs for relatedness, autonomy, and competence leads to positive personal outcomes such as higher psychological wellbeing, and more positive organizational outcomes such as affective commitment and performance. Specifically in this paper, we focus on the need for relatedness as we argue that this need is poorly supported by the impersonal nature of a typical AVI due to the lack of real-time human interaction and human "connection." We explain how AVIs may fail to satisfy the need for relatedness, why this is an applicant reaction of importance, and how this may influence applicant reactions outcomes. We also outline how decisions made when designing AVIs may be key in improving relatedness satisfaction from the assessment, thus improving applicant reactions and performance.

We test our propositions through two studies presented in this paper. The first study investigated the efficacy of a relatedness-supportive experimental manipulation, presented as video content, in improving participants' sense of "connection" to the hiring organization. The second study investigated whether this experimental manipulation was effective in improving relatedness-need satisfaction, reducing anxiety, and improving applicant reaction outcomes to an AVI. We also performed exploratory analyses to determine whether fairness perceptions were affected by the experimental manipulation, and whether the three universal needs may be promising variables through which to study applicant reactions in the future.

The Design of Asynchronous Video Interviews

AVIs can be an attractive selection method for organizations, particularly those that receive large numbers of applications for advertised roles. However, rather than having to allocate resources to schedule and participate in F2F interviews, an AVI allows applicants to log into the platform and complete their digital interview at any convenient location and time

until the deadline set by the organization. During an AVI, applicants are required to record themselves on video using a webcam or mobile device, answering a fixed set of questions predetermined by the hiring company. Later, the organization's employees can log into the AVI software to watch and evaluate the applicants' recorded answers. The asynchronous nature of AVIs can present an attractive option to hiring organizations who need to assess large numbers of applicants, due to lower resource constraints relative to F2F interviews.

AVIs can be configured in many different ways (Lukacik et al., 2020), such as varying the length of time questions are presented to applicants, the length of time applicants are given to record their responses, and whether to allow applicants the option to re-record their responses. Of relevance to this study, many AVI software platforms allow hiring organizations to present video materials to applicants during the AVI. These videos may take the form of a general introduction that the candidate views after logging into the software, videos of the questions being read aloud (e.g., by an actor or employee), or a closing video that the candidate views after completing their AVI. The use of rich media such as videos in an AVI has been shown to improve applicant reactions to AVIs (Rizi & Roulin, 2023). However, including video materials means organizations need to make a further series of decisions about the content of the videos presented to applicants: The type and amount of information, as well as the communication tone and style. Each decision that the organization makes around AVI design has the potential to affect how applicants respond to the assessment (Lukacik et al., 2020), and therefore each decision has the potential to affect applicant reactions in a unique way. To date, hiring organizations have few evidence-based guidelines to make these decisions. Consequently, the present study investigates how video content in AVIs can affect applicant reactions.

Applicant Reactions

The term "applicant reactions" is defined as the "attitudes, affect, or cognitions an individual might have about the hiring process" (Ryan & Ployhart, 2000, p. 566). In addition to affecting potential consequences for hiring organizations, such as job offer acceptance rates, applicant reactions can also affect the psychological wellbeing of the applicants, their anxiety levels, and their performance on selection tests (Gilliland, 1993; Hausknecht et al., 2004; McCarthy et al., 2013). Research has shown that applicants who experience the selection process more positively show more attraction to the organization, exhibit stronger test-taking motivation, and are more intent to accept offers and make recommendations about the company to others (Hausknecht et al., 2004; McCarthy et al., 2013). By contrast, negative applicant reactions, such as increased anxiety from a poor applicant experience, can have negative consequences for psychological wellbeing and performance on the assessment, and subsequently increase the likelihood of applicants withdrawing from the selection process (Ryan & Ployhart, 2000; Sackett & Lievens, 2008). Gilliland (1993) argued that the field of personnel selection needed to take more of an interest in the psychological wellbeing of applicants than simply focusing on the objective fairness of a test (i.e., the test's psychometric properties and legal defensibility), thus prompting a wealth of research into applicant reactions.

Basic Psychological Needs Theory: An Alternative Theoretical Perspective for Applicant Reactions

Basic psychological needs theory (BPNT; Ryan & Deci, 2000) is one of the six mini-theories underlying Self-Determination theory (Ryan & Deci, 2017). BPNT proposes that individuals have three universal basic psychological needs: Relatedness, autonomy, and competence. Relatedness, which is the focal need of this study, is the need to feel connected to and supported by others, particularly those that the individual desires connection with

(Deci & Ryan, 1980). Additionally, people have the basic psychological need for autonomy, having a sense of control over one's actions, and volitionally acting in accordance with personal goals and values, and competence, feeling mastery over tasks and pursuits. Need satisfaction is said to occur when these three psychological needs are supported, while need frustration is experienced when these needs are thwarted (Warburton et al., 2020). A meta-analysis by Van den Broeck et al. (2016) found that the three needs of BPNT showed positive relationships with engagement and organizational commitment if these three needs are satisfied, while the likelihood of turnover and negative affect occurring is increased if these needs are not satisfied. However, BPNT has not been widely used within applicant reactions research up to this point. This study will use BPNT as a lens through which to study applicant reactions; and, whilst applicants' needs for autonomy and competence also have the potential to be negatively affected by AVIs, this study focuses on the need for relatedness due to the lack of human interaction inherent within an AVI.

Relatedness Satisfaction and AVIs

Relatedness is the psychological need "…to seek attachments and experience feelings of security, belongingness, and intimacy with others" (Deci & Ryan, 2000, p. 252), and is satisfied "…when people see themselves as a member of a group, experience a sense of communion, and develop close relations" (Van den Broeck et al., 2016, p. 1199). BPNT research in the context of work performance evaluations has suggested that the social nature of the evaluations could help to satisfy employees' psychological need for relatedness (Kunz & Linder, 2012). F2F interviews are also evaluative assessments that are social in nature and have become ingrained as part of an application process (Levashina et al., 2014). Indeed, interviews are one of the most accepted selection methods by applicants (Macan, 2009) and, generally speaking, applicants tend to prefer F2F interviews over AVIs (Blacksmith et al., 2016). An AVI replaces the social features of F2F interviews with a technical platform that

may lack social warmth and gives no opportunity for real-time rapport building with a human interviewer. The lack of these social features could possibly lead to a lack of satisfaction of applicants' psychological need for relatedness, with the resulting AVI experience feeling "impersonal" to applicants.

The use of video materials in an AVI may provide opportunities to improve the sense of human interaction in an AVI and applicants' relatedness need satisfaction. Indeed, Borup et al. (2012) found that the use of video materials in online asynchronous education courses has been found to increase students' sense of familiarity, closeness, and connection to their online instructors, even in the early stages of relationship formation. Students' sense of emotional connection was particularly prevalent when they perceived care and concern from their instructor, and when students perceived their instructor as a "real person" through the instructor's use of self-disclosure and humor in their videos. In some cases, students noted that "their interaction with their instructor was similar to that of face-to-face instruction" (p. 201). These results suggest that social bonding strategies such as empathy and humor may be transferrable to asynchronous video content, which forms part of an applicants' early-stage relationship formation with the hiring organization. That is, videos that include empathy and humor may be able to increase applicants' emotional connection to an organization, potentially buffering applicants' negative perceptions of AVIs caused by the lack of real-time interaction during the assessment.

Existing research has shown that the AVI experience can be perceived as at least somewhat "awkward" or "creepy" by applicants, potentially due in part to the lack of real-time human interaction, and the unfamiliarity of the format of the assessment (Langer et al., 2017; Langer & König, 2018; Lukacik et al., 2020). Indeed, the lack of a live interviewer also removed applicants' ability to use familiar impression management tactics as they would in an interview, adding to the unfamiliarity of the assessment medium (Basch et al., 2020).

Clegg's (2012) investigation into the mechanisms by which awkwardness in unfamiliar social situations can be reduced showed five main categories of awkwardness-reducing behaviors: "...acts that brought to the foreground common or shared interests, acts that focused on personal interests comfortable or familiar to the participants, helping behaviors, acts of positive social evaluation, and acts that acknowledged and diffused social awkwardness through humor," (p. 704). Four of these categories could potentially be deployed in an AVI introduction video. Firstly, the video could highlight the similarities and shared interests between the presenter and the applicant, such as the employee having started with the hiring organization in the same position that the applicant has applied for. Secondly, helping behaviors could be demonstrated by the presenter providing information about what is expected during the AVI, how to complete the AVI, and the next stage of the application process. Thirdly, positive social evaluation could be demonstrated through warm and friendly communication tones and body language, demonstrating positive behaviors and attitudes towards applicants. Finally, types of humor (discussed further) designed to promote social bonds between individuals, even in the early stages of forming a relationship, could be used to diffuse applicants' tension and pre-AVI anxiety. All of these behaviors help to demonstrate care and concern for individuals, and an interest in forming relationships, therefore may prove useful in improving applicants' relatedness satisfaction.

Empathy

One way in which people demonstrate care for other individuals and form social bonds is through demonstrating empathy for each other (Davis, 1994). Perspective taking, or the ability to understand another's situation or perspective (Davis, 1983), is an important part of being able to demonstrate empathy, as is acknowledging feelings and demonstrating care and concern (Baumeister & Leary, 1995; Clegg, 2012). We propose that AVIs which employ video content that contains empathetic elements may be effective in forming a bond between

the hiring organization and the applicants, and increasing applicants' relatedness need satisfaction.

Humor

Humor refers to acting in a way that provokes laughter and amusement (Martin et al., 2003). Studies have shown that humor has positive effects on psychological wellbeing (Martin et al., 2003) and the ability to reduce anxiety in stressful situations (Lefcourt, 2001). Martin et al. (2003) defined humor across four distinct dimensions. Two of these dimensions - affiliative and self-enhancing humor - associated with benign intent, are considered to have positive effects on psychological wellbeing. Affiliative humor occurs when a person tells jokes with the intent to amuse others and bring people together, while self-enhancing humor represents a healthy coping mechanism and can include making oneself the target of humor to amuse others (i.e., benign self-deprecation). As both affiliative and self-enhancing humor are used to create social bonds and enhance the relationship with others and have been found to have positive relationships with empathy (Hampes, 2010), we propose that the use of these types of humor can be a mechanism to satisfy the need for relatedness.

Incorporating Empathy and Humor into AVIs

We conducted two studies to empirically test if and how empathetic and humorous introduction videos in AVIs can affect applicant reactions and outcomes. In Experimental Study 1a we investigated whether, for experimental participants, an introduction video including empathetic communication and self-enhancing and affiliative humor increased relatedness need satisfaction relative to a control group, who viewed an introduction video using neutral language and tone. In Experimental Study 1b, we investigated whether this manipulation could be successful in improving applicant reactions and outcomes when participants also complete an entire AVI. The humorous element of the manipulation consisted of a "blooper reel"; a series of out-takes showing the actors playfully making fun of

themselves and each other when making mistakes while recording the introduction video (i.e., using self-enhancing and affiliative humor). The humorous section was followed by the empathetic element of the manipulation: A warm, friendly message reassuring participants that the "hiring organization" (a fictional corporation we developed for this experiment called "CSA Supermarkets") did not expect perfection in their video responses, while also demonstrating care and concern for participants' anxiety levels (described in detail below). In both studies, we expected the empathetic and humorous video materials would result in higher levels of relatedness satisfaction and organizational attraction relative to the neutral video content.

Experimental Study 1a

Approval to conduct both studies contained within this paper was granted by the Curtin University Human Research Ethics Committee (approval number: HRE2021-0015).

The aims of Experimental Study 1a were twofold. The first aim was to investigate the efficacy of the humorous and empathetic intervention. This efficacy (or lack thereof) would be determined by the presence (or absence) of statistically significant differences in the levels of empathy and humor perceived by participants who were randomly assigned to watch one of the two videos. Presuming success, the second aim of Experimental Study 1a was to determine whether the increased levels of humor and empathy in the empathetic and humorous video would result in increased relatedness satisfaction and organizational attraction, relative to participants who viewed the neutral video.

H_1: Participants who receive an empathetic and humorous message during the introduction component of their AVI will report higher levels of relatedness satisfaction than participants who receive a neutral message during the introduction component of their AVI.

H_2: Participants who receive a relatedness-supportive message during their AVI will report more organizational attraction (post-AVI) than participants who do not receive a relatedness-supportive message during their AVI.

Method

Design and Sample

This study used a two-group between-subjects experimental design with random assignment. One hundred participants (51% female, 80% Caucasian, Mage = 35.95 years, SDage = 13.5 years; 94% were from the United Kingdom) were recruited through Prolific. The sample size was determined by a sensitivity analysis using G*Power (Faul et al., 2007) showed that an N = 100 had an 80% chance of detecting a medium effect size using a one-tailed independent samples t-test. Participants reported having completed an average of 1.23 AVIs as part of a previous job application (SD = 4.44), and an average computer usage of 41.29 hours per week (SD = 22.97).

Video Materials

We developed introduction videos for the experimental and control conditions. The introduction videos consisted of two parts: The first part would be the same for all participants and the second part would vary depending on the condition (neutral, or humorous and empathetic). The first part of the introduction video introduced two CSA Supermarket employees "Steph" and "Jake". This video presented both "employees" as recent graduates of the CSA graduate program and outlined their own job roles and experience. The content and tone of the video was designed to be professional, but with no noticeable efforts from either actor to appear as empathetic.

Next, the second part for the neutral condition was designed to mirror the professional and neutral content and tone of the introduction video and featured a short description of the next steps in completing the AVI. The second part for the humorous and empathetic

condition commenced with a blooper reel consisting of approximately 30 seconds of "outtakes," or "bloopers," made by Steph and Jake when filming the introduction video. The video features Steph and Jake laughing at themselves and teasing each other good-naturedly at their mistakes when filming their lines (i.e., the humor part of the manipulation). After the blooper reel ends, Steph and Jake deliver an empathetic message to participants. This message consists of perspective taking and acknowledging participants' feelings towards AVIs, and showing concern for participants' welfare (i.e., the empathy manipulation). At the conclusion of the empathetic message, the video ended with the same neutral message that was developed for the control condition, to ensure that all participants have received the same instructions on how to complete the AVI. The video materials we developed can be found at https://youtu.be/LwDq1vPEFP8 (humorous and empathetic video), and https://youtu.be/9wb4kA0FTmM (neutral video). A combination of html code and survey-platform controls were used to ensure that participants could not progress through the experiment without watching their assigned videos.

After developing the materials, we asked seven subject matter experts (SMEs) to provide advice on the suitability of the video materials and job advertisement developed for this experiment. All SMEs held a graduate-level degree in I/O psychology and an average of 9.29 years of professional experience in the field. Feedback provided by the SMEs provided an initial indication that these materials were appropriate. All materials along with SME ratings and comments can be viewed on the OSF pre-registration (See Experimental Study 1b Methods).

Procedure

Participants read the job advertisement for the "CSA Graduate Program" and then provided ratings for organizational attraction. Next, participants were randomly assigned to watch one of the two introduction videos; either the neutral content, or the empathetic and

humorous content. After watching their respective video, participants were asked to complete an attention check question, and provide ratings for relatedness satisfaction, affiliative and aggressive humor, empathy, and a repeated measure of organizational attraction (see Measures). Participants were then asked for any general comments on the job advertisement or the video materials, and/or advice on how to improve these materials.

Measures

Organizational attraction

Organizational attraction was rated at two time points (pre-video and post-video, Cronbach's α = .86 and .95, respectively) on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) using four items from the scale developed by Highhouse et al. (2003). For the pre-video ratings, participants were asked to rate their organizational attraction with respect to how attractive they would view this job if they were close to graduating from their studies; we expected no significant differences between groups for organizational attraction at this stage. For the post-video ratings, participants were asked to rate their organizational attraction to CSA Supermarkets, imagining that they were a "real" job applicant. An example item included "CSA Supermarkets would be attractive to me as a place for employment."

Attention check item

Participants were asked a single attention check item: "How many company representatives appeared in the video you just watched?" and asked to choose a response from 1 - 5. All participants answered this question correctly.

Humor – General Perceptions

Participants were asked a single item to rate the level of overall humor in the video that they watched: "Overall, how humorous did you find the video you just watched?" This item was specifically developed for this study and was rated on a 5-point Likert scale (1 = *not at all funny*, 5 = *extremely funny*).

Affiliative and aggressive humor

Participants were asked to rate their perceptions of affiliative and aggressive humor in the video materials they viewed, using a 5-point Likert scale (1 = *almost certainly not*, 5 = *almost certainly*) and eight items adapted from the Humor Styles Questionnaire (Martin et al., 2003). Five items measured affiliative humor (Cronbach's α = .85), such as "Steph likes to laugh or joke around with other people," Three items measured the perceived level of aggressive humor (α = .82) in the blooper reel to test whether the interaction between the actors in the blooper reel was perceived as "bullying," e.g., "Jake would use humor in a mean way to tease others."

Relatedness satisfaction

Relatedness satisfaction was rated on a 5-point Likert scale (1 = *strongly disagree, 5 = strongly agree*) using four items adapted items from (Borman et al., 2023). Example items included "I felt a sense of connection with CSA Supermarkets," and "It felt like CSA Supermarkets was genuinely interested in me as a person". (Cronbach's α = .93).

Results

We used independent samples t-tests to explore whether there were differences between the two groups in the means for relatedness satisfaction, empathy, humor (general, aggressive, and affiliative), and organizational attraction (pre- and post-measures). Table 4.1 shows the descriptive statistics and results of the independent *t*-tests for the variables measured in Experimental Study 1a.

Participants who viewed the empathetic and humorous video reported significantly higher perceptions of empathy, general humor, and affiliative humor than participants who watched the video with neutral content and tone. Coupled with the lack of statistically

significant differences between the groups for ratings of organization attraction (pre-video) and aggressive humor, these results showed support for the efficacy of the video content and job advertisement, functioning as an external manipulation check for the intervention to be used in Experimental Study 1b (Hauser et al., 2018). Results also showed support for H_1 and H_2; participants who viewed the empathetic and humorous video reported levels of relatedness need satisfaction and organizational attraction (post-video) that were significantly higher than participants who viewed the neutral video.

Table 4.1

Results of Independent Samples t-tests for Experimental Study 1 Variables

Dependent variable	Neutral video		Humorous & empathetic video		$t(98)$	p	Cohen's d	95% CI	
	M	*SD*	*M*	*SD*				LL	UL
H_1. Relatedness satisfaction	3.77	0.92	4.23	0.83	2.59	.011	0.53	0.11	0.80
H_2. Org. attraction (post)	3.61	0.88	3.99	0.66	2.42	.017	0.49	0.07	0.69
Org. attraction (pre)	4.01	0.86	4.11	0.64	0.68	.498	0.13	-0.20	0.40
Empathy	3.96	0.71	4.34	0.60	2.89	.005	0.58	0.12	0.64
Humor – General perceptions	1.43	0.54	2.73	0.80	9.45	.000	1.90	1.02	1.57
Humor (Affiliative)	3.20	0.68	3.86	0.50	5.54	.000	1.11	0.42	0.89
Humor (Aggressive)	2.06	0.80	2.32	0.84	1.58	.116	0.32	0.07	0.58

Note: All items were rated on 5-point Likert scales (1 = *strongly disagree*, 5 = *strongly agree*)

Discussion

The two aims of Experimental Study 1a were to a) test the efficacy of the humorous and empathetic intervention, and b) to test our hypotheses to regarding whether the intervention could improve relatedness need satisfaction and organizational attraction relative to the neutral condition. Experimental Study 1a was successful in determining efficacy of the intervention; empathy, general humor, and affiliative humor was perceived at a substantially higher level (d = 0.58, d = 1.90, d = 1.11, respectively) for the experimental video than the neutral video. Both of our hypotheses were also supported, with participants who viewed the humorous and empathetic video rating their relatedness satisfaction and organizational attraction significantly higher than participants who viewed the neutral video (d = 0.53, d = 0.49, respectively). These results show that embedding empathetic and humorous content within AVI video materials can be a successful strategy to increase perceptions of relatedness need satisfaction in an asynchronous communication context. These results also show some initial support for relatedness need satisfaction as a potentially viable applicant reaction variable for future research, with relatedness need satisfaction potentially being able to impact applicants' perceptions of the hiring organization.

Limitations

A limitation of this study is that participants were not asked to complete an entire AVI; the results above may not translate to participants who also need to complete the assessed component of an AVI after watching one of the two introduction videos. The main purpose of an AVI is to assess applicants, and putting applicants under evaluative pressure after watching the introduction video may change their post-AVI perceptions of the hiring organization. Taking this limitation into account, the observed the group differences for empathy, humor, relatedness satisfaction, and organization encouraged us to incorporate the video materials in a larger study involving an entire AVI experience.

Experimental Study 1b

The aim of Experimental Study 1b was to simulate a more realistic AVI experience than was asked of Experimental Study 1a participants, using the video materials developed in Experimental Study 1a. We aimed to see if the differences between conditions for ratings of perceived relatedness satisfaction and organizational attraction Experimental Study 1a extended to participants who were asked to complete an entire AVI process (i.e., not only watching the introductory video materials, but also recording assessed interview questions). We were also keen to investigate additional applicant reactions and outcomes variables. Namely, we would investigate whether there were significant differences between the groups of their overall candidate experience ratings post-AVI. We would also investigate whether the empathetic and humorous intervention could reduce state anxiety during the AVI (measured directly after either the humorous and empathetic, or neutral, videos were presented), and in turn, if participant anxiety levels had any effect on AVI performance.

Interview Anxiety and Performance

Interview anxiety is common among job applicants before and during a selection interview and can affect even those who are not typically susceptible to experiencing anxiety in general settings (McCarthy & Goffin, 2004). Indeed, interviews involve putting applicants under evaluative pressure in (typically) high stakes situations (Horn & Behrend, 2017; Huffcutt et al., 2011; Posthuma et al., 2002). Research has established links between anxiety and applicant reactions outcomes, with applicants who report higher anxiety also reporting lower organizational attraction and recommendation intentions (Hausknecht et al., 2004). In addition, highly anxious applicants may unintentionally create more negative impressions than less anxious applicants, resulting in lower interview scores from evaluators (Feiler & Powell, 2016). Interview anxiety then is an important applicant reaction that has implications

for an applicant's wellbeing and performance, and it also addresses Gilliland's (1993) intent to give attention to the psychological wellbeing of applicants in selection research.

The absence of social interaction in an AVI may contribute may unintentionally increase applicant anxiety through the failure to satisfy the applicant's need for relatedness (Ryan & Deci, 2000). Job applicants are actively trying to create an employment relationship with the hiring organization; the failure to obtain or maintain important relationships is a leading cause of anxiety and negative affect (Baumeister & Tice, 1990; Leary & Kowalski, 1993). An organization's choice to use an AVI may be perceived negatively by applicants, as the organization's attempt to remain "distant" and avoiding forming a relationship with applicants. In addition to the hypotheses outlined in Experimental Study 1a, we hypothesize that relatedness satisfaction will positively impact participants' candidate experience, decrease anxiety, and that the reduction in applicants' anxiety will improve their performance during their AVI.

H_3: Participants who receive a relatedness-supportive message prior to completing the assessed questions will report lower levels of state anxiety at T2.

H_4: Participants who receive a relatedness-supportive message during their AVI will receive higher interview scores for their assessed interview questions than participants who do not receive a relatedness-supportive message during their AVI.

H_5: The relationship between relatedness satisfaction and participants' interview scores is mediated by state anxiety (during), i.e., measured directly after the intervention.

H_6: Participants who receive a relatedness-supportive message during their AVI will give higher ratings for candidate experience than participants who do not receive a relatedness-supportive message during their AVI.

Method

Design

A two-group randomized experimental design was used, which followed a similar procedure as Experimental Study 1a, but with several deviations: first, all participants completed an AVI, and second, participants completed some additional measures. This study is preregistered on the Open Science Framework OSF pre-registration https://osf.io/2u4bs/.

Participants

Feedback collected in Experimental Study 1a suggested that a Graduate Program role may not be appealing to participants with substantial work experience. In response to this feedback, we restricted participants' maximum allowable age to 30 years old, based on research reports detailing that the average ages of University students in Australia and the UK is ~27 years and 11 months (Edwards & van der Brugge, 2012; Higher Education Statistics Agency, 2022).

An a-priori power analysis determined that 224 participants would need to be recruited to achieve adequate power for the analyses (full description of the rationale power analysis is available in the pre-registration). Eighty-one participants were excluded due to not completing at least one component of the experiment, 16 participants were excluded due to technical issues when recording their AVI, two participants were excluded as they appeared to be well above the maximum age range (see below), and a further two participants failed the attention check question.

Of the remaining 231 participants included in the study, 63.6% were female, with a mean age 23.90 years, (SD = 3.51 years), 95.2% were from the United Kingdom, and reported having completed a mean of 1.2 AVIs as part of a previous job application (SD = 4.71), and a mean computer usage of 39.5 hours per week (SD = 22.97).

Procedure

Pre-AVI

After being recruited through Prolific, participants were shown the Graduate Program Job Advertisement and were asked to imagine themselves as a job applicant applying for the advertised role. Participants completed pre-AVI measures of organizational attraction and state anxiety (see Measures below). Participants then were shown an "email" from CSA Supermarkets inviting them to complete an AVI as the next stage of their selection process for the role.

During –AVI

Participants watched the introduction video for CSA Supermarkets, and then either the neutral video or the empathetic and humorous video, after which they reported their state anxiety for the second time (during-AVI).

For the next part, participants were redirected automatically to the AVI platform, to complete their AVI. Here, they completed a practice section enabling them to check that their device's camera and microphone were working correctly, and to become familiar with the platform. Participants then responded to three assessed interview questions (described below).

Post-AVI

After completing all three interview questions, participants were redirected to the survey platform to complete post-AVI measures of state anxiety, organizational attraction, basic psychological needs, and candidate experience.

Measures

Cronbach's alphas for all measures in this study appear in Table 2.

State Anxiety

State Anxiety was measured at three time points using the six-item short-form of the State-Trait Anxiety Index (STAI; Marteau & Bekker, 2011). Example items include: "Right

now, I feel…" a) "nervous"; b) "at ease" (reverse-scored) and were measured on a 4-point Likert scale ranging from 1 = *not at all*, 2= *somewhat*, 3 = *moderately so*, 4 = *very much so*.

Relatedness Need Satisfaction, and Organizational Attraction

The same items that were used to measure relatedness need satisfaction and organizational attraction in Experimental Study 1a, mentioned previously, were also used in this study.

Candidate Experience

A one-item measure was developed for this study to measure candidate experience: "How would you rate your experience of CSA Supermarkets so far?" This question was answered on a 7-point Likert scale (1 = *extremely negative*, 7 = *extremely positive*).

Interview performance

Participants were asked to answer three interview questions as part of the "assessed" component of the AVI (See Appendix B). For each question, participants were given a maximum of 30 seconds to read the question, and then given a maximum of two minutes to record their video response. A video of Steph and Jake asking each question was shown to participants (using either a warm or neutral communication tone, relevant to their assigned condition), and the question also appeared as text on the screen. The three interview questions were 1) "Describe a time when you have balanced study and personal commitments during a stressful time"; 2) "Describe a time when you developed tensions or a disagreement with a work or study colleague, and what you did to maintain the quality of that relationship"; and 3) "If your supervisor asked you to do something which you knew was against company policy, what would you do?"

To evaluate participants' AVI performance, the first author and a Research Assistant independently reviewed each participant's three AVI question responses and evaluated each response using a 5-point evaluation scale (see Appendix B). A score of 1 indicated a *poor-*

quality response, and a score of 5 indicated a *high quality, detailed response*. Importantly, while rating the responses of the participants, the evaluators were naïve to the condition the participants were in. The scores from each participant's three AVI responses were then aggregated into a mean score, which was used in the following analyses to evaluate each participant's overall AVI performance. Using ICC(2,2) with consistency definition and 95% confidence intervals to estimate the reliability of the mean evaluation scores indicated excellent reliability between the two AVI "evaluators" (0.905, CI [0.879 – 0.926]).

Results

Descriptive statistics and correlations between study variables are shown in Table 4.2. Relatedness need satisfaction showed moderate positive correlations with candidate experience and organizational attraction (post-AVI) scores; participants whose relatedness needs were more satisfied viewed CSA Supermarkets and their selection process more favorably.

Table 4.2

Correlations between study variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Condition	(N/A)	(N/A)	(N/A)										
2. Gender	(N/A)	(N/A)	-.02	(N/A)									
3. Age	23.87	3.51	.10	-.05	(N/A)								
4. Relatedness satisfaction	3.25	0.91	.06	-.12	.16*	(.88)							
5. Org. Att. (pre-AVI)	3.65	0.80	-.05	-.08	.08	.22**	(.84)						
6. Org. Att. (post-AVI)	3.59	0.86	-.06	-.12	.06	.45**	.80**	(.87)					
7. Candidate Experience	5.08	1.12	.01	.03	.07	.60**	.28**	.51**	(N/A)				
8. Anxiety (pre-AVI)	2.23	0.62	-.03	.19**	-.05	-.11	-.05	-.08	-.08	(.85)			
9. Anxiety (during-AVI)	2.23	0.66	-.01	.20**	-.03	-.13*	.01	-.07	-.10	.82**	(.87)		
10. Anxiety (post-AVI)	1.93	0.66	.03	.16*	.08	-.20**	-.03	-.19**	-.28**	.46**	.52**	(.86)	
11. Interview performance	3.03	0.81	.09	.07	.06	-.03	.05	.05	-.06	-.05	-.05	-.12	(N/A)

Note. $N = 231$; Cronbach's alpha for each measure, or ICC(2,2) for interview performance, are indicated on the diagonal in brackets. Scale ranges were 1 – 5 for relatedness need satisfaction and organizational attraction (*strongly disagree - strongly agree*), 1 – 4 for anxiety (*not at all - very much so*), 1 – 7 for candidate experience (*extremely negative - extremely positive*), and 1-5 for interview performance (*unacceptable - very strong*). Age was coded as 0 = Female, 1 = Male; Condition was coded as 0 = Neutral, 1 = Humorous & empathetic. Abbreviations: Org. Att. = Organizational Attraction; AVI = Asynchronous Video Interview
.* $p < .05$; **$p < .001$;

Hypothesis Testing

Per the pre-registration, we used MANOVA to test Hypotheses 1, 2, 3, 4, and 6, investigating the differences between the video material conditions for relatedness satisfaction (H_1), organizational attraction (post-AVI; H_2), state anxiety (during AVI; H_3), candidate experience (H_4), and interview performance (H_6). Results of MANOVA showed that the control and experimental conditions did not show differences on the set of dependent variables $F_{(4, 226)}$ 0.75, $p = .559$, Wilks' $k = 0.987$). For clearer interpretability, Table 4.3 shows the results standalone one-tailed independent samples t-tests for each dependent variable. Thus, H_1-H_4 and H_6 were not supported.

Hypothesis 5 investigated whether a relationship existed between relatedness satisfaction and performance, and whether that relationship was mediated by state anxiety. We performed a mediation analysis using Model 4 of PROCESS (Hayes, 2016). There were no statistically significant direct or indirect effects between relatedness satisfaction and AVI performance (effect = -0.023, 95% CI [-0.147, 0.085]), (effect = 0.006, 95% CI [-0.009, 0.031]), respectively. The relationship between relatedness satisfaction and state anxiety was statistically significant although the amount of variance explained was very small ($p = .044$, $B = -0.096$, CI [-0.190, -0.002], $R^2 = .018$), so that participants who felt more "connected" to the hiring organization showed a very small reduction in anxiety levels, but showed no subsequent improved interview performance.

Table 4.3

Descriptive statistics and results of MANOVA parameter estimates for the AVI conditions.

Dependent variable	Neutral video		Humorous and empathetic video		$t(229)$	p	Cohen's d	95% CI	
	M	SD	M	SD				LL	UL
H_1. Relatedness satisfaction	3.19	0.97	3.31	0.86	0.97	.162	0.13	-0.12	0.35
H_2. Organizational attraction (post-AVI)	3.64	0.83	3.54	0.88	-0.85	.200	-0.12	-0.32	0.13
H_3. State anxiety (during AVI)	2.24	0.63	2.22	0.69	-0.19	.424	-0.03	-0.19	0.16
H_4. Interview performance	2.96	0.74	3.10	0.86	1.29	.100	0.17	-0.07	0.35
H_6. Candidate experience	5.06	1.14	5.09	1.10	0.20	.420	0.03	-0.26	0.32

Note. $N = 231$ (ncontrol condition $= 112$; $n_{\text{experimental condition}} = 119$); CI = confidence interval; LL = Lower Limit; UL = Upper Limit; scale ranges were $1 - 5$ (*strongly disagree - strongly agree*) for relatedness need satisfaction and organizational attraction, $1 - 4$ for state anxiety (*not at all - very much so*) , $1 - 7$ for candidate experience (*extremely negative - extremely positive*); and 1-5 for interview performance (*unacceptable - very strong*). Abbreviations: AVI = Asynchronous Video Interview.

Discussion

The goal of Experimental Study 1b was to investigate whether the empathetic and humorous video developed and tested in Experimental Study 1a could better satisfy the need for relatedness and improve applicant reactions and outcomes to an entire AVI, relative to a video using only neutral language and tone. Although results from Experimental Study 1a showed that our empathetic and humorous video was perceived as more relatedness need supportive compared to the neutral video materials, this result did not replicate in Experimental Study 1b. The empathetic and humorous video was rated higher for relatedness need satisfaction compared to the neutral video, however this result was not statistically significant. Similarly, there were no statistically significant differences in either post-AVI organizational attraction, candidate experience, or interview performance. Although the humorous and empathetic intervention was intended to put participants at ease, some general (anecdotal) comments from experimental participants did mention their enjoyment of the "blooper reel," and anxiety was measured directly after participants had watched the video, no statistically significant difference was found between groups for participants' during-AVI state anxiety, State anxiety measured at this time point was very weakly predicted by relatedness need satisfaction, but this relationship did not further predict interview performance.

