

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). Drawing from basic psychological needs theory, we proposed that these negative perceptions arise partly from the lack of human interaction between applicants and the organization during an AVI, which fails to satisfy applicants' need for *relatedness*. Recruiting participants through Prolific, we conducted two experimental studies that aimed to manipulate the level of relatedness support through a relatedness-need supportive introductory video containing empathetic messaging and humor. Using a vignette approach, participants in study 1 ($N = 100$) evaluated a hypothetical AVI that included one of two introductory videos: relatedness-supportive versus neutral messaging. The relatedness-supportive video yielded higher relatedness need satisfaction ($d = 0.53$) and organizational attraction ratings ($d = 0.49$) than the neutral video. In study 2, participants ($N = 231$) completed an AVI that included one of the two videos and evaluated their AVI experience. In contrast to the vignette study, we observed no significant differences between groups for relatedness need satisfaction, organizational attraction, nor other outcomes. Our findings provided little evidence that humor and empathic video messaging improves reactions to an AVI and illustrated the limitations on the external validity of vignette designs.

KEYWORDS

asynchronous video interviews, basic psychological needs theory, relatedness

Practitioner points

- Many asynchronous video interview (AVI) services allow recruiters to embed introduction videos, but it remains unclear how the content of these videos can impact the candidate experience.
- We found no difference in perceptions between a brief video with a “professional” tone compared with a longer, humorous, and empathic video.
- Including elements like a blooper reel or an empathetic message did not negatively impact the candidate experience or the organization's reputation, so experiment with these elements if they align with your branding.

1 | INTRODUCTION

Personnel selection continues to be a crucial function for organizations (Ployhart et al., 2017), and modern selection methods that use online testing platforms to administer digital assessments are becoming more commonplace (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 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).

Although the benefits of flexible and scalable assessments are clear (Basch & Melchers, 2019), applicants' reactions to technology-mediated interviews are nonetheless more negative than reactions toward traditional synchronous interviews (Blacksmith et al., 2016; Griswold et al., 2021; Langer et al., 2017). Previous research has shown that negative applicant reactions can adversely 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 et al., 2017). Further, as AVIs are becoming more commonplace in practice, there is a stronger impetus for organizations to prioritize identifying strategies to improve applicants' AVI experiences.

Early systematic research seeking to understand the sources of negative reactions to AVIs has implicated the impersonality and "creepiness" of this format (Langer et al., 2017). In this investigation, we focus on the matter of impersonality and seek to determine whether it can be improved in an AVI. In doing so, we draw from basic psychological needs theory (BPNT; Ryan & Ployhart, 2000) as the lens through which to understand how applicants experience an AVI. BPNT proposes that satisfying humans' three universal needs for relatedness, autonomy, and competence leads to positive personal outcomes such as higher psychological well-being and more positive organizational outcomes such as affective commitment and performance. Our focus is on the need for relatedness, as we argue that this need is poorly supported in 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 need satisfaction from the assessment, thus improving applicant reactions and performance.

We test our propositions through two studies presented in this paper. The first study adopts a vignette design and investigates the efficacy of a relatedness-supportive experimental stimulus, presented as video content containing empathetic and humorous

communication, in improving participants' sense of "connection" to the hiring organization. The second study involved a complete AVI experience and investigated whether the experimental manipulation was effective in improving relatedness need satisfaction, reducing anxiety, and improving applicant reactions to an AVI. We also performed exploratory analyses to determine whether fairness perceptions were affected by the experimental manipulation and whether relatedness need satisfaction may be a promising variable through which to study applicant reactions in the future.

2 | THE DESIGN OF AVIS

When invited to complete an AVI, applicants typically log into an online platform and complete the interview at any convenient location and time before 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 platform to watch and evaluate the applicants' recorded answers, or, as recent research has revealed, construct and criterion-valid evaluations can be obtained automatically with machine learning algorithms (e.g., Hickman et al., 2022; Liff et al., 2024). 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 face-to-face interviews.

Importantly, 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 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 platform, 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 reactions to AVIs (Salimian Rizi & Roulin, 2023), though admittedly not consistently (Niemitz et al., 2024). 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. The evidence base to guide hiring organizations on this front is accumulating (e.g., Basch et al., 2021; Roulin et al., 2023; Tilston et al., 2023), but there remain gaps, especially with respect to video content. Consequently, the present study investigates how video content in AVIs affects applicant reactions.

