Human Versus AI Interview Agents

Behavioral and Attitudinal Differences and Their Impact on Interview Performance

Leilani Hedstrom

DePaul University, Jarvis College of Computing and Digital Media

Faculty Advisor: Professor David Ramsay, PhD

Author Note

This research was supported by the Distribution REsearch Apprenticeship for Master's (DREAM) program, which provided funding and resources essential to the completion of this paper. I would like to extend my gratitude to Dr. David Ramsay for his invaluable guidance throughout this project.

Abstract

This paper examines how human and AI interview agents impact job candidates' emotional responses, trust, and interview performance. While asynchronous video interviews (AVI) offer flexibility, the lack of social cues often hinders rapport and impression management. Recent advances in anthropomorphic AI technology promise more interactive experiences, but little is known about their effects on interview dynamics. Grounded in theories such as Social Presence, Media Richness, and Uncanny Valley, this study explores how AI agents shape candidate engagement and acceptance, highlighting implications for designing more effective and human-centered AI-driven recruitment tools.

Keywords**:** AI interview agents, asynchronous video interviews (AVI), interview performance, social presence theory, media richness theory, AI acceptance, recruitment technology.

Human vs. AI Interview Agent:

Behavioral and Attitudinal Differences and Their Impact on Interview Performance

Asynchronous Video Interview and AI

Interviews are widely regarded as one of the most effective methods for predicting job performance (McDaniel et al., 1994). However, the rise of technology-mediated interviews, particularly asynchronous video interviews (AVI), has introduced new complexities. In AVI, candidates record their responses to pre-set questions, which are later reviewed by employers (Dunlop, Holtrop, & Wee, 2022; Langer, König, & Krause, 2017; Rizi & Roulin, 2023; Tilston et al., 2024). This format, popularized during the COVID-19 pandemic (Dunlop, Holtrop, & Wee, 2022), offers flexibility and efficiency but can feel impersonal, lacking the interactive dialogue candidates typically expect, which may increase their anxiety (Langer, König, & Krause, 2017).

Recent advances in anthropomorphic AI, like OpenAI's ChatGPT-4.o and other interactive AI agents, are pushing AVI technology towards more engaging, two-way experiences (Knight & Rogers, 2024). Platforms like Apriora.ai already offer real-time conversational AI interviews, though these are often limited by voice-to-text transcription and simple avatars that lack non-verbal communication cues like facial expressions and body language, making the experience less natural than face-to-face interviews. While promising AI prototypes are emerging (Chou et al., 2022; Chakraborty et al., 2023), little research has explored how these technologies affect the internal emotional and behavioral responses of candidates or their impact on interview performance.

This paper aims to investigate the effects of visually hyper-realistic AI interview agents on job seekers' performance, particularly in high-stakes situations like employment interviews. We will examine emotional and behavioral responses to AI interviewers, with a focus on key factors such as trust, emotional engagement, impression management, and overall interview performance. Additionally, this paper will connect these findings to established theoretical frameworks, including

Media Richness Theory (MRT), Media Naturalness Theory (MNT), AI Device User Acceptance (AIDUA) framework, Social Presence Theory (SPT), and Uncanny Valley Theory.

Media Richness and Media Naturalness Theory

Media Richness Theory (MRT) offers a framework for understanding how the richness of a communication medium affects its effectiveness. Channels that provide more social cues, like face-to-face communication are considered "rich", leading to better information exchange and more effective communication (Daft & Lengel, 1986). In the context of AVI, research shows that richer media environments can improve candidate behavior, increase positive outcomes, and lead to better interview performance (Rizi & Roulin, 2023).

Media Naturalness Theory (MNT) posits that communication is most effective when it closely resembles face-to-face interactions, where voice and visual cues are naturally integrated (Kock, 2004). Access to non-verbal cues such as eye contact and body language enhances impression management and aligns with both MRT and MNT (Basch, Kegelmann, & Lieb, 2020). Together, these theories suggest that richer, more natural communication channels improve emotional engagement, facilitate rapport-building, and enhance interview performance.

Social Presence Theory and Psychological Distance Theory

Social Presence Theory (SPT) explains how technology-mediated communication facilitates social connections by transmitting cues that foster interpersonal closeness and immediacy (Short, Williams, & Christie, 1976). SPT is closely related to Psychological Distance Theory, which describes the degree of separation from the immediate, personal experience of “me,” in this place, at this moment (Liberman et al., 2007). This perceived distance can hinder trust-building and rapport, as individuals rely on social cues like mimicry, positive emotions, and tone of voice to gauge trustworthiness and form connections (Thompson, 2023).