Limitations

One limitation concerns our results for state anxiety. The fact that participants were not applying to a "real" job may mean that this task was relatively low-stakes, and therefore their anxiety was not as high as it would be when completing an AVI as part of a selection process. Further research could replicate this study in a 2x2 experimental design and investigate the results of an interaction between "relatedness-support" (empathetic and humorous vs neutral) and "stakes" (high vs low). A second limitation concerns the role we

chose to use in this experiment. AVIs are being used extensively in Graduate Program recruitment campaigns (Dunlop et al., 2022) so this choice seemed relevant, however the age demographic that typically applies for graduate roles may be considerably younger, and potentially more technologically adept, than other roles using AVIs as part of their selection process. As such, our results may not be generalizable to a wide range of roles, and future research could investigate whether these results replicate using demographics with wider age ranges.

General Discussion

The overarching goal of these two studies was to advance the literature into AVI research using a basic psychological needs theory lens to study applicant reactions to AVIs. Conducting experimental research into the content of AVI video materials is an area which could prove fruitful in improving applicant reactions due to the richness of the media (Lukacik et al., 2020). Our studies are also amongst the first that we are aware of that use BPNT as a lens through which to study applicant reactions to AVIs, and the first to develop experimental interventions designed to increase relatedness need satisfaction during AVIs. We chose BPNT as the lens through which to study applicant reactions to AVIs as we believe that this may provide more nuanced explanations into how applicant reactions and outcomes are formed, given some of the measurement limitations we believe exist with scales of general fairness perceptions, and procedural justice subconstructs. Our focus on applicants' relatedness need satisfaction stemmed from the lack of interpersonal interaction in AVIs compared to face to face interviews, and from comments from real-life applicants describing their AVI experience as "impersonal," which pointed to a lack of relatedness need satisfaction.

Experimental Study 1a has important theoretical implications. Our results found that relatedness need satisfaction could be improved through the use of empathetic and humorous

asynchronous communication. These results are similar to research in other fields, such as in online education environments that found students' sense of "connection" to their asynchronous instructor was improved when the instructor "humanized" themself using humor and showing genuine concern for their students (Borup et al., 2013; Borup et al., 2014). Our manipulation both supports and extends the list of intervention techniques identified by Ntoumanis et al. (2020) as being relatedness-supportive. The authors identified "develop empathy" and "demonstrate warmth or inclusion" (see authors' supplementary materials) as viable relatedness-supportive interventions; participants who viewed our manipulation using empathy and warm language tone subsequently reported higher levels of relatedness-satisfaction than participants viewing the neutral video. Previous research also supports the link between humor and the sense of "connection" (Martin et al., 2003); our research provides initial support for the efficacy of affiliative and self-enhancing humor being able to positively affect relatedness need satisfaction. Future research could investigate whether the use of humor improves relatedness-need satisfaction in wider organizational contexts, potentially providing researchers and practitioners an additional strategy through which to improve an applicant's, or employee's, sense of connection to an organization.

While Experimental Study 1a found that the "blooper reel" and empathetic video message was successful in improving relatedness need satisfaction relative to the neutral video condition, those results failed to replicate in Experimental Study 1b. The most obvious difference between the studies is that Experimental Study 1a participants rated their perceived relatedness need satisfaction after only viewing the welcome messages, while Experimental Study 1b participants did not rate their perceived relatedness need satisfaction until they had completed the entire AVI (i.e., the assessed questions) as did participants in Experimental Study 1b participants. Thus, it seems the effect of this intervention may not have been salient enough to endure an entire AVI procedure. This raises an important implication for research

into applicant reactions towards AVIs. Future studies should require participants to complete an entire AVI, rather than just viewing experimental materials, to gain more accurate insights into how the entire AVI process affects applicant reactions and outcomes. Additionally, further research could investigate whether embedding a humorous and empathetic video at the conclusion of an AVI may improve the immediate salience of the manipulation on completion of the assessment may prove more beneficial for ratings of applicant reactions and outcomes.

Empathy Without Effort: Tokenistic and Inauthentic?

Producing video materials that demonstrated empathy for applicants and creating a humorous "blooper reel" was designed to demonstrate to participants that the hiring organization had taken the time and effort to understand the perspectives of job applicants regarding their feelings toward AVIs. Strategies such as showing care and concern for applicants were designed to ease applicants' anxiety and help applicants feel as though their wellbeing was important to the organization. However, job applicants would most likely suspect that the video materials they were shown were also being shown to all job applicants who had applied for the position. Thus, in addition to the placement of the experimental video at the beginning of the AVI affecting the salience of the manipulation, it is possible the empathetic strategies employed in our experimental manipulation were perceived as "mass-produced," rather than targeted towards themselves personally as an individual. If the organization's attempt to mimic a personal connection using mass-communication methods is perceived as inauthentic and contrived, this could potentially create a barrier to improving relatedness need satisfaction and result in poorer applicant reactions.

A Somewhat Positive Candidate Experience: The Best That Hiring Organizations Should Hope For?

Another reason that the humorous and empathetic manipulation might not have been successful in Experimental Study 1b could be due to the fact that, overall, most participants reported at least a "somewhat positive" candidate experience when completing our AVI. While 9.5% of participants rated their candidate experience as either "somewhat negative" or "very negative," and 13.9% of participants rated their experience as neutral, 76.6% of respondents rated their experience as either "somewhat positive," "very positive," or "extremely positive." These numbers were surprising given that current applicant reaction research seems to suggest that AVIs are less well-liked than F2F or synchronous video interviews (Blacksmith et al., 2016; Langer et al., 2016; Langer et al., 2017). Given that AVIs are evaluative assessments undertaken in the process of applying for a job and are not completed for fun, applicants are not expected to be intrinsically motivated to complete them. Indeed, applicants may not even expect to "enjoy" an assessment. It may therefore be the case that, if an AVI can be designed to deliver at least a "somewhat positive" experience, this may be an acceptable standard for industry practitioners.

The results from our mediation analysis did not support our hypothesis that the relationship between relatedness need satisfaction and AVI performance would be mediated by anxiety, and results from the independent samples t-tests did not show statistically significant differences in anxiety between the humorous / empathetic and neutral conditions. This could be due to our experiment being interpreted by our participants as a "low stakes" situation, which we discuss as a potential limitation of our study. However, our results did show a statistically significant (albeit very small) negative effect for the relationship between relatedness satisfaction and anxiety: Participants who felt more "connected" to the hiring organization felt marginally less anxious. While the effect size was very small ($d = -0.03$),

future studies could explore this relationship further by also conducting this experiment by inducing a "high-stakes" environment.

Future Research

In addition to the possibilities for future research already discussed, we offer further directions for future research in using BPNT in AVI design. While focusing on the need for relatedness was somewhat intuitive given the lack of human interaction within an AVI, experimentally testing interventions designed to satisfy the needs for competence and autonomy may also provide insights in how to improve applicant reactions to AVIs. For instance, in this study we asked participants three interview questions, with a maximum response time of two minutes. This resulted in the entire participant portion of the AVI taking a maximum of six minutes. While the two-minute maximum response time is a feature most often chosen by employers when designing their AVI (Dunlop et al., 2022), six minutes may be a markedly shorter interview duration than expected in a F2F interview (Reed, 2022). Applicants may find that a maximum of six minutes is not enough time to express their relevant skills and experience for the job (lack of competence support), or to express their personality authentically (lack of autonomy support). In addition, some general comments from participants indicated that the questions we asked during the AVI were "standard" or "fairly generic." Future research could investigate different styles and content of questions asked within an AVI to see if this affects applicant reactions or the satisfaction of any of the three needs within BPNT.

Free-text comments from Experimental Study 1b participants at the conclusion of the survey may also provide directions for future research. Some participants mentioned that they identified with Steph and Jake due to their age and as recent graduates of the Graduate Program they were applying for. The similarity-attraction hypothesis (Byrne, 1971) suggests that people generally show more attraction to others with whom they share similarities. This

offers a practical takeaway for employers when designing their AVIs, and directions for future research. Practitioners may need to be mindful of the actors, employees, or other people featuring in their AVI videos, as their similarity (or lack thereof) to job applicants may have unintended effects on applicant reactions. Future research could investigate whether any particular demographic variables of these video actors, or other variables such as their occupation or rank, affects applicant reactions.

Another key theme that arose from participants' comments suggests that the inclusion of any introduction video may be enough to produce some degree of a positive candidate experience for job applicants completing an AVI. This is in line with Lukacik et al.'s (2020) assertion that designing AVIs to include rich media would be likely to increase applicants' perceptions of social presence, and positively influence applicant reactions. Indeed, Rizi & Roulin (2023) experimentally tested whether a) high-fidelity AVI videos were perceived more favorably than b) low-fidelity videos, or c) AVIs that did not include video materials as part of their AVI design. While the authors found no significant differences for applicant reactions between the high- and low- fidelity conditions, AVIs that did not include any video materials were perceived significantly less favorably. This finding gives some initial support for Lukacik et al.'s (2020) assertion that rich media such as video content could help to improve applicant reactions to AVIs. When viewing archival data provided by an Australian AVI platform, Dunlop et al. (2022) found that only 18.9% of hiring organizations were designing their AVIs to include video materials, leaving a substantial opportunity for improvement.

Practical Implications

These findings also have practical implications for creating AVI video content. The neutral condition video materials were over one minute shorter than the humorous and empathetic condition videos. This means that, when considering the necessary script writing,

filming, and editing processes, less time and effort was expended to create the neutral videos compared to the more effortful humorous and empathetic videos. Also, the inclusion of a blooper reel and an empathetic message did not create a less positive candidate experience for participants in the experimental condition. Therefore, this research offers practitioners wishing to include such materials in their AVIs some initial evidence that doing so may not necessarily harm their organization's brand or reputation amongst job applicants.

Conclusion

The findings from our studies offer initial support for using humor and empathy to improve relatedness-need satisfaction, and for using basic psychological needs theory to study applicant reactions. We believe that further research in this area is warranted to improve how applicant reactions are currently measured and understood in the context of reactions to single assessments, and modern assessments such as an AVI. Humor and empathy were found to be viable intervention strategies in improving relatedness-need satisfaction. However, further research is needed to understand whether such an intervention placed at the beginning of an AVI is strong enough to remain salient throughout the entire AVI experience, whether an alternative placement of the intervention could improve said salience, or whether other factors exist during the completion of an entire AVI that affect relatedness-need satisfaction and subsequent applicant reactions outcomes.

Chapter 5: I'll Be Watching You: Does Introducing Applicants' To Their Evaluator Improve Applicant Reactions to Asynchronous Video Interviews?

Introduction to Chapter 5

Experimental Study 1 explored how empathetic and humorous communication might influence the AVI assessment process. While previous BPNT research indicates that warm communication content and tone can supports relatedness needs, our results showed that its application in selection contexts might be more complex. Further reflection on BPNT and the need to belong principles highlighted one possible complexity: The need for the communication to be delivered by someone 'important' to the participant. Participants might not have viewed the two employees in Experimental Study 1's introductory video as *personally* significant since the employees had no direct role in participants' AVI evaluation. Building on this, Experimental Study 2 introduced another independent variable: Participants being aware of, or not aware of, the identity of their specific AVI evaluator.

The manipulation presented in Experimental Study 2 therefore involves presenting applicants with an AVI introduction video that introduces their AVI evaluator. The hiring organization's recruiter (i.e., the AVI evaluator) tells participants in relevant experimental conditions that they personally belong to the recruiter's "group" of applicants to evaluate. This strategy aligns with the concept of *psychological immediacy*, the *perceived closeness* between communication partners. By introducing the AVI evaluator in the introduction video, organizations may create a sense of immediacy and personal connection. Knowing who will be evaluating their responses may make the process feel more personal and less detached, helping to satisfy participants' need for relatedness.

Experimental Study 2 uses a 2x2 randomized experimental design, with Evaluator Identity and Communication Tone as independent variables. Similarly to Experimental Study 1, two levels of communication tone are used: Empathetic tone, and a strictly professional tone. The additional condition is the "evaluator identity," the two levels being whether the "employee" in the hiring organization's video identifies themselves as a) the person responsible for evaluating that participant's video interview responses ("evaluator identity known"), or b) a general team member of the hiring organization, who does not appear to have any importance or relevance to the participant's application or assessment ("evaluator identity unknown"). As per the intervention target model presented in Chapter 2, partly reproduced below (Figure 5.1), the intervention used in Experimental Study 2 represents a "group-targeted" relatedness-supportive approach, as the intervention seeks to create a sense of 'group belonging' in the relevant experimental conditions, narrowing the 'generally-targeted' approach of Experimental Study 1.

This chapter follows the format of a journal manuscript to be submitted for peer review. Due to its standalone nature, some repetition, especially in detailing the theoretical foundation and reasoning behind the paper, is unavoidable.

Figure 5.1

Experimental Study 2 Within the Sequence of Intervention Targets

Co- Author Attribution

Author	Contribution	I acknowledge that these represent my contribution to the research output. Signed:
Hayley Ina Moore	Development of research question, data collection, data management, data coding, data analysis, interpretation, interpretation and discussion, manuscript preparation, review and editing of drafts	
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I'll Be Watching You: Does Introducing Applicants' To Their Evaluator Improve Applicant Reactions to Asynchronous Video Interviews?

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Abstract

This study employed basic psychological needs theory (BPNT; Ryan & Deci 2017) and complementary principles from the theory of mediated immediacy (O'Sullivan et al., 2004) to explore applicant reactions to asynchronous video interviews (AVIs). We investigated whether the communication tone used in AVI video content (relatedness-supportive vs. professional) and/or participants' the knowledge of their AVI evaluator's identity could enhance applicant reactions towards AVIs. Results revealed that participants ($N = 221$) exposed to an empathetic communication tone perceived greater mediated immediacy, albeit no significant increase in relatedness satisfaction. Contrarily, being informed of the evaluator's identity did not improve reactions and, interestingly, was associated with decreased AVI performance. This might be attributable to heightened evaluation apprehension or challenges in employing impression management tactics without real-time feedback. These findings offer implications for organizations utilizing AVIs in hiring. Incorporating video content perceived as warm may marginally improve the applicant's psychological proximity to the hiring organization. However, revealing the evaluator's identity might not offer any advantage and may even detrimentally affect performance. Future research should delve deeper into the nuanced relationship between the salience of the AVI evaluator's identity and applicant performance.

Keywords: applicant reactions, asynchronous video interviews, mediated immediacy, relatedness

Advances in technology provide hiring organizations with modernized alternatives to traditional assessment and selection methods (Woods et al., 2020). One such modern assessment is the asynchronous video interview (AVI), a technology-mediated (i.e. digital) interview where none of the interaction between the hiring organization and the job applicant occurs in real time (Langer et al., 2017; Brenner et al., 2016). AVI usage has increased steadily since the mid-2000s (Fahey, 2023), with a rapid increase since 2020 precipitated by COVID-19 social distancing measures (Strazzulla, 2020). Companies offering digital interviews claim that the digital method is more cost- and time-effective than traditional face-to-face (F2F) interviewing (e.g., https://hirevue.com; https://vieple.com; https://sparkhire.com) with fewer resources required to schedule and complete the interview process.

Despite the advantages, a meta-analysis by Blacksmith et al. (2016) found that applicants tend to have more negative reactions to technology-mediated interviews than F2F interviews. Indeed, some participants from a previous study (Moore et al., 2023, submitted for publication; data available at https://osf.io/2u4bs/) expressed that AVIs can feel "impersonal" compared to F2F interviews, and that being asked to complete an AVI gives the impression that the hiring organization "can't even be bothered to show up" for the interview. These comments suggest that the experience of completing an AVI may unintentionally increase the psychological distance, i.e., reducing mediated-immediacy (O'Sullivan et al., 2004), between applicants and the hiring organization, compared to F2F interviews. Previous research has demonstrated that negative applicant reactions can harm an organization's reputation, its ability to attract future applicants, and applicants' interest in pursuing or accepting a job with that organization (Hausknecht et al., 2004; McCarthy, Bauer, Truxillo, et al., 2017). With AVIs becoming more prevalent, it is essential for organizations and academics to prioritize developing strategies to enhance applicants' AVI experiences.

In this investigation, we use basic psychological needs theory (BPNT; Ryan & Deci, 2000) as a framework for understanding how job applicants experience an AVI. BPNT suggests that satisfying the three universal human needs of autonomy, competence, and relatedness leads to positive outcomes for both individuals and organizations, such as improved wellbeing, organizational commitment, and interview performance. While the experience of an AVI may impact all three needs, this article specifically focuses on satisfying the need for relatedness, arguing that the lack of human interaction and connection in typical AVIs may negatively impact this need. We discuss why relatedness satisfaction is important for applicant reactions and outcomes, how improving applicants' sense of mediated-immediacy during AVIs may help to increase relatedness-satisfaction, and suggest that designing AVIs to enhance relatedness satisfaction may improve applicant reactions and interview performance. Our study experimentally investigates two approaches, embedded within video messages presented to participants within an AVI, aimed to enhance the perceptions of relatedness-need satisfaction among applicants. The first approach involves manipulating levels of relatedness-support within the communication tone, comparing the effects of language using an empathetic tone to the effects of using a strictly professional tone. The second approach focuses on the identity of the hiring organization's representative featured in video material during AVI, investigating the comparative impact when the representative is portrayed as either the specific evaluator assigned to the participant, or as a generic employee without a direct relationship to the participant.

Applicant Reactions

Ryan and Ployhart (2000) define applicant reactions as the "attitudes, affect, or cognitions an individual might have about the hiring process" (p. 566). Applicant reactions to selection procedures may carry implications for hiring organizations, including potential impacts on job offer acceptance rates, but also extend to the psychological state of the

applicants themselves, influencing their anxiety levels, their overall mental health, and how they fare on selection exams (Gilliland, 1993; Hausknecht et al., 2004; McCarthy et al., 2013) Applicants who perceive a selection procedure more favorably are likely to be more attracted to the organization, more likely to accept job offers, and to recommend the organization to others (Hausknecht et al., 2004; McCarthy et al., 2013). Similarly, adverse applicant reactions such as heightened anxiety due to an unsatisfactory applicant experience, can lead to negative effects on psychological health and performance during evaluations, increasing the probability of applicants withdrawing from the selection process (Ryan & Ployhart, 2000; Sackett & Lievens, 2008). Until Gilliland's seminal 1993 paper, most personnel selection research was focused on understanding and improving the psychometric properties of selection tests. Gilliland encouraged researchers to also increase their attention to the psychological wellbeing of applicants, sparking a significant volume of research into applicant reactions in subsequent years.

In addition to commonly studied applicant reactions variables such as fairness (Gilliland, 1993), organizational attraction (Hausknecht et al., 2004), interview anxiety and interview performance may also be affected by selection procedures. McCarthy and Goffin (2004) state that job applicants commonly experience anxiety before and during selection interviews, even those who may not usually experience anxiety in general settings. Interviews involve evaluating applicants under pressure in high-stakes situations; research has linked higher levels of interview anxiety to lower organizational attraction and recommendation intentions (Hausknecht et al., 2004) and lower interview evaluation scores (Feiler & Powell, 2016). Thus, interview anxiety is an important type of applicant reaction that can impact both an applicant's wellbeing and their performance.

Basic Psychological Needs Theory

According to Basic Psychological Needs Theory (BPNT; Ryan and Deci, 2000), individuals have three universal psychological needs: Relatedness, autonomy, and competence. The focus of this study is on satisfying the need for relatedness, which refers to the need to feel connected to and supported by others, particularly those that an individual desires a connection with (Deci & Ryan, 1980). Autonomy is satisfied when individuals act with a sense of control and in accordance with their values and goals, while competence is satisfied when individuals feel a sense of mastery in their activities. Van den Broeck et al.'s (2016) meta-analysis revealed positive relationships between the satisfaction of the three needs and positive organizational outcomes (i.e., organizational commitment, engagement, and affective commitment). Additionally, this meta-analysis identified that when these needs are not met, the likelihood of employee turnover and negative affect occurring is increased. To date, BPNT has not been widely used in applicant reactions research (Borman et al., 2023). This study will therefore investigate applicant reactions using BPNT, and in particular, we will focus on satisfying the need for relatedness as this need is expected to be the most negatively impacted due to the lack of real-time human interaction within an AVI.

Relatedness-Supportive Communication

The psychological need for relatedness refers to an individual's desire to form connections and experience a sense of belonging and security with others (Deci & Ryan, 2000). Studies have shown that this need can be satisfied when people feel like part of a group and develop close interpersonal relationships with those important to them (Van den Broeck et al., 2016). Specific communication strategies such as the use of warm, empathetic language that demonstrates care and concern towards the receiver can help to satisfy relatedness satisfaction (Ntoumanis et al., 2020), and this effect has also been shown to translate effectively to video communication in online learning environments (Borup et al., 2012). Drawing on this premise, we can extend the understanding of relatedness to the

context of work performance evaluations and interviews. Research within the framework of BPNT indicates that social evaluations, such as those found in F2F interviews, can contribute to satisfying the need for relatedness (Kunz & Linder, 2012). F2F interviews, inherently social and evaluative, have been accepted by applicants as an essential and anticipated aspect of the job application process (Anderson & Witvliet, 2008; Macan, 2009). However, while F2F interviews allow for the cultivation of rapport and connections akin to those in other social evaluation settings, AVIs lack these social opportunities to build rapport. This absence of social interaction may hinder the fulfillment of applicants' need for relatedness, leading to the AVI experience being perceived as "impersonal." Aligning the social dynamics of both online learning environments and interview settings may help to provide a nuanced understanding of how different formats may impact an individual's sense of connection and inclusion.

Mediated Immediacy

Immediacy refers to communication behaviors that signal the communicator's attempt to reduce the physical or psychological distance between themselves the receiver (Mehrabian, 1971). These behaviors can foster receivers' sense of psychological closeness and affiliation with the communicator (Short et al., 1976) and were originally studied as language signals (i.e., using "we" instead of "I"; Wiener & Mehrabian, 1968) in F2F communication. With advances in technology increasing instances of online communication, the concept of mediated immediacy was introduced to describe how immediacy behaviors can be signaled, and subsequently perceived, when communication is mediated by technology (O'Sullivan et al., 2004). Technological communication mediums can include (but are not limited to) text-based online forums, real-time video meetings, or asynchronous video content. The list of behaviors that can signal immediacy includes other verbal behaviors (e.g., self-disclosure, conveying respect) and non-verbal behaviors (e.g., smiling, open and approachable body

language) to promote affiliation (Chesebro, J. L., 2003; O'Sullivan et al., 2004). Subjective perceptions of immediacy may also be caused by the type of medium being used. For instance, using an instant message to contact a colleague in close proximity rather than making the physical or emotional effort to talk to them face-to-face may imply to the receiver that the communicator is maintaining or creating a 'distance' between them, and this perception may be perceived negatively (Short et al., 1976; Kamps, A., 2022). In the same way, applicants may perceive that the choice to use an AVI instead of a F2F interview is an attempt by the organization to create more 'distance' from the applicants, and a lack of interest in developing a relationship.

Applicants are (typically) not aware of who will be evaluating their video interview (Lukacik et al., 2020) which may pose a potential barrier to applicants building a sense of rapport with the hiring organization during an AVI: There is simply no specific, known interviewer or other human with whom applicants can gain a sense of rapport with as they would in a F2F interview. In the online learning environments from the research cited above that successfully built rapport between students and instructors using asynchronous video communication, the instructor would typically identify themselves to students as the person in charge of the course, and/or the person responsible for evaluating students' performance. Accordingly, in the context of an AVI, not being introduced to an evaluator may contribute to applicants' perceptions that the organization is not interested in forming any sort of relational bond with applicants, and is instead using AVIs to create or maintain a greater "distance" from applicants. This perception of a "psychological distance which a communicator puts between himself and the object of his communication" (Short et al., 1976, p.72) is one of the earliest conceptualizations of immediacy (Wiener & Mehrabian, 1968).

Applicants' uncertainty about who will evaluate their AVI could contribute to negative perceptions of AVIs being less immediate than F2F interviews. In a F2F interview,

rich social cues are provided by the interviewer and the real-time interaction with the applicant. An AVI removes these rich, real-time social cues and also (typically) does not provide applicants with any information about their evaluator, which may lead to negative perceptions that the organization is not interested enough in applicants to warrant providing rich resources (i.e., a human interviewer) to assess their application. It may be possible, however, to increase the perceived immediacy of an AVI if the evaluator's identity is disclosed to applicants before they complete their assessment. Furthermore, it may be achieved by transmitting this information using video content during the AVI, without losing much of the advantageous "scalability" that AVIs afford hiring organizations (Dunlop et al., 2022). Revealing the identity of the applicant's AVI evaluator provides applicants with a specific agent to develop rapport with, and could potentially give applicants the impression that the organization has made a considerable effort in designing the AVI (i.e., the increased specificity in the video required the organization to use more of its resources), leading to perceptions of increased immediacy. Additionally, identifying the evaluator through video gives the applicant an opportunity to observe their specific evaluator's verbal and non-verbal communication cues to make an initial assessment of the evaluator's warmth and personality, which may help to satisfy applicants' need for relatedness.

Improving Applicant Reactions Through AVI Design

According to Lukacik et al. (2020), hiring organizations are often faced with a number of choices when configuring an AVI, including adjusting the duration of preparation and response time, and allowing applicants to re-record their answers. Organizations may also choose to include video content during the AVI (e.g., an introductory company video, or asking the interview questions in video format as opposed to text), however organizations must then make further decisions: The amount and type of information the video/s will include, who will present the video/s, and the communication tone used, all of which may

influence how applicants react to the AVI. Indeed, each decision made regarding AVI design has the potential to elicit a unique response from applicants (Lukacik et al., 2020), making it challenging for researchers and practitioners alike to create evidence-based guidelines. Including video content has been shown to improve applicant reactions to AVIs generally (Rizi & Roulin, 2023), and as previously discussed, has been used in online-learning environments to increase students' sense of connection and psychological closeness, or mediated-immediacy, with their course instructor (O'Sullivan et al., 2004; Borup et al., 2012). Therefore, in the experiment described below, we embedded video content within an AVI manipulating the amount of relatedness-support and mediated immediacy in each condition to investigate how these choices may improve or otherwise affect applicant reactions to the assessment.

In this study, we will manipulate the levels of a) relatedness-support and b) mediated immediacy in the content of video messages presented to participants at the commencement, and at the conclusion, of their AVI. Relatedness-support will be manipulated through the communication tone of the video presenter as being either relatedness-supportive (empathetic tone condition) or strictly professional (professional tone condition). Mediated immediacy will be manipulated through the identity of the evaluator being disclosed (high mediated-immediacy) or not disclosed (low mediated-immediacy) to participants (see Methods section for a more detailed explanation). We hypothesize that high-immediacy, relatedness-supportive video content will result in more positive applicant reactions compared to low-immediacy, strictly-professional videos.

Hypotheses 1_{a-g}; Effects of Communication Tone

Participants who receive video content with an empathetic communication tone during their AVI will report higher scores for (a) relatedness need satisfaction, (b) perceived mediated immediacy, (c) process fairness, (d) candidate experience, (e) organizational

attraction, (f) AVI performance, and (g) lower scores for state anxiety (during), than participants who receive video content with a professional communication tone.

Hypotheses 2$_{a-g}$; Effects of Evaluator Identity Knowledge

Participants who are aware of their evaluator's identity will report higher scores for (a) relatedness need satisfaction, (b) perceived mediated immediacy, (c) process fairness, (d) candidate experience, and (e) organizational attraction, (f) AVI performance, and (g) lower scores for state anxiety (during), than participants who are not aware of their evaluator's identity.

We will also perform exploratory analyses to test whether there is an interaction between the evaluator's identity and the communication tone used in the video content.

Method

Approval to conduct this study was granted by the Curtin University Human Research Ethics Committee (approval number: HRE2021-0015). The preregistration plan for this study can be viewed at https://osf.io/28fmq/.

This study used a 2x2 factorial between-subjects experimental design with random assignment. An a-priori power analysis using G*Power (Faul et al., 2007) determined that 208 participants would need to be recruited to achieve adequate power for the analyses (full description of the rationale power analysis is available in the pre-registration).

Participants

A total of 287 participants were recruited through Prolific (www.prolific.co). Of those, 67 were excluded from analysis: 61 did not fully complete the surveys or the AVI (many of these were likely technical problems we experienced with redirecting participants between the survey software and the AVI platform), two failed the attention check item, and four were deemed to have provided responses to the AVI interview questions where it was clear the participant made no genuine effort to answer the questions; some retained

participants' responses were very short (~10 seconds each) but were still retained for analysis as their responses contained relevant answers to the interview question. The remaining 220 participants had a mean age of 43.0 years (SD = 11.9), 55.9% were female, 82.3% Caucasian, and 99.1% were from the United Kingdom.

Materials

Video Materials

We developed a unique 'introduction' and 'conclusion' video for each of the four conditions possible within our 2x2 design: (1) empathetic tone / evaluator known, (2) empathetic tone / evaluator unknown, (3) professional tone / evaluator known, and (4) professional tone / evaluator unknown. All videos featured an employee of a hypothetical organization "CSA Supermarkets" named "Steph." Extracts from the scripts used in each of the four introduction videos can be viewed in Table 5.1, along with links to each of the complete videos available on YouTube. A combination of html code and survey-platform controls were used to ensure that participants could not progress through the experiment without watching their assigned videos.

For videos featuring the empathetic tone, Steph used warm communication tones and body language, attempting to demonstrate care for participants' wellbeing. In the professional tone conditions, Steph spoke with a non-abrasive but professional, matter-of-fact tone and made no effort to smile, or explicitly attempt to demonstrate care for participants.

In the "evaluator known" conditions, Steph made several statements explicitly identifying herself as the person who would be evaluating the participant's AVI responses. In the "evaluator unknown" conditions, Steph made reference to the CSA recruitment team being responsible for evaluating participant's responses.

Job advertisement

We developed a job advertisement for a "Store Team Member" at "CSA Supermarkets" to be used in this experiment https://osf.io/28fmq/. The advertisement was written so as to be attractive to participants, describing a positive culture at CSA Supermarkets, opportunities for promotion, and excellent working conditions.

The video materials and job advertisement were viewed by 7 subject matter experts (SMEs) with tertiary qualifications in organizational psychology who provided advice on the materials' efficacy for use in the experiment. SMEs described the advertisement as realistic and typical for similar roles, and rated the videos as differentiating in their differences in communication tone and the salience of the evaluator's identity. As such, we deemed these materials suitable for our experiment.

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Table 5.1

Extracts of Introduction Video Content for Each Level of Evaluator Identity, and Communication Tone

Communication tone	Evaluator identity	
	Identity known	Identity unknown
Empathetic	**"...I'm Steph, I'm part of CSA's People and Culture team. I've been assigned your video interview to assess, so I thought I'd introduce myself so you can meet the person who'll be reviewing your answers.** Because you're part of my group of shortlisted applicants, I'd really like to make you feel as calm and comfortable as possible about this stage of your application. So, take a few deep breaths and try to relax as I let you know what you can expect during your video interview. In the next section, you'll help me get to know you a little better by answering the questions that **I'll review when I'm assessing your interview..."**	"...I'm Steph, and because you're part of the group of applicants CSA has shortlisted, CSA would really like to make you feel as calm and comfortable as possible about this stage of your application. So, take a few deep breaths and try to relax as I let you know about what you can expect during your video interview. In the next section, you'll help the CSA recruitment team to get to know you a little better by answering the interview questions that you'll be assessed on..."
	Introduction video: https://youtu.be/djNgA_6iDNk Conclusion video: https://youtu.be/X90amU1Samg	Introduction video: https://youtu.be/JRb7T3iCswI Conclusion video: https://youtu.be/YtA82yiJJY0
Professional	**"...I'm Steph, I'm part of CSA's People and Culture team, and I've been assigned your video interview to assess. I thought I'd introduce myself so you can meet the person who'll be reviewing your answers,** and to let you know what you can expect during your video interview. In the next section, you'll answer the interview questions that **I'll review when I'm assessing your interview..."**	"...I'm Steph, and I'm here to let you know about what you can expect during your video interview. In the next section, you'll answer the interview questions that the CSA recruitment team will assess you on..."
	Introduction video: https://youtu.be/e0oa1G_G_h8 Conclusion video: https://youtu.be/0Ne92OjlXRg	Introduction video: https://youtu.be/6Nhe_jWdLUE Conclusion video: https://youtu.be/4A0pIFdsATg

Note: Underlined text = relatedness-supportive content, bold text = evaluator identity known content.

Procedure

This experiment comprised three phases: Pre-AVI, During-AVI, and Post-AVI, which are described below.

Pre-AVI

Participants were asked to read the Store Team Member job advertisement and to imagine themselves as a job applicant for the role. Participants completed pre-AVI measures of organizational attraction and state anxiety (see Measures below). Participants were then shown an email from CSA Supermarkets advising that their application for the role had been shortlisted, and that they were invited to complete an AVI as the next stage of the selection process.

During-AVI

Participants watched the introduction video for CSA Supermarkets corresponding to their experimental condition, and then reported their state anxiety for the second time (during-AVI). Participants were then asked two manipulation check questions (one rating the video's communication tone, and the other regarding the identity of their evaluator, see Measures below). Participants were then automatically redirected to an AVI software platform to complete their AVI. The first section of the AVI allowed applicants to practice recording a response, and to check that their camera and microphone were working correctly. Participants then moved to the next section where they recorded answers to three interview questions (described below) as part of the "assessed" component of the AVI. Participants then watched the conclusion video corresponding to their condition.