3 | APPLICANT REACTIONS

Applicant reactions are defined as the “attitudes, affect, or cognitions an individual might have about the hiring process” (Ryan & Ployhart, 2000, p. 566). 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 inclined 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 well-being and performance on the assessment and subsequently increase the likelihood of applicants withdrawing from the selection process (Ryan & Ployhart, 2000; Sackett & Lievens, 2008).

One particular applicant reaction, 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; Powell et al., 2018).

4 | BPNT

BPNT (Ryan & Ployhart, 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, whereas 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, in the work context, satisfaction of the three needs of BPNT showed positive relationships with engagement and organizational commitment and negative associations with the likelihood of turnover and negative affect.

To our knowledge, BPNT has not been widely adopted within applicant reactions research; however, we believe it may prove a

useful framework. 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). *Synchronous* interviews are also evaluative assessments that are highly social in nature and have become ingrained as part of nearly all application processes (Levashina et al., 2014). Indeed, synchronous interviews are one of the most accepted selection methods by applicants (Hausknecht et al., 2004; Macan, 2009). The use of the term “*Interview*” may therefore create expectations among applicants of a socially loaded assessment experience, but when completing an AVI, candidates are instead faced with a technical platform that lacks social warmth and gives no opportunity for real-time rapport building with an interviewer. The lack of these social features may lead to poor fulfillment of applicants' psychological need for relatedness (Ryan & Ployhart, 2000), with the resulting AVI experience feeling “impersonal” to applicants. The failure to satisfy the applicant's need for relatedness in an AVI, due to the absence of social interaction, may contribute to increased applicant anxiety, which in turn affects their performance. Job applicants are actively trying to create an employment relationship with the hiring organization and 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.

5 | CAN RELATEDNESS SATISFACTION IN AVIS BE IMPROVED?

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; Lukacik et al., 2020). In a mixed-method investigation into the experiences of awkwardness in unfamiliar social situation, Clegg (2012) identified five main categories of awkwardness-reducing behaviors, namely, "...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). As we explain below, four of the five categories could be reproduced in an AVI.

We cast the first three of Clegg's (2012) categories under a rubric of empathy. Indeed, 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. Building empathy might be achieved in three ways (Clegg, 2012). First, an introductory 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. Second, 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. Third, positive social evaluation could be demonstrated through warm and friendly communication tones and body language, demonstrating positive behaviors and attitudes toward applicants.

We cast Clegg's (2012) fifth category of influencing awkwardness under the rubric of humor, which is defined as acting in a way that provokes laughter and amusement (Martin et al., 2003). Studies have shown that humor has positive effects on psychological well-being (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 well-being. 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. Therefore, we propose that affiliative humor, even in the early stages of forming a relationship, could be used to diffuse applicants' tension and pre-AVI anxiety.

6 | RESEARCH OVERVIEW

We conducted two studies to empirically test if and how relatedness need-supportive introduction videos in AVIs can affect applicant reactions and outcomes. The humorous element of the manipulation in both studies consisted of a "bloopers 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). We opted to use a stringent active control condition where a similar video was shown to participants, outlining the same information factually (without warmth) and without the bloopers reel (humor).

The aims of study 1 were twofold. The first aim was to function as an external manipulation check, investigating the efficacy of the relatedness need-supportive intervention using a vignette design where participants were asked to examine and evaluate materials for a hypothetical AVI. The 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 study 1 was to determine whether the increased levels of humor and empathy in the relatedness need-supportive video would result in increased relatedness need satisfaction and organizational attraction, relative to participants who viewed the neutral video. The following hypotheses were also examined in study 2 (see below):

H1: A relatedness-supportive video during the introduction component of an AVI increases relatedness satisfaction, compared with a neutral message.

H2: A relatedness-supportive video during the introduction component of an AVI increases organizational attraction, compared with a neutral message.

In study 2, we brought the video materials from study 1 into a complete AVI experience. We aimed to see if the differences between conditions for ratings of perceived relatedness need satisfaction and organizational attraction in study 1 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). In addition to H₁ and H₂ (see above), we were also keen to investigate additional applicant reactions and outcomes variables that were not assessable in the vignette design, namely, overall candidate experience, and state anxiety experienced during the AVI. We also investigated whether participants' anxiety levels affected AVI performance, as determined by a panel of judges.