Trust is essential in high-stakes interviews, directly shaping how candidates engage with the interviewer. Establishing rapport breaks down psychological distance, helping candidates feel more at ease and genuine. This sense of trust boosts confidence and encourages more accurate self-presentation, leading to stronger performance evaluations and more reliable impressions (Tickle-Degnen & Rosenthal, 1990). Without these trust-building cues in virtual interviews, candidates often struggle to manage impressions effectively, which can negatively affect their performance (Blacksmith et al., 2016).

In contexts like customer service interviews, employers often prioritize a candidate's ability to build rapport over technical qualifications, as the capacity to connect with customers is crucial (Gilmore & Ferris, 1989). However, technology-mediated interviews often lack the richness of non-verbal social cues required for effective impression management, which can result in lower performance ratings compared to traditional face-to-face interactions (Blacksmith et al., 2016). Without the opportunity to engage in behaviors like eye contact, body language, and synchronous dialogue, candidates may struggle to establish trust and manage impressions, ultimately impacting their overall interview performance.

Anthropomorphism and the Uncanny Valley

Anthropomorphism, or attributing human traits to machines, can evoke mixed reactions ranging from comfort to unease (Samuel, 2019; Chaminade et al., 2007). As AI becomes increasingly human-like, concerns about emotional attachment and psychological impact have emerged (Knight & Rogers, 2024). Anthropomorphic AI agents, like OpenAI's ChatGPT-4.o and Replika, exhibit social and emotional intelligence through human-like voices, memory, and contextual understanding, building rapport and even fostering intimacy (Sufyan et al., 2024; Pentina et al., 2023). These qualities can fulfill social needs, but may also trigger discomfort, as explained by the Uncanny Valley Theory, which suggests that near-human AI elicits unease when they fall short of authentic human behavior (de Borst & de Gelder, 2015).

In an interviewing context, the introduction of these AI agents adds complexity to understanding trust and psychological distance in human-AI interactions. While some studies show people are more comfortable sharing personal information with AI in mental health settings, benefiting from perceived anonymity and reduced need for impression management (Lucas et al., 2014; Lee et al., 2020), others indicate that AI interviewers can increase feelings of uncertainty and distrust, leading to more deceptive behavior from candidates compared to human interviewers (Suen & Hung, 2024; Spence et al., 2014).

Beliefs about AI significantly shape these responses; people's reactions often differ depending on whether they think they are interacting with a human or a machine, even if the interaction is identical (Lucas et al., 2014). This emphasizes the need to understand how job seekers' behaviors and emotional responses are influenced by the perceived authenticity of AI interviewers, as AI continues to transform technology-mediated interviews.

AI Device Use Acceptance (AIDUA) and Computer Are Social Actor (CASA)

AI Device Use Acceptance (AIDUA) builds on Venkatesh and Davis's (2000) Technology Adoption Model (TAM), which provides a framework for predicting how individuals accept and engage with new technologies. AIDUA specifically examines how AI is accepted in recruitment contexts by exploring how both employers and job seekers respond to AI interview technologies. For employers, AI offers benefits such as increased efficiency, greater consistency, and reduced labor costs throughout the hiring process (Malin et al., 2023). For job seekers, however, acceptance is shaped by factors like trust, emotional responses, and perceived fairness (Gursoy et al., 2019).

While AIDUA has been explored extensively in consumer-facing contexts such as hospitality (Tavakoli & Mura, 2018), retail (Faggella, 2019), and air transportation (West, Clifford, & Atkinson, 2018). However, from job seekers' perspective, where the power dynamics between candidates and employers are markedly different. This shift is critical because interactions with AI in a job interview context carry higher stakes, which could amplify concerns around trust and transparency.

Understanding how users respond to AI in these settings can be further explained using the Computers Are Social Actors (CASA) theory (Nass et al., 1994). CASA posits that people naturally apply social norms to computers and AI, responding to them as if they were human. When AI incorporates anthropomorphic features such as human-like voice, facial expressions, or conversational abilities, this effect intensifies, triggering familiar social behaviors and shaping perceptions of the AI's warmth, competence, and trustworthiness (Kim & Hur, 2023) .

However, this anthropomorphism can have mixed effects on AI acceptance. While human-like AI can make interactions feel more intuitive, overly realistic AI can increase cognitive load, especially in high-pressure contexts like job interviews (Gursoy et al., 2019). This added complexity may hinder candidate performance, as managing impressions becomes more challenging when faced with an AI that mimics human behaviors too closely. Furthermore, emotions whether positive or negative, play a mediating role in AI acceptance, with positive emotions enhancing engagement and negative emotions creating resistance (Gursoy et al., 2012).