Post-AVI

Participants were automatically redirected back to the survey platform after completing their AVI, where they completed post-AVI measures of relatedness satisfaction,

mediated immediacy, fairness, candidate experience, organizational attraction, and state anxiety.

Measures

Cronbach's alphas for all measures in this study appear in Table 5.2.

Relatedness Need Satisfaction

Relatedness satisfaction was measured using four items adapted items from Borman et al. (2021) rated on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Example items included "It felt like CSA Supermarkets wanted to get to know me better," and "It felt like CSA Supermarkets did not care about applicants as individuals" (reverse-scored).

Mediated Immediacy

Mediated immediacy was measured using the 10-item scale developed by O'Sullivan et al. (2004). Items were rated using a seven-point semantic differential items bipolar scale asking participants to rate their AVI experience with 'CSA Supermarkets', with anchors including friendly / unfriendly / friendly, distant / close, engaging / detached.

Fairness

Four items adapted from Gilliland (1994) were used to assess fairness on a 5-point Likert scale from 1 = *strongly disagree* to 5 = *strongly agree*. Items included "Whether or not I passed the video interview, I feel the selection process so far is fair."

Candidate Experience

A one-item measure was developed for this study to measure candidate experience: "How would you rate your experience of CSA Supermarkets so far?" This question was answered on a 7-point Likert scale (1 = *extremely negative*, 7 = *extremely positive*).

Organizational Attraction

Four items from the scale developed by Highhouse et al. (2003) were used to rate organizational attraction at two time points (pre-AVI and post-AVI) using a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). For the pre-AVI ratings, participants were asked to rate their organizational attraction after viewing the job advertisement; no significant differences between groups for organizational attraction were expected between groups at this measurement. For the post-AVI ratings, participants were asked to rate their organizational attraction to CSA Supermarkets after having undertaken the assessment. "I would accept a job offer from CSA Supermarkets."

State Anxiety

The six-item short-form of the State-Trait Anxiety Index (STAI; Marteau & Bekker, 2011) was used to measure state anxiety at three time points. Example items include: "Right now, I feel…" a) tense; b) content (reverse-scored) and were measured on a 4-point Likert scale ranging from 1 = *not at all*, 2= *somewhat*, 3 = *moderately so*, 4 = *very much so*.

Interview performance

The assessed component of the AVI consisted of recording responses to three interview questions. Participants were given a maximum of 30 seconds to read the question, and then given a maximum of two minutes to record their video response. A video of Steph asking each question with either a warm or professional communication tone (corresponding to participants' assigned condition) was shown to participants, and the question also appeared as text on the screen. The three interview questions were 1) "Describe a time when you have balanced study and personal commitments during a stressful time"; 2) "Describe a time when you developed tensions or a disagreement with a work or study colleague, and what you did to maintain the quality of that relationship"; and 3) "If your supervisor asked you to do something which you knew was against company policy, what would you do?"

The first author and a Research Assistant independently reviewed each participant's three video responses and evaluated each response using a 5-point evaluation scale (1 = *poor-quality / vague response,* 5 = *high quality / detailed response*). Settings within the AVI platform were used to ensure that both evaluators were blind to the condition each participant was assigned to. The scores from each participant's three video responses were then aggregated into a mean score, which was used in the following analyses to evaluate each participant's overall AVI performance. Using ICC(2,2) with consistency definition and 95% confidence intervals to estimate the reliability of the mean evaluation scores indicated excellent reliability between the two AVI "evaluators" (.913, CI [0.886, 0.933]).

Manipulation Check: Communication Tone

Participants were asked to rate Steph's communication tone in the introduction video with one question on a 7-point bipolar scale (1 = *strictly professional* to 7 = *warm and friendly*).

Manipulation Check: Evaluator Identity

To check that the identity of their interview evaluator was salient after watching the intervention videos, participants were asked one item about who they believed their video interview would be evaluated by, choosing from "*Steph*", "*the CSA recruitment team*", "*an AVI platform employee*", or "*unsure*".

Attention Check

Participants were asked a question about the color of Steph's hair; the answer to which should have been obvious to participants who had paid attention to the videos that contained the different levels of the interventions. The three response options were: *Light (i.e., blonde, light grey, etc.), Red (i.e., auburn, ginger, etc.),* and *Dark (i.e., brown, black, etc.).*

Results

Manipulation Checks

An independent samples t-test was used to assess whether Steph's communication was perceived as warmer in the empathetic communication conditions relative to the professional communication conditions. Results showed that, compared to the professional communication condition ($M = 5.45$, $SD = 1.46$) Steph's tone in the empathetic communication condition ($M = 6.24$, $SD = 1.00$) was perceived as significantly more warm and friendly $t(218) = 4.72$, $p < .001$, Cohen's $d = 0.66$.

Evaluator Salience

To ascertain whether the identity of their evaluator was salient to participants, a Fisher's exact test was used. Results showed a statistically significant association (two-tailed, $p < .001$) between the evaluator conditions and the response options, meaning that participants in each group correctly identified their respective evaluators more often than not (evaluator known condition 97%; evaluator unknown condition = 88.5%).

Correlations

Bivariate Pearson correlations were calculated between all variables and inspected (see Table 5.2). Relatedness satisfaction and mediated immediacy both showed moderate positive correlations with fairness, organizational attraction, and candidate experience, and small negative correlations with state anxiety (during-AVI). AVI performance (through evaluation scores of participants' recorded responses) showed very small but statistically significant negative correlations with state anxiety (during) and the 'evaluator known' condition, such that participants who were aware of their evaluator's identity were slightly more anxious after watching the introduction video, and performed slightly worse, than participants who were not aware of their evaluator's identity.

Table 5.2

Means, Standard Deviations, and Reliability Estimates of, and Correlations among Demographics and Main Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Communication tone condition	0.50	0.50													
2. (Evaluator identity condition	0.49	0.50	.06												
3. Gender	0.61	0.56	-.14*	-.05											
4. Age	42.99	11.92	.06	-.01	-.06										
5. Relatedness satisfaction	3.50	0.86	.13	-.01	-.05	.11	(.95)								
6. Mediated immediacy	5.20	1.12	.23**	.02	-.01	.11	.76**	(.93)							
7. Fairness	3.72	0.87	.05	-.06	-.07	.06	.67**	.58**	(.90)						
8. Organizational attraction (pre-AVI)	3.80	0.81	-.02	.02	.00	.08	.43**	.28**	.24**	(.88)					
9. Organizational attraction (post-AVI)	3.77	0.89	.09	-.06	-.03	.12	.65**	.49**	.47**	.81**	(.90)				
10. Candidate experience	5.46	1.08	.15*	-.04	-.02	.02	.77**	.71**	.75**	.30**	.54**	(N/A)			
11. State anxiety (pre-AVI)	2.27	0.73	.02	-.02	.11	-.10	-.16*	-.16*	-.28**	-.02	.01	-.21**	(.88)		
12. State anxiety (during-AVI)	2.29	0.70	-.06	-.11	.10	-.13	-.21**	-.24**	-.32**	-.02	-.02	-.25**	.83**	(.87)	
13. AVI performance	3.45	0.67	.10	-.17**	.00	-.20	-.03	-.06	.11	-.01	-.01	.07	-.12	-.14*	(.91)

Note. N = 220; Cronbach's alpha for each measure, or ICC(2,2) for interview performance, are indicated on the diagonal in brackets. Scale ranges were 1 – 5 for relatedness need satisfaction, fairness, organizational attraction, and performance, 1 – 4 for anxiety, 1 – 7 for candidate experience and mediated immediacy. Gender was coded as 0 = Female, 1 = Male; Conditions were coded as 0 = Professional tone, and evaluator identity unknown, respectively; 1 = relatedness-supportive tone, and evaluator identity known, respectively. AVI = Asynchronous Video Interview.

* $p < .05$; ** $p < .001$

Hypothesis Testing

We conducted a two-way MANOVA to examine the effects of relatedness-supportive communication and evaluator identity on relatedness satisfaction (H_{1a} & H_{2a}), mediated immediacy (H_{1b} & H_{2b}), fairness perceptions (H_{1c} & H_{2c}), candidate experience (H_{1d} & H_{2d}), organizational attraction (H_{1e} & H_{2e}) and state anxiety (H_{1f} & H_{2f}). A separate two-way ANOVA was conducted to test hypotheses H_{6a-c} for interview performance, due to this variable showing non-significant correlations with most of the other dependent variables. Bonferroni-Holm corrections were applied to control for familywise error rates. Means and standard deviations for each level of both interventions, as well as MANOVA and ANOVA results, can be found in Table 5.3.

Hypotheses 1a-f and 2a-f

Results of the two-way MANOVA showed a significant main effect was for communication tone on the combined dependent variables, $F(6, 211) = 2.496$, $p = .024$, Wilks' $\Lambda = .934$, partial $\eta^2 = .066$, but not for evaluator identity $F(6, 211) = 0.979$, $p = .440$, Wilks' $\Lambda = .973$, partial $\eta^2 = .027$. Therefore, hypotheses 2_{a-f} were not supported; participants' knowledge, or lack thereof, of their AVI evaluator's identity had no significant effect on participant ratings of (relatedness satisfaction (H_{2a}), mediated immediacy (H_{2b}) fairness perceptions (H_{2c}), candidate experience ($H_{1d,}$), organizational attraction (H_{1e}), or state anxiety (H_{1f}). Regarding the significant main effect for communication tone, analysis of the dependent variables individually showed a statistically significant main effect only for mediated immediacy after Bonferroni-Holm familywise error corrections were applied (see Table 5.3). Therefore, participants who received an empathetic communication tone from the video agent rated CSA Supermarkets as more psychologically 'close' than participants who were spoken to with a strictly professional communication tone. This result finds support for hypothesis *H1b* (mediated immediacy), however hypotheses $H_{1a,}$ (relatedness satisfaction),

H_{1c}, (fairness perceptions), H_{1d}, (candidate experience), H_{1e}, (organizational attraction), H_{1f},

(state anxiety), H_{1g}, (interview performance) were not supported as no significant effect for

communication tone was found on these dependent variables.

Table 5.3

Means, Standard Deviations, and Results of MANOVA and ANOVA

Dependent variable / Communication tone	Evaluator known		Evaluator unknown		MANOVA			
	M	*SD*	*M*	*SD*	Effect	*F* ratio (6, 211)	*p*	η^2
$H_{1\&2a.}$ Relatedness satisfaction					CT	3.846	.051	.017
Empathetic	3.63	0.85	3.59	0.77	Ev	0.074	.786	.000
Professional	3.33	0.94	3.43	0.85	CT x Ev	0.372	.542	.002
$H_{1\&2b.}$ Mediated immediacy					CT	12.118	<.001*	.053
Empathetic	5.52	0.93	5.37	1.04	Ev	0.009	.925	.000
Professional	4.87	1.27	4.99	1.13	CT x Ev	0.834	.362	.004
$H_{1\&2c.}$ Fairness					CT	0.741	.390	.003
Empathetic	3.84	0.77	3.69	0.85	Ev	0.824	.365	.004
Professional	3.48	0.93	3.84	0.88	CT x Ev	4.940	.027	.022
$H_{1\&2d.}$ Candidate experience					CT	5.019	.026	.023
Empathetic	5.60	0.98	5.65	0.96	Ev	0.494	.483	.002
Professional	5.22	1.15	5.37	1.20	CT x Ev	0.121	.728	.001
$H_{1\&2e.}$ Org. attraction					CT	1.841	.176	.008
Empathetic	3.75	0.83	3.95	0.85	Ev	0.871	.352	.004
Professional	3.68	0.85	3.69	1.00	CT x Ev	0.588	.444	.003
$H_{1\&2f.}$ State anxiety (during)					CT	0.736	.392	.003
Empathetic	2.13	0.71	2.38	0.64	Ev	2.680	.103	.012
Professional	2.30	0.74	2.37	0.72	CT x Ev	0.963	.328	.004
					Effect	*F* ratio (1, 216)	*p*	η^2
$H_{1\&2g.}$ AVI performance					CT	2.567	.111	.012
Empathetic	3.44	0.60	3.58	0.68	Ev	7.315	.007*	.033
Professional	3.20	0.54	3.54	0.78	CT x Ev	1.163	.282	.005

Note: **p* is significant after Bonferroni-Holm familywise error corrections are applied. Group sizes for each condition are as follows: Empathetic tone / evaluator known (*n* = 57), empathetic tone / evaluator unknown (*n* =54), professional tone / evaluator known (*n* = 50), professional tone / evaluator unknown (*n* = 59). Abbreviations: CT = Communication Tone, EV = Evaluator Identity; Org. attraction = organizational attraction.

Hypotheses 1g and 2g

Results from the two-way ANOVA showed no main effect for communication tone

on AVI performance $F(1, 216) = 2.567$, *p* = .111, partial η^2 = .012, therefore Hypothesis 1_g

was not supported A significant main effect for evaluator identity on AVI performance remained after Bonferroni-Holm familywise error rate corrections were applied $F(1, 216) = 3.175$, $p = .007$, partial $\eta^2 = .033$ ($M_{empathetic} = 3.44$, $SD_{empathetic} = 0.60$; $M_{professional} = 3.20$, $SD_{professional} = 0.54$), however this result was in the opposite direction than expected; Hypothesis 2_g was not supported. Although the effect size was small, participants who were aware of their personal evaluator's identity tended to score slightly lower in their AVI evaluations than participants who did not know the identity of their AVI evaluator.

Discussion

The goal of this study was to advance the research on applicant reactions to AVIs using a basic psychological needs theory (BPNT) framework. Specifically, we aimed to investigate whether the communication tone used in AVI video content (i.e., relatedness-supportive communication vs professional communication tone) and / or the disclosure (vs non disclosure) of the evaluator's identity (i.e., different levels of psychological immediacy) could improve applicant reactions to AVIs. Previous research has shown that using warm and empathetic communication is an effective strategy to satisfy the need for relatedness (Ntoumanis et al., 2020), and that this result may replicate in asynchronous video communication in education settings (Borup et al., 2012, Borup et al., 2013). Additionally, applicants often are not aware of who will be evaluating their AVI responses (e.g., Lukacik et al., 2020) or indeed whether their responses will be watched by a human, as opposed to artificial intelligence, which may potentially dehumanize the AVI experience and make applicants feel psychologically distant from the hiring organization.

The current study found that participants who received the empathetic tone reported higher scores for perceived mediated immediacy, but not relatedness satisfaction, during their AVI. This paradox may be attributable to the fundamental differences between these two constructs, and differences in how the effects of each construct manifest between

synchronous and asynchronous communication environments. The lack of real-time interaction in asynchronous communication may impede the natural flow of conversation, thus potentially hindering the formation of psychological immediacy. However, our results show that incorporating warm and empathetic language may mitigate this limitation. Carefully chosen words and expressions of understanding may create a virtual sense of closeness and connection even when communication is delayed. By recognizing and acknowledging emotions and perspectives, warm and empathetic communication can foster an environment where individuals feel understood and valued, enhancing the sense of psychological immediacy even in an asynchronous context. Alternatively, relatedness need satisfaction revolves around the innate human necessity to feel connected and significant to others, which may remain a more complex challenge to satisfy in asynchronous communication environments. While warmth and empathy can create a semblance of connection, the absence of real-time interaction in an AVI may limit the depth of understanding, shared values, and care that are integral to satisfying the need for relatedness. The delayed nature of the communication may restrict the spontaneity and reciprocity that often foster deeper connections. Therefore, while warm and empathetic communication can certainly enhance psychological immediacy in asynchronous environments, it may not fully satisfy the relatedness need, which may require a more comprehensive and nuanced engagement in asynchronous interactions.

Our second experimental manipulation revealed to participants their evaluator's identity (and thus the personal significance of the 'employee' in the video to the applicant), attempting to humanize the interview process and foster a sense of psychological closeness. We had hypothesized that this psychological closeness would result in improved reactions and higher AVI performance scores than those who were not aware of their evaluator's identity. However, results indicated that knowing their evaluator's identity a) did not make

participants feel any more positively to the organization than those who were merely

informed that the actor was an employee, and b) was associated with worse AVI

performance. There may be several reasons for these results. Firstly, the limited social

presence and lack of immediate feedback make it difficult for applicants to form a substantial

connection with the evaluator. Therefore, knowing the identity of the evaluator may not

provide enough social cues to elicit positive reactions or enhance the applicant's experience.

Secondly, evaluation apprehension theory (e.g., Bragger et al., 2016) suggests that

individuals tend to perform worse when they know they are being evaluated, especially if the

evaluation holds significant implications as in a job interview. In this experiment, explicitly

identifying the evaluator may have heightened this evaluation apprehension, and may have

unintentionally exacerbated any perceived power dynamic between the applicant and the

known evaluator. Lastly, participants may have struggled to deploy familiar impression

management tactics (e.g., Lukacik et al., 2020), losing their ability to dynamically adjust

behavior in response to real-time feedback from evaluator. In F2F interviews or synchronous

video interviews, applicants can observe and interpret the verbal and non-verbal cues of the

interviewer (such as expressions, gestures, tone of voice, etc.), enabling them to adjust their

self-presentation tactics accordingly. However, in an AVI, this real-time feedback loop is

absent. Applicants must present themselves without the benefit of immediate, reciprocal

communication, thereby restricting their ability to deploy their impression management

strategies effectively, which may have resulted in lower performance scores from the

experiment's evaluators.

Limitations

We acknowledge several limitations with our study. Firstly, the job role participants

were asked to imagine applying for ("Store Team Member" for a supermarket) used in this

experiment. While AVIs are being used by large corporations including national

supermarkets (Rubinstein, 2020), some participants did mention in end-of-survey "general comments" that they might not find a role in a supermarket attractive to apply for in real life. While these comments were in the minority, future research could investigate reactions to AVIs across multiple employment opportunity contexts. Another limitation concerns the fact that we did not induce a high-stakes situation in our experiment, therefore our results for state anxiety may not be an accurate reflection of real-life job applicants' interview-related anxiety.

Future Research

We had expected that the most positive applicant reactions would be observed among participants who had experienced an empathetic communication tone delivered by their personal evaluator. Instead, we found that the most adverse reactions were reported among participants who were informed that their responses would be evaluated by the individual delivering the video-recorded message, particularly when that individual communicated in a cold and professional manner rather than exuding warmth. While this interaction was not statistically significant, future research should investigate whether the explicit identification of the evaluator may have the potential to detrimentally affect applicant reactions, especially when the evaluator's demeanor lacks warmth and friendliness.

Conclusion

In the contemporary era of digitalization and remote work, the use of AVIs in the hiring process has gained prominence. However, this modality introduces a unique set of challenges for job applicants and hiring organizations alike. Findings from our study suggest that warm and empathetic communication may have the potential to make participants feel psychologically closer to the hiring organization, albeit to a small degree. Our findings also found that explicitly identifying the identity of applicants' personal AVI evaluators did not affect the applicant reactions variables generally, however it did marginally reduce

participants' performance through evaluations of their AVI responses. Taken together, these results might be good news for hiring organizations looking to improve applicants' experiences during AVIs; the additional effort in designing AVIs to introduce each participant to their evaluator may not provide any benefits, and may introduce unintended negative consequences in the form of poorer performance. In contrast, ensuring that AVIs incorporate video materials that are perceived as warm and friendly as opposed to strictly professional may be an easier intervention to implement to retain the scalability advantages of AVIs. More research is needed to better understand the links between the salience of the AVI evaluator's identity and applicant performance, as organizations implementing this strategy may risk both alienating top candidates, and causing unintentional negative effects on applicant performance.

Chapter 6: This Time It's Personal: The Effect of Personalizing Asynchronous Video Interview Content on Applicant Reactions

Introduction to Chapter 6

The third and final intervention investigated in this dissertation presents applicants with personalized messages from the hiring organization's recruiter, intending to improve applicants' sense of personal connection to a specific, "important" person within the hiring organization. Experimental Study 3 builds upon earlier investigations in this dissertation, representing the narrowest intervention target of the three Experimental Studies, personalizing the AVI experience to each participant individually (Figure 6.1). For instance, Experimental Study 1 gave participants in the experimental group the same level of empathy and humor, so that each participant was shown the same level of warmth, representing a 'generally-targeted' intervention. Experimental Study 2 refined the focus of the investigation by aiming to instill a sense of 'group belonging' for participants within relevant experimental conditions. By tailoring messages to each participant, Experimental Study 3 aims to create the perception that the hiring organization has reciprocated the time and effort invested by the participants in the assessment process, and treats participants as individuals.

The personalized data within the message templates are based on participants' personal data collected from "application forms" which they completed during an initial phase of the experiment. As fully described in the Chapter 6 manuscript, the personalized messages have been developed to convey the sense that the recruiter values the applicant as an individual, demonstrates an interest in a personal connection with the applicant, and demonstrates that the recruiter has expended a considerable amount of effort in evaluating and commenting on the participants' application. This approach relates to social exchange theory, which proposes that relationships are formed and maintained based on the evaluation of the degree of reciprocity of resources. In the context of a selection process, a personalized

message demonstrates an investment of time and effort by the recruiter, which may be

perceived by the applicant as the recruiter's genuine care for the applicant as an individual,

which may offer new avenues for research to explore how to satisfy relatedness needs in

asynchronous communication environments, or in new contexts previously under-explored by

BPNT research, such as applicant reactions.

As per the intervention target model presented in Chapter 2, partly reproduced below

(Figure 4.1), the intervention used in Experimental Study 1 represents a "generally-targeted"

relatedness-supportive approach, as each participant in the experimental group receives the

same, 'one-size-fits-all' level of relatedness support.

This chapter follows the format of a journal manuscript to be submitted for peer

review. Due to its standalone nature, some repetition, especially in detailing the theoretical

foundation and reasoning behind the paper, is unavoidable.

Figure 6.1

Experimental Study 2 Within the Sequence of Intervention Targets

Co-Author Attribution

Author	Contribution	I acknowledge that these represent my contribution to the research output. Signed:
Hayley Ina Moore	Development of research question, data collection, data management, data coding, data analysis, interpretation, interpretation and discussion, manuscript preparation, review and editing of drafts	
A. Professor Patrick Dunlop	Development of research question, interpretation and discussion, review and editing of drafts	
Professor Marylène Gagné	Development of research question, interpretation and discussion, review and editing of drafts	
A. Professor Djurre Holtrop	Development of research question, interpretation and discussion, review and editing of drafts	

This Time It's Personal: The Effect of Personalizing Asynchronous Video Interview Content on Applicant Reactions

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Abstract

Asynchronous Video Interviews (AVIs) are a technology-mediated interview often described by job applicants as an 'impersonal' experience. This study explored the effects of personalizing AVIs on applicant reactions, exploring the utility of basic psychological needs theory (BPNT) in the applicant reactions research domain. Participants (N = 222) were randomized into two groups and completed either an AVI that was individually personalized, or an AVI that presented the same material to each participant as per the typical AVIs experience. Personalized AVIs were found to enhance participants' relatedness-need satisfaction, making participants feel more connected to the hiring organization. Importantly, personalization did not impact interview performance, preserving the standardized nature of AVIs. A novel measurement scale, Social and Economic Transactions in Selection Assessments (SETSA), was introduced, showcasing the potential of understanding applicants' perceptions of their interactions during AVIs. Results suggest the importance of reciprocity in establishing relationships, and that principles of reciprocity may help our understanding of how to build relationships in asynchronous communication environments such as AVIs. The application of BPNT in applicant reactions research displayed promise, as relatedness-need satisfaction emerged as a significant predictor of organizational attraction. In conclusion, while technological advancements have optimized recruitment, our findings emphasize the irreplaceable value of personal touches. Personalization in AVIs and the application of BPNT provide innovative avenues for enhancing the candidate experience, underscoring the importance of the candidate's psychological needs and signaling the need for a balance between technology and human interaction in the recruitment process.

Keywords: Asynchronous Video Interviews, applicant reactions, basic psychological needs theory, social exchange theory, personalization

The emergence of new technologies has revolutionized the way in which hiring organizations assess and select job applicants (Woods et al., 2020). In particular, the use of technology-mediated interviews has become increasingly prevalent in recent years, particularly as the world adapted to COVID-19 social distancing measures (Strazzulla, 2020). One such method, the asynchronous video interview (AVI), enables applicants to record video responses to the hiring organization's pre-determined questions at a convenient time and location, completely eliminating the requirement for direct, face-to-face (or virtually mediated) interaction with a recruiter. AVIs have gained traction in industry due to their purported cost-effectiveness, time-efficiency, and convenience (e.g., https://hirevue.com; https://vieple.com; https://sparkhire.com). Yet, despite their increased use, the impact of AVIs on applicant reactions is not yet fully understood (Lukacik et al., 2020).

Previous research suggests that applicants' perceptions of technology-mediated interviews tend to be more negative than to face-to-face (F2F) interviews (Blacksmith et al., 2016). Negative reactions to selection assessments can lead to reduced job acceptance rates and reduced organizational attractiveness, which can ultimately affect an organization's ability to attract high-quality applicants (Highhouse et al., 2003). Negative applicant reactions can result in legal challenges, (Chen 2019; Woods et al., 2020). In addition, applicant reactions can also affect applicants' psychological wellbeing, anxiety levels, and performance during interviews (Gilliland, 1993; Hausknecht et al., 2004; J. M. McCarthy et al., 2013), making the understanding of how AVIs affect applicant reactions an important research agenda for researchers and practitioners.

One potential issue that may negatively affect applicant reactions to an AVI is the lack of personal interaction between the applicant and interviewer (Langer, 2019). Studies that have used organizational justice theory as a framework to study applicant reactions have shown that interpersonal factors such as the warmth of the interviewer / recruiter, or the level

of respect that applicants perceive from the hiring organization's representatives, can significantly affect applicant reactions outcomes such as organizational attraction, recommendation intentions, and job-acceptance intentions (e.g., Madigan & Macan, 2005; Nikolaou & Georgiou, 2018). However, AVIs do not allow for real-time human interaction within the assessment; the absence of a 'personal touch' during a selection assessment might potentially deter applicant engagement, creating a chasm in the expected positive experience (Lukacik, 2020). Humans have fundamental social needs (Baumeister & Leary, 1995), which the lack of interaction within an AVI may fail to fulfil. As per basic psychological needs theory (BPNT; Ryan & Deci, 2000), this lack of interaction and associated social engagement during an AVI may present problems in fulfilling applicants' psychological need for relatedness with the hiring organization. Research has shown relatedness need satisfaction, which is fulfilled when a person feels a sense of connection with, and genuine care from, an important other (Baumeister & Leary, 1995; Su & Wang, 2022) to be an important predictor of organizational commitment, performance, and wellbeing (see the meta-analysis by Van den Broeck et al., 2016, for a comprehensive review). Furthermore, theories that explore how individuals interpret facets of social relationships, including concepts like reciprocity, as illustrated in Social Exchange Theory (SET; Cropanzano & Mitchell, 2005), provide insight into how the asynchronous nature of AVIs might interrupt the balance of mutual exchanges between applicants and hiring organizations, a balance typically upheld in traditional face-to-face (F2F) interviews. This disparity could potentially breed discontent or unease amongst applicants, consequently influencing their perception of the recruitment process and the organization itself.

In this paper, we propose that using basic psychological needs theory (BPNT; Ryan & Deci, 2000) as a lens through which to study applicant reactions may help to fill current gaps in the literature to enable more nuanced explanations as to how applicant reactions to AVIs

are formed. Due to the inherently impersonal nature of the AVI interviewing procedure compared with traditional F2F interviews, our experimental study will particularly focus on improving participants' need satisfaction for relatedness, although we also briefly discuss the utility for researchers in studying competence and autonomy satisfaction in future studies. We present an innovative experimental intervention which aims to increase relatedness satisfaction through personalizing participants' experience during an AVI. Our intervention is designed in such a way that engenders a sense that a 'real person' from the organization cares about the specific participant as an individual, and has invested significant effort in assessing their application and crafting personalized responses. By doing so, we seek to heighten participants' perceptions that the hiring organization is actively engaging in behaviors that demonstrate a genuine care for the applicant and mutual reciprocal effort in the assessment process, relative to an AVI that only presents generic content to participants. Reciprocal social interactions are instrumental in establishing and maintaining positive interpersonal relationships (Cropanzano & Mitchell, 2005), therefore these principles from SET may provide further pathways to satisfying relatedness needs that have not yet been explored.

Applicant Reactions

The field of applicant reactions studies the perceptions, attitudes, and behaviors of job applicants during selection and assessment processes (Ryan & Ployhart, 2000). Applicant reactions are critical in recruitment and selection literature, as they can significantly influence an applicant's decision to accept a job offer, their view of the organization, and their potential to recommend the company to others (Gilliland, 1993; Hausknecht et al., 2004; McCarthy et al., 2013). Additionally, applicants' performance on selection tests can be affected by how they experience selection procedures, therefore applicant reactions have potential to both directly and indirectly affect the effectiveness and outcomes of the recruitment and selection process (Ryan & Ployhart, 2000; Sackett & Lievens, 2008).

Several key applicant reactions are frequently studied in the academic literature, including organizational attraction, applicant anxiety, and perceptions of fairness. Organizational attraction refers to the extent to which an individual is attracted joining the hiring organization and is influenced by several factors including the organization's reputation, culture, and perceived fit (e.g., Chatman, 1989; Lievens et al., 2001; Carless, 2005). When applicants perceive a high level of fit between their values, abilities, and interests and those of the organization, they are more likely to be attracted to the company (Highhouse et al., 2003). Applicant anxiety refers to the stress and anxiety that applicants may experience during a selection procedure or process (Powell et al., 2021). It can be triggered by various aspects of the selection procedure, such as the perceived difficulty of tests or interviews, the perceived stakes of the job opportunity, or uncertainties about the selection process. Elevated anxiety levels may be perceived by applicants as an uncomfortable or negative experience, and negatively impact applicants' perceptions of the organization (McCarthy & Goffin, 2004). Additionally, elevated anxiety can potentially undermine applicants' performance during assessments, thereby affecting their chances of being selected (Powell et al., 2018). Lastly, perceptions of fairness (as per organizational justice theory; Gilliland, 1993), often classified into procedural fairness (the perceived fairness of the selection methods and processes used) and distributive fairness (perceptions about the fairness of the outcomes of these processes, such as who gets hired). Many results from previous studies have found that when applicants perceive the selection process as fair, they are more likely to accept the outcome, have a positive image of the organization, and potentially recommend the organization to others, even if they are not selected (e.g., Gilliland, 1995; Gilliland et al., 2001; Nikolaou & Georgiou, 2018).

Gaps in Using an Organizational Justice Theory Lens in Applicant Reaction Studies

To date, organizational justice theory (Gilliland, 1993), is the most dominant theory through which applicant reactions have been studied, and as above, focuses on applicants' perceptions of fairness through the satisfaction of procedural and distributive justice rules (McCarthy, Bauer, Truxillo, et al., 2017). Perceptions of fairness was largely introduced by Gilliland (1993) as a way to address the "social" aspects of fairness (p. 685) and the psychological wellbeing of applicants, which the selection field had previously overlooked in favor of "test-fairness," that is, the strength of a test's psychometric properties, or a test's lack of adverse-impact on protected classes of applicants. However, there may be limitations to viewing applicant reactions predominantly through an organizational justice lens. Primarily, this perspective could narrow the scope of factors considered, neglecting other emotional and psychological responses that could be critical in the selection process. Additionally, the absence of human interaction in an AVI challenges the application of interactional justice rules (which fundamentally focus on respectful interpersonal treatment) during the assessment. The way applicants perceive the fulfillment of interactional justice rules in an AVI might differ from face-to-face (F2F) environments; essentially, the asynchronous nature of relationship dynamics in AVIs might not mirror those in traditional settings, and our understanding of these differences may not yet be well-understood.

Within the vast framework of organizational justice, interactional justice emerges as a critical subdomain that focuses on the quality of interpersonal treatment employees receive in decision-making contexts. While procedural and distributive justices are concerned with the fairness of outcomes and processes respectively, interactional justice is primarily rooted in the nature and tone of communication between superiors and subordinates, and peers amongst themselves. The theory contends that respectful, honest, and considerate treatment by decision-makers can promote a perception of fairness, even if the decision outcomes themselves might not be deemed favorable. While interactional justice perceptions have been

shown to be an important antecedent of relatedness need satisfaction in BPNT literature (e.g., Van den Broeck et al., 2016), relatedness is not merely about interpersonal interactions, but emphasizes genuine connections and the establishment of mutual respect and understanding in relationships.

Nuances between interactional justice and relatedness principles suggest that the former might not wholly address the intricacies of the latter. While interactional justice is centered on the quality of interpersonal treatment during organizational processes, BPNT's relatedness need delves deeper, emphasizing the importance of mutual care, genuine understanding, and emotional bonds. Such profound connections might not be achieved merely through formal organizational communications, despite how fair or respectful they might be. This distinction underscores that while interactional justice might lay the foundation for positive interpersonal experiences in the workplace, it does not necessarily guarantee the deep-seated feeling of connectedness that BPNT's relatedness need highlights.

In the AVI context, the lack of real-time interaction poses challenges in ensuring that candidates feel they are treated with the depth of respect, sincerity, and clarity that interactional justice demands. While applicants might receive fair treatment in terms of the AVI process, the absence of real-time interpersonal interactions may potentially leave the relatedness need unfulfilled. Even if a hiring organization ensures that the AVI process is designed following the principles of interactional justice (e.g., video materials that demonstrate honest, respectful, and open communication), the asynchronous nature of AVIs might still fall short in satisfying the relatedness need. Indeed, even video communication delivered in a relatedness-supportive manner may be perceived by applicants more as fairness in the mechanics of the process, rather than as a mechanism through which to form emotional and psychological connections that satisfy relatedness needs. For hiring organizations to cater to the relatedness need within the AVI context, supplementary strategies might be essential.