H3: A relatedness-supportive video during the introduction component of an AVI decreases state anxiety, compared with a neutral message.

H4: A relatedness-supportive video during the introduction component of an AVI increases interview performance scores compared with a neutral message.

H5: The relationship between relatedness need satisfaction and participants' interview performance is mediated by state anxiety.

H6: A relatedness-supportive video during the introduction component of an AVI increases candidate experience compared with a neutral message.

This research was conducted as part of the first author's doctoral dissertation. Approval to conduct both studies contained within this paper was granted by Curtin University's Human Research Ethics Committee (approval number: HRE2021-0015). All materials, data, analyses scripts for both studies, and the preregistration of study 2 (study 1 was not preregistered) are available from the Open Science Framework (<https://osf.io/2u4bs/>).

7 | STUDY 1 AND EXTERNAL MANIPULATION CHECK—METHOD

7.1 | Design and sample

This study used a randomized two-group between-subjects experimental design. One hundred participants (51% female, 80% Caucasian, $M_{\text{age}} = 35.95$ years, $SD_{\text{age}} = 13.5$ years; 94% were from the United Kingdom) were recruited through Prolific, with participants remunerated £2.00 for an estimated 15 min of their time (mean time per participant was 15:23 min). Financial resource constraints limited our recruitment to 100 participants; however, a sensitivity analysis conducted on G*Power (Faul et al., 2007) suggested an effect of $d = 0.50$ would be detected 80% of the time with such a sample using a one-tailed independent samples t test, which we considered sufficient. Participants reported having completed an average of 1.23 AVIs as part of previous job applications ($SD = 4.44$) and an average computer usage of 41.29 h per week ($SD = 22.97$).

7.1.1 | 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 relatedness need-supportive). The first part of the introduction video introduced two CSA 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 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 relatedness need-supportive condition commenced with a blooper reel consisting of approximately 30 s 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 toward 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> (relatedness need-supportive video) and <https://youtu.be/9wb4kA0FTmM> (neutral video).

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.

7.2 | 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 relatedness need-supportive ($N = 50$ for each condition). After watching their respective video, participants were asked to complete an attention check question and provide ratings for relatedness need satisfaction, affiliative and aggressive humor, empathy, and a repeated measure of organizational attraction (see Section 6.3). 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.

7.3 | Measures

7.3.1 | Organizational attraction

Organizational attraction was rated at two time points (prevideo and postvideo, Cronbach's $\alpha = .86$ 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 prevideo 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. For the postvideo 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.”

7.3.2 | Attention check

Participants were asked a single attention check item: “How many company representatives appeared in the video you just watched?” All participants answered this question correctly.

7.3.3 | 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*).

7.3.4 | 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 $\alpha = .85$), such as “Steph likes to laugh or joke around with other

people,” three items measured the perceived level of aggressive humor ($\alpha = .82$) in the blooper reel to test whether the interaction between the actors in the blooper reel was perceived as “bullying,” for example, “Jake would use humor in a mean way to tease others.”

7.3.5 | Relatedness satisfaction

Relatedness need satisfaction was rated on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) using four items adapted 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 $\alpha = .93$).

8 | RESULTS AND DISCUSSION

We used independent samples *t* tests to investigate whether there were differences between the two groups in the means for relatedness need satisfaction, empathy, humor (general, aggressive, and affiliative), and organizational attraction (pre- and postmeasures). All results are shown in Table 1.

Participants who viewed the relatedness need-supportive video reported significantly higher perceptions of empathy, general humor, and affiliative humor than participants who watched the video with neutral content and tone. Importantly, we did *not* observe a difference for aggressive humor, and thus altogether, these results showed support for the efficacy of the video content functioning as an external manipulation check for the intervention to be used in study 2 (Hauser et al., 2018). We also observed in both groups a mean for perceived organizational attraction, judged before watching the videos, close to the “agree” point on the response scale, suggesting the job advertisement was viewed positively. Results also showed support for H_1 and H_2 ; participants who viewed the relatedness need-supportive video reported levels of relatedness need satisfaction and organizational attraction (postvideo)

TABLE 1 Results of independent samples one-tailed *t* tests for study 1 variables.

