How Audio-Visual Stimuli in Automated Asynchronous Video Interviews Affect Applicant Reactions: Social Presence, Fairness and Organisational Attractiveness

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Abstract

Over the past decade, the use of asynchronous video interviews (AVIs) has increased exponentially, largely spurred by ongoing technological progress and shifts to remote work. Although prior research shows interview design can influence applicant reactions, the effect of video interview design factors on interviewee reactions remains unclear. The present study determines the influence of AVI stimulus format (text-based vs. audio-visual questions) on applicant perceptions of social presence, fairness and organisational attractiveness. To this end, a between-subjects posttest-only experimental design was used in two separate samples (South African sample, $N = 58$; USA sample, $N = 169$, Combined samples, $N = 227$). Participants were randomly assigned to either the control or experimental group. Participants completed a mock interview on a commercially available AVI platform and then answered a questionnaire measuring perceptions of social presence, fairness, and organisational attractiveness. Bootstrapped independent sample t-tests and serial mediation were used to test the hypotheses. Within Sample 1, applicant perceptions of social presence, fairness and organisational attractiveness were higher for the audio-visual and text-based AVIs, thereby supporting the proposition that audio-visual stimuli lead to higher perceptions of social presence, fairness and organisational attractiveness. Conversely, Sample 2's findings were non-significant ($p > .05$). While there were mixed results, the findings of this study provide preliminary evidence which suggests that within the South African context, audio-visual stimuli can be used in AVIs. Organisations in the American context should pay close attention to the effects of AVI stimulus format on applicant reactions as the findings from the American sample were not conclusive. Future research should investigate applicant reactions to different forms of AVI stimulus during a multi-stage selection process.

Keywords: asynchronous video interview, applicant reactions, fairness, social presence, organisational attractiveness, selection interview, modular approach, experiment, multi-sample, mediation

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Chapter 1: Introduction

Employment interviews continue to be the most widely used instrument for selecting new employees and almost every organisation uses them at some point during the selection process, often even as the only selection instrument (Blacksmith et al., 2016; Brenner et al., 2016; Levashina et al., 2014; Lukacik et al., 2022). Traditionally, employment interviews were primarily conducted as face-to-face (FTF) interviews (Levashina et al., 2014; Sears et al., 2013). These FTF interviews are resource-intensive and are bound by the limits of time and space (Blacksmith et al., 2016; Sears et al., 2013). However, with advancements in technology, alternatives to FTF interviews have been developed which allow for remote assessment. These alternatives, collectively referred to as technology-mediated interviews, include telephone interviews (e.g., Straus et al., 2001), videoconference interviews (e.g., Sears et al., 2013) and asynchronous video interviews (AVIs) (e.g., Langer et al., 2