For instance, integrating a personalized touch, demonstrating that the organization has expended some genuine care and reciprocal effort in the assessment procedure, may help foster a sense of connection for applicants to the hiring organization. Researchers and practitioners must find ways to ensure that applicants do not just feel fairly treated, but also genuinely connected to, and valued by, the hiring organization.

Rethinking Applicant Reactions: A Case for Basic Psychological Needs Theory

Basic psychological needs theory (Ryan and Deci, 2000), postulates that individuals universally have three innate psychological needs: Relatedness, autonomy, and competence. Autonomy becomes fulfilled when individuals perform actions that align with their personal values and goals, emanating a sense of control, while competence is satisfied when individuals experience a sense of accomplishment in their pursuits. The central focus of our experimental study lies in the fulfillment of relatedness need satisfaction, which emphasizes the necessity to feel a sense of personal connection and belongingness with others, especially those with whom an individual seeks to establish a relationship (Deci & Ryan, 1980). According to a meta-analysis by Van den Broeck et al. (2016), positive correlations exist between the satisfaction of these three needs and favorable organizational outcomes, such as organizational commitment, engagement, and affective commitment. Their meta-analysis further highlights that unfulfilled needs escalate the probability of negative outcomes, such as increased employee turnover and negative affect. Although the utilization of BPNT in applicant reactions research has so far been limited (e.g., Borman et al., 2023; Buil et al., 2020), the results above may well extend to applicant reactions outcomes such as organizational attraction, intentions to pursue or accept a job offer, etc. Thus, this study intends to explore applicant reactions through a BPNT lens, placing a particular emphasis on the satisfaction of relatedness. We surmise that this need is the most likely of the three basic

needs to suffer from the use of AVIs due to the inherent absence of real-time human interaction within an AVI.

While BPNT research is so far limited in the applicant reactions literature, research in broader workplace contexts affirms the critical role of satisfying employees' relatedness needs and its implications on employee and organizational outcomes, which strikingly resemble those typically studied within the domain of applicant reactions research. For instance, employees who experience a sense of relatedness in the workplace are more likely to be committed to their organization (e.g., applicants' attraction to hiring organizations; Lievens et al., 2001), perceive higher levels of organizational justice (e.g., selection procedural fairness perceptions; Bauer et al., 2001), and lower levels of stress (e.g., interview anxiety; Powell et al., 2016) and turnover (e.g., applicant withdrawal; Giumetti & Raymark, 2017). In the workplace, relatedness needs can be satisfied through social support, positive feedback, and positive social interactions with important others (Van den Broeck et al., 2016), providing valuable insights into potential strategies for satisfying the relatedness needs of applicants during an AVI.

A common grievance articulated by applicants regarding AVIs pertains to the "impersonal" nature of the assessment (e.g., in research: Meija & Torres, 2018; in online forums: https://www.reddit.com/r/recruitinghell). Indeed, AVIs are administered to all applicants in the same way, so that each applicant receives the same instructions, the same video and/or text content, the same interview questions delivered in the same format, and similar materials at the conclusion of their assessment (e.g., "thank-you" and/or "good luck" messages from the hiring organization). While highly structured employment interviews have consistently shown to possess higher predictive validity in selection research than other assessment methods (Levashina et al., 2014; Sackett et al., 2021; Schmidt & Hunter, 1998), the exclusion of real-time interpersonal interaction in an interview process may evoke a sense

of excessive standardization in applicants. The resulting impersonal nature of AVIs may then engender a negative experience for candidates, as they may feel the procedure lacks the personal touch and reciprocal effort from the hiring organization often associated with traditional interviews.

Interviews traditionally encompass a reciprocal exchange between candidates and employers, involving not merely transactional or economic elements but also social components. These multifaceted exchanges contribute to upholding the equilibrium of relational reciprocity, forming a critical part of the interaction that sustains the integrity of the relationship between the parties involved. Reciprocity is a focal notion of social exchange theory (SET; Blau 1964; Cropanzano & Mitchell, 2005), suggesting that individuals engage in social and economic transactions, within social and economic relationships, in order to maximize their outcomes. Social relationships, as per SET, revolve around interpersonal interactions and the exchange of intangible benefits such as trust, support, and respect (Uhl-Bien & Maslyn, 2003). Conversely, economic relationships primarily focus on materialistic transactions, typically characterized by an exchange of goods, services, or monetary compensation (Shore et al., 2009). However, the distinction between social and economic transactions is not absolute, and both transaction types can co-exist within a single relationship (Cropanzano & Mitchell, 2005). Social transactions often occur within the context of economic relationships; in a professional setting, while the primary focus might be the exchange of labor for wages (an economic transaction), social transactions like offering advice or providing moral support also frequently transpire (Oparaocha, 2016). These social exchanges can foster feelings of commitment and belonging (e.g., Baumeister & Leary, 1995) in economic relationships, thereby contributing to the overall productivity and satisfaction of individuals within the organization. Conversely, economic transactions can also occur within the confines of social relationships; a group of friends (a social relationship) might partake in

economic transactions such as lending or borrowing money. While the economic aspect of the transaction is apparent, the trust and goodwill inherent in such exchanges also serve to strengthen the underlying social relationship (Loi et al., 2009). This multifaceted interplay of social and economic transactions and relationships underscores the intricate dynamics of human interactions, and demonstrates how using principles from SET might guide strategies to foster and enhance relatedness need satisfaction within both workplace and broader social contexts.

Principles from SET may provide insights into why AVIs seem to be perceived as "impersonal" by job applicants, particularly to the extent that applicants compare the AVI experience to a F2F or otherwise synchronous job interview experience. Applying SET to synchronous selection interviews, job applicants and hiring organizations engage in social transactions within an economic relationship. The underpinning of this economic relationship is largely attributable to the fundamentally economic character of the anticipated continuous relationship. In essence, should the applicant succeed in securing employment with the organization, the forthcoming relationship will predominantly constitute an exchange of labor for financial remuneration. Synchronous interviews include elements of social transactions, allowing for the real-time exchange of social resources such as both parties making efforts to establish rapport and demonstrate social skills (Conway & Peneno, 1999, Kaminsky, 2019; Levashina et al., 2014). AVIs lack this real-time interaction and interpersonal contact, and therefore the transaction may potentially be perceived as more analogous to economic than to social than synchronous interviews, focusing on the exchange of tangible resources such as an applicant's time and effort in creating the video. Applicants may perceive this economic exchange as impersonal and uninviting, and the lack of social resources exchanged failing to well-satisfy applicants' relatedness needs, leading to feelings of frustration and reduced motivation to continue with the recruitment process.

Understanding the potential divergence in how interpersonal dynamics between F2F interviews and AVIs may be shaped by principles of social exchange and basic psychological needs theories could provide valuable guidance for researchers in trying to improve applicant reactions to AVIs. By incorporating additional social transaction elements into AVIs, such as customized feedback or opportunities to develop a sense of personal connection with company representatives, we can potentially recalibrate applicants' AVI experience. That is, instead of being primarily an economic transaction, AVIs could be designed such that they also incorporate significant social components, thereby amplifying applicants' satisfaction of relatedness needs.

One potential avenue for introducing more social transaction elements into AVIs, which may help to increase applicants' relatedness-need satisfaction, could lie in exhibiting the hiring organization's commitment and effort in assessing the applicant's initial application materials that had led to the AVI invitation (e.g., the applicant's online application form or resume). This commitment could be conveyed by revealing the identity of the hiring organization's employee who evaluated the applicant's initial application, along with providing written messages from the employee using a relatedness-supportive communication tone that outlines the employee's rationale for inviting the applicant to the next stage of the selection process (i.e., the AVI). The evaluator could also write comments directly addressing the applicant to demonstrate personalized consideration and to develop rapport, albeit asynchronously. Establishing a personal connection between job applicants and an employee from the hiring organization might help applicants to feel recognized as individuals during an AVI, and imbue the AVI process with an augmented element of social transaction features, thereby increasing relatedness satisfaction. This could, in turn, lead to a stronger connection with the organization, thereby bolstering the applicant's satisfaction of their need for relatedness.

The experiment presented in this paper thus compares the relative effects of the presence, or absence, or personalized messages presented during an AVI on perceived SET elements and applicant reactions. The "personalized AVI" attempts to customize the AVI procedure for each participant, based on personal information provided by participants. The personalized messages will use warm and inclusive language that intends to convey the sense that the recruiter values the applicant as an individual and desires a personal connection with the applicant. Additionally, personalized messages intend to signal to participants the recruiter's investment of time and effort into each individual participant, and desire to engage in mutually reciprocal behaviors typically demonstrated between people when establishing relationships with each other. The aim therefore is to increase the social transaction elements relative to economic transaction elements within the personalized AVI compared to the generic (i.e., non-personalized) AVI. Accordingly, we hypothesize the following:

H_{1a}. Participants who receive personalized content during their AVI will report higher scores for social transaction perceptions relative to participants who receive generic content during their AVI.

H_{1b}. Participants who receive generic content during their AVI will report higher scores for economic transaction perceptions relative to participants who receive personalized content during their AVI.

The warm and inclusive language of the personalized messages, in addition to the increased social transaction elements used throughout the personalized AVI, is expected to garner higher relatedness satisfaction and applicant reactions ratings among those who received these elements, relative to participants who receive the generic AVI.

H_{2a-d}. Participants who receive personalized content during their AVI will report higher scores for (a) relatedness need satisfaction, (b) perceived fairness, (c) organizational

attraction, (d) candidate experience, relative to participants who receive generic content during their AVI.

Interview anxiety is a psychological state that could potentially hinder an applicant's ability to perform optimally during an interview process (Horn & Behrend, 2017; Huffcutt et al., 2011; McCarthy & Goffin, 2004). Interview anxiety may arise from various factors during an AVI, one of which is the lack of interpersonal interaction and rapport-building opportunities, which research has shown are able to reduce applicants' feelings of anxiety (Feiler & Powell, 2016). Introducing personalized content into the AVI process, however, may potentially ameliorate these issues. By establishing a personal connection with the applicant and demonstrating an understanding and respect for their individuality, personalized content may serve as an asynchronous proxy for rapport-building behaviors afforded in a F2F interview, which may have potential to reduce applicants' anxiety. The lower anxiety levels, in turn, could enhance the applicant's performance during the AVI, as applicants are able to focus their cognitive resources on the task at hand rather than the source of their anxiety, improving their ability to perform optimally.

$H_{2e\text{-}f}$. Participants who receive personalized content during their AVI will report lower scores for (e) state anxiety, and (f) higher interview evaluation scores, relative to participants who receive generic content during their AVI.

Finally, we will test our proposition that BPNT may provide a fruitful alternative lens through which to study applicant reactions. We will compare the explanatory power of relatedness need satisfaction against the predictive strength of fairness perceptions (drawn from organizational justice theory, the current dominant theoretical framework) in predicting participants' organizational attraction scores.

H_3. Relatedness need satisfaction ratings will account for additional variance in organizational attraction beyond the variance already explained by fairness perceptions.

Method

Approval to conduct this study was granted by the Curtin University Human Research Ethics Committee (approval number: HRE2021-0015). The preregistration plan for this study can be viewed at https://osf.io/ym2n3/.

Design

This study used a two-group between-subjects experimental design with random assignment. The study was conducted in two Stages spaced between two and five days apart (see Procedure), with all dependent variables measured in Stage 2. In Stage 1, participants were asked to complete an "application form" with details about their education and job history (see Materials). In part 2, participants completed an AVI; one group of participants received personalized content during their AVI (personalized condition), and the other group received generic content (generic condition). An a-priori power analysis using G*Power (Faul et al. 2007) and medium effect sizes (d = 0.55) from a meta-analysis by Blacksmith et al. (2016) determined that 176 participants would be required to achieve adequate power for the analyses (full description of the power analysis rationale is available in the pre-registration documents). To mitigate for participant attrition (between Stages 1 and 2), unusable responses (i.e., due to participant inattention or lack of effort), or for a potentially smaller effect size in this study compared to those found in the meta-analysis, we aimed to recruit participants until we reached approximately 220 participants with complete, usable data.

Participants

In total, 376 participants were recruited through Prolific (www.prolific.co). Of those, 154 were excluded from analysis: 32 did not fully complete Stage 1, and were subsequently not invited to participate in Stage 2. Of those invited to Stage 2, 95 participants chose not to return to the complete the study, 21 did not fully complete the AVI or the Stage 2 survey (we

suspect that many of these were due to technical errors when recording their video interview answers), five were deemed to have not demonstrated genuine effort in answering their video responses (i.e., very short video responses that did not directly answer the interview question), and 1 participant advised that they did not take the experiment seriously. Of the 222 remaining participants (55.4% female, 75.7% Caucasian, Mage = 38.54 years, SDage = 12.72 years, 95% from the United Kingdom, ngenericAVI = 112, npersonalizedAVI = 110), nine were excluded from the performance analyses only; these participants' video responses did not record audio however their survey responses and the length and visual inspection of their attempted video responses indicated a genuine effort in taking the experiment seriously.

Materials

We asked three subject matter experts (SMEs) to provide advice on the suitability of the materials and job advertisement developed for this experiment. All SMEs held a graduate-level degree in I/O psychology and an average of 7.64 years of professional experience in the field. Feedback provided by the SMEs indicated that these materials represented a suitably high standard of fidelity to a real-life application process. All materials including SME feedback can be viewed within our preregistration.

Stage 1: Job Advertisement and Application Form

We developed a job advertisement for a "Store Team Member" at "CSA Supermarkets" for this experiment, which can be viewed via our preregistration. The advertisement was written so as to be attractive to participants, describing a positive culture at CSA Supermarkets, opportunities for promotion, and excellent working conditions.

To provide a high-fidelity simulation of a job application process, and to gain the required information to personalize the AVIs in the "personalized AVI" condition, participants were asked to complete an "application form," providing details about their education and job history. Prolific prohibits researchers from collecting information that

could potentially identify participants and we therefore asked participants to only provide very basic, non-identifiable details within the application form. Participants used their Prolific ID (a unique string of letters and numbers which identifies Prolific participants to researchers) instead of their name. Participants were asked to write a brief job title (e.g., retail manager, nursing assistant, laborer, etc.) of one role they had held previously, and chose options from drop-down boxes to disclose the length of time that they had held that role, and what sector that role belonged to (e.g., agriculture, service/retail, manufacturing, etc.). We also asked participants to select their highest education level, and the field in which their highest qualification belonged (e.g., accounting, engineering, finance, etc.), from drop-down box options. Participants were then asked to select which CSA Supermarket "department" they would most like to work in, choosing from the options provided (e.g., checkout area, bakery, frozen foods section, etc.). Finally, participants were asked to complete 3-4 sentences as a written answer to the question: "Why would you be a valuable Store Team Member at CSA Supermarkets?" to complete their "application" with CSA Supermarkets.

Stage 2: Generic and Personalized AVI Content

Experimental materials using text and images were developed and embedded into the AVI at six moments during Stage 2 (see Procedure). Generic condition text included a welcome message, instructions on how to complete the AVI, additional instructions before each question was presented, warm and encouraging messages, and a final "thank you" message. Each message was accompanied by a stock photo of two "CSA employees" with the CSA logo and motto, "CSA Supermarkets...more than just a job," to give the impression of a corporate, professional, but generic image. The generic text was used as a template for the text included in the personalized condition, however, some of the personal information that participants had given in their application form (e.g., their past job title, highest education qualification) was added in places where appropriate, and edited to give the

impression that the message had been personally written by a specific CSA employee, "Jake," directly to the participant. In the personalized condition, the written text (accompanied by a photo of Jake) advised participants that Jake had read and evaluated the information on their application form, and had chosen to progress their application to the AVI stage. Subsequent messages shown to participants in the personalized condition were customized versions of the generic messages; Table 6.1 shows the images and text used for each condition prior to participants attempting one of the recorded interview responses during their AVI. The full experimental materials are available to view via our preregistration.

Table 6.1

Example of the Text and Images Used for the Generic and Personalized Conditions

Generic Condition	Personalized Condition
Your final interview question about Ethical Dilemmas will be displayed on the next page. You will have • 30 seconds to review the question, and then • 2 minutes to record your video response. You could be a very valuable addition to our team here at CSA with your experience listed on your application, and through your written answer to the application question. To see how your values are aligned to ours here at CSA, we'd be very interested to learn about how you might deal with situations where your values or ethics are challenged. - CSA Recruitment Team	Your final interview question about Ethical Dilemmas will be displayed on the next page. You will have • 30 seconds to review the question, and then • 2 minutes to record your video response. "**[Prolific ID as proxy for participant's name]** - I think you could be a very valuable addition to our team here in the **[checkout area]** with your experience in the **[retail]** sector as a **[cashier].** The way you described yourself in your written answer gave me a sense of what's important to you an individual, and I think your values are very aligned to ours here at CSA. For this question, I'd be very interested to learn about how you might deal with situations where your values or ethics are challenged. - Jake @ CSA Recruitment Team

Note. In the above example, the bolded text in the personalized condition denotes the personalized information participants provided in the Stage 1 application form.

Procedure

Stage 1 - Initial Application

Participants completed demographic information and were then asked to imagine themselves as a real-life job seeker interested in applying for an entry-level role with a fictional company called CSA Supermarkets. Participants were then asked to read the CSA Store Team Member job advertisement and complete pre-AVI measures of organizational attraction (see Measures below). Participants were then presented with the application form which thanked participants for their interest in a role with CSA supermarkets, and asked participants to complete information as outlined in the Materials section (i.e., job title, education history, written response to application question, etc.). Participants were advised that the quality of their written response would determine whether they were selected to participate in Stage 2, which attracted a higher completion payment (£3.00) than Stage 1 (£2.25).

After completing the application form, we invited participants to run a system test of the software we planned to use to conduct the video interviews in Stage 2. Specifically, participants were advised that, at this point, they should stop imagining themselves as a job seeker and were given an opportunity to practice recording a video response to a system test question, along with instructions on how to record their videos. Participants were advised that any practice questions recorded would not be viewed by the research team and would not be used to determine whether or not they were invited to participate in Stage 2. Finally, participants were thanked for their participation so far, and were advised that the research team would be reviewing the quality of their written response, and successful participants would be contacted within 2-5 days to participate in Stage 2.

The first author reviewed all responses to the application forms from Stage 1 to identify and remove any participants that had provided nonsensical responses, and to adjust text such that it would fit the sentence structure used in the personalized condition.

Stage 2 - Invited to Complete an AVI

Pre-AVI. Participants who returned to complete Stage 2 were first shown information reminding them of the context of the study. This included a description of what an AVI is, the type of information they had provided in the application form, that they provided their Prolific ID instead of their name to protect their identity, and were shown the same job advertisement again. Participants were then asked to rate their pre-AVI level of state anxiety (see Measures).

During-AVI. Participants were asked to imagine themselves as a real-life job applicant who had applied for a Store Team Member role with CSA Supermarkets. Participants were then shown a screen shot of an email sent to them by CSA Supermarkets advising that they had been shortlisted, and that they were invited to complete an AVI as the next stage of the selection process. For participants in the personalized condition, this email commenced as follows: "Dear [Prolific ID], your application was viewed by Jake Drummond, a HR specialist from our Recruitment Team" alongside a photograph of 'Jake'. Participants were then advised to click a link which would take them to the 'welcome page' for their AVI. The welcome page congratulated participants for being shortlisted for the Store Team Member role, gave instructions on how to complete the video interview, and showed a warm, encouraging message. For participants in the personalized condition, this message included personalized information gleaned from the application forms, and appeared as though Jake had written it specifically for each 'applicant' individually. Participants were then asked to complete their measure of state anxiety, and to watch an introductory video

from CSA Supermarkets featuring an actor playing the role of a CSA Supermarkets employee named Steph.

Before starting the video interview itself, participants were given the opportunity to complete a practice question to check that their audio and video equipment was working. Then, participants recorded their responses to three video interview questions. Each of the three questions was preceded by a condition-specific message describing the topic of the question (time management, interpersonal conflict, and integrity), a reminder of the lengths of time allowed to prepare and record their answers, and a warm message. In the personalized conditions, these messages embedded personal information from the participants' application forms. Following completion of the three responses, participants were shown either a generic warm concluding message from the "CSA Recruitment Team" or a warm concluding message from "Jake," again containing personalized information obtained from each participant's application form.

Post-AVI. Participants completed post-AVI survey items, which included their measure of state anxiety, manipulation and attention checks, basic psychological needs (relatedness, autonomy, and competence satisfaction), post-AVI organizational attraction, social and economic transaction perceptions, and process fairness. Participants were then shown a page simulating a website that would enable them to leave a review of their experience during their AVI, similar to real-life sites that job seekers can access such as glassdoor.com and seek.com. On this page, participants rated their overall candidate experience, then were asked to write a "review" of three to four sentences to "give other job seekers more details about why you gave the ratings above." Finally, participants were thanked for their effort in taking part in the study, and were asked a final question about the quality of the data they provided (see Measures).

Measures

Cronbach's alphas for all measures in this study appear in Table 6.2.

Organizational attraction

Organizational attraction was rated at two time points, pre- and post- AVI on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) using four items from the scale developed by Highhouse et al. (2003). For the pre-video ratings, participants were asked to rate their organizational attraction with respect to how attractive they perceived the job as written in the advertisement. For the post-AVI ratings, participants were asked to rate their organizational attraction to CSA Supermarkets after having completed the entire AVI. An example item included "CSA Supermarkets would be attractive to me as a place for employment."

State Anxiety

State anxiety was measured using the six-item short-form of the State-Trait Anxiety Index (STAI; Marteau & Bekker, 2011). Example items include: "Right now, I feel…" a) tense; b) content (reverse-scored) and were measured on a 4-point Likert scale ranging from 1 = *not at all*, 2= *somewhat*, 3 = *moderately so*, 4 = *very much so*.

Manipulation Check

Participants were asked a single manipulation check item when presented with the photo of Jake used in the personalized condition: Do you recognize this CSA Supermarkets employee from your video interview? Response options provided were a) *Yes, this is Jake Drummond, my AVI evaluator from the CSA Recruitment Team* (correct response), b) *No, this person did not appear in my video interview*, c) *He spoke in the "Welcome" video*, or d) *I'm unsure*.

Attention Check

Participants were asked a single attention check item when presented with a photograph of "Steph" taken from the introduction video: "Do you recognize this CSA

Supermarkets employee from your video interview?" Response options were a) Yes, this is Janet, a member of the CSA recruitment team, b) *No, this person did not appear in my video interview,* c) *she spoke in the "Welcome" video*, (correct) or d) *I'm unsure.*

Relatedness, Autonomy, and Competence Need Satisfaction

Relatedness satisfaction was measured using four items adapted items from Borman et al. (2022) and two items developed for this study. Example items included "It felt like CSA Supermarkets was genuinely interested in me as a person.," and "I felt a sense of connection with CSA Supermarkets". Four items from Borman et al. (2022) were used to measure autonomy satisfaction, e.g., "I experienced a lot of freedom in how I answered the questions." Finally, four items were adapted from the "Chance to Perform" subscale of the SPJS (Bauer et al., 2001; Borman et al. 2023). An example item was "I could really show my skills and abilities through this video interview." All items were rated on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*).

Social and Economic Transaction Perceptions

Five items each were used to measure the degree to which participants perceived their AVI as a "social" or an "economic" transaction. These items were developed for this study as we were not aware of any existing social exchange theory scales that directly capture the 'transaction' type of the exchange, or that could be reasonably adapted for use in a study measuring perceptions to AVIs. Items include "It felt like CSA Supermarkets and I were able to establish an initial rapport through this video interview" (social transaction subscale) and "This video interview felt transactional" (economic transaction subscale). All items were rated on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*), and for clarity will be referred to as the 'social exchange transactions in selection assessments (SETSA)' scale.

Process Fairness

Four items adapted from Gilliland (1994) were used to assess fairness on a 5-point Likert scale from 1 = *strongly disagree* to 5 = *strongly agree*. Items included "Whether or not I passed the video interview, I feel the selection process so far is fair."

Overall Candidate Experience

A one-item measure was used to measure candidate experience: "How would you rate your experience of CSA Supermarkets so far?" This question was answered on a 7-point Likert scale (1 = *extremely negative*, 7 = *extremely positive*). This one-item measure was used in favor of other multi-item measures of applicant reactions for two reasons. Firstly, no multi-item peer-reviewed scales of the overall candidate experience were located in the literature; most published and established scales measure specific, multifaceted applicant reactions such as interview anxiety (e.g., McCarthy & Goffin, 2004) and procedural justice (e.g., Bauer et al., 2001). Secondly, this item was contained within the "review website page" section of the experiment; real-life review sites such as glassdoor.com typically only ask one-item measures on their sites, so the decision was made to keep the "overall candidate experience" question on this site to one item. The use of single-item measures has recently received support in regards to their validity, reliability, comprehension, and utility (Matthews et al., 2022).

Interview performance

The assessed component of the AVI consisted of recording responses to three interview questions. Participants were given a maximum of 30 seconds to read the question, and then given a maximum of two minutes to record their video response. The three interview questions were 1) "Describe a time when you have balanced study and personal commitments during a stressful time"; 2) "Describe a time when you developed tensions or a disagreement with a work or study colleague, and what you did to maintain the quality of that relationship"; and 3) "If your supervisor asked you to do something which you knew was against company policy, what would you do?"

Each participant's three AVI responses were independently evaluated by the first author using a 5-point evaluation scale (1 = *poor-quality / vague response*, 5 = *high quality / detailed response*). The first author has previously evaluated AVI responses for two similar studies (Moore et al., 2023 [manuscript under review]; and Moore et al., 2023 [manuscript in preparation]), both of which also employed independent raters to evaluate participants' AVI responses (two independent raters in total, one per study). The decision was made not to employ an independent rater for this study due to the very high reliability between the ratings of the first author and each of the two raters using ICC(2,2), .905 and .913, respectively. The video recording platform did not capture which condition each participant was assigned to (this information was captured by the survey platform), ensuring that the first author was blind to the condition each participant was assigned to. A mean "AVI performance score" was aggregated from the scores from each participant's three AVI responses; this aggregated was used in analyses outlined in the Results section to evaluate each participant's overall AVI performance.

Results

Manipulation Check

A Pearson's chi-square test of contingencies (with $\alpha = .05$) was used to evaluate whether or not participants in the personalized group identified Jake as their personal evaluator more often than did participants in the generic group. The chi-square test was statistically significant, $\chi^2 (2, N = 222) = 168.58, p < .001$, and this effect size was strong $w = .87$; essentially, 98 of the 110 (89.1%) of participants in the personalized condition successfully identified Jake as their personal evaluator, compared to three of the 112 (2.7%) participants in the generic condition.

Exploratory Factor Structure of Basic Psychological Needs and Social Exchange Items

To investigate the underlying structure of the 26 items contained within the BPNT and SETSA scales (namely, to ensure that all items aligned with their intended factors), responses to these items were subjected to principal axis factoring with promax rotation, a popular oblique method that allows for correlations between the factors. Five factors (with eigenvalues exceeding 1) were extracted, accounting for 63.50% of the variance in the questionnaire data (see Appendix C). Inspection of the individual items and their respective and factor loadings revealed that each item predominantly loaded onto the factor it was originally designed to measure, providing initial support for the internal structures and distinct construct validity of these questionnaires and their suitability for use in subsequent analyses in the current experiment.

Analysis of Correlations

Bivariate Pearson correlations were calculated to examine the relationships among social transaction scores and economic transaction scores, the three psychological needs (relatedness, autonomy, and competence), fairness perceptions, organizational attraction, candidate experience, anxiety, and interview performance (see Table 6.2). The results indicated a strong negative correlation (Bosco et al., 2015) between social transaction and economic transaction scores, indicating that these two constructs may be conceptual opposites. Social transaction scores displayed medium positive correlations with each of the three psychological needs (relatedness, autonomy, and competence), fairness perceptions, organizational attraction, and candidate experience. Conversely, economic transaction scores showed medium negative correlations with these same variables. Furthermore, both social transaction scores and the three psychological need satisfaction scores exhibited small negative correlations with anxiety. Interestingly, interview performance did not exhibit any significant correlations with any of the aforementioned variables.

The observed relationships shed light on how the nature of transactions (social versus economic) and their interplay with psychological needs, fairness perceptions, and organizational attraction may impact the overall candidate experience and anxiety, however, they may not have a direct impact on interview performance. The positive correlation between social transactions, fairness perceptions, organizational attraction, and overall candidate experience suggests that AVIs designed to promote social transactions may foster more positive applicant responses. Conversely, the negative correlations associated with economic transaction scores imply that AVIs perceived as more economically transactional may lead to less satisfaction in applicants' psychological needs and lower fairness perceptions, reducing the overall candidate experience.

Hypothesis Testing

Hypotheses 1_{a-b} and 2_{a-f}

Following the pre-registration, the hypotheses were tested using one-tailed independent samples t-tests, the results of which are presented in Table 6.3. Raw p values are shown; Bonferroni-Holm corrections were subsequently applied to each test to control for family-wise error rate.

Hypotheses 1_{a-b} and 2_{a-f}

Table 6.2

Correlations Between Main Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Condition	.50	0.50													
2. Gender	0.57	0.52	-.03												
3. Age	38.54	12.72	.07	-.08											
4. Social transaction	2.79	0.93	.22	-.06	.07	(.92)									
5. Economic transaction	3.15	0.85	-.08	-.02	-.03	-.64	(.82)								
6. Relatedness satisfaction	3.25	0.83	.24	.03	.01	.78	-.62	(.93)							
7. Autonomy satisfaction	3.59	0.83	.00	.01	-.01	.54	-.59	.62	(.89)						
8. Competence satisfaction	3.13	0.94	.10	-.01	.03	.61	-.55	.63	.65	(.89)					
9. Fairness perceptions	3.47	0.90	.13	.03	.04	.67	-.67	.66	.57	.65	(.90)				
10. Organizational attraction	3.65	0.85	.12	.08	.05	.48	-.50	.58	.37	.36	.45	(.88)			
11. Candidate experience	4.93	1.07	.13	.14	.00	.65	-.64	.70	.60	.59	.74	.53	(NA)		
12. Anxiety (during)	2.91	0.73	-.08	.08	-.02	-.16	.08	-.17	-.19	-.15	-.11	.00	-.16	(.89)	
13. Interview performance	3.29	0.80	.03	.02	-.07	-.10	-.09	-.05	.09	.04	.05	-.09	.09	.06	(.xx)

Note: Condition was coded 0 = generic AVI (*n* = 112), 1 = personalized AVI (*n* = 110); Gender was coded 0 = female, 1 = male.
Correlations *r* = |.13| and greater are significant at *p* < .05; *r* = .19 and greater are significant at *p* < .001.

Table 6.3

Results of One-Tailed Independent Samples t-tests for hypotheses 1a-b, and 2a-f.

Dependent variable	Generic (n = 110)		Personalized (n = 112)		$t(220)$	p	Cohen's d	95% CI	
	M	SD	M	SD				LL	UL
$H_{1a.}$ Social transaction	2.59	0.94	2.99	0.88	3.34	< .001*	0.45	0.17	0.65
$H_{1b.}$ Economic transaction	3.22	0.90	3.09	0.80	-1.15	.127	-0.15	-0.36	0.09
$H_{2a.}$ Relatedness satisfaction	3.05	0.85	3.45	0.76	3.67	< .001*	0.49	0.18	0.61
$H_{2b.}$ Fairness perceptions	3.35	0.95	3.59	0.83	1.99	.024	0.27	0.00	0.47
$H_{2c.}$ Organizational attraction (post)	3.55	0.88	3.75	0.82	1.80	.036	0.24	-0.01	0.43
$H_{2d.}$ Candidate experience	4.79	1.14	5.07	0.98	2.00	.023	0.27	0.01	0.57
$H_{2e.}$ State anxiety (during)	2.97	0.71	2.85	0.75	-1.20	.116	-0.16	-0.31	0.08
$H_{2f.}$ Interview performance	3.26	0.76	3.31	0.85	0.42	.338	0.06	-0.17	0.26

Note: All items were rated on 5-point Likert scales (1 = *strongly disagree*, 5 = *strongly agree*) except for candidate experience (7-point Likert scale, 1 = *extremely poor - extremely positive*) and state anxiety (4-point Likert scale, 1 = *Not at all* - 4 = *Very much so*).
* = p value remained significant after Bonferroni-Holm corrections were applied (n = 8, α < .05).

H_{1a} posited that participants receiving personalized content during their AVI would report higher social transaction perceptions than those who received generic content. As expected, this hypothesis was supported, with participants in the personalized condition reporting a mean social transaction perception score nearly half a standard deviation higher than those in the generic condition.

H_{1b} hypothesized that participants receiving generic content would report higher economic transaction perceptions than those receiving personalized content. This hypothesis was not supported; participants in the personalized condition did not significantly differ in their economic transaction perceptions.

H_{2a} suggested that participants receiving personalized content would report higher scores for relatedness need satisfaction compared to those receiving generic content. This hypothesis was supported, with the personalized condition showing a mean score almost half a standard deviation higher than the generic condition.

H_{2b-d} hypothesized that participants receiving personalized content would report higher scores for (b) perceived fairness, (c) organizational attraction, and (d) candidate experience compared to those receiving generic content. While initial t-test results indicated support for these hypotheses, these effects did not remain significant after applying Bonferroni-Holm corrections to control for family-wise error rate, therefore these hypotheses were not supported.

H_{2e} and H_{2f} hypothesized that participants receiving personalized content would report lower scores for (e) state anxiety and (f) higher interview evaluation scores compared to those receiving generic content. Both these hypotheses were not supported. State anxiety was marginally higher for the generic condition than the personalized condition, and interview evaluation scores were slightly higher in the personalized condition, although not significantly.