Dependent variable	Neutral video (<i>n</i> = 50)		Relatedness need-supportive video (<i>n</i> = 50)		<i>t</i> (98)	<i>p</i>	Cohen's <i>d</i>	95% CI of the difference	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
H_1 . Relatedness need satisfaction	3.77	0.92	4.23	0.83	2.59	.011	0.53	0.11	0.80
H_2 . Organizational attraction (post)	3.61	0.88	3.99	0.66	2.42	.017	0.49	0.07	0.69
Organizational 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	<.001	1.90	1.02	1.57
Humor (Affiliative)	3.20	0.68	3.86	0.50	5.54	<.001	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*).

that were significantly higher than participants who viewed the neutral video.

Altogether, the results show that embedding relatedness need-supportive content within AVI video materials may be a successful strategy to increase perceptions of relatedness need satisfaction in an asynchronous communication context. Accordingly, we proceeded with our second study where participants would complete an AVI.

9 | STUDY 2—METHOD

9.1 | Design

A two-group randomized experimental design was used, which followed a similar procedure as study 1, but with several deviations: first, all participants completed an AVI, and second, participants completed some additional measures.

9.2 | Participants

Feedback collected in study 1 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 approximately 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 power analysis is available in the preregistration document). In total, 332 participants were recruited: 81 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, 2 participants were excluded as they appeared from their video recording to be well above the maximum age range, and a further 2 participants failed the attention check question. All AVI responses were viewed by the first author to ensure that the remaining participants had answered the questions with an acceptable level of effort; no further participants were removed from the experiment.

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 h per week (SD = 22.97).

9.3 | Procedure

9.3.1 | Pre-AVI

After being recruited through Prolific, participants logged into an online questionnaire platform where they were presented with

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 "before" state anxiety (see Section 8.4 below). Participants then were shown an "email" from CSA Supermarkets (the fictitious organization also used in study 1) inviting them to complete an AVI as the next stage of their selection process for the role.

9.3.2 | During-AVI

Participants watched the introduction video for CSA Supermarkets and then either the neutral video (N = 112) or the relatedness need-supportive video (N = 119), after which they reported their state anxiety for the second time ("during"-AVI). Participants were then 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 (see Section 8.4).

9.3.3 | Post-AVI

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

9.4 | Measures

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

9.4.1 | State anxiety

State anxiety was measured at three time points (i.e., before, during, and after AVI¹) 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*.²

9.4.2 | Relatedness need satisfaction and organizational attraction

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

TABLE 2 Means, standard deviations, reliability estimates for, and intercorrelations among, study variables in study 2.

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)	-0.02	(N/A)									
3. Age	23.87	3.51	0.10	-0.05	(N/A)								
4. Relatedness need satisfaction	3.25	0.91	0.06	-0.12	0.16*	(0.88)							
5. Organizational attraction (pre-AVI)	3.65	0.80	-0.05	-0.08	0.08	0.22**	(0.84)						
6. Organizational attraction (post-AVI)	3.59	0.86	-0.06	-0.12	0.06	0.45**	0.80**	(0.87)					
7. Candidate experience	5.08	1.12	0.01	0.03	0.07	0.60**	0.28**	0.51**	(N/A)				
8. Anxiety (pre-AVI)	2.23	0.62	-0.03	0.19**	-0.05	-0.11	-0.05	-0.08	-0.08	(0.85)			
9. Anxiety (during-AVI)	2.23	0.66	-0.01	0.20**	-0.03	-0.13*	0.01	-0.07	-0.10	0.82**	(0.87)		
10. Anxiety (post-AVI)	1.93	0.66	0.03	0.16*	0.08	-0.20**	-0.03	-0.19**	-0.28**	0.46**	0.52**	(0.86)	
11. Interview performance	3.03	0.81	0.09	0.07	0.06	-0.03	0.05	0.05	-0.06	-0.05	-0.05	-0.12	(0.91)

Note: $N = 231$; Cronbach's α for each measure, or ICC(2,2) for interview performance, is indicated on the diagonal in parentheses. Scale ranges were 1–5 for relatedness need satisfaction and organizational attraction, 1–4 for anxiety, 1–7 for candidate experience, and 1–5 for interview performance. Gender was coded as 0 = female, 1 = male; condition was coded as 0 = neutral, 1 = relatedness need-supportive.