Implications

The findings from this paper emphasize that integrating hyper-realistic AI interviewing agent into the hiring process requires a nuanced understanding of human behavior and perception. In a job interview scenario, trust and rapport are essential for effective communication and accurate performance evaluations (Tickle-Degnen & Rosenthal, 1990). If AI interview agents lack the non-verbal cues and social dynamics inherent in human interactions, candidates may feel detached, increasing psychological distance and ultimately leading to negative interview performance (Liberman et al., 2007).

Furthermore, the mixed responses to anthropomorphic AI highlight a critical design challenge: while human-like features can enhance familiarity and engagement, they can also trigger discomfort when not perfectly executed (de Borst & de Gelder, 2015). This delicate balance, as described in the Uncanny Valley Theory, means that AI developers must be intentional in selecting which human-like

attributes to incorporate. Overloading candidates with complex AI that fails to establish trust could lead to increased cognitive load, negatively impacting their ability to present themselves effectively (Gursoy et al., 2019).

These implications suggest that AI interview agents need to go beyond basic interactivity by incorporating advanced social signals like mimicry, appropriate facial expressions, and adaptive feedback to foster a sense of authenticity and reduce psychological distance (Thompson, 2023). This approach would align AI interviews more closely with Media Richness Theory and Media Naturalness Theory, promoting better emotional engagement and ultimately improving interview outcomes (Daft & Lengel, 1986; Kock, 2004).

For roles where interpersonal skills are prioritized, a technology-mediated format that lacks these essential rapport-building elements could disadvantage underrepresented candidates, reducing the overall effectiveness of the selection process (Gilmore & Ferris, 1989). Therefore, the design of AI interview agents should be tailored to different job contexts, balancing efficiency with the need to create a realistic, human-centric interviewing experience.

Conclusion

As AI interviewing technologies become more sophisticated, blurring the line between human and machine interactions, it's crucial to explore how job seekers' emotional and behavioral responses shift in the presence of AI interviewers. By connecting these findings to established theoretical frameworks, this research will shed light on the dynamics of human-AI interactions in interviews and provide insights for developing more effective and equitable recruitment practices.

References

Apriora. (2024). AI solutions and services. *Apriora*. https://www.apriora.ai/

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-09-2018-039

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

de Borst, A. W., & de Gelder, B. (2015). Is it the real deal? Perception of virtual characters versus humans: an affective cognitive neuroscience perspective. Frontiers in Psychology, 6. https://doi.org/10.3389/fpsyg.2015.00576

Chakraborty, I., Chiong, K., Dover, H., & Sudhir, K. (2023). AI and AI-Human Based Salesforce Hiring using Conversational Interview Videos. *Available at SSRN 4137872*.

Chaminade, T., Hodgins, J. K., Letteri, J., & MacDorman, K. F. (2007). The uncanny valley of eeriness. ACM SIGGRAPH 2007 Panels, 1-es. https://doi.org/10.1145/1278400.1278402

Chou, Y.-C., Wongso, F. R., Chao, C.-Y., & Yu, H.-Y. (2022). An AI Mock-interview Platform for Interview Performance Analysis. *2022 10th International Conference on Information and Education Technology (ICIET)*, 37–41. https://doi.org/10.1109/ICIET55102.2022.9778999

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science, 32*(5), 554-571.

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

Faggella, D. (2019). Artificial intelligence in retail – 10 present and future use cases. *Emerj.* https://emerj.com/ai-sector-overviews/artificial-intelligence-retail/

Gilmore, D. C., & Ferris, G. R. 1989. The effects of applicant impression management tactics on interviewer judgments. Journal of Management, 15: 557-564.

Goffman, E. (1959). *The presentation of self in everyday life*. Anchor Books.

Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of artificially intelligent (AI) device use in service delivery. International Journal of Information Management, 49, 157–169. https://doi.org/10.1016/j.ijinfomgt.2019.03.008

Kim, W. B., & Hur, H. J. (2023). What Makes People Feel Empathy for AI Chatbots? Assessing the Role of Competence and Warmth. *International Journal of Human–Computer Interaction*, *40*(17), 4674–4687. https://doi.org/10.1080/10447318.2023.2219961

Knight, W., & Rogers, R. (2024, August 8). *OpenAI warns users could become emotionally hooked on its voice mode*. *Wired*. https://www.wired.com/story/openai-voice-mode-emotional-attachment/

Kock, N. (2004). The Psychobiological Model: Towards a New Theory of Computer-Mediated Communication Based on Darwinian Evolution. Organization Science, 15(3), 327–348. https://doi.org/10.1287/orsc.1040.0071

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

Lee, Y.-C., Yamashita, N., Huang, Y., & Fu, W. (2020). "I Hear You, I Feel You": Encouraging Deep Self-disclosure through a Chatbot. Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, 1–12. https://doi.org/10.1145/3313831.3376175

Liberman, N., Trope, Y., & Stephan, E. (2007). Psychological distance. In A. W. Kruglanski & E. T. Higgins (Eds.), Social psychology: Handbook of basic principles (pp. 353381). Guilford Press.

Lucas, G. M., Gratch, J., King, A., & Morency, L.-P. (2014). *It's only a computer: Virtual humans increase willingness to disclose*. *Computers in Human Behavior, 37*, 94–100. https://doi.org/10.1016/j.chb.2014.04.043

Malin, C., Kupfer, C., Fleiß, J., Kubicek, B., & Thalmann, S. (2023). In the AI of the Beholder—A Qualitative Study of HR Professionals' Beliefs about AI-Based Chatbots and Decision Support in Candidate Pre-Selection. *Administrative Sciences*, *13*(11), 231. https://doi.org/10.3390/admsci13110231

McDaniel, M. A., Whetzel, D. L., Schmidt, F. L., & Maurer, S. D. (1994). The validity of employment interviews: A comprehensive review and meta-analysis. *Journal of Applied Psychology, 79*(4), 599–616. https://doi.org/10.1037/0021-9010.79.4.599

Nass, C., Steuer, J., & Tauber, E. R. (1994). Computers are social actors. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 72-78. https://doi.org/10.1145/191666.191703

Pentina, I., Hancock, T., & Xie, T. (2023). Exploring relationship development with social chatbots: A mixed-method study of replika. Computers in Human Behavior, 140, 107600. https://doi.org/10.1016/j.chb.2022.107600

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, ijsa.12448. https://doi.org/10.1111/ijsa.12448

Spence, P. R., Westerman, D., Edwards, C., & Edwards, A. (2014). Welcoming Our Robot Overlords: Initial Expectations About Interaction With a Robot. Communication Research Reports, 31(3), 272–280. https://doi.org/10.1080/08824096.2014.924337

Short, J., Williams, E., & Christie, B. (1976). The social psychology of telecommunications. *London: John Wiley & Sons*.

Suen, H.-Y., & Hung, K.-E. (2024). Revealing the influence of AI and its interfaces on job candidates' honest and deceptive impression management in asynchronous video interviews. Technological Forecasting and Social Change, 198, 123011. https://doi.org/10.1016/j.techfore.2023.123011

Sufyan, N. S., Fadhel, F. H., Alkhathami, S. S., & Mukhadi, J. Y. A. (2024). Artificial intelligence and social intelligence: Preliminary comparison study between AI models and psychologists. Frontiers in Psychology, 15, 1353022. https://doi.org/10.3389/fpsyg.2024.1353022

Tavakoli, R., & Mura, P. (2018). Netnography in tourism – Beyond Web 2.0. *Annals of Tourism Research, 73*(C), 190–192.

Thompson, L. (2023). *The virtually intelligent negotiator: Building trust and maximizing economic gain in e-negotiations*. *Current Directions in Psychological Science, 32*(5), 347–354. https://doi.org/10.1177/09637214231164038

Tickle-Degnen, L., & Rosenthal, R. (1990). The nature of rapport and its nonverbal correlates. *Psychological Inquiry, 1*(4), 285-293. https://doi.org/10.1207/s15327965pli0104_1

Tilston, O., Krings, F., Roulin, N., Bourdage, J. S., & Fetzer, M. (2024). Reactions to asynchronous video interviews: The role of design decisions and applicant age and gender. Human Resource Management, 63(2), 313–332. https://doi.org/10.1002/hrm.22202

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, *46*(2), 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926

West, A., Clifford, J., & Atkinson, D. (2018). "Alexa, build me a brand": An investigation into the impact of artificial intelligence on branding. *The Business & Management Review, 9*(3), 321–330.

Xie, T., & Pentina, I. (2022). Attachment Theory as a Framework to Understand Relationships with Social Chatbots: A Case Study of Replika. Hawaii International Conference on System Sciences. https://doi.org/10.24251/HICSS.2022.258