Hypothesis 3

Hypothesis 3 concerns the explanatory power of relatedness need satisfaction for applicant reactions variables, hypothesizing that relatedness need satisfaction could account for additional variance in organizational attraction other than what could be attributed to fairness perceptions. Due to the experimental nature of the data, a parallel mediation analysis was conducted using PROCESS Model 4 for SPSS (Hayes, 2016), using the experimental condition as the predictor variable, relatedness satisfaction and fairness perceptions as mediators, and organizational attraction as the outcome variable. The experimental conditions were dummy coded as 1 (personalized AVI) and 0 (generic AVI condition). Overall, the model explained 34.76% of the variance in organizational attraction ratings ($R^2 = 0.3476$, $p <$ .001). As shown in Figure 6.2, the personalized AVI condition affected relatedness need satisfaction to almost twice the extent than it affected fairness perceptions ($B = 0.399$, p < .001; $B = 0.238$, $p < .001$, respectively). Thus, the personalized AVI intervention triggered participants' perceptions of relatedness satisfaction to a greater degree than their perceptions of general fairness.

Figure 6.2

Parallel Mediation Model as per Hypothesis 3
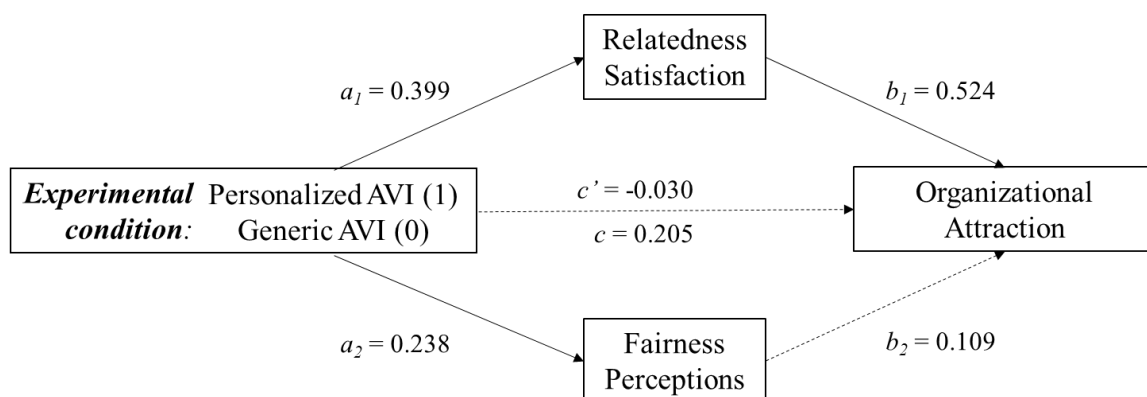
Note. Experimental conditions were dummy coded as 1 (personalized AVI condition) and 0 (generic AVI condition).

When considering the effects of relatedness satisfaction and fairness perceptions individually on organizational attraction, a 95% bias-corrected confidence interval based on 5 000 bootstrap samples indicated that the indirect effect through relatedness satisfaction (a_1b_1 = 0.209), holding fairness perceptions constant, was entirely above zero (0.088 to 0.347), fully mediating the relationship. In contrast, the indirect effect through fairness was not different than zero (a_2b_2 = 0.026; -0.010 to 0.082). Essentially, when accounting for fairness perceptions while assessing the effect of relatedness satisfaction, and vice versa, only relatedness satisfaction had a significant effect on organizational attraction; the effect of fairness perceptions was insignificant. This provides some initial support for the utility of BPNT variables in researching applicant reactions.

These results provide partial support for our hypotheses. While personalized content seems to be associated with higher social transaction perceptions and relatedness need satisfaction, it did not significantly impact economic transaction perceptions, perceived fairness, organizational attraction, candidate experience, state anxiety, or interview evaluation scores. Our results also provide some initial support for the utility of basic psychological needs theory variables in providing a more nuanced understanding as to how applicant reactions are formed.

Discussion

The aim of this study was to understand the potential benefits of personalizing asynchronous video interviews (AVIs) and to expand the investigation of the utility of basic psychological needs theory (BPNT) in the context of applicant reactions research. Our findings offer critical theoretical and practical insights into these domains, which could help shape strategies for improving candidate experiences and provide new directions for future research.

Effects Of Personalizing AVI Content on Applicant Reactions

The central hypothesis of our experiment revolved around the potential advantage of creating a personalized experience for applicants completing an AVI. Consistent with our expectations, personalization appeared to enhance participants' relatedness-need satisfaction; participants who received the personalized messages from the recruiter who had evaluated their information thus felt more connected to the hiring organization, and as if the hiring organization cared about them as an individual. These findings highlight the value of integrating personalized touchpoints within the recruitment process, in line with the general consensus in HR literature that emphasizes the critical role of individualizing organizational practices (Aryee et al., 2002). The findings also serve to remind organizations that, even in an era of technological advancements and the increasing automation of hiring processes, the human touch still wields significant influence over candidates' experience and perceptions, which may be particularly pertinent for assessments that are perceived as somewhat impersonal, such as AVIs.

Although personalized AVIs elicited a more favorable reaction among candidates compared to the standard condition for other applicant response variables, the mean differences between groups did not reach statistical significance, post the control for familywise error. Nevertheless, the mean scores for fairness perceptions, organizational attraction, candidate experience, and anxiety among generic participants all achieved at least the median of the scale, suggesting these ratings symbolize a satisfactory experience on average, or at minimum, not an overtly negative candidate experience. Consequently, the question arises as to whether the additional efforts and resources necessitated for the personalization of AVIs are justified; perhaps a decision to use (or not) personalization within AVIs might be a function of a hiring organization's preferences, or the signals that the organization wants to send to applicants. For instance, organizations that genuinely prioritize

their applicants' emotions throughout the application process, or at least wish to send such signals, may choose to invest time and resources in personalizing AVIs, whereas organizations that do not prioritize sending such signals will refrain from exerting additional efforts when designing their AVIs.

Importantly, personalizing AVIs did not seem to have any observable impact on applicants' AVI performance. Highly standardized interviews have consistently shown to have higher predictive validity than other selection methods (e.g., Sackett et al., 2020; Schmidt & Hunter, 1998). An interview's structure can be tailored according to myriad elements, and when altered to include personalized content as opposed to generic (or standardized) material, the standardization across candidates has the potential to become compromised. While there may be certain benefits to the candidate experience in implementing such personalization, it might also introduce unintended repercussions on the integrity of the interview process. However, it is essential to note that our own empirical data did not reveal any signs that variations in structure led to participants responding in systematically better or worse ways. If differences in performance had been observed, there might have been more substantial grounds for concern. Thus, from our data it appears it may be possible to engender a more pleasant and less impersonal experience for applicants through AVIs, without undermining the highly standardized nature of AVIs. Of course, future research should seek to replicate these results and investigate further personalization interventions before definitive conclusions can be drawn about the effects of personalization on the integrity of structured interviews.

Measuring Reciprocity Perceptions in Selection Assessments

An innovative aspect of our study was the creation and application of the Social and Economic Transactions in Selection Assessments (SETSA) scale. This tool was designed to investigate applicants' perceptions of their 'interactions' during AVIs, with a focus on how

these exchanges were perceived in terms of social and economic transactions. The SETSA scale is still in its nascent phase and necessitates further refinement and validation. Nonetheless, preliminary results hint at its potential utility in gauging the social and economic facets of exchanges within selection assessments. As anticipated, the two components of the scale - social transactions and economic transactions - were found to independently load onto distinct factors and displayed a negative correlation. This indicates a conceptual separation from the BPNT needs, a feature that further underscores its validity. Particularly notable is that the social transaction factor, which prima facie pertains to social relationships; none of the items within this factor loaded onto the relatedness need factor. Cumulatively, these findings suggest that examining the reciprocal nature of interactions during assessments could yield insights into how we might boost applicants' sense of mutual effort from hiring organizations, and enhance their relatedness satisfaction during assessments.

Social Exchange Theory Principles Informing BPNT Interventions

The principles of Social Exchange Theory (SET) employed within our experiment provide new alternatives in intervention strategies that potentially enhance relatedness satisfaction. Our results substantiated our assertion that the intrinsic reciprocity principles within SET, when utilized to personalize AVIs, foster a heightened sense of relatedness-need satisfaction among candidates. The perceived interpersonal connections engendered via personalized communication throughout the AVI, underpinned by SET, elicited a sense of affiliation and connection among the participants. These results reinforce the merit of integrating SET principles into the recruitment process, indicating that the subtle deployment of these principles can augment applicants' relatedness satisfaction during an AVI.

In evaluating the results for the economic transaction scores, it is salient to note that both the generic and personalized AVI experiences were rated around the midpoint of the

scale, with no significant differences between groups. This implies that despite the personalized facet of the AVI in the experimental condition, the overall nature of the AVI was still perceived as economically transactional to the same degree as the generic condition, and neither condition was viewed as excessively economic or transactional. The personalized message, however, made a distinct difference in the social transaction scores. The generic condition was rated below the midpoint, indicating that an AVI with generic content failed to generate even a neutral perception of social interaction. The personalized messaging only managed to elevate the social transaction perceptions to a neutral standard (i.e., slightly below the midpoint); thus, while the personalized AVI was not viewed as a profoundly social assessment, it at least raised social transaction perceptions from a negative average score to a neutral average score. Given that the relatedness satisfaction scores were also higher in the personalized AVI, it may be inferred that a minimum standard of social interaction is indeed 'satisfactory' for applicants to feel a connection to the organization. Given that the scores for other applicant reaction variables did not significantly deviate from the generic group, however, additional personalization strategies may be required to boost subsequent applicant reaction scores.

In aggregate, these findings highlight the necessity for hiring organizations to strike a balance between the advantages of technologically-mediated selection methods and the human element. Despite the current tendency towards digitalization and automated hiring processes, our research underscores the significance of preserving human aspects within recruitment. It indicates that personalized touchpoints in the recruitment process, particularly during AVIs, could contribute to enhanced candidate experiences. These findings reiterate the critical role of human interaction, even within automated recruitment procedures, and indicate the necessity for organizations to optimize the balance between technological progress and personalized communication.

Potential Avenues in Applicant Reactions Research Using BPNT

Our findings provide initial support for the applicability of BPNT within the applicant reactions research, a theoretical approach that previously received scant attention in this context. Our results support our premise that BPNT variables (namely, relatedness need satisfaction in this experiment) have the potential to augment existing theories in applicant reactions research by providing more granularity into understanding how applicant reactions are formed, beyond the scope that fairness perceptions alone can provide.

Our mediation analysis indeed revealed that a model including relatedness need satisfaction and fairness perceptions was able to account for a reasonable degree of variance in organizational attraction scores. However, when controlling for the effects of each mediating variable individually, only relatedness satisfaction scores were able to significantly affect organizational attraction ratings. Therefore, by measuring applicants' basic psychological needs, our research was able to not only be able to identify a variable which may not only predict applicants' organizational attraction, but which may be more capable in precisely discerning how to influence applicants' organizational attraction (for instance, by making the assessment more social, or tailoring it to bolster applicants' psychological connection to the hiring organization). Our intervention specifically targeted relatedness need satisfaction, however future investigations could consider implementing interventions that focus on the competence or autonomy to ascertain whether comparable effects can be observed for the other two psychological needs.

Limitations

Despite promising results, we must note several limitations with our study. First, while we attempted to simulate a real-world interview scenario, inherent differences exist between the experiment's context and real job applications that might influence applicants' reactions. The stakes associated with real job applications could intensify emotions and hence

the candidate experience. Second, the SETSA scale, although showing initial promise, is a preliminary measure and needs a rigorous validation study to establish its reliability and validity.

Thirdly, our use of Prolific IDs instead of names in the personalized condition might have inadvertently contributed to a perception among participants that they were being 'treated as numbers' rather than individuals, potentially impacting their reactions. This could have potentially reduced the differences between the personalized and generic conditions, which may reflect a possible reason for why some of the applicant reactions scores did not maintain statistical significance after familywise error corrections were applied. Furthermore, the content and delivery of the AVI personalization warrants further consideration. In our study, our text template attempted to ensure that the personalized text fit into the 'template' text, however a small number of participants commented that the personalized messages felt like 'canned content,' with one participant noting "I had the feeling that the company were giving the same feedback to all of the candidates." While both of these limitations were unavoidable due to the need to maintain the anonymity of our participants due to Prolific guidelines, and the need to keep the experimental manipulation as similar across both conditions as possible, respectively, future research could use alternative participant samples to construct the personalized condition without inadvertently contributing to a potentially inadvertent dehumanizing effect.

A final limitation concerns applicant attrition due to self-selection bias between the two stages of our study. Indeed, around 25% of participants in the first stage did not return for the second stage, indicating a possible self-selection bias. This could have potentially influenced our results, as the experiences and reactions of those who opted out might have been different from those who chose to continue with the study. We do not have any data as to why theses participants did not return for the second stage; it may be an indication of

participants not finding AVIs attractive, however it could just as simply be a case that they were no longer interested or available to participate in the process.

Future Research

This study offers several directions for future research. Firstly, the potential value of BPNT in applicant reactions research could benefit from further investigations across different contexts and hiring practices. A more granular investigation into the specific impact of the three tenets of BPNT – autonomy, competence, and relatedness – on applicant reactions would be beneficial. While relatedness satisfaction was a clear focus of our study, the roles of perceived autonomy and competence remain relatively unexplored. Understanding these factors might help design more nuanced interventions for improving applicant reactions beyond relatedness-need satisfaction. In terms of autonomy, one way to involve the SET principle of reciprocity in AVIs could be to provide applicants the opportunity to choose certain aspects of their interview process. For instance, organizations could make use of options often provided by AVI platform providers within their AVI design, such as the ability for applicants to rerecord their responses, or by providing information to candidates explicitly stating the advantages that AVIs offer in terms of flexibility and applicant control (i.e., applicants can choose when and where to record their interview). The act of selection, or perhaps explicitly stating the elements of an AVI that might help to satisfy autonomy needs, may foster a greater sense of control and self-governance, potentially leading to higher autonomy-need satisfaction and more positive reactions. In terms of competence-need satisfaction, hiring organizations could provide resources before the AVI that equip applicants to showcase their skills effectively. For instance, including a detailed job description with clear competencies, providing sample questions or tips for successful responses, and suggesting ways to highlight transferable skills could all help to foster a sense of competence. A deeper understanding of how specific AVI

design features may affect each of the basic psychological needs could provide future researchers with more refined tools to design effective interventions for applicant reactions.

Future research should also look at alternative ways to personalize AVIs in ways that can still retain the scalability of the assessment, that may be able to enhance applicants' sense of connection to the hiring organization. While mean scores for the applicant reactions variables (excluding performance) were more positive in the personalized condition than in the generic condition, we cannot draw any inferences from these results as they did not retain statistical significance after controlling for familywise error. However, the general trend in these results may suggest avenues for future research into finding other ways to personalize AVIs in alternative ways, in order to improve applicant reactions.

The SETSA scale, a key contribution of our study, requires additional refinement and validation. Future research should look at a wider range of recruitment scenarios, diverse candidate populations, and varying organizational contexts to further test and develop this scale. The dichotomy of, and interplay between, social and economic transactions in selection assessments is an area ripe for exploration, and our research serves merely as an introductory foray into this promising field.

Conclusion

In conclusion, our study broadens the academic discourse on applicant reactions research by demonstrating the potential of personalization in AVIs and introducing BPNT as a valuable theoretical tool. Our findings offer preliminary evidence for BPNT offering a nuanced and comprehensive approach to understanding applicant reactions, potentially complementing the prevailing organizational justice theory. This opens up new ways of interpreting and improving the candidate experience, emphasizing the importance of considering the candidate's relatedness-, autonomy-, and competence-need satisfaction.

Our research also points to the crucial importance of considering the rules of reciprocity when designing selection assessments. This is especially pertinent in the context of virtual selection assessments where social elements are often minimized or removed entirely. Our findings underscore that applicants do not appreciate being treated as mere numbers – reinforcing the idea that even in the era of digital and automated recruitment, the human touch matters significantly. We hope that our study serves as a catalyst for further exploration into the role of personalization, the utility of BPNT, and the development of novel interventions able to be deployed within AVIs to enhance our understanding of selection practices and improving the candidate experience.

Chapter 7: Things We Said (Online) Today: A LIWC Analysis of the AVI Candidate Experience

As previously discussed in Chapter 3, the advent of digital technology has granted job applicants a plethora of online platforms where they can share their experiences with a vast audience. Websites such as Glassdoor.com and Seek.com.au, complemented by discussion forums like the r/recruitinghell subreddit on Reddit.com, serve as powerful channels for both employees and applicants to share their firsthand experiences with hiring organizations, be they positive or negative. In addition to these public platforms, hiring organizations often seek feedback directly from applicants by sending out candidate experience surveys post-assessment (The Talent Board, 2020). These surveys can contain open-ended, text-based response sections, which can yield rich insights into applicants' perceptions and feelings about the recruitment process. Similarly, to gauge workplace sentiment, organizations distribute employee engagement surveys, which can likewise contain open-ended responses, reflecting employees' experiences, concerns, and overall engagement with the company. Just as text analysis methods have been used widely to analyze online consumer reviews (e.g., Alzate et al., 2022; Lee et al., 2017; Zhang et al., 2016) it holds promise for delving into these surveys, shedding light on the underlying emotions and perspectives. This voluminous data from both public platforms and internal surveys represents a goldmine for applicant reactions researchers, offering an opportunity to gain a deeper understanding of how applicants and employees vocalize their sentiments and experiences.

A potentially useful tool to analyze applicants' written sentiments is the Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2015), a text analysis software program designed to compute the emotional, cognitive, and structural components present in verbal and written speech. At its core, LIWC categorizes words into predefined linguistic and psychological groupings. These categories encompass aspects like emotional tone (e.g.,

positive or negative emotions), cognitive processes (e.g., insight, causation), and various linguistic dimensions, such as pronoun use or verb tense. By assessing the frequency of words falling into these categories within a given text, LIWC offers researchers valuable insights into the underlying emotions, thinking styles, social concerns, and even the personality of the text's author (Yarkoni, 2010).

Scores derived from LIWC analysis can help to understand the latent psychological constructs that manifest in language use (Tausczik & Pennebaker, 2009), and are calculated based on the percentage of total words in a given text that match each of its predefined categories. Among its categories, LIWC includes Positive Emotion (PE) and Negative Emotion (NE), which measure the amount of positive or negative sentiments expressed in a text, and the Word Count (WC) category, which counts the total amount of words used in each piece of text. While, to my knowledge, there is no existing research using LIWC or other text analysis methods in applicant reactions research, consumer marketing provides a wealth of research into the utility of using such methods to analyze online reviews. Previous research using LIWC to analyze consumers' online product reviews has demonstrated positive correlations between consumers' expression of positive emotion in reviews and a) consumers' positive feelings toward their purchases (Rocklage & Fazio, 2020) and b) strong attraction with the brand (Schiessl, 2023). Given the similarities to organizational attraction variables studied by applicant reactions researchers, it suggests that LIWC analyses could be effectively applied to assess applicants' written sentiments in online reviews about a hiring organization's assessment processes.

The PE, NE, and WC categories within LIWC may be particularly useful for gleaning insights from applicants' reviews of an organization's selection process. Higher scores in the PE category might indicate satisfaction, excitement, or feelings of personal alignment with the job opportunity or hiring organization (Li et al., 2019). Conversely, the NE category may

capture the degree of unfavorable or adverse sentiments expressed by applicants . Elevated frequencies in this metric might signal discontent, apprehension, or reservations about a subject (Alzate, 2022). By examining these categories in tandem, researchers may glean a nuanced understanding of an applicant's emotional landscape, ascertaining areas of satisfaction or potential points of contention. Additionally, the WC category within LIWC may also yield insights into applicant reactions. By assessing the length of responses, researchers can infer the depth and intensity of applicants' feelings or thoughts regarding a particular subject (Wang et al., 2016). For instance, more extended responses might indicate a stronger engagement or a heightened emotional reaction, whereas shorter responses might suggest indifference or hesitation. Using text analysis methods may provide hiring organizations with valuable insights for tailoring communication, improving processes, or addressing concerns to enhance overall applicant experience and engagement. Therefore, Research Question 6 (RQ6) seeks to investigate the extent to which text analysis methods may help to identify and understand applicant reactions. To test RQ6, a brief exploratory study was conducted using textual data "online reviews" gained from participants in the three experimental studies presented in this dissertation.

Method

Design

This exploration uses a correlational study design to investigate relationships between the LIWC word categories of PE, NE, WE, with the applicant reactions variables common to all three experimental studies: Relatedness need satisfaction, fairness perceptions, organizational attraction, intentions to recommend, candidate experience, state anxiety, and participants' AVI evaluation score.

Participants

Data from participants from Studies 1, 2, and 3 whose data were retained were also used in this exploratory investigation. Participants were excluded, however, from the present analyses if their "online review" of the fictional hiring organization, CSA Supermarkets, was less than 25 words long, as per suggestions from the LIWC operating manual regarding minimum word count guidelines (Pennebaker et al., 2015). Ultimately, 148, 134, and 180 participants' reviews from Studies 1, 2, and 3, respectively, were included in the present analyses. All reviews were checked for spelling errors that might lead to words being miscategorized; while many spelling errors were evident in the reviews, none of the misspelled words belonged to the PE or NE word categories, so were not altered.

Measures and Procedure

During each of the three experimental studies, participants undertook an AVI as if they were applying to "CSA Supermarkets." Full details of all measures and study procedures are documented in Chapters 4, 5, and 6. Upon completion of their AVI, participants were prompted to draft an online review detailing their experience and perceptions of the hiring organization. This request was framed within the context of a fictional online review platform, "RateYourApplication.com." Participants were informed: "*After your video interview, you decide to leave a review about CSA Supermarkets on a site called 'RateYourApplication.com,' which allows job seekers to share their candidate experiences online about the selection process.*" They were then asked to write three to four sentences about their feelings towards both CSA Supermarkets and their AVI experience.

<div align="center">

Results

</div>

Bivariate Pearson correlations were calculated between all variables and inspected to examine the strength of relationships between the three LIWC word categories (PE, NE, and WC), and the applicant reactions variables. To easily compare the results between Studies 1, 2, and 3, all means and standard deviations are presented in Table 7.1, and all correlations

between the applicant reactions variables and the three LIWC word categories are contained

within Table 7.2.

Table 7.1

Means and Standard Deviations for Variables Across Studies 1, 2, and 3 from Participants

Retained for the LIWC Analysis

Variable	Study 1 (N = 148)		Study 2 (N = 134)		Study 3 (N = 180)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Gender	0.66	0.52	0.60	0.61	0.61	0.52
Age	23.89	3.51	42.70	12.18	39.11	13.18
Relatedness-need satisfaction	3.20	0.97	3.35	0.93	3.22	0.83
Fairness perceptions	3.42	0.83	3.70	0.93	3.50	0.89
Organizational attraction	3.59	0.86	3.72	0.96	3.65	0.86
Recommendation intentions	3.68	0.91	3.91	0.96	3.74	0.88
Candidate experience	5.03	1.18	5.34	1.20	4.94	1.08
State anxiety	2.22	0.67	2.26	0.70	2.93	0.71
AVI evaluation score	3.15	0.81	3.52	0.65	3.32	0.77
Word count	46.69	22.29	44.40	20.18	53.74	23.92
Positive emotion words (%)	5.74	3.92	5.23	3.72	4.28	3.10
Negative emotion words (%)	1.09	1.64	1.02	1.53	1.37	2.06

Word Count

The results for participants' review length were mixed between studies. Experimental

Study 2 saw small to medium negative correlations between WC and relatedness need

satisfaction, fairness perceptions, organizational attraction, recommendation intentions, and

candidate experience. None of these results replicated in either Experimental Studies 2 or 3.

In Experimental Study 1 and Experimental Study 3, participants' AVI evaluation score

showed moderate positive correlations with review length, and in Experimental Study 2 the

only significant correlation (moderate, positive), was between state anxiety and WC.

Table 7.2

Correlations Between LIWC Categories and Applicant Reactions Variables Across Studies 1, 2, and 3

Variable	Word count			Positive emotion words			Negative emotion words		
	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3	Study 1	Study 2	Study 3
Gender	-.06	.12	-.08	.09	-.16	-.12	-.03	.07	.01
Age	-.02	.05	-.10	.05	-.06	.03	-.11	.06	.03
Relatedness need satisfaction	-.18*	-.16	-.08	.32**	.29**	.21**	-.18*	-.19*	-.18*
Fairness perceptions	-.21*	-.08	-.06	.34**	.22**	.27**	-.16	-.24**	-.23**
Organizational attraction	-.20*	-.04	.03	.20*	.22*	.11	-.06	-.06	.00
Recommendation intentions	-.16*	-.17	-.05	.33**	.23**	.32**	-.11	-.22**	-.22**
Candidate experience	-.19*	-.16	-.11	.33**	.26**	.33**	-.18*	-.31**	-.21'*
State anxiety	-.06	.22**	.13	.05	-.09	-.12	-.03	.14	-.01
AVI evaluation score	.19*	.05	.32**	-.06	-.13	-.03	.00	-.05	-.07

Note: $N = 148$ (Study 1); $N = 134$ (Study 2); $N = 180$ (Study 3); Gender coded as: Female = 0, Male = 1
*$p < .05$; **$p < .001$.

Positive Emotion Words

Across the three studies, participants' use of PE words showed medium positive correlations with relatedness need satisfaction, fairness perceptions, recommendation intentions, and candidate experience. Organizational attraction also showed medium positive correlations with the frequency of PE words in Studies 1 and 2, but not Experimental Study 3. State anxiety and participants' AVI evaluation score did not show any significant correlations with participants' use of PE words.

Negative Emotion Words

The opposite trend in results was observed for participants' use of NE words, however the correlations were generally slightly weaker, and fewer significant correlations were observed overall. Relatedness need satisfaction and candidate experience showed small to moderate negative correlations with the use of NE words across all three studies, while fairness perceptions and recommendation intentions only showed significant negative correlations with NE words in Studies 2 and 3. Organizational attraction, state anxiety, and AVI evaluation score did not correlate with NE words in any of the studies.

Discussion

The rise of digital technology has ushered in an era where individuals can freely share their experiences to a potentially large audience online. This democratization of feedback has created a two-pronged situation for organizations. On the positive side, organizations have access to a vast reservoir of unfiltered insights about how their organization and processes are perceived, including comments about from job applicants about their candidate experiences. On the other hand, if these online reviews are negative, they have the potential to be accessed by a broad audience, thereby jeopardizing an organization's brand reputation (Herhausen et al., 2019). To navigate this rich yet perilous landscape, this exploratory study applied LIWC to extract the text length, as well as positive and negative emotions from applicant reviews

about their candidate experiences. Preliminary findings underscore the potential advantages of integrating text analysis into applicant reactions research, suggesting an innovative way to gain deeper understanding and manage external perceptions.

One of the notable observations from this study is the correlation between Positive Emotion (PE) words and multiple applicant reactions variables such as relatedness need satisfaction, fairness perceptions, recommendation intentions, and candidate experience. This correlation is consistent with the notion that favorable emotions during the application process may lead to stronger relationships with the hiring organization and potentially drive positive word of mouth. Such findings underscore the importance of fostering a positive application experience, as the ensuing sentiments can be detected in text and have broader implications for the company's brand and attraction efforts (Hewett et al., 2016). However, while a positive sentiment was linked with organizational attraction in the first two studies, the third study diverged from this trend. This discrepancy raises questions about potential moderating variables or unique circumstances in Experimental Study 3's experiment that might have influenced these findings.

The observed negative correlation between Negative Emotion (NE) words and variables like relatedness need satisfaction and candidate experience was also somewhat illuminating, albeit to a weaker degree and less consistent than the PE word correlations. Given that NE words in reviews can be indicators of dissatisfaction or other negative feelings, the observed correlations underscore the significance of negative experiences. They suggest that such experiences may have tangible impacts on how connected applicants feel to the organization or how they perceive their overall experience (Park et al., 2012). However, the inconsistency in the correlations across the three studies, particularly with fairness perceptions and recommendation intentions, suggests that the relationship between expressed

negative emotions and these constructs may be more nuanced or influenced by external factors that cannot be explained in this brief investigation.

The results regarding the Word Count (WC) category (i.e., the length of the review) and its relationship with the other variables was mixed. Study 1 showed that longer reviews were associated with decreased satisfaction and attraction. This suggests that individuals tend to provide more in-depth feedback when their negative emotions are more intense, as supported by prior consumer branding research (e.g., Bowden, 2009; Monrouxe et al., 2014). However, Studies 1 and 3 did not corroborate these results. Another interesting result was the positive correlation between participants' AVI evaluation scores (which participants were blind to) and lengthier reviews in Studies 1 and 3. This finding may indicate that candidates who demonstrated strong communication skills during their AVI might naturally provide longer, more detailed feedback, drawing from their ability to elaborate on their experiences. (Hollandsworth et al., 1979, Rosales & Whitlow, 2019). The adeptness of these participants at expressing themselves might lead them to dissect various aspects of the interview process, offering nuanced perspectives that could account for the lengthier reviews. In essence, the same skills that might enable them to excel in verbal communication during an interview may be mirrored in their written feedback, resulting in more expansive and thorough reviews. Nevertheless, the inconsistencies across the three studies regarding WC warrant careful consideration. It is plausible that factors like the experimental nature of the task, the specific instructions given to participants, or even minor contextual differences in the way the three Studies were presented may have influenced participants' tendencies to write at length or concisely, and express varying levels of emotion. Further research should delve deeper into these factors to fully understand the dynamics at play.

There are several implications for organizations and researchers. Firstly, it is clear that text analysis tools, such as LIWC, can provide valuable insights into the emotional

undertones present in customer reviews in online marketing literature, and the current study provides initial support for using text analysis techniques to such as LIWC to analyze applicants' feedback, guiding improvements in the recruitment process. An online review rich in PE words may signify a positive candidate experience, whereas a dominance of NE words might be cause for concern for hiring organizations, signaling areas requiring intervention. Additionally, the length of the feedback may hint at the intensity of the applicant's reactions, providing another dimension for analysis.

Limitations and Future Research

There are several limitations to this study. The reliance on experimental participants may affect the generalizability of results to real-world settings. Furthermore, as the LIWC categories of PE and NE are broad, the specific emotions and sentiments that applicants experience might not be entirely captured. Future research should investigate additional word categories or alternative text analysis methods to refine the level of sentiment gained from the analysis. Future research should also look at examining online reviews from real-world applicants to investigate the mechanics of how applicants express their positive and negative sentiments about their selection experiences online.

In conclusion, the current exploratory study offers initial evidence for incorporating data-driven approaches in understanding applicant reactions as per the question posed by RQ6, emphasizing the potential of text analysis in deciphering the emotional undertones present in applicants' feedback. By tapping into the rich, unfiltered sentiments that applicants share online, organizations may gain a more authentic and holistic understanding of the applicant experience. As organizations strive to optimize their recruitment processes, such insights will be instrumental in crafting experiences that resonate positively with applicants, potentially providing applicants with more positive selection experiences, and protecting hiring organizations' brand reputations. Moreover, by proactively addressing concerns or

areas of contention highlighted through text analysis, organizations can further foster trust

and transparency in their hiring processes which may also help to improve applicant reactions

to their selection processes.

Chapter 8: General Discussion

Asynchronous Video Interviews (AVIs) have emerged as a prevalent assessment method in contemporary hiring practices (Dunlop et al., 2022), reflecting a broader trend towards technology-driven recruitment processes over recent decades (Woods et al., 2020). Yet, despite the growing adoption of AVIs, there remains a noticeable reluctance among applicants in embracing this assessment method (Roulin & Bourdage, 2023). It is crucial for practitioners and researchers alike to consider applicants' reactions to AVIs, as these reactions can influence critical factors such as an organization's reputation, access to top talent, and applicants' intent to accept or reapply for roles (Hausknecht et al., 2004; McCarthy et al., 2013). Moreover, the lack of human interaction within the AVI method has been identified as a particular source of contention, as evidenced by the qualitative content analysis of comments from real-life applicants and experimental participants as detailed in Chapter 3. This research program has therefore aimed to explore and understand the reasons for applicants' reactions towards AVIs, with a focus on how the lack of human interaction within the procedure affects applicant's psychological need for relatedness, and whether interventions seeking to create a sense of 'connection' between applicants and the hiring organization may help to foster positive applicant reactions to AVIs.

In undertaking this research program, I adopted basic psychological needs theory (BPNT; Ryan & Deci, 2017) as a theoretical lens to address potential gaps and offer fresh perspectives not fully covered by traditional approaches, such as Gilliland's (1993) organizational justice theory model. While organizational justice theory has been foundational in understanding applicants' perceptions of fairness across procedures, interactions, and outcomes, BPNT offers a complementary lens by emphasizing humans' innate psychological needs of relatedness, autonomy, and competence. Although BPNT has been widely applied in various domains, including organizational behavior, its application in

a selection context remains relatively unexplored. This research uniquely extends the application of BPNT to the selection process, thereby broadening its theoretical scope and understanding of human behavior within this context. Studying applicant reactions through a BPNT lens may not only provides an innovative perspective to assess applicant behaviors, but also uncover potential new pathways for future exploration, enhancing the overall understanding of how applicants' reactions to selection assessments are formed.