Abbreviation: AVI, asynchronous video interview.

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

9.4.3 | Candidate experience

A one-item measure was developed for this study to measure candidate experience holistically: "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*).

9.4.4 | Interview performance

Participants were asked to answer three interview questions as part of the "assessed" component of the AVI. For each question, participants were given a maximum of 30 s to read the question and then given a maximum of 2 min 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 1 (*poor quality response*) to 5 (*high quality response*) Likert scale. 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, 95% CI [0.879, 0.926]).

10 | RESULTS AND DISCUSSION

Descriptive statistics and correlations between study variables are shown in Table 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.

10.1 | Hypothesis testing

Per the preregistration, we used MANOVA to investigate the differences between the video material conditions for relatedness need satisfaction (H_1), organizational attraction (post-AVI; H_2), state anxiety (during AVI; H_3), candidate experience (H_4), and interview performance (H_5). Results of the multivariate tests did not reveal a difference between the control and experimental conditions $F(4, 226) = 0.75$, $p = .559$, Wilks' $k = 0.987$). For clearer interpretability, Table 3 shows the follow-up one-tailed independent samples t tests for each dependent variable. In all cases, a significant difference was not observed, meaning H_1 - H_4 and H_5 were not supported.

TABLE 3 Results of between-subjects one-tailed *t* tests of all dependent variables.

Dependent variable	Neutral video (<i>n</i> = 112)		Relatedness need-supportive video (<i>n</i> = 119)		<i>t</i> (229)	<i>p</i>	Cohen's <i>d</i>	95% CI of the difference	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
<i>H</i> ₁ . Relatedness need satisfaction	3.19	0.97	3.31	0.86	0.97	.162	0.13	-0.12	0.35
<i>H</i> ₂ . Organizational attraction (post-AVI)	3.64	0.83	3.54	0.88	-0.85	.200	-0.12	-0.32	0.13
<i>H</i> ₃ . State anxiety (during AVI)	2.24	0.63	2.22	0.69	-0.19	.424	-0.03	-0.19	0.16
<i>H</i> ₄ . Interview performance	2.96	0.74	3.10	0.86	1.29	.100	0.17	-0.07	0.35
<i>H</i> ₆ . Candidate experience	5.06	1.14	5.09	1.10	0.20	.420	0.03	-0.26	0.32

Note: Scale ranges were 1–5 for relatedness need satisfaction and organizational attraction, 1–4 for anxiety, and 1–7 for candidate experience. Abbreviations: AVI, asynchronous video interview; CI, confidence interval; LL, lower limit; UL, upper limit.

Hypothesis 5 investigated whether the relationship between relatedness need satisfaction and interview performance was mediated by state anxiety reported during the AVI. We performed a serial mediation analysis to also control for the potential direct experimental effects of the manipulation on relatedness satisfaction, state anxiety, and performance, using model 6 of PROCESS (Hayes, 2016) with bootstrapping of 5000 replications. As seen in Figure 1, all direct pathways from the experimental condition and participants' AVI score were nonsignificant. The relation of relatedness need satisfaction and state anxiety was statistically significant, albeit not strong ($B = -0.096$), implying 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; hypothesis 5 was therefore not supported.

Although results from study 1 showed that the relatedness need-supportive video was perceived as more relatedness need-supportive compared with the neutral video materials, this result did not replicate in study 2. The relatedness need-supportive video was rated higher for relatedness need satisfaction compared with the neutral video; however, the difference was not statistically significant. Similarly, there was no evidence of differences between conditions in post-AVI organizational attraction, candidate experience, or interview performance. Although the relatedness need-supportive intervention was intended to put participants at ease, some general (anecdotal) comments from experimental participants did mention their enjoyment of the “bloopers 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 in the regression analysis, but this relationship did not further predict interview performance.

11 | GENERAL DISCUSSION

The overarching goal of these two studies was to advance the literature into AVI research using a BPNT—especially the need for relatedness—lens to study applicant reactions to AVIs. To our

knowledge, our studies are among the first to examine the effects of varying the *content* of AVI video materials (Lukacik et al., 2020) and among the first to use BPNT as a lens through which to study applicant reactions to AVIs. Our focus on applicants' relatedness need satisfaction stemmed from the lack of interpersonal interaction in AVIs compared with face-to-face interviews, which pointed to a lack of relatedness need satisfaction.