Examining the depths of human 'connection' within selection assessments by adopting a BPNT lens complements the organizational justice approach by bringing attention to nuances that might not be wholly captured when focusing solely on fairness and dignity. In asynchronous environments like AVIs, where traditional interactional touchpoints might be missing or altered, BPNT's emphasis on relatedness may allow a deeper exploration into how such changes can impact an applicant's emotional and psychological state. While organizational justice theory offers invaluable insights into the fairness of processes and interactions, BPNT sheds light on fundamental human needs and the complexities of emotions and relationships. Leveraging these theories in tandem may offer a more holistic understanding of applicant reactions, acknowledging both the structural elements of fairness and the deeply-rooted human desires for connection, empathy, and meaningful engagement

Contributions of This Research Program

Qualitative Understanding of Applicant Reactions to AVIs

The first significant contribution of this research program is the qualitative examination of participants' experiences with AVIs, in enabling not only a methodical exploration of why applicants may view AVIs unfavorably, but also illustrating the efficacy of BPNT in researching and understanding applicant reactions. To briefly summarize Chapter 3, comments about perceptions of AVIs (and the hiring organizations that use this selection method) were collected firstly from (presumably) real-life job applicants via relevant

comment threads on Reddit, and then from experimental participants in Experimental Study 1. I performed a theory-directed content analysis, employing the three basic psychological needs of BPNT – relatedness, autonomy, and competence – as the main categories for classifying participants' comments. This qualitative assessment demonstrated that participants often discussed their experiences in terms of the satisfaction or dissatisfaction of BPNT's three needs, thereby offering initial evidence for the utility of BPNT as an effective theoretical framework through which to understand applicant reactions.

The most salient result from the qualitative analysis was the prevalence of comments relating to the psychological need for relatedness, the vast majority of which depicted a conspicuous dissatisfaction of this need. Given that one major difference between traditional interviews and AVIs is the lack of the 'human' element, real-time human interaction, it is unsurprising that the need for relatedness was the psychological need most mentioned, and most unsatisfied, in relation to an AVI experience. The relative importance of this need in the context of AVIs, compared to the needs for autonomy and competence, helped to frame the larger focus of this dissertation specifically on the need for relatedness.

This qualitative study holds significance as it is the first known investigation that systematically explores applicants' reactions to AVIs. The insights derived from the study illuminate the factors influencing the prevalent dissatisfaction among applicants regarding AVIs, and also which elements of the assessment that may be positively perceived and appreciated by applicants. As such, these findings open new avenues for further empirical investigations to enable researchers and practitioners to enhance AVI design practices with a candidate-centered approach, and to consider the use of BPNT principles when doing so.

The Layered Approach to Experimentally Testing Relatedness-Supportive Interventions

A particular uniqueness of this research program's experimental exploration lies in its layered approach, with each study examining a progressively narrower level at which relatedness-need satisfaction interventions may be strategically targeted. The three levels were "generally-targeted" (Experimental Studies 1a and 1b), "group-targeted" (Experimental Study 2), and "individually-targeted" (Experimental Study 3), which are explained in more detail in the following sections. This layered approach evolved throughout the research program in response to the results of each study. Some outcomes yielded unexpected findings, necessitating a re-evaluation and exploration of additional theories that are well established in explaining how human relationships and connections are formed. Each new insight guided the development of interventions aimed at enhancing relatedness satisfaction within the context of AVIs, and led to critical considerations about the utility and effectiveness of previously established relatedness-supportive interventions in an AVI setting, which I will outline in later sections of this General Discussion.

Experimental Study 1: A 'Generally-targeted' Relatedness-Supportive AVI Intervention

Experimental Studies 1a and 1b utilized a 'generally-targeted', or 'one-size-fits-all' approach to delivering need-supportive communication during an AVI. In these studies, all participants in experimental conditions watched the same video materials, ensuring that each participant received the same relatedness-supportive content during their AVI. While preliminary results in Study 1a (where participants watched the video materials but did not complete an AVI) revealed an increase in relatedness satisfaction relative to a strictly-professional communication tone, these findings were not replicated during Study 1b where participants were also tasked with completing an entire AVI. The inconsistent findings suggest that, while relatedness-supportive interventions may enhance relatedness-need

satisfaction in certain asynchronous communication situations, they might not effectively

mitigate the impersonal elements *inherent to the whole AVI experience*. Warm and supportive

communication, as adopted in the Experimental Study 1 intervention, has been shown to

consistently support relatedness needs across various contexts, including health (Ntoumanis

et al., 2020), organizational behavior (Slemp et al., 2021), education (Sparks et al., 2015),

online learning (Butz & Stupnisky, 2017; Hartnett, 2015; Fabriz et al., 2021), and

asynchronous consumer marketing (Gilal et al., 2019; Japutra, 2022). Given these findings, it

was anticipated that relatedness-supportive communication would also be effective in an AVI

setting. However, the intervention's limited impact in the AVI context emphasizes the

distinct nature of the assessment, highlighting a pressing need for more in-depth exploration.

Experimental Study 2: A 'Group-targeted' Relatedness-Supportive AVI Intervention

The second experimental study fine-tuned the approach of Experimental Study 1.

Instead of the broader, 'generally-targeted' relatedness-supportive approach of the first study,

the refined intervention aimed to foster a sense of group belonging among participants. After

exploring communication dynamics in additional asynchronous contexts, I adopted principles

from the construct of *mediated immediacy* - frequently employed to gauge and explain human

connection within asynchronous learning settings - for use within an AVI intervention.

Mediated immediacy originates from the concept of *psychological immediacy*, which denotes

the perceived psychological closeness between communicators. Mediated immediacy

specifically refers to this sense of closeness when communication occurs through

technological mediums. In online education contexts, studies indicate that mediated

immediacy is enhanced when instructors introduce themselves and when students view their

instructor as having a personal connection to them (O'Sullivan et al., 2004). Therefore, in the

videos embedded into Experimental Study 2's AVI, the identity of the hiring organization's

representative was adjusted between experimental conditions, introducing themselves to

participants as either the participant's specific AVI evaluator ("evaluator identity known" condition), or as a generic employee from the hiring organization who has no direct connection to the participant ("evaluator identity unknown" condition).

Although the use of relatedness-supportive communication in Experimental Study 1 did not significantly enhance relatedness need satisfaction within the AVI, I revisited this approach due to its established effectiveness in various contexts throughout the BPNT literature. This decision was driven by the desire to ascertain if perhaps there was an overlooked limitation or a weakness in the intervention within Experimental Study 1. Consequently, the conditions of "evaluator identity known" and "evaluator identity unknown" were further differentiated by the communication style: Relatedness-supportive versus strictly-professional. In the relatedness-supportive dialogue, the evaluator communicated that the participants belonged to their specific batch of candidates under evaluation and displayed genuine care for this group of applicants. This refined approach aimed to foster a stronger sense of group inclusion and provide participants with the feeling that they had a distinct individual who they could potentially form a direct connection with, contrasting with the broader approach in Experimental Study 1.

Contrary to what was hypothesized, the outcomes of Experimental Study 2 offered unexpected insights. While warm and empathetic communication did elevate participants' perceived psychological closeness (i.e., mediated immediacy) with the hiring organization, it did not lead to a significant increase in relatedness satisfaction. Additionally, revealing the identity of the evaluator to participants improved neither mediated immediacy perceptions nor relatedness satisfaction. These results suggest that the specific nature of AVIs, being inherently one-way and impersonal, may restrict the ability to create a genuine sense of connection. This disparity in results may be attributed to the distinct dynamics of other asynchronous environments like online learning, compared to AVIs. While online students

frequently interact asynchronously with their educators, reinforcing their place in the instructor's "group," applicants in an AVI have a single 'encounter' with the video representative, and may not necessarily expect to meet them personally in the future. As per the need to belong theory (Baumeister & Leary, 1995), this singular interaction might lack the depth and repetition required to truly nurture relatedness satisfaction.

Additionally, while revealing the evaluator's identity to participants aimed to humanize the AVI process and foster psychological closeness and relatedness satisfaction, this strategy was associated with poorer performance scores than participants who did not know the identity of their evaluator. This unexpected outcome challenges the conventional wisdom that greater transparency and personal connection enhances the interview experience (e.g., Deacon et al., 2023; Mirowska et al., 2022). Taken together, these results emphasize the complexity of human communication and raise questions about the efficacy of merely replicating F2F communication strategies in a digital context, and indeed, how effectively asynchronous communication strategies translate across differing asynchronous contexts.

Experimental Study 3: An 'Individually-targeted' Relatedness-Supportive AVI Intervention

Up until this point in the research program, established interventions grounded in BPNT such as relatedness-supportive communication (Experimental Studies 1 & 2), and strategies based on mediated immediacy (Experimental Study 2), had not engendered a meaningful connection to the hiring organization for participants. This suggests that relatedness-supportive interventions might function differently in AVI settings compared to more prominently researched synchronous or asynchronous environments. Upon revisiting the qualitative study, a prominent theme from the qualitative study remained unexplored by the first two experimental studies: Many participants identified a lack of reciprocity in effort from the hiring organization as a major factor influencing their unfavorable perceptions of AVIs. Reciprocity is a central tenet of Social Exchange Theory, a framework that explains

pivotal dynamics in relationship cultivation across cultures and myriad contexts (Blau, 1964; Cropanzano & Mitchell, 2005). The intervention developed as part of Experimental Study 3 was therefore designed to cultivate participants' perceptions of the hiring organization's reciprocal effort in assessing their application, delivered as personalized messages embedded within the AVI.

The third experimental study adopted a novel approach in personalizing AVIs to individual participants, and once again further narrowed the scope of the intervention's target relative to the previous two experimental studies. The intervention developed for Experimental Study 3 incorporated text-based messages with participants' personal details at several points during the AVI procedure. These messages were designed to appear as if they were written specifically for each participant by a member of the hiring organization who had reviewed the participants' initial application. Targeting individuals directly represents the most specific and personal level of intervention, and this nuanced approach proved successful in offering the only intervention of the three experimental studies able to improve relatedness need satisfaction during an AVI. The use of personalized messages intended to remedy participants' sense of imbalance in the reciprocity from the hiring organization during a typical AVI. Namely, by taking the time and making the effort to craft such personal messages, the 'recruiter' indicated the hiring organization's genuine investment in the participant's application, signaling true interest in them as individuals.

Experimental Study 3's empirical findings show initial support for integrating principles from social exchange theory into BPNT research to improve relatedness need satisfaction in AVIs. Indeed, the results of Experimental Study 3 highlight the importance of perceived reciprocity in the formation of the relationship between applicants and the hiring organization during a selection process. The nature of the one-way interaction within an AVI inherently removes the 'back-and-forth' social reciprocity elements present in a typical F2F

interview. Therefore, making explicit demonstrations of reciprocity towards applicants during an AVI process may prove crucial to redress this sense of imbalance. Experimental Study 3 showed that personalized messages effectively communicated the hiring organization's time and effort investment, strengthening the applicant's sense of value and connection to the organization.

Treating Applicants Individually to Foster Value and Connection

Results of this dissertation's experiments suggest that, of the three interventions tested, the most effective strategy to foster relatedness satisfaction in AVIs was to target the individual directly, rather than attempting to engender feelings of group membership or through employing a 'one-size-fits-all' approach to demonstrating relatedness-supportive behaviors. This insight aligns with the theoretical underpinning of relatedness need satisfaction, which centers on the innate human requirement to perceive that one's individual needs and uniqueness are recognized and cared for by significant others. The implication that AVIs can be perceived as *impersonal* lends support to the notion that *personalizing* them might indeed be the most effective means of fostering relatedness satisfaction. The positive relationship between personalized content and relatedness need satisfaction adds to the existing literature, highlighting how even subtle cues of personal connection can have significant effects on the applicant's psychological experience. The exploration of personalized messages also builds on the broader theme of finding ways to humanize digital assessment practices. In an era where automation and efficiency often overshadow interpersonal connections, findings from Experimental Study 3 regarding the effects of personalization stands as a powerful reminder of the continued importance of human connection.

The collective findings of the three experimental studies presented in this dissertation suggest that the complexity of satisfying relatedness needs in asynchronous environments

presents both a conceptual and practical challenge. While synchronous interactions have been extensively studied in BPNT literature, with well-established communication strategies showing capability in fostering relatedness satisfaction, results from Experimental Studies 1 and 2 show that these strategies may not necessarily translate to asynchronous environments. Additionally, this dissertation contains some of the few studies applying BPNT in a selection context to date. As such, our understanding is still limited regarding how the high-stakes nature of job applications might influence relatedness satisfaction. The nuances of communication, authenticity, and individual connection in this context could be particularly significant, indicating potential boundary conditions for achieving relatedness satisfaction. As researchers embark on dissecting the intricate fabric of AVIs and broader asynchronous environments, we must fully explore these complexities, recognizing that relatedness need satisfaction may be more arduous to achieve in these settings.

Potential Boundary Conditions to Satisfying Relatedness Needs Asynchronously

While BPNT suggests that the need for relatedness is universal, the ways in which this need is realized and satisfied might be contingent on the communication environment. Our current understanding of relatedness satisfaction most predominantly draws from face-to-face communication dynamics, where interpersonal cues such as vocal intonations, facial expressions, and immediate feedback play an instrumental role in relationship building. This immediacy and richness of interaction in face-to-face environments might suggest that some traditional notions of relatedness satisfaction could face conceptual challenges when transposed to asynchronous communication environments. Asynchronous environments, characterized by temporal delays and a lack of immediate non-verbal feedback, are increasingly prevalent in our digitized world and introduce conditions that may act as barriers or modifiers to the traditional understanding of relatedness satisfaction.

Satisfying Relatedness Needs in Other Asynchronous Contexts: Education, Consumer

Marketing, and Organizational Behavior

While a large number of BPNT studies investigate synchronous communication environments, numerous studies have also studied asynchronous environments through the lens of BPNT. Within the education context, online learning environments present an illustration of this shift. Unlike the synchronous rapport built in physical classrooms, learners in digital spaces frequently interact through delayed mediums such as discussion forums, recorded lectures, and email feedback. While these mechanisms provide unparalleled flexibility for students and instructors, scholars such as Erichsen et al. (2011), have argued that these mechanisms might not offer the same level of engagement and can potentially foster feelings of detachment and isolation within students. However, other scholars have shown that it is possible to foster relatedness satisfaction in online learning environments through increasing the instructor's personal disclosure, using warm communication tones, and frequent interactions on student discussion boards (Borup et al., 2012; Butz & Stupnisky, 2017; Hartnett, 2015; Fabriz et al,. 2021). Altogether, these findings indicate that, despite the challenges posed by asynchronous communication in online education, BPNT principles have shown efficacy in this environment in effectively addressing and surmounting these obstacles.

Similarly, the consumer marketing literature offers insights into the nuances of asynchronous communication and its implications for relationship formation in online environments. The transition from in-person customer service to digital platforms has reshaped the customer-brand dynamic (Heinonen, 2018). Traditional touchpoints, where immediate feedback and real-time interactions reinforced brand trust and loyalty, are now often replaced or complemented by asynchronous channels (Dwivedi et al., 2021). This change in communication mediums can lead to reduced brand loyalty and brand affect, given

the delayed responses and the potential for misinterpretation in the absence of non-verbal cues (Eelen et al., 2017; Fatima et al., 2022; Orzan et al. 2016). However, relatedness supportive interventions such as the brand's use of personal, warm communication content have proven successful in fostering relatedness satisfaction online (Gilal et al., 2019, Japutra, 2022), along with other connection-building strategies such as belonging to online brand communities (Snyder & Newman, 2019).

Within organizational behavior research, Baltes et al. (2002) have highlighted the unique challenges and benefits of asynchronous communication in group decision-making tasks. While asynchronous communication offers considerable advantages similar to those offered by AVIs in this context, such as flexibility and accessibility, it also demands a specific set of relational competencies to replicate the interpersonal dynamics seen in synchronous communication. Baltes and colleagues cautioned against an "unbridled rush by organizations to adopt computer-mediated communication as a medium for group decision making" (p.156). The warning from these authors' is one that organizations utilizing AVIs in their selection systems should probably also heed, as the rapid surge in AVI adoption in recent times (Dunlop et al., 2022) has significantly outpaced our comprehension of the relational complexities specific to AVIs, and their subsequent impact on applicant reactions and their performance during interviews.

Exploring Relatedness Satisfaction in Emerging Contexts: A Research Imperative

The asynchronous contexts outlined above demonstrate that communication and relationship-building dynamics may differ between in-person and asynchronous environments, but that it is still possible to foster relatedness satisfaction in the absence of real-time human interaction. In the context of selection interviews, these differences in dynamics might present challenges in understanding applicant reactions to modern assessments such as AVIs according to traditional frameworks that have been more

prominently researched in synchronous environments. In F2F interviews, the immediacy of feedback and non-verbal cues from the interviewer tend to foster positive applicant reactions through perceptions of fair interpersonal treatment (e.g., Madigan & Macan, 2005; Ryan & Huth, 2008; Truxillo et al., 2017). Temporal delays, the absence of immediate emotional resonance, and the potential for miscommunication may act as significant barriers in satisfying traditional organizational justice rules of interpersonal treatment during AVIs, and potentially also in satisfying relatedness needs. In essence, while the fundamental human need for connection remains a constant, the ways in which this need is manifested and satisfied in asynchronous environments may be evolving, and as yet unknown. As we continue to rely more on digital channels, understanding these potential boundary conditions becomes paramount. It underscores the need for an enhanced theoretical framework that can integrate the principles of BPNT with the nuances of asynchronous communication, ensuring that our understanding of human psychological needs remains relevant and robust in the digital age.

The considerations outlined above point towards a need for a broader examination of the concept of relatedness within the context of asynchronous communication, and within contexts that have not typically employed this theoretical framework, such as assessment and selection. Recognizing and understanding these nuances may entail an interdisciplinary approach, combining insights from psychology, communication studies, and technology design. Such an integrative perspective could lead to the development of novel methods, technologies, or practices designed to foster relatedness in these complex and varied digital spaces, thus redefining and enriching the traditional understanding of relatedness need satisfaction in the contemporary landscape of human interaction.

The domain of assessment and selection provides a particularly poignant context in which to explore the dynamics of relatedness-need satisfaction within asynchronous

communication environments. As job applicants navigate the process of seeking employment, they often engage in both synchronous and asynchronous interactions with prospective employers. While F2F interviews and real-time virtual meetings may facilitate a sense of relatedness with the hiring organization, asynchronous communication methods such as AVIs, email correspondences, and automated application systems might create barriers to achieving that same level of connection. Without immediate feedback and personalized engagement, applicants may feel a sense of detachment or ambiguity, factors that could hinder their perception of fit and alignment with the organization.

In traditional F2F interviews or synchronous video interviews, the presence of an actual interviewer from the hiring organization creates an immediate human connection. The candidate can see and respond to the interviewer's reactions, expressions, and tone, facilitating rapport and mutual understanding. The presence of an interviewer, representing the organization, values, allows the candidate to establish a connection not only with the individual but also with the hiring organization as a whole. However, attempting to translate relatedness-supportive strategies into AVIs presents unique challenges, as demonstrated by the non-significant findings in Experimental Studies 1 and 2. Even with advances in technology, such as emojis or expressive language, capturing the subtlety and richness of synchronous, warm communication can be elusive. Despite using relatedness-supportive communication in Experimental Studies 1 and 2, the delay and detachment inherent in AVIs may have diminished the effectiveness of relatedness-supportive strategies that may otherwise prove effective in F2F interviews.

Individual differences may also add another layer of complexity to satisfying relatedness needs in AVIs, or in asynchronous communication environments more broadly. Preferences, needs, and comfort levels with asynchronous communication may vary widely among individuals, which may influence how relatedness needs may satisfied. The diverse

applicant reactions to AVIs highlight the importance of a personalized approach that recognizes and accommodates these individual differences, ensuring that relatedness needs are met across varied populations. Indeed, strategies that satisfy relatedness in one context may potentially be wholly insufficient or even counterproductive in another. As the landscape of asynchronous communication continues to evolve, it may become imperative for organizations to embrace adaptable strategies, tailored to individual needs, to ensure that the innate human need for relatedness can be consistently addressed across diverse contexts and populations.

Finally, the dynamic nature of social norms and their evolution in response to technological advancements and societal changes may add to the potentially multifaceted boundary conditions of relatedness need satisfaction. The gradual shift from synchronous to asynchronous communication in various contexts has occurred over a span of time, allowing individuals and organizations to adapt and even embrace these changes (Almaatouq et al., 2013). This acceptance has been facilitated by the slow integration of these communication channels into daily life, allowing for the development of new social norms and expectations that acknowledge the benefits of flexibility and convenience. However, in more unexpected or high-stakes scenarios such as job applications, the swift introduction of asynchronous selection methods such as AVIs may be considerably more jarring (Lukacik et al., 2020). The employment process often engenders significant emotional investment and anxiety for applicants, who look for immediate feedback and clear communication as markers of success or failure (McCarthy et al., 2021; Powell et al., 2018). The detachment and delay associated with asynchronous communication in this context may potentially exacerbate these emotions, which may then lead to negative reactions and a diminished sense of connection with the hiring organization. The very traits that make asynchronous communication appealing in other contexts - its convenience, standardization, and scalability - may be perceived

negatively in the high-stakes, personalized context of job applications. Contextual sensitivity becomes paramount, as relatedness need satisfaction might be significantly influenced by the nature of the interaction, the stakes involved, and the emotional investment of the participants. As norms shift and adapt, so too must our understanding of relatedness satisfaction, ensuring that theoretical frameworks and practical applications remain responsive to the ever-changing environment of human interaction.

A critical observation concerning AVIs pertains to the perceived absence of mutual reciprocity within the assessment, an essential component in the formation of relationships. Historically, mutual reciprocity has been instrumental in nurturing sentiments of connection and adhering to the standard social constructs of relationship dynamics. This absence of foundational relational mechanics with an AVI poses a question: Can traditional interventions truly support relatedness in an environment where the rudimentary building blocks of relationships are absent? This perspective underscores the imperative to re-evaluate, and possibly refine, interventions originally tailored for contexts where mutual reciprocity is more organically achieved. Moreover, it implies that the design of AVIs might necessitate a primary focus on instilling foundational relationship principles and norms as a prerequisite for fulfilling the deeper psychological needs of applicants. In conclusion, the inefficacy of conventional relatedness interventions in AVIs underscores the need for a paradigmatic shift in understanding relatedness in asynchronous or high-stakes environments. Rather than merely extending existing interventions, there may be a requirement for novel approaches that specifically cater to the unique challenges presented by these environments. Recognizing the distinction between synchronous and asynchronous relational dynamics, and adapting to these differences, may be crucial for ensuring that relatedness needs are adequately addressed in contexts underexplored by BPNT.

In summary, the studies presented in this dissertation illustrate the complexities of translating synchronous relatedness-supportive strategies to asynchronous environments, particularly within the realm of AVIs. The evidence highlights that addressing relatedness need satisfaction in AVIs may not be adequately addressed through broad or group-centric interventions, or through relatedness-supportive strategies whose efficacies in fostering need satisfaction are well-documented in synchronous environments. Instead, an emphasis on individualized interventions and personalization emerged as essential in enhancing relatedness satisfaction during an AVI. Experimental Studies 2 and 3 demonstrate the potential benefits of leveraging concepts from other theories focused on relationship formation and maintenance, such as social exchange theory. There is merit in investigating whether principles from other complementary theories can also provide innovative techniques to address relatedness needs, extending beyond AVIs to broader asynchronous communication domains that remain underexplored. The myriad challenges and opportunities outlined in this dissertation indicate a pressing need to rethink our strategies for relatedness need satisfaction. Such strategies should be both attuned to the specific context and technologically savvy, ensuring that the intrinsic human desire for connection remains fulfilled in our ever-evolving digital era.

Measuring Applicant Reactions Through Text Analysis

Another novel element of this dissertation is the exploration of how quantitative text analysis using LIWC may be able to provide valuable insights into how applicant reaction affect applicants' written reviews of their application experiences. Reviews written on sites such as Glassdoor.com, Seek.com, or even subreddit communities on Reddit.com are highly visible and accessible to potential applicants, and have the potential to affect applicants' perceptions of hiring organizations and intentions to pursue a role. Indeed, the initial qualitative study that informed the initial direction of this dissertation was partly inspired by

the frustrated comments from disgruntled job applicants who expressed their negative

reactions towards AVIs and the hiring organizations that use them via the r/recruitinghell

subreddit. It seemed fitting then, to analyze participants' written expressions of their

candidate experience in a more controlled and systematic manner, through participants'

written reviews of the fictional hiring organization they had completed an AVI for as part of

the experiment.

To briefly summarize the results from Chapter 7, participants' scores for the

relatedness-, competence-, and autonomy satisfaction, fairness perceptions, organizational

attraction, recommendation intentions, and overall candidate experience (henceforth referred

to as 'applicant reactions variables' for brevity) were correlated with the percentage of

'positive emotion' and 'negative emotion' words used in their written review, as per these

two LIWC word categories. Significant results showed medium positive correlations between

the applicant reactions variables and the 'positive emotion' word category, and small to

medium negative correlations between the 'negative emotion' word category and the

applicant reactions variables (see Chapter 7 for the full results). Interestingly, correlations

involving the 'negative emotion' word category were less substantial across other variables.

This could be attributed to most participants in each study reporting at least a 'somewhat

positive' candidate experience. As such, the prevalent finding was that a better candidate

experience yielded more positive reviews.

Another interesting discovery pertained to the relationship between the word count of

a review and the polarity of applicant reactions. Specifically, a significant negative

correlation was sometimes observed between word count and the applicant reactions

variables, and positively correlated when associated with state anxiety. This pattern could

signify that applicants who have encountered a poorer experience may be inclined to write

longer reviews as an outlet for their dissatisfaction. In two of the three studies, participants

who wrote longer reviews also tended to receive higher AVI evaluation scores, similar to recent findings by Koenig et al, 2023 using machine learning text analysis methods. Longer responses might indicate a deeper engagement or understanding of the subject matter, and during an AVI context this may be perceived by evaluators as thorough and well-thought-out responses, leading to higher scores. However, it is essential to note that the length of the AVI responses were not considered in this study, and other factors may indeed be at play which future research could explore.

Though this is an initial study, its implications could provide directions for future research in understanding applicant reactions. Firstly, these are the first-known results to apply quantitative text analysis in an applicant reactions context, establishing a precedent for using objective text measures to understand subjective human experiences. Secondly, this offers a fertile avenue for further research, opening doors to how researchers and practitioners can measure less tangible facets of applicant reactions. By translating text into quantifiable data, new dimensions of applicant satisfaction and dissatisfaction can be explored, thereby augmenting the existing tools and techniques for human resource management. Indeed, future research could investigate the efficacy of this methodological approach in serving as a sophisticated tool for human resource professionals to gauge real-time applicant sentiment, thereby facilitating more empathetic and personalized engagement strategies. In light of these findings, it becomes evident that leveraging quantitative text analysis within the domain of applicant reactions holds transformative potential for the realm of human resource management. Integrating data-driven techniques such as text analysis with traditional practices has the potential to redefine the ways in which human resource professionals understand and engage with applicants, and provides direction for future research. Additionally, the advent of large language models (e.g., ChatGPT) opens up a plethora of new opportunities for both researchers and practitioners (Budhwar et al., 2023). These

advanced models can not only enhance the efficiency and effectiveness of text analysis but also offer innovative ways to interpret and understand the vast amounts of data generated during the recruitment process. Consequently, the integration of these models into the human resource management domain is promising for the evolution and modernization of the practices within this field..

Practical Implications

This research program offers several practical implications in addition to those already discussed. The contrasting results between Experimental Study 1a and Experimental Study 1b have significant ramifications for both organizational methodologies and subsequent research endeavors. Practically speaking, the varied results suggest caution in assuming that a straightforward implementation of empathy and humor, or similar relatedness-supportive communication techniques, within AVI communication will invariably enhance the applicant experience. Such an approach might indeed be capable in presenting an immediate image of an inviting organizational culture following an applicant's viewing of the organizational video message. However, organizations aiming to genuinely humanize their AVI procedure should be wary of overly generic strategies that may not resonate universally. The impact of these strategies, while initially positive, may be short-lived throughout the AVI's duration. This finding also has implications for researchers experimentally investigating applicant reactions to AVIs. Some existing experimental AVI studies introduce interventions to participants, who then evaluate their reactions using post-measures, without undergoing the entire AVI process. This methodology mirrors the approach of Experimental Study 1a, which registered significant outcomes for variables related to applicant reactions. However, these results were not replicated in Experimental Study 1b, where participants experienced the full AVI. Consequently, for a comprehensive understanding of applicant reactions, researchers should ensure participants engage with the

complete AVI. This would offer a more authentic insight into the true impact of their interventions on applicant responses.

The results derived from Experimental Study 2, which introduced an evaluator's identity to participants undergoing an AVI, also carry potential implications for practice. Practitioners might intuitively anticipate that revealing the identity of an evaluator would foster a closer connection or even a sense of relatability between the applicant and the hiring organization (as indeed, this researcher had hypothesized). Contrary to these expectations, findings indicated that participants who were aware of their evaluator's identity did not report any heightened sense of closeness or affiliation to the hiring organization. Instead, this awareness actually led to a modest decline in their performance compared to those in the control group, who remained oblivious to their evaluator's identity.

These outcomes suggest that unveiling the identity of the evaluator might have unintended adverse consequences for applicants, which cannot be unequivocally explained by the present research. Knowing the evaluator's identity may inadvertently add an additional layer of stress or performance pressure on the applicants, although participants in the 'evaluator identity known' conditions did not report significantly higher anxiety levels than participants who were not aware of their evaluator's identity. One other potential explanation is that knowing the evaluator's identity may trigger concerns over judgment or the need to meet specific expectations, thereby affecting their performance adversely, however these facets were not explored within Experimental Study 2. For instance, would participants' reactions have differed if the 'evaluator' had been identified as being a store manager, or the CEO, or a potential future colleague? Does the similarity of the evaluator to the applicant (e.g., gender, race, perceived socioeconomic status) affect applicants' reactions? Potential moderators such as these are currently underexplored, therefore organizations should hence exercise caution and deliberate consideration when deciding to reveal the identities of

evaluators during the AVI process until the adverse effects on performance are more clearly understood. It is crucial for organizations to weigh the potential drawbacks against the presumed advantages of such transparency, ensuring that the primary aim of achieving a fair, objective, and effective evaluation of applicants is not compromised.

Experimental Study 3's insights into personalized messaging also bear tangible implications for recruitment and selection strategies. These insights suggest that by tailoring recruitment experiences to cater to individual applicants, organizations can potentially amplify an applicant's sense of affiliation with the institution during the AVI. Crucially, the mode of personalization in this study was designed to convey that a representative of the hiring entity had devoted both effort and emotional commitment in crafting these messages, thereby fostering a perception of mutual effort and reciprocity from the recruiting side. However, a direct replication of the intervention used in the study may not be advisable for real-world scenarios. The participants in the experimental group, in essence, received standardized messages with only specific personal details altered. In a real-world context, such an approach could be perceived as insincere if applicants come to understand that the messages were not genuinely tailored for them by an authentic employee who had invested time reviewing their preliminary application. Therefore, while Experimental Study 3 effectively serves as a foundational 'proof-of-concept' intervention model, it emphasizes the necessity of genuinely individualizing the AVI experience.

In light of Experimental Study 3's findings, future research should prioritize the exploration of authentic personalization techniques in the AVI process. Such research should aim to ensure genuine engagement from the organization while maintaining the inherent scalability benefits of the assessment technique. Herein lies the potential of large language models (LLMs, e.g., ChatGPT). The advent of LLMs presents an opportunity to enhance the automatic tailoring of content, moving beyond the simplistic "copy and paste" approach used

in Experimental Study 3. LLMs, with their advanced natural language processing capabilities, can potentially generate personalized messages that take into account the applicant's specific characteristics and responses, thereby fostering a sense of genuine engagement and effort from the recruiting organization. Moreover, LLMs might also be leveraged to assist with delivering probing questions during the AVI process, providing personalized and contextually relevant prompts that can guide the applicant and the interviewer in a more meaningful and engaging interaction. Ultimately, the integration of LLMs into the AVI process potentially offers a novel way to personalize and enhance the applicant's experience while maintaining the scalability of the assessment technique. This approach holds the potential to transform the way organizations conduct their recruitment processes, making them more efficient, engaging, and ultimately, more effective.

Limitations

Investigating applicant reactions to AVIs through experimental studies utilizing participants recruited from an online research participant platform, rather than real applicants, presents certain limitations that warrant careful consideration. Firstly, the lack of a high-stakes situation in experimental studies may not accurately replicate the emotional and psychological context faced by real job applicants. In a genuine job application scenario, the candidate is often under significant pressure, driven by the desire for employment and the weight of making a positive impression. This intensity of a real-life situation may substantially affect relatedness need support, engendering a heightened sense of connection or, conversely, increased apprehension and detachment. Experimental participants, not having a vested interest in the outcome, may respond differently to the same stimuli, leading to findings that may not fully capture the complexity and nuance of the real-world experience.

Secondly, in experimental settings, the hiring organization's employees featured in the videos might not be perceived as authentic or real enough to foster a meaningful connection. This perception may stem from the knowledge that the interaction is simulated and that the individuals in the videos have no actual bearing on the participants' lives or futures. Consequently, attempts to build relatedness and create a sense of connection through these videos may fall short, as participants may struggle to view the individuals as genuine representatives of the organization. In contrast, real applicants engaging with actual hiring organization representatives might experience a more profound sense of connection and relatedness, recognizing the tangible impact these individuals may have on their career trajectories depending on how the identity of the representatives in the videos are portrayed (e.g., 'general' employees, future colleagues or management, or the specific AVI evaluator as per the intervention in Experimental Study 2).

Finally, A notable attrition rate of approximately 25% between the two stages of Experimental Study 3 may indicate potential self-selection bias for those participants returning for the AVI stage of the study. The absence of data on the reasons for non-return complicates interpretations and raises questions about possible influences on the overall findings for Experimental Study 3. Overall, the constraints related to sample representativeness, experimental realism, and participant attrition underscore the complexity of studying human behavior and reactions in controlled laboratory settings. Future research should seek to test these interventions in real-world applicant samples to provide more generalizable insights into the dynamics of applicant reactions in the evolving context of AVIs.