Altogether, the results of the two studies were mixed. Study 1 suggests that relatedness need satisfaction perceptions can, in principle, be improved with empathetic and humorous asynchronous video communication. Put concretely, the video itself was generally regarded as humorous and empathetic and that need satisfaction could be improved with it. However, this result failed to replicate during study 2 where participants completed an entire AVI; that is, the AVI experience still undermined the benefits of the video. These results have important theoretical and practical implications.

The findings from study 1 align 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” themselves using humor and showing genuine concern for their students (Borup et al., 2013, 2014). The effects observed from our manipulation both support and extend the list of intervention techniques identified by Ntoumanis et al. (2021) as being relatedness need-supportive. Those authors identified “develop empathy” and “demonstrate warmth or inclusion” as viable relatedness need-supportive interventions; participants who viewed our manipulation using empathy and warm language tone subsequently reported higher levels of relatedness need 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.

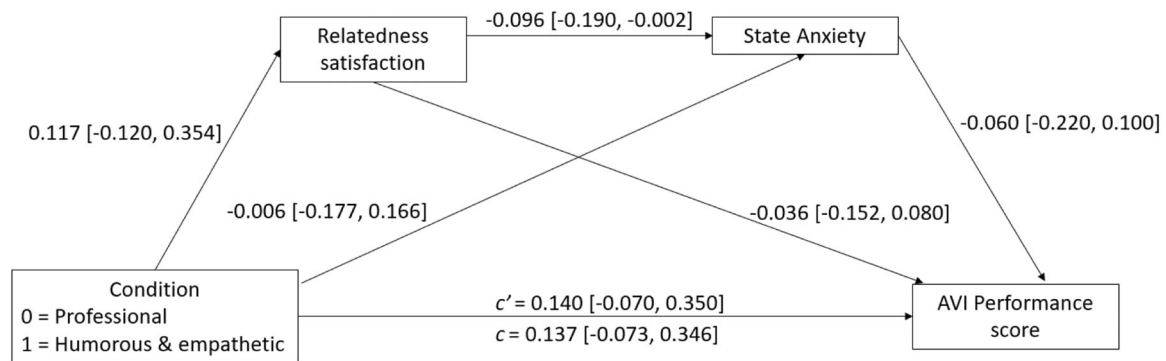


FIGURE 1 Serial mediation model (PROCESS Model 6) showing the unstandardized estimates of the relationships between experimental condition, relatedness need satisfaction, state anxiety, and AVI performance. AVI, asynchronous video interview.

Study 2, where participants completed an AVI following the video messaging, failed to replicate the results from study 1. It seems very unlikely that, in contrast to study 1, the participants in study 2 would have *not* regarded the relatedness need-supportive video as humorous or empathetic. Rather, it seems more likely that either the experience of completing the AVI itself represents a far stronger intervention that trivializes the impact of the video messaging or that the “half-life” of the video messaging is simply too brief for its effects to survive until the end of an AVI. In any case, our findings raise an important implication for research into applicant reactions toward AVIs involving interventions that are enacted at or near the beginning of the AVI. First, we encourage future researchers to not over-rely on vignette designs due to a lack of external validity (e.g., Langer & Landers, 2021) and instead test the efficacy of their proposed interventions in the context of participants completing an entire AVI. Second, we encourage researchers to investigate the role of timing of their interventions when seeking to examine the impacts on applicant reactions. For example, perhaps had we embedded the humorous and empathetic video at the *conclusion* of the AVI, we may have observed improved ratings of applicant reactions and outcomes. While doing so would remove any possibility that relatedness need-supportive messaging will affect anxiety or performance during the interview, a candidate's reactions to an AVI can presumably be shaped by events that occur after its completion.

11.1 | Empathy without effort: Tokenistic and inauthentic?