Future Research

This research program offers several avenues for future research in addition to those already mentioned. One primary area worth delving into is the broader utilization of Basic

Psychological Needs Theory (BPNT) in the context of applicant reactions. While the current research focused on the need for relatedness due to the inherent lack of human interaction in AVIs, the findings also point to avenues for addressing the needs for competence and autonomy. For instance, autonomy might be fostered to empowering applicants with choices in their AVI process. This may be realized by designing AVIs to allow participants to rerecord their responses, or to ways to enable some form of meaningful choice during the AVI. The standard two-minute response time often chosen by employers (Dunlop et al., 2022) may inhibit applicants' ability to express their skills and authenticity, highlighting areas where future research could investigate different question styles and content. Designing AVIs with elements that applicants have control over may foster perceptions of autonomy, possibly translating to more positive reactions. Similarly, fostering competence-need satisfaction may help to promote positive applicant reactions. Researchers could experiment with providing applicants with different types of resources prior to the AVI, maybe including a 'how-to' guide that explicitly sets out what the evaluators look for when evaluating AVI responses, allowing applicants more guidance in how to aptly present their skills. Expanding the lens to understand these BPNT tenets could lead to more effective interventions, better AVI design, and an enhanced applicant experience.

This research also presents interesting implications for the personalization of AVIs. Although some of Experimental Study 3's findings on personalization did not retain statistical significance after accounting for familywise error, the general trend suggests that deeper personalization may have some potential to elevate applicant reactions, although additional research is required to empirically test this proposition further. Researchers should investigate innovative strategies that maintain AVI scalability while also ensuring personal touchpoints. Additionally, the SETSA scale, measuring the degree of social and economic transaction perceptions within the AVI in Experimental Study 3, requires further refinement

and validation. The intriguing interplay between social and economic transactions in selection assessments points towards myriad possibilities for improving applicant reactions in AVIs, and potentially in asynchronous settings more broadly. With this research serving as a foundational step, there lies abundant scope for testing and refining this scale across diverse recruitment scenarios and organizational contexts.

Conclusion

In conclusion, this dissertation represents an advancement both in theoretical understanding and practical application within the field of applicant reactions research. The research, encompassing one qualitative study, three experimental studies, and a novel approach using text analysis, sheds light on the intricate interpersonal dynamics inherent within an AVI assessment. Furthermore, it positions BPNT as a complementary theoretical framework, enriching the traditional perspectives like organizational justice in more fully understanding applicants' responses to selection assessments. Given the unique interpersonal dynamics and relationship-building challenges posed by digital environments and modern assessments such as AVIs, there arose a pressing need to explore beyond the confines of existing theoretical frameworks. Adopting BPNT as the theoretical lens for this dissertation allowed an exploration into designing AVIs that may help to satisfy applicants' deep-seated psychological need for relatedness, improving their sense of connection with the hiring organization. The consideration of reciprocity rules and acknowledgment of applicants as more than mere numbers emerges as a vital theme, reflecting the enduring value of the human touch. Overall, the research within this dissertation invites further investigation into the application of BPNT, personalization strategies, and innovative interventions within virtual selection assessments, aiming to foster a richer understanding of selection practices and a more candidate-centric approach to designing AVIs.

As we continue further into the digital age, understanding how to create and maintain human connection in asynchronous environments becomes not just a theoretical endeavor, but a societal imperative. Understanding the mechanics of interpersonal dynamics becomes even more critical in the high-stakes context of selection and assessment: Applicants are not just communicating, they are showcasing their personal value to a potential employer, often in high-pressure situations. Selection interviews can potentially determine pivotal life outcomes such as ensuring financial stability for applicants and their families, or advancing their professional trajectory. It is critical for hiring organizations to remember that applicants are not mere data points in a system, they are individuals deserving of respect, dignity, and genuine human engagement. The insights into how AVIs may be designed to satisfy applicants' core psychological need for relatedness afforded by this research program contribute to an understanding of how to more effectively design humane selection practices, aligning with the technological trends of the modern era. In conclusion, this research program contributes to both theory and practice by affording a richer understanding of humane hiring practices, technological advancements in selection, and the complexities of interpersonal dynamics in a connected yet increasingly technologically-mediated world.

References

Ababneh, K. I., Hackett, R. D., & Schat, A. C. H. (2014). The role of attributions and fairness
in understanding job applicant reactions to selection procedures and decisions.
Journal of Business and Psychology, 29(1), 111-129. https://doi.org/10.1007/s10869-013-9304-y

Acikgoz, Y., & Sumer, H. C. (2018). Predicting applicant withdrawal: An expectancy theory
perspective. *Military Psychology, 30*(2), 152-161.
https://doi.org/10.1080/08995605.2018.1425066

Acikgoz, Y., & Sumer, H. C. (2019). Implementation intentions as a predictor of applicant
withdrawal. *Military Psychology, 31*(5), 347-354.
https://doi.org/10.1080/08995605.2019.1637208

Albaram, B. M., & Lim, Y. M. (2023). Conceptualization social influence from the need to
belong perspective on psychological needs' satisfaction to share knowledge. *Heliyon,
9*(2), e13764. https://doi.org/ 10.1016/j.heliyon.2023.e13764

Almaatouq, A., Alhasoun, F., Campari, R., & Alfaris, A. (2013). The influence of social
norms on synchronous versus asynchronous communication technologies. Paper
presented at the Proceedings of the 1st ACM International Workshop on Personal
Data Meets Distributed Multimedia. https://doi.org/10.1145/2509352.2509398

Alzate, M., Arce-Urriza, M., & Cebollada, J. (2022). Mining the text of online consumer
reviews to analyze brand image and brand positioning. *Journal of Retailing and
Consumer Services, 67.* https://doi.org/10.1016/j.jretconser.2022.102989

Anderson, N., & Witvliet, C. (2008). Fairness reactions to personnel selection methods: An
international comparison between the Netherlands, the United States, France, Spain,

Portugal, and Singapore. *International Journal of Selection and Assessment, 16*(1), 1-

13.

Arrogi, A., Schotte, A., Bogaerts, A., Boen, F., & Seghers, J. (2017). Short- and long-term

effectiveness of a three-month individualized need-supportive physical activity

counseling intervention at the workplace. *BMC Public Health, 17*(1), 52-52.

https://doi.org/10.1186/s12889-016-3965-1

Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship

between organizational justice and work outcomes: Test of a social exchange model.

Journal of Organizational Behavior, 23(3), 267-285. https://doi.org/10.1002/job.138

Aryee, S., Walumbwa, F. O., Seidu, E. Y. M., & Otaye, L. E. (2012). Impact of high-

performance work systems on individual- and branch-level performance: Test of a

multilevel model of intermediate linkages: Correction to Aryee et al. (2012). *Journal

of Applied Psychology, 97*(3), 667-667. https://doi.org/10.1037/a0028116

Baltes, B. B., Dickson, M. W., Sherman, M. P., Bauer, C. C., & LaGanke, J. S. (2002).

Computer-mediated communication and group decision making: A meta-analysis.

Organizational Behavior and Human Decision Processes, 87(1), 156-179.

https://doi.org/ 10.1006/obhd.2001.2961

Basch, J. M., Melchers, K. G., & Büttner, J. C. (2022). Preselection in the digital age: A

comparison of perceptions of asynchronous video interviews with online tests and

online application documents in a simulation context. *International Journal of

Selection and Assessment, 30*(4), 639-652. https://doi.org/ 10.1111/ijsa.12403

Basch, J. M., Melchers, K. G., Kegelmann, J., & Lieb, L. (2020). Smile for the camera! The

role of social presence and impression management in perceptions of technology-

mediated interviews. *Journal of Managerial Psychology, 35*(4), 285-299.

https://doi.org/10.1108/JMP-09-2018-0398

Basch, J. M., Melchers, K. G., Kurz, A., Krieger, M., & Miller, L. (2021). It takes more than

a good camera: Which factors contribute to differences between face-to-face

interviews and videoconference interviews regarding performance ratings and

interviewee perceptions? *Journal of Business and Psychology, 36*(5), 921-940.

https://doi.org/http://dx.doi.org/10.1007/s10869-020-09714-3

Bauer, T. N., Truxillo, D. M., Sanchez, R. J., Craig, J. M., Ferrara, P., & Campion, M. A.

(2001). Applicant reactions to selection: Development of the Selection Procedural

Justice Scale (SPJS). *Personnel Psychology, 54*(2), 387-419.

https://doi.org/10.1111/j.1744-6570.2001.tb00097.x

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal

attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-

529. https://doi.org/10.1037/0033-2909.117.3.497

Baumeister, R. F., & Tice, D. M. (1990). Anxiety and social exclusion. *Journal of Social and*

Clinical Psychology, 9(2), 165. https://doi.org/10.1521/jscp.1990.9.2.165

Beck, J. W., & Walmsley, P. T. (2012). Selection ratio and employee retention as antecedents

of competitive advantage. *Industrial and Organizational Psychology, 5*(1), 92-95.

https://doi.org/10.1111/j.1754-9434.2011.01410.x

Behling, O., Dillard, J. F., & Gifford, W. E. (1979). Tests of expectancy theory predictions of

effort: A simulation study comparing simple and complex models. *Journal of*

Business Research, 7(4), 331-347. https://doi.org/10.1016/0148-2963(79)90011-0

Bell, B. S., Ryan, A. M., & Wiechmann, D. (2004). Justice expectations and applicant

perceptions. *International Journal of Selection and Assessment, 12*(1-2), 24-38.

https://doi.org/10.1111/j.0965-075X.2004.00261.x

Bell, B. S., Wiechmann, D., & Ryan, A. M. (2006). Consequences of organizational justice

expectations in a selection system. *Journal of Applied Psychology, 91*(2), 455-466.

https://doi.org/10.1037/0021-9010.91.2.455

Blacksmith, N., Willford, J., & Behrend, T. (2016). Technology in the employment interview:

A meta-analysis and future research agenda. *Personnel Assessment and Decisions,

2*(1). https://doi.org/10.25035/pad.2016.002

Blau, P. M. (1964). Exchange and Power in Social Life. New York: John Wiley & Sons, Inc.

Bloor, M., & Wood, F. (2006). Phenomenological Methods. Keywords in qualitative

methods, 129, 131. https://doi.org/10.4135/9781849209403.n40

Borman, T. C., Dunlop, P. D., Gagné, M., & Neale, M. (2023). Improving reactions to

forced-choice personality measures in simulated job application contexts through the

satisfaction of psychological needs. *Journal of Business and Psychology*, 1-18.

https://doi.org/10.1007/s10869-023-09876-w

Borup, J. (2016). Teacher perceptions of parent engagement at a cyber high school. *Journal

of Research on Technology in Education, 48*(2), 67-83.

https://doi.org/10.1080/15391523.2016.1146560

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through

asynchronous video. *The Internet and Higher Education 15*(3)

https://doi.org/10.1016/j.iheduc.2011.11.001

Borup, J., West, R. E., & Graham, C. R. (2013). The influence of asynchronous video communication on learner social presence: a narrative analysis of four cases. *Distance Education, 34*(1), 48-63. https://doi.org/10.1080/01587919.2013.770427

Borup, J., West, R. E., Thomas, R. A., & Graham, C. R. (2014). Examining the impact of video feedback on instructor social presence in blended courses. *International Review of Research in Open and Distributed Learning, 15*(3), 232-256. https://doi.org/10.19173/irrodl.v15i3.1821

Bosco, F. A., Aguinis, H., Singh, K., Field, J. G., & Pierce, C. A. (2015). Correlational effect size benchmarks. *Journal of Applied Psychology, 100*(2), 431-449. https://doi.org/10.1037/a0038047

Bourdage, J. S., Lukacik, E.-R., & Roulin, N. (2020). How to land a job when companies have shifted to virtual hiring. *UCalgary News*. Retrieved from https://ucalgary.ca/news/how-land-job-when-companies-have-shifted-virtual-hiring

Bowden, J. L.-H. (2009). The process of customer engagement: A conceptual framework. *Journal of marketing theory and practice, 17*(1), 63-74. https://doi.org/10.4135/9781849209403.n40

Bragger, J., Kutcher, E. J., Schettino, G., Muzyczyn, B., Farago, P., & Fritzky, E. (2016). The job interview and cognitive performance: Does structure reduce performance on selection batteries, and can explanation of purpose improve it? *Performance Improvement Quarterly, 29*(2), 97-124. https://doi.org/10.1002/piq.21218

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research In Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brenner, F. S., Ortner, T. M., & Fay, D. (2016). Asynchronous video interviewing as a new technology in personnel selection: The applicant's point of view. *Frontiers in Psychology, 7*, 863-863. https://doi.org/10.3389/fpsyg.2016.00863

Buckley, M. R., Christine Norris, A., & Wiese, D. S. (2000). A brief history of the selection interview: May the next 100 years be more fruitful. *Journal of Management History, 6*(3), 113-126. https://doi.org/10.1108/EUM0000000005329

Budhwar, P., Chowdhury, S., Wood, G., Aguinis, H., Bamber, G. J., Beltran, J. R., Boselie, P., Lee Cooke, F., Decker, S., DeNisi, A., Dey, P. K., Guest, D., Knoblich, A. J., Malik, A., Paauwe, J., Papagiannidis, S., Patel, C., Pereira, V., Ren, S., Rogelberg, S., Saunders, M. N. K., Tung, R., Varma, A. (2023). Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT. *Human Resource Management Journal*, 33(3), 606-659. https://doi.,org/10.1111/1748-8583.12524

Buil, I., Catalán, S., & Martínez, E. (2020). Understanding applicants' reactions to gamified recruitment. *Journal of Business Research, 110*, 50. https://doi.org/10.1016/j.jbusres.2019.12.041

Butz, N. T., & Stupnisky, R. H. (2017). Improving student relatedness through an online discussion intervention: The application of self-determination theory in synchronous hybrid programs. *Computers & Education, 114*, 117-138. https://doi.org/10.1016/j.compedu.2017.06.006

Byrne, D. (1997). An overview (and underview) of research and theory within the attraction paradigm. *Journal of Social and Personal Relationships, 14*(3), 417-431. https://doi.org/10.1177/0265407597143008

Carless, S. A. (2011) Person-job fit versus person-organization fit as predictors of
organizational attraction and job acceptance intentions: A longitudinal study. *Journal
of Occupational and Organizational Psychology, 78*, 411-429.
https://doi.org/10.1348/096317905X25995

Carless, S. A., & Imber, A. (2007). The influence of perceived interviewer and job and
organizational characteristics on applicant attraction and job choice intentions: The
role of applicant anxiety. *International Journal of Selection and Assessment, 15*(4),
359-371. https://doi.org/10.1111/j.1468-2389.2007.00395.x

Chapman, D., Uggerslev, K., & Webster, J. (2003). Applicant reactions to face-to-face and
technology-mediated interviews: A field investigation. *Journal of Applied
Psychology, 88*(5), 944-953. https://doi.org/10.1037/0021-9010.88.5.944

Chapman, D., & Webster, J. (2003). The use of technologies in the recruiting, screening, and
selection processes for job candidates. *International Journal of Selection and
Assessment, 11*. https://doi.org/10.1111/1468-2389.00234

Chapman, D. S., Uggerslev, K. L., Carroll, S. A., Piasentin, K. A., & Jones, D. A. (2005).
Applicant attraction to organizations and job choice: a meta-analytic review of the
correlates of recruiting outcomes. *Journal of Applied Psychology, 90*(5), 928-944.
https://doi.org/10.1037/0021-9010.90.5.928

Chatman, J. A. (1989). Improving interactional organizational research: a model of person-
organization fit. *The Academy of Management Review, 14*(3), 333.
https://doi.org/10.2307/258171

Chen, A. (2019). The AI hiring industry is under scrutiny—but it'll be hard to fix. MIT
Technology Review. Retrieved from

https://www.technologyreview.com/2019/11/07/75194/hirevue-ai-automated-hiring-discrimination-ftc-epic-bias/

Chen, B., Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, Kennon M., Soenens, B., Van Petegem, S., Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39*(2), 216-236. https://doi.org/10.1007/s11031-014-9450-1

Chesebro, J. L. (2003). Effects of teacher clarity and nonverbal immediacy on student learning, receiver apprehension, and affect. *Communication Education, 52*(2), 135-147.

Clegg, J. W. (2012). Stranger situations: examining a self-regulatory model of socially awkward encounters. *Group Processes & Intergroup Relations, 15*(6), 693-712. https://doi.org/10.1177/1368430212441637

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management, 37*(1), 39-67.

Conway, J. M., & Peneno, G. M. (1999). Comparing structured interview question types: Construct validity and applicant reactions. *Journal of Business and Psychology, 13*(4), 485-506. https://doi.org/10.1023/A:1022914803347

Cortini, M., Galanti, T., & Barattucci, M. (2019). The effect of different rejection letters on applicants' reactions. *Behavioral Science, 9*(10). https://doi.org/10.3390/bs9100102

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874-900. https://doi.org/10.1177/0149206305279602

D'Onfro, J., & Thomas, O. (2014). The road to 300 million: Photos of linkedin's epic journey. Retrieved from https://www.businessinsider.com/linkedin-grows-to-300-million-members-2014-4

Davis M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology 85*, 85. Retrieved from http://www.uv.es/~friasnav/Davis_1980.pdf

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*(1), 113-126. https://doi.org/10.1037/0022-3514.44.1.113

Davis, M. H. (1994). Empathy: A social psychological approach. Colorado: Brown & Benchmark Publishers.

Deacon, A., Moore, J., & Powell, D. (2023). Interventions to improve the candidate experience of structured videoconference interviews. *Personnel Assessment and Decisions, 9*(1), 1. https://doi.org/10.25035/pad.2023.01.001

Deci, E. L., & Ryan, R. M. (1980). Self-determination theory. *The Journal of Mind and Behavior, 1*(1), 33. Retrieved from https://www.jstor.org/stable/43852807

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Denzin, N. K., & Lincoln, Y. S. (2008). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (pp. 1–43). Sage Publications, Inc.

Derous, E., Born, M. P., & Witte, K. D. (2004). How applicants want and expect to be

    treated: Applicants' selection treatment beliefs and the development of the social

    process questionnaire on selection. *International Journal of Selection and Assessment,*

    12(1-2), 99-119. https://doi.org/10.1111/j.0965-075X.2004.00267.x

Dixson, M. D., Greenwell, M. R., Rogers-Stacy, C., Weister, T., & Lauer, S. (2017).

    Nonverbal immediacy behaviors and online student engagement: Bringing past

    instructional research into the present virtual classroom. *Communication Education,*

    66(1), 37-53. https://doi.org/10.1080/03634523.2016.1209222

Dunlop, P. D., Holtrop, D., & Wee, S. (2022). How asynchronous video interviews are used

    in practice: A study of an Australian-based AVI vendor. *International Journal of*

    *Selection and Assessment, 30(*3), 448-455. https://doi.org/10.1111/ijsa.12372

Dwivedi, Y. K. Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V.,

    Karjaluoto, H., Kefi, H., Krishen, A.S., Kumar, V., Rahman, M. M. Raman, R.,

    Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G A., Wang, Y., (2021). Setting the

    future of digital and social media marketing research: Perspectives and research

    propositions. *International Journal of Information Management, 59,* 102168.

    https://doi.org/10.1016/j.ijinfomgt.2020.102168

Edmunds, J., Ntoumanis, N., & Duda, J. L. (2008). Testing a self-determination theory-based

    teaching style intervention in the exercise domain. *European Journal of Social*

    Psychology, 38(2), 375-388. https://doi.org/10.1002/ejsp.463

Edwards, D., & van der Brugge, E. (2012). Higher Education Students in Australia.

    ACEReSearch. Retrieved from https://research.acer.edu.au/joining_the_dots/20/

Eelen, J., Özturan, P., & Verlegh, P. W. (2017). The differential impact of brand loyalty on

    traditional and online word of mouth: The moderating roles of self-brand connection

and the desire to help the brand. *International Journal of Research in Marketing, 34*(4), 872-891. https://doi.org/10.1016/j.ijresmar.2017.08.002

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing, 62*(1), 107-115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Erichsen, E. A., & Bolliger, D. U. (2011). Towards understanding international graduate student isolation in traditional and online environments. *Educational Technology Research and Development, 59*, 309-326. https://doi.org/10.1007/s11423-010-9161-6

Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology, 12*, 4544. https://doi.org/10.3389/fpsyg.2021.733554

Fahey, S. (2023). Where did video hiring come from and where is it going? *VidCruiter.* Retrieved from https://vidcruiter.com/video-interviewing/history-of-video-interview/

Fatima, S., Alqahtani, H., Naim, A., & Alma'alwi, F. (2022). E-CRM through social media marketing activities for brand awareness, brand image, and brand loyalty. In *Building a Brand Image Through Electronic Customer Relationship Management* (pp. 109-138): IGI Global.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191. https://doi.org/10.3758/BF03193146

Feiler, A. R., & Powell, D. M. (2016a). Behavioral expression of job interview anxiety. *Journal of Business and Psychology, 31*(1), 155-171. https://doi.org/10.1007/s10869-015-9403-z

Feiler, A. R., & Powell, D. M. (2016b). The role of self-focused attention and negative self-thought in interview anxiety: A test of two interventions. *International Journal of Selection and Assessment, 24*(2), 132-149. https://doi.org/10.1111/ijsa.12136

Ferrell, J. Z., Carpenter, J. E., Vaughn, E. D., Dudley, N. M., & Goodman, S. A. (2016). Gamification of human resource processes. In *Emerging Research And Trends In Gamification* (pp. 108-139). IGI Global.

Friederichs, S. A., Oenema, A., Bolman, C., & Lechner, L. (2015). Long term effects of self-determination theory and motivational interviewing in a web-based physical activity intervention: randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity, 12*(1), 1-13. Retrieved from https://www.proquest.com/scholarly-journals/long-term-effects-self-determination-theory/docview/1780668190/se-2

Geenen, B., Proost, K., Schreurs, B., van Dijke, M., Derous, E., Witte, K., & von Grumbkow, J. (2012). The influence of general beliefs on the formation of justice expectations: The moderating role of direct experiences. *Career Development International, 17*. https://doi.org/10.1108/13620431211201337

Gilal, F. G., Zhang, J., Paul, J., & Gilal, N. G. (2019). The role of self-determination theory in marketing science: An integrative review and agenda for research. *European Management Journal, 37*(1), 29-44. https://doi.org/10.1016/j.emj.2018.10.004

Gilliland, S. W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *The Academy of Management Review, 18*(4), 694-734. https://doi.org/10.2307/258595

Gilliland, S. W. (1994). Effects of procedural and distributive justice on reactions to a

    selection system. *Journal of Applied Psychology, 79*(5), 691-701.

    https://doi.org/10.1037/0021-9010.79.5.691

Gilliland, S. W. (1995). Fairness from the applicant's perspective: Reactions to employee

    selection procedures. *International Journal of Selection and Assessment, 3*(1), 11-18.

    https://doi.org/10.1111/j.1468-2389.1995.tb00002.x

Gilliland, S. W., Groth, M., Baker, R. C. I. V., Dew, A. F., & et al. (2001). Improving

    applicants' reactions to rejection letters: An application of fairness theory. *Personnel

    Psychology, 54*(3), 669-703. Retrieved from https://www.proquest.com/scholarly-

    journals/improving-applicants-reactions-rejection-letters/docview/220139895/se-

    2?accountid=10382

Giumetti, G. W., & Raymark, P. H. (2017). Engagement, procedural fairness, and perceived

    fit as predictors of applicant withdrawal intentions: A longitudinal field study.

    International Journal of Selection and Assessment, 25(2), 161-170.

    https://doi.org/10.1111/ijsa.12169

Grbich, C. (2010). Qualitative data analysis. In *Researching Practice* (pp. 173-183). Brill

    Publishing.

Hampes, W. P. (2010). The relation between humor styles and empathy. *Europe's Journal Of

    Psychology, 6*(3), 34. https://doi.org/10.5964/ejop.v6i3.207

Hart, John David, "Attributions of Successful English Language Learners in Transfer-Level

    English" (2022). *Doctoral Dissertations and Projects. 3497*. Retrieved from

    https://digitalcommons.liberty.edu/doctoral/3497

Hartnett, M. K. (2015). Influences that undermine learners' perceptions of autonomy, competence and relatedness in an online context. *Australasian Journal Of Educational Technology, 31*(1). https://doi.org/10.14742/ajet.1526

Hauser, D. J., Ellsworth, P. C., & Gonzalez, R. (2018). Are manipulation checks necessary? *Frontiers in Psychology, 9*(998). https://doi.org/10.3389/fpsyg.2018.00998

Hausknecht, J. P., Day, D. V., & Thomas, S. C. (2004). Applicant reactions to selection procedures: An updated model and meta-analysis. *Personnel Psychology, 57*(3), 639-683. https://doi.org/10.1111/j.1744-6570.2004.00003.x

Hayes, A. F., & Little, T. D. (2018). Introduction to mediation, moderation, and conditional process analysis : A regression-based approach (Second edition. ed.). New York: The Guilford Press.

Heggestad, E. D., Scheaf, D. J., Banks, G. C., Monroe Hausfeld, M., Tonidandel, S., & Williams, E. B. (2019). Scale adaptation in organizational science research: A review and best-practice recommendations. *Journal of Management, 45*(6), 2596-2627. https://doi.org/10.1177/0149206319850280

Heinonen, K. (2018). Positive and negative valence influencing consumer engagement. *Journal of Service Theory and Practice, 28*(2), 147-169. https://doi.org/10.1108/JSTP-02-2016-0020

Herhausen, D., Ludwig, S., Grewal, D., Wulf, J., & Schoegel, M. (2019). Detecting, preventing, and mitigating online firestorms in brand communities. *Journal of Marketing, 83*(3), 1-21. https://doi.org/10.1177/0022242918822300

Hewett, K., Rand, W., Rust, R. T., & Van Heerde, H. J. (2016). Brand buzz in the echoverse. *Journal of Marketing, 80*(3), 1-24. https://doi.org/10.1509/jm.15.0033

Higher Education Statistics Agency. Higher Education Student Data 2021/22. (2022).

Retrieved from https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he

Highhouse, S. (2008). Stubborn reliance on intuition and subjectivity in employee selection.

Industrial and Organizational Psychology, 1(3), 333-342.

https://doi.org/10.1111/j.1754-9434.2008.00058.x

Highhouse, S., Lievens, F., & Sinar, E. F. (2003). Measuring attraction to organizations.

Educational and Psychological Measurement, 63(6), 986-1001.

https://doi.org/10.1177/0013164403258403

HireVue. (2020). The 2020 candidate experience playbook. Retrieved from

https://www.hirevue.com/resources/type/ebook

HireVue. (2021). The modern candidate experience guide. Retrieved from

https://www.hirevue.com/resources/whitepaper/modern-candidate-experience-guide

HireVue. (2023). The 2023 candidate experience guide. Retrieved from

https://www.hirevue.com/resources/guide/the-modern-candidate-experience-guide

Hollandsworth Jr, J. G., Kazelskis, R., Stevens, J., & Dressel, M. E. (1979). Relative

contributions of verbal, articulative, and nonverbal communication to employment

decisions in the job interview setting. *Personnel Psychology, 32*(2), 359-367.

https://doi.org/10.1111/j.1744-6570.1979.tb02140.x

Homans, G. C. (1974). Social behavior: Its elementary forms. San Diego, CA: Harcourt

Brace Jovanovich

Horn, R., & Behrend, T. (2017). Video killed the interview star: Does picture-in-picture

affect interview performance? *Personnel Assessment and Decisions, 3*(1).

https://doi.org/10.25035/pad.2017.005

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. https://doi.org/10.1177/1049732305276687

Hsu, Y.-T., Buckworth, J., Focht, B. C., & O'Connell, A. A. (2013). Feasibility of a self-determination theory-based exercise intervention promoting healthy at every size with sedentary overweight women: Project CHANGE. *Psychology of Sport and Exercise, 14*(2), 283-292. https://doi.org/10.1016/j.psychsport.2012.11.007

Huffcutt, A. I., Van Iddekinge, C. H., & Roth, P. L. (2011). Understanding applicant behavior in employment interviews: A theoretical model of interviewee performance. *Human Resource Management Review, 21*(4), 353-367. https://doi.org/10.1016/j.hrmr.2011.05.003

Jackson, D. J., Dewberry, C., Gallagher, J., & Close, L. (2018). A comparative study of practitioner perceptions of selection methods in the United Kingdom. *Journal of Occupational and Organizational Psychology, 91*(1), 33-56. https://doi.org/10.1111/joop.12187

Japutra, A. (2022). Building enduring culture involvement, destination identification and destination loyalty through need fulfilment. *Tourism Recreation Research, 47*(2), 177-189. https://doi.org/10.1080/02508281.2020.1827567

Jobe, J. B. (2003). Cognitive psychology and self-reports: models and methods. *Quality of Life Research, 12*, 219-227. https://doi.org/10.1023/A:1023279029852

Kaminsky, S. E. (2019). Video-recorded vs. Synchronous interviews: Equivalence and applicant reactions. *ProQuest Dissertations Publishing*.

Kamps, A. (2022). Student Perceptions of Instructors Comparing a Low Mediated Immediacy

Syllabus to a High Mediated Immediacy Syllabus. *ProQuest Dissertations Publishing*.

Kinnafick, F.-E., Thøgersen-Ntoumani, C., & Duda, J. (2016). The effect of need supportive

text messages on motivation and physical activity behavior. *Journal of Behavioral

Medicine, 39,* 574-586. https://doi.org/10.1007/s10865-016-9722-1

Koenig, N., Tonidandel, S., Thompson, I., Albritton, B., Koohifar, F., Yankov, G., Speer, A.,

Hardy, J. H., Gibson, C., Frost, C., Liu, M., McNeney, D., Capman, J., Lowery, S.,

Kitching, M., Nimbkar, A., Boyce, A., Sun, T., Guo, F., Min, H., Zhang, B.,

Lebanoff, L., Phillips, H., Newton, C. (2023). Improving measurement and prediction

in personnel selection through the application of machine learning. *Personnel

Psychology*. https://doi.org/10.1111/peps.12608

König, C. J., Klehe, U. C., Berchtold, M., & Kleinmann, M. (2010). Reasons for being

selective when choosing personnel selection procedures. *International Journal of

Selection and Assessment, 18*(1), 17-27. https://doi.org/10.1111/j.1468-

2389.2010.00485.x

Kunz, J., & Linder, S. (2012). Organizational control and work effort - another look at the

interplay of rewards and motivation. *European Accounting Review, 21*(3), 591-621.

https://doi.org/10.1080/09638180.2012.684498

Landers, R. N., & Sanchez, D. R. (2022). Game-based, gamified, and gamefully designed

assessments for employee selection: Definitions, distinctions, design, and validation.

International Journal of Selection and Assessment, 30(1), 1-13.

https://doi.org/10.1111/ijsa.12376

Langer, M., Baum, K., König, C. J., Hähne, V., Oster, D., & Speith, T. (2021). Spare me the

details: How the type of information about automated interviews influences applicant

reactions. *International Journal of Selection and Assessment*, *29*(2). https://doi.org/https://doi.org/10.1111/ijsa.12325

Langer, M., & König, C. J. (2018). Introducing and testing the creepiness of situation scale (CRoSS). *Frontiers in Psychology, 9.* https://doi.org/10.3389/fpsyg.2018.02220

Langer, M., König, C. J., Gebhard, P., & André, E. (2016). Dear computer, teach me manners: Testing virtual employment interview training. *International Journal of Selection and Assessment, 24*(4), 312-323. https://doi.org/10.1111/ijsa.12150

Langer, M., König, C. J., & Hemsing, V. (2020). Is anybody listening? The impact of automatically evaluated job interviews on impression management and applicant reactions. *Journal of Managerial Psychology, 35*(2). https://doi.org/10.1108/JMP-03-2019-0156

Langer, M., König, C. J., & Krause, K. (2017). Examining digital interviews for personnel selection: Applicant reactions and interviewer ratings. *International Journal of Selection and Assessment, 25*(4), 371-382. https://doi.org/10.1111/ijsa.12191

Langer, M., König, C. J., & Papathanasiou, M. (2019). Highly automated job interviews: Acceptance under the influence of stakes. *International Journal of Selection and Assessment, 27*(3), 217-234. https://doi.org/10.1111/ijsa.12246

Langer, M., König, C. J., Sanchez, D. R.-P., & Samadi, S. (2020). Highly automated interviews: applicant reactions and the organizational context. *Journal of Managerial Psychology*, *35*(4). https://doi.org/10.1108/JMP-09-2018-0402

Leary, M. R., & Kowalski, R. M. (1993). The Interaction Anxiousness Scale: Construct and Criterion-Related Validity. *Journal of Personality Assessment, 61*(1), 136-146. https://doi.org/10.1207/s15327752jpa6101_10

Lefcourt, H. M. (2001). Humor: The psychology of living buoyantly. New York: Kluwer

    Academic Publishers.

Levashina, J., Hartwell, C. J., Morgeson, F. P., & Campion, M. A. (2014). The Structured

    Employment Interview: Narrative and Quantitative Review of the Research Literature.

    Personnel Psychology, 67(1), 241-293. https://doi.org/10.1111/peps.12052

Li, Y., Kuan, K., & Liu, N. (2019). Exploring the linguistic characteristics of online

    consumer reviews by top reviewers and ordinary reviewers. Paper presented at the

    2019 Proceedings of the Pacific Asia Conference on Information Systems (PACIS).

    Retrieved from

    https://web.archive.org/web/20220802075226id_/https://aisel.aisnet.org/cgi/viewcont

    ent.cgi?article=1158&context=pacis2019

Liden, R. C., & Parsons, C. K. (1986). A field study of job applicant interview perceptions,

    alternative opportunities, and demographic characteristics. *Personnel Psychology,*

    39(1), 109-122. https://doi.org/10.1111/j.1744-6570.1986.tb00577.x

Lievens, F., Decaesteker, C., Coetsier, P., & Geirnaert, J. (2001). Organizational

    attractiveness for prospective applicants: A person–organization fit perspective.