An alternative explanation for the lack of effects in study 2 might lie in the content of the video. Indeed, video materials that demonstrated empathy for applicants and creating a humorous “blooper reel” were 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 well-being was important to the organization. However,

job applicants would most likely understand that the video materials they were shown were also being shown to all job applicants who had applied for the position. Thus, it is possible the empathetic strategies employed in our experimental manipulation were perceived as “mass-produced” or “disingenuous” rather than targeted toward themselves personally as an individual, potentially creating a barrier to improving relatedness need satisfaction and result in poorer applicant reactions. Still, the fact that differences in perceived relatedness need-support were observed in study 1 lends weight against this alternative explanation.

11.2 | A somewhat positive candidate experience: The best that hiring organizations should hope for?

Another reason that the relatedness need-supportive manipulation might not have been successful in study 2 could be because, 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.” It may 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 relatedness need-supportive 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 regression analysis did show a statistically significant (albeit very small: $R^2 = 0.018$) negative association of relatedness need satisfaction and anxiety: Participants who felt more “connected” to the hiring organization felt marginally less anxious (or potentially

vice-versa). Given how small the association was, we interpret this result with caution; future studies could explore this relationship further by also conducting this experiment by inducing a “high-stakes” environment.

11.3 | Limitations

A limitation of study 1 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 group differences for empathy, humor, relatedness need satisfaction, and organization encouraged us to incorporate the video materials in a larger study involving an entire AVI experience.

Study 2 was designed to address some of these limitations but raised other 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. Indeed, in a recent and rare field experiment with real applicants, Niemitz et al. (2024) were unable to replicate the evidence of the benefits of media-rich content (compared with text) found in the “lab” by Salimian Rizi and Roulin (2023). Thus, we encourage researchers to investigate whether the assessment stakes might moderate the effects of “relatedness need-support.” 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, the decision to involve a graduate role seemed to afford some external validity; 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 (Tilston et al., 2023). 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.

11.4 | Future research

Free-text comments from study 2 participants at the conclusion of the survey may provide several directions for future research. A common feature to both conditions were our two characters, “Jake” and “Steph.” Some participants mentioned in the free-text comments 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. We currently, however, lack a strong evidence base for concrete recommendations in this respect. Accordingly, we encourage future researchers to 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. Such a possibility is consistent 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, Salimian Rizi and Roulin (2023) experimentally tested whether (a) high-fidelity (i.e., professionally filmed, branded, formal) videos were perceived more favorably than (b) low-fidelity (i.e., cellphone-filmed, unbranded, casual) 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. Further, the failure of Niemitz et al.'s (2024) study to replicate the effects observed by Salimian Rizi and Roulin (2023) may have occurred because their text-only condition still included a video-based introduction. Together, these findings give 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.

11.5 | Practical implications

These findings also have practical implications for creating AVI video content. The neutral condition video materials were over 1 min shorter than the relatedness need-supportive 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 with the more effortful relatedness need-supportive videos. Also, the inclusion of a blooper reel and an empathetic message apparently 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.

11.6 | Conclusion

While our studies provide initial evidence suggesting that humor and empathy can enhance relatedness-need satisfaction in specific contexts, as per study 1, the applicability of these mechanisms may not extend to AVIs, as indicated by the results in study 2. Altogether, our research demonstrates a novel operationalization of BPNT in experimental interventions for studying applicant reactions. Although the intervention developed for this study, inspired by this theoretical lens, failed to produce improved reactions to an asynchronous assessment, the moderate positive association between the relatedness need satisfaction and organizational attraction does suggest that forming a sense of belonging with an employer is important to candidates. Whether the Basic Psychological Needs Theoretical lens ultimately affords new opportunities to improve applicant reactions to asynchronous assessments through needs-based intervention will require further investigation, and we see many clear opportunities to make new attempts, such as varying the intervention's timing and content.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF at <https://osf.io/>, reference number <https://doi.org/10.17605/OSF.IO/2U4BS>

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ENDNOTES

¹ We measured anxiety three times—following the demographic questionnaire “before,” just as the interview was about to start; “during”; and after the interview “after.” For this study, we only report on the “during” measurement.

² We measured organizational attraction twice—following the demographic questionnaire “before”; and after completing the AVI, “after.” We conducted a Repeated Measures ANOVA (RM ANOVA) in addition to the preregistered hypothesis regarding organizational attraction but found no meaningful differences in the results; for this reason we elect to publish only the preregistered hypothesis and analysis for this study. Interested scholars may view the results of the RM ANOVA via this study's OSF registration page.

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