    Applied Psychology, 50(1), 30-51. https://doi.org/10.1111/1464-0597.00047

Loi, R., Mao, Y., & Ngo, H.-y. (2009). Linking leader-member exchange and employee work

    outcomes: The mediating role of organizational social and economic exchange.

    Management and Organization Review, 5(3), 401-422. https://doi.org/10.1111/j.1740-

    8784.2009.00149.x

Lukacik, E.-R., Bourdage, J. S., & Roulin, N. (2020). Into the void: A conceptual model and

    research agenda for the design and use of asynchronous video interviews. *Human*

    Resource Management Review, 100789. https://doi.org/10.1016/j.hrmr.2020.100789

Macan, T. (2009). The employment interview: A review of current studies and directions for

    future research. *Human Resource Management Review, 19*(3), 203-218.

    https://doi.org/10.1016/j.hrmr.2009.03.006

Mack, D. E., Wilson, P. M., Oster, K. G., Kowalski, K. C., Crocker, P. R., & Sylvester, B. D.

    (2011). Well-being in volleyball players: Examining the contributions of independent

    and balanced psychological need satisfaction. *Psychology of Sport and Exercise,*

    12(5), 533-539. https://doi.org/10.1016/j.psychsport.2011.05.006

Madigan, J., & Macan, T. H. (2005). Improving applicant reactions by altering test

    administration. *Applied HRM Research, 10*(2), 73-88. Retrieved from

    https://www.researchgate.net/publication/228423845_Improving_applicant_reactions

    _by_altering_test_administration

Marteau, T. M., & Bekker, H. (2011). The development of a six-item short-form of the state

    scale of the Spielberger State—Trait Anxiety Inventory (STAI). *British Journal of*

    Clinical Psychology, 31(3), 301-306. https://doi.org/10.1111/j.2044-

    8260.1992.tb00997.x

Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003). Individual

    differences in uses of humor and their relation to psychological well-being:

    Development of the Humor Styles Questionnaire. *Journal of Research in Personality,*

    37(1), 48-75. https://doi.org/10.1016/s0092-6566(02)00534-2

Matthews, R. A., Pineault, L., & Hong, Y.-H. (2022). Normalizing the use of single-item

    measures: Validation of the single-item compendium for organizational psychology.

    Journal of Business and Psychology, 37(4), 639-673. https://doi.org/10.1007/s10869-

    022-09813-3

Mayring, Philipp (2000). Qualitative Content Analysis. Paper presented at the Proceedings of

the *2000 Forum Qualitative Sozialforschung / Qualitative Social Research Foum,*

1(2), Art. 20, http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204.

McCarthy, J. M., Bauer, T. N., Truxillo, D. M., Anderson, N. R., Costa, A. C., & Ahmed, S.

(2017). Applicant Perspectives During Selection: A Review Addressing "So What?,"

"What's New?," and "Where to Next?". *Journal of Management, 43*(6), 1693 - 1725.

https://doi.org/10.1177/0149206316681846

McCarthy, J. M., Bauer, T. N., Truxillo, D. M., Campion, M. C., Van Iddekinge, C. H., &

Campion, M. A. (2017). Using pre-test explanations to improve test-taker reactions:

Testing a set of "wise" interventions. *Organizational Behavior and Human Decision*

Processes, 141, 43-56. https://doi.org/10.1016/j.obhdp.2017.04.002

McCarthy, J. M., & Goffin, R. (2004). Measuring job interview anxiety: Beyond weak knees

and sweaty palms. *Personnel Psychology, 57*(3), 607-637.

https://doi.org/10.1111/j.1744-6570.2004.00002.x

McCarthy, J. M., Hrabluik, C., & Jelley, R. B. (2009). Progression through the ranks:

Assessing employee reactions to high-stakes employment testing. *Personnel*

Psychology, 62(4), 793-832. https://doi.org/10.1111/j.1744-6570.2009.01158.x

McCarthy, J. M., Truxillo, D. M., Bauer, T. N., Erdogan, B., Shao, Y., Wang, M., Liff, J.,

Gardner, C. (2021). Distressed and distracted by COVID-19 during high-stakes virtual

interviews: The role of job interview anxiety on performance and reactions. *Journal of*

Applied Psychology, 106(8), 1103. https://doi.org/10.1037/apl0000943

McCarthy, J. M., Van Iddekinge, C. H., Lievens, F., Kung, M. C., Sinar, E. F., & Campion,

M. A. (2013). Do candidate reactions relate to job performance or affect criterion-

related validity? A multistudy investigation of relations among reactions, selection

test scores, and job performance. *Journal of Applied Psychology, 98*(5), 701-719.

https://doi.org/10.1037/a0034089

McNulty, J. (2018). High-tech workplace tools are key to winning the war for talent.

Strategic HR Review, 17(4), 176-180. https://doi.org/10.1108/SHR-05-2018-0033

Mehrabian, A. (1971). Silent messages (Vol. 8): Wadsworth Belmont, CA.

Messman, S., & Jones-Corley, J. (2001). Effects of communication environment, immediacy,

and communication apprehension on cognitive and affective learning. *Communication*

Monographs, 68(2), 184-200. https://doi.org/ 10.1080/03637750128054

Mirowska, A., & Mesnet, L. (2022). Preferring the devil you know: Potential applicant

reactions to artificial intelligence evaluation of interviews. *Human Resource*

Management Journal, 32(2), 364-383. https://doi.org/10.1111/1748-8583.12393

Monrouxe, L. V., Rees, C. E., Endacott, R., & Ternan, E. (2014). 'Even now it makes me

angry': health care students' professionalism dilemma narratives. *Medical Education,*

48(5), 502-517. https://doi.org/10.1111/medu.12377

Moore, H. I., Dunlop, P. D., Holtrop, D., & Gagné, M. (2023). I can't get no (need)

satisfaction: Using a relatedness need-supportive intervention to improve applicant

reactions to asynchronous video interviews. [Submitted for Publication].

Morelli, N., Potosky, D., Arthur, W., & Tippins, N. (2017). A call for conceptual models of

technology in I-O psychology: An example from technology-based talent assessment.

Industrial and Organizational Psychology, 10(4), 634-653.

https://doi.org/10.1017/iop.2017.70

Nguyen, L. S., & Gatica-Perez, D. (2015). I would hire you in a minute: Thin slices of

nonverbal behavior in job interviews. Paper presented at the Proceedings of the *2015*

ACM on international conference on multimodal interaction.

https://doi.org/10.1145/2818346.2820760

Nikolaou, I., & Georgiou, K. (2018). Fairness reactions to the employment interview. *Journal of Work and Organizational Psychology 34*(2), 103-111.

https://doi.org/http://dx.doi.org/10.5093/jwop2018a13

Ntoumanis, N., Ng, J. Y. Y., Prestwich, A., Quested, E., Hancox, J. E., Thøgersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Lonsdale, C., Williams, G. C. (2020). A meta-analysis of self-determination theory-informed intervention studies in the health domain: Effects on motivation, health behavior, physical, and psychological health. *Health Psychology Review, 15*(2), 1-31. https://doi.org/10.1080/17437199.2020.1718529

O'Sullivan, P. B., Hunt, S. K., & Lippert, L. R. (2004). Mediated immediacy: A language of affiliation in a technological age. *Journal of Language and Social Psychology, 23*(4), 464-490. https://doi.org/10.1177/0261927X04269588

Olafsen, A. H., Halvari, H., Forest, J., & Deci, E. L. (2015). Show them the money? The role of pay, managerial need support, and justice in a self-determination theory model of intrinsic work motivation. *Scandinavian Journal of Psychology, 56*(4), 447-457.

https://doi.org/10.1111/sjop.12211

Oparaocha, G. O. (2016). Towards building internal social network architecture that drives innovation: A social exchange theory perspective. *Journal of Knowledge Management, 20*(3), 534-556. https://doi.org/10.1108/JKM-06-2015-0212

Orzan, G., Platon, O.-E., Stefănescu, C. D., & Orzan, M. (2016). Conceptual model regarding the influence of social media marketing communication on brand trust, brand affect and brand loyalty. *Economic Computation & Economic Cybernetics Studies &*

Research, 50(1). Retrieved from

https://ipe.ro/RePEc/cys/ecocyb_pdf/ecocyb1_2016p141-156.pdf

Park, J., Cha, M., Kim, H., & Jeong, J. (2012). Managing bad news in social media: A case study on domino's pizza crisis. Paper presented at the Proceedings of the *International AAAI Conference on Web and Social Media*. https://doi.org/10.1371/journal.pone.0126358

Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). The development and psychometric properties of LIWC2015. Retrieved from https://repositories.lib.utexas.edu/bitstream/handle/2152/31333/LIWC2015_Language Manual.pdf

Pereira, M. G., Taysi, E., Orcan, F., & Fincham, F. (2014). Attachment, infidelity, and loneliness in college students involved in a romantic relationship: The role of relationship satisfaction, morbidity, and prayer for partner. *Contemporary Family Therapy, 36*, 333-350. https://doi.org/0.1007/s10591-013-9289-8

Platt, J. (2002). The history of the interview. Handbook of interview research: Context and method, 33-54. SAGE Publications, USA

Ployhart, R. E., & Harold, C. M. (2004). The applicant attribution-reaction theory (AART): An integrative theory of applicant attributional processing. *International Journal of Selection and Assessment, 12*(1-2), 84-98. https://doi.org/10.1111/j.0965-075x.2004.00266.x

Ployhart, R. E., Schmitt, N., & Tippins, N. T. (2017). Solving the supreme problem: 100 years of selection and recruitment at the Journal of Applied Psychology. *Journal of Applied Psychology, 102*(3), 291. https://doi.org/10.1037/apl0000081

Pope, C., & Mays, N. (2006). Qualitative methods in health research. *Qualitative research in health care*, 1-11. Oxford, UK: Blackwell Publishing Ltd. 10.1002/9780470750841.ch1

Posthuma, R. A., Morgeson, F. P., & Campion, M. A. (2002). Beyond employment interview validity: A comprehensive narrative review of recent research and trends over time. *Personnel Psychology, 55*(1), 1-81. https://doi.org/10.1111/j.1744-6570.2002.tb00103.x

Potosky, D. (2008). A conceptual framework for the role of the administration medium in the personnel assessment process. *Academy of Management Review, 33*(3), 629-648. https://doi.org/10.5465/amr.2008.32465704

Powell, D., Stanley, D., & Brown, K. (2018). Meta-analysis of the relation between interview anxiety and interview performance. *Canadian Journal of Behavioral Science, 50*(4), 195-207. https://doi.org/10.1037/cbs0000108

Powell, D. M., Bourdage, J. S., & Bonaccio, S. (2021). Shake and fake: The role of interview anxiety in deceptive impression management. *Journal of Business and Psychology, 36*(5), 829-840. https://doi.org/http://dx.doi.org/10.1007/s10869-020-09708-1

Powers, B. A., & Knapp, T. R. (2010). Dictionary of nursing theory and research. Springer publishing company.

Reed. (2022). How Long Should An Interview Last? Retrieved from https://www.reed.com/articles/how-long-should-an-interview-last

Rizi, M. S., & Roulin, N. (2023). Does media richness influence job applicants' experience in asynchronous video interviews? Examining social presence, impression management,

anxiety, and performance. *International Journal of Selection and Assessment.*

https://doi.org/10.1111/ijsa.12448

Rocklage, M. D., & Fazio, R. H. (2020). The enhancing versus backfiring effects of positive

emotion in consumer reviews. *Journal of Marketing Research, 57*(2), 332-352.

https://doi.org/10.1177/0022243719892594

Rosales, R., & Whitlow, H. (2019). A component analysis of job interview training for young

adults with autism spectrum disorder. *Behavioral Interventions, 34*(2), 147-162.

https://doi.org/10.1002/bin.1658

Roulin, N., & Bangerter, A. (2012). Understanding the academic–practitioner gap for

structured interviews: 'Behavioral' interviews diffuse, 'structured' interviews do not.

International Journal of Selection and Assessment, 20(2), 149-158.

https://doi.org/10.1111/j.1468-2389.2012.00588.x

Roulin, N., & Bourdage, J. S. (2023). Ready? Camera rolling… action! Examining

interviewee training and practice opportunities in asynchronous video interviews.

Journal of Vocational Behavior, 145, 103912.

https://doi.org/10.1016/j.jvb.2023.103912

Rubinstein, E. (1997). Operators embrace automated systems to hire the best, reduce

turnover. *Nation's Restaurant News, 31*(25), 71. Retrieved from

https://web.p.ebscohost.com/ehost/detail/detail?vid=0&sid=ddb00f44-de87-4cd2-

86fb-

3b6b4f10c882%40redis&bdata=JkF1dGhUeXBlPXNzbyZzaXRlPWVob3N0LWxpd

mU%3d#AN=9707080536&db=bsu

Ryan, A., & Ployhart, R. (2000). Applicants' perceptions of selection procedures and

decisions: A critical review and agenda for the future. *Journal of Management, 26*(3),

565-606. https://doi.org/10.1016/S0149-2063(00)00041-6

Ryan, A. M., & Huth, M. (2008). Not much more than platitudes? A critical look at the utility

of applicant reactions research. *Human Resource Management Review, 18*(3), 119-

132. https://doi.org/10.1016/j.hrmr.2008.07.004

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic

motivation, social development, and well-being. *American Psychology, 55*(1), 68-78.

https://doi.org/10.1037//0003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in

motivation, development, and wellness: New York : Guilford Publications.

Rynes, S. L., Colbert, A. E., & O'Boyle, E. H. (2018). When the "best available evidence"

doesn't win: How doubts about science and scientists threaten the future of evidence-

based management. In (Vol. 44, pp. 2995-3010): Sage Publications Sage CA: Los

Angeles, CA.

Sackett, P. R., & Lievens, F. (2008). Personnel selection. *Annual Review of Psychology,

59*(1), 419-450. https://doi.org/10.1146/annurev.psych.59.103006.093716

Sackett, P. R., Zhang, C., Berry, C. M., & Lievens, F. (2021). Revisiting meta-analytic

estimates of validity in personnel selection: Addressing systematic overcorrection for

restriction of range. *Journal of Applied Psychology, 107* (11).

https://doi.org/10.1037/apl0000994

Sanchez, R. J., Truxillo, D. M., & Bauer, T. N. (2000). Development and examination of an expectancy-based measure of test-taking motivation. *Journal of Applied Psychology, 85*(5), 739-750. https://doi.org/10.1037/0021-9010.85.5.739

Sandelowski, M., & Barroso, J. (2003). Classifying the findings in qualitative studies. *Qualitative Health Research, 13*(7), 905-923. https://doi.org/10.1177/1049732303253488

Schiessl, D. (2023). More expensive wine is really better? The role of positive emotion and consumer power. *Journal of International Food & Agribusiness Marketing*, 1-22. https://doi.org/10.1080/08974438.2023.2187917

Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin, 124*(2), 262-274. https://doi.org/10.1037/0033-2909.124.2.262

Schreurs, B., Derous, E., Proost, K., & De Witte, K. (2010). The relation between selection expectations, perceptions and organizational attraction: A test of competing models. *International Journal of Selection and Assessment, 18*(4), 447-452. https://doi.org/10.1111/j.1468-2389.2010.00527.x

Sheldon, K. M., & Niemiec, C. P. (2006). It's not just the amount that counts: Balanced need satisfaction also affects well-being. *Journal of Personality and Social Psychology, 91*(2), 331. https://doi.org/10.1037/0022-3514.91.2.331

Shore, L. M., Coyle-Shapiro, J. A., Chen, X.-P., & Tetrick, L. E. (2009). Social exchange in work settings: Content, process, and mixed models. *Management and Organization Review, 5*(3), 289-302. https://doi.org/10.1111/j.1740-8784.2009.00158.x

Short, J., Williams, E., & Christie, B. (1976). The social psychology of telecommunications. London: John Wiley & Sons.

Slemp, G. R., Lee, M. A., & Mossman, L. H. (2021). Interventions to support autonomy, competence, and relatedness needs in organizations: A systematic review with recommendations for research and practice. *Journal of Occupational and Organizational Psychology, 94*(2), 427-457. https://doi.org/10.1111/joop.12338

Smith, K. M. (2021). Emerging adult loneliness, basic psychological needs, and well-being: theoretical and empirical implications. The University of Iowa. ProQuest Dissertations & Theses Global: The Sciences and Engineering Collection

Snyder, D. G., & Newman, K. P. (2019). Reducing consumer loneliness through brand communities. *Journal of Consumer Marketing, 36*(2), 337-347. https://doi.org/10.1108/JCM-04-2018-2657

Sparks, C., Dimmock, J., Whipp, P., Lonsdale, C., & Jackson, B. (2015). "Getting connected": High school physical education teacher behaviors that facilitate students' relatedness support perceptions. *Sport, Exercise, and Performance Psychology, 4*(3), 219. https://doi.org/10.1037/spy0000039

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics, 87*(3), 355-374. https://doi.org/10.2307/1882010

Stoughton, J. W., Thompson, L. F., & Meade, A. W. (2015). Examining applicant reactions to the use of social networking websites in pre-employment screening. *Journal of Business and Psychology, 30*(1), 73-88. https://doi.org/10.1007/s10869-013-9333-6

Strazzulla, P. (2020). 524% rise in video interview programs as businesses adapt to COVID-19. Retrieved from https://www.selectsoftwarereviews.com/blog/video-interview-software-interest-covid-19

Streubert Speziale, H., & Rinaldi Carpenter, D. (2007). Qualitative research in nursing: advancing the humanistic imperative., 4th Edition. Lippincott Williams & Wilkins: Philadelphia.

Su, N., & Wang, H.-P. (2022). The influence of students' sense of social connectedness on prosocial behavior in higher education institutions in Guangxi, China: A perspective of perceived teachers' character teaching behavior and social support. *Frontiers in Psychology*, 13, 1029315. https://doi.org/10.3389/fpsyg.2022.1029315

Suen, H.-Y., & Hung, K.-E. (2023). Building trust in automatic video interviews using various AI interfaces: Tangibility, immediacy, and transparency. *Computers in Human Behavior*, 143, 107713. https://doi.org/https://doi.org/10.1016/j.chb.2023.107713

Talentegy. (2019). 2019 candidate experience report: Perceptions & behaviors. Retrieved from https://www.talentegy.com/hubfs/2019%20CX%20Report/Talentegy-2019%20Candidate%20Experience%20Report.pdf.

Tan, F. D. H., Whipp, P. R., Gagné, M., & Van Quaquebeke, N. (2019). Students' perception of teachers' two-way feedback interactions that impact learning. *Social Psychology of Education, 22*(1), 169-187. https://doi.org/10.1007/s11218-018-9473-7

Tausczik, Y. R., & Pennebaker, J. W. (2009). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*(1), 24-54. https://doi.org/10.1177/0261927x09351676

Taylor, M. S., & Bergmann, T. J. (1987). Organizational recruitment activities and applicants'

reactions at different stages of the recruitment process. *Personnel Psychology, 40*(2),

261-285. https://doi.org/10.1111/j.1744-6570.1987.tb00604.x

The Access Group. (2020). Recruitment tech and future trends. Retrieved from

https://www.theaccessgroup.com/recruitment-software/recruitment-tech-and-future-

trends/

The Stepstone Group. (2023). Retrieved from https://www.thestepstonegroup.com/en/mya/

The Talent Board. (2020). Candidate experience 2020: Candidate viewpoint. Retrieved from

https://www.thetalentboard.org/benchmark-research/benchmark-research-library/

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative

research (COREQ): a 32-item checklist for interviews and focus groups. *International

journal for quality in health care, 19*(6), 349-357.

https://doi.org/10.1093/intqhc/mzm042

Truxillo, D. M., Bauer, T. N., & Garcia, A. M. (2017). Applicant reactions to hiring

procedures. The Wiley Blackwell handbook of the psychology of recruitment,

selection and employee retention, 53-70. New York: Wiley Blackwell Publishing.

Truxillo, D. M., Steiner, D. D., & Gilliland, S. W. (2004). The importance of organizational

justice in personnel selection: Defining when selection fairness really matters.

International Journal of Selection and Assessment, 12(1-2), 39-53.

https://doi.org/10.1111/j.0965-075X.2004.00262.x

Uhl-Bien, M., & Maslyn, J. M. (2003). Reciprocity in manager-subordinate relationships:

Components, configurations, and outcomes. *Journal of Management, 29*(4), 511-532.

https://doi.org/10.1016/S0149-2063_03_00023-0

Van den Broeck, A., Ferris, D. L., Chang, C.-H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management, 42*(5), 1195-1229. https://doi.org/10.1177/0149206316632058

Van der Zee, K. I., Bakker, A. B., & Bakker, P. (2002). Why are structured interviews so rarely used in personnel selection? *Journal of Applied Psychology, 87*(1), 176. https://doi.org/10.1037/0021-9010.87.1.176

Vieple. (2020). Video Interviewing. Retrieved from https://vieple.com/video-interviewing

Walther, J. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research, 19*(52). https://doi.org/10.1177/009365092019001003

Wang, C. J., Liu, W. C., Kee, Y. H., & Chian, L. K. (2019). Competence, autonomy, and relatedness in the classroom: Understanding students' motivational processes using the self-determination theory. *Heliyon, 5*(7). https://doi.org/10.1016/j.heliyon.2019.e01983

Wang, W., Hernandez, I., Newman, D. A., He, J., & Bian, J. (2016). Twitter analysis: Studying US weekly trends in work stress and emotion. *Applied Psychology, 65*(2), 355-378. https://doi.org/10.1111/apps.12065

Warburton, V. E., Wang John, C. K., Bartholomew, K. J., Tuff, R. L., & Bishop Krystal, C. M. (2020). Need satisfaction and need frustration as distinct and potentially co-occurring constructs: Need profiles examined in physical education and sport. *Motivation and Emotion, 44*(1), 54-66. https://doi.org/10.1007/s11031-019-09798-2

Wei, M., Shaffer, P. A., Young, S. K., & Zakalik, R. A. (2005). Adult attachment, shame, depression, and loneliness: the mediation role of basic psychological needs

satisfaction. *Journal of Counseling Psychology, 52*(4), 591.

   https://doi.org/10.1037/0022-0167.52.4.591

Weman-Josefsson, K., Fröberg, K., Karlsson, S., & Lindwall, M. (2017). Mechanisms in self-

   determined exercise motivation: Effects of a theory informed pilot intervention.

   Current Psychology, 36, 90-100. https://doi.org/10.1007/s12144-015-9388-9

Wesche, J. S., & Sonderegger, A. (2021). Repelled at first sight? Expectations and intentions

   of job-seekers reading about AI selection in job advertisements. *Computers in Human

   Behavior, 125*, 106931. https://doi.org/10.1016/j.chb.2021.106931

Widdicombe, S., & Wooffitt, R. (1995). The language of youth subcultures: Social identity in

   action. *Youth & Policy, 53*, 100-103. https://doi.org/10.0262-9798

Wiener, M., & Mehrabian, A. (1968). Language within language : Immediacy, a channel in

   verbal communication. New York: New York : Appleton-Century-Crofts.

Woods, S. A., Ahmed, S., Nikolaou, I., Costa, A. C., & Anderson, N. R. (2020). Personnel

   selection in the digital age: A review of validity and applicant reactions, and future

   research challenges. *European Journal of Work and Organizational Psychology,

   29*(1), 64-77. https://doi.org/10.1080/1359432X.2019.1681401

Wu, L., Yang, W., Gao, Y., & Ma, S. (2022). Feeling luxe: A topic modeling× emotion

   detection analysis of luxury hotel experiences. *Journal of Hospitality & Tourism

   Research*, *10963480221103222*. https://doi.org/10.1177/10963480221103222

Wu, S.-H., & Gao, Y. (2019). Understanding emotional customer experience and co-creation

   behaviors in luxury hotels. *International Journal of Contemporary Hospitality

   Management, 31*(11) https://doi.org/10.1108/IJCHM-04-2018-0302

Yarkoni, T. (2010). Personality in 100,000 Words: A large-scale analysis of personality and word use among bloggers. *Journal of Research in Personality, 44*(3), 363-373. https://doi.org/10.1016/j.jrp.2010.04.001

Yu, K. Y. T., & Cable, D. M. (2012). Recruitment and competitive advantage: A brand equity perspective. The Oxford handbook of organizational psychology, 1, 197-220. Oxford: Oxford University Press.

<div align="center">**Appendices**</div>

Appendix A: Full Measures Used Within Experimental Studies

All items used in the Experimental Studies are listed below. Many measures have been adapted to suit the context of these studies, this is indicated by "Adapted from" where applicable.

(R) indicates reverse-scored items.

i. Organizational Attraction: Adapted from Highhouse et al., (2003)

Based on your impressions of the job advertisement, please rate the extent to which you agree or disagree with the following statements.

Construct	Items
Organizational attraction	CSA Supermarkets would be attractive to me as a place for employment
(R)	I would not be interested in CSA Supermarkets except as a last resort
	I would accept a job offer from CSA Supermarkets
	If CSA Supermarkets invited me for a job interview, I would go

5-point Likert scale, 1= *strongly disagree*, 5 = *strongly agree*

ii. Affiliative and Aggressive Humor: Adapted from Humor Styles Questionnaire (Martin et al., 2003)

We know you've only seen these short videos of the presenters, Steph and Jake. But, from what you did see, please rate how you think each of the following statements describes how Steph and Jake might act in real life:

Steph & Jake...

Construct	Items
Affiliative humor	Like to laugh or joke around with other people.
	Do not have to work hard to make people laugh
	Are naturally humorous people
	Like to tell jokes or amuse people
	Enjoy making people laugh
Aggressive humor	Would be willing to crack jokes to make others feel stupid
	Would be willing to make jokes at another person's expense
	Would use humor in a mean way to tease others.

5-point Likert scale, 1 = *almost certainly not*, 5 = *almost certainly*

iii. Basic Psychological Needs (Relatedness and Autonomy Satisfaction; Adapted from Borman et al., 2023)

Based on the video material you watched, please rate the extent to which you agree or disagree with the following statements:

Construct		Items
Relatedness satisfaction		It felt like CSA Supermarkets was genuinely interested in me as a person.
		It felt like CSA Supermarkets wanted to get to know me better.
		It felt like CSA Supermarkets was interested in understanding who I am.
	(R)	It felt like CSA Supermarkets did not care about me as an individual.
		I felt a sense of connection with CSA Supermarkets
		I felt a sense of 'belonging' with CSA Supermarkets
Autonomy satisfaction	(R)	It did not feel like I had much freedom.
	(R)	I felt like I was forced to answer the questions in the way that I did.
		I felt free to complete the video interview the way I wanted to.
		I experienced a lot of freedom in how I answered the questions
	(R)	I did not really have much of a choice about how to show my personality
		When answering the questions, I felt free to "be myself".

5-point Likert scale, 1 = *strongly disagree,* 5 = *strongly agree*

iv. Chance to Perform (proxy for "competence satisfaction); Adapted from the Selection Procedural Justice Scale (SPJS; Bauer et al., 2001)

Based on your experience during the video interview, please rate the extent to which you agree or disagree with each statement:

Construct	Items
Competence satisfaction	I could really show my skills and abilities through this video interview.
	This video interview allowed me to show what my job skills are.
	This video interview gave applicants the opportunity to show what they can really do.
	I was able to show what I can do in this video interview.

5-point Likert scale, 1 = *strongly disagree,* 5 = *strongly agree*

v. State-Trait Anxiety Index (STAI; Marteau & Bekker, 2011)

Please read each statement and then select the appropriate button to indicate how you feel right now, that is, at this moment:

Construct	Items
State anxiety	(R) I feel calm
	I feel tense
	(R) I feel relaxed
	(R) I feel content
	I feel worried
	(R) I feel comfortable

4-point Likert scale ranging from 1 = *not at all*, 2= *somewhat*, 3 = *moderately so*, 4 = *very much so*.

vi. Mediated Immediacy; O'Sullivan et al. (2004)

For each pair of words below, please choose the position on the scale that best describes how you view CSA Supermarkets now that you have completed this video interview.

As a result of completing this video interview, I view CSA Supermarkets as...

Construct	Items
Mediated immediacy	Uninviting / Inviting
	Closed / Open
	Non-disclosing / Disclosing
	Close / Distant
	Detached / Engaging
	Accessible / Inaccessible
	Non-expressive / Expressive
	Unfriendly / Friendly
	Cold / Warm
	Unkind / Kind

7-point semantic differential item bipolar scale

vii. Fairness; Adapted from Gilliland (1994)

Based on your experience during the video interview, please rate the extent to which you agree or disagree with each statement:

Construct	Items
Fairness	Whether or not I passed the video interview, I feel the selection process so far is fair.
	Whether or not I passed the interview, the procedure used to select people for this job (i.e., the video interview) is fair.
	Whether or not I passed the video interview, I am satisfied with the video interview being part of the selection process so far.
(R)	Overall, I feel dissatisfied with the video interview being used to select people for the job.

5-point Likert scale from 1 = *strongly disagree* to 5 = *strongly agree*.

Appendix B: AVI Questions and Evaluation Scale

The following three AVI questions and evaluation scale were developed for, and used within, all three Experimental Studies 1, 2, and 3.

AVI Questions

Competency	Interview Question
Time management	Describe a time when you have balanced study and personal commitments during a stressful time
Conflict resolution	Describe a time when you developed tensions or a disagreement with a work or study colleague, and what you did to maintain the quality of that relationship
Integrity	If your supervisor asked you to do something which you knew was against company policy, what would you do?

Evaluation Scale

Rating	Criteria
1	Candidate's response demonstrates clear problems in this area; would need substantial development and training to bring skills up to an acceptable standard, (or) candidate provided an inappropriate or unacceptable response to this question.
2	Candidate's response demonstrates marginal skills in this competency; some training would be required to bring skills up to an acceptable standard, (or) candidate seemed to demonstrate some understanding of the competency, but their response was too vague or incomplete to fully assess their level of ability.
3	Candidate's response demonstrates adequate skills in this competency. May outline 1 or 2 strategies with some detail, or list multiple strategies with little discussion. Additional training could help the candidate develop further, but would not be needed for acceptable job performance at this time.
4	Candidate's response demonstrates strong skills in this competency. May outline several strategies with some detail. May provide some thought of how their strategies fit into the broader picture (or) the potential implications of their strategies, (or) some original thought.
5	Candidate's response demonstrates superior skills in this competency; has potential to mentor or teach others these skills. May provide an in-depth understanding of how their strategies fit into the broader picture (or) the potential implications of their strategies (or) substantial original thought.

Appendix C: Exploratory Factor Structure of BPNT and SETSA items

Item	Factor loading				
	1	2	3	4	5
Factor 1: Relatedness-need satisfaction (BPNT)					
It felt like CSA Supermarkets was genuinely interested in me as a person.	**.81**	.02	-.01	.07	-.05
It felt like CSA Supermarkets wanted to get to know me better.	**.77**	.06	-.06	.07	-.09
It felt like CSA Supermarkets was interested in understanding who I am.	**.74**	.21	-.12	-.01	-.06
I felt a sense of 'belonging' with CSA Supermarkets	**.72**	-.02	.21	-.13	.04
It felt like CSA Supermarkets did not care about me as an individual. (R)	**.66**	.06	-.19	.38	.00
I felt a sense of connection with CSA Supermarkets	**.61**	-.10	.33	-.09	.08
Factor 2: Autonomy-need satisfaction					
I experienced a lot of freedom in how I answered the questions	.13	**.81**	-.09	-.21	.09
It did not feel like I had much freedom. (R)	.09	**.81**	.03	-.05	-.01
When answering the questions, I felt free to "be myself".	-.03	**.80**	.11	-.14	-.02
I felt free to complete the video interview the way I wanted to.	-.14	**.75**	.25	-.12	.07
I did not really have much of a choice about how to show my personality. (R)	.12	**.61**	-.12	.19	.05
I felt like I was forced to answer the questions in the way that I did. (R)	-.05	**.61**	-.16	.32	-.03
Factor 3: Social transaction (SETSA)					
My video interview helped to establish common ground with CSA Supermarkets	-.05	.03	**.89**	-.06	.02
My video interview felt like CSA Supermarkets and I have been able to establish an initial rapport	.02	-.01	**.83**	.18	-.11
My video interview established interpersonal connections within CSA Supermarkets	.07	-.02	**.68**	.08	.04
I felt a sense of cooperation between myself and CSA Supermarkets during my video interview	.13	.10	**.66**	.08	.01
My video interview felt like the start of a potentially ongoing relationship with CSA Supermarkets	.28	.01	**.48**	.04	.06
Factor 4: Economic transaction (SETSA)					
My video interview felt more like a 'trade' than a 'relationship'	.08	.07	.01	**-.83**	-.16
My video interview felt transactional	.10	.14	-.09	**-.77**	-.01
It felt like my relationship with CSA Supermarkets began and ended with this video interview	-.16	.10	-.06	**-.53**	.04
My video interview felt impersonal	-.15	-.13	-.32	**-.42**	.14
My video interview felt inflexible	.08	-.30	-.23	**-.41**	-.01
Factor 5: Competence-need satisfaction (BPNT)					
This video interview allowed me to show what my job skills are.	-.11	.08	.02	-.01	**.86**
I could really show my skills and abilities through this video interview.	.04	.04	-.07	.04	**.76**
I was able to show what I can do in this video interview.	.05	.00	.07	.01	**.74**
This video interview gave applicants the opportunity to show what they can really do.	.07	.06	-.02	.16	**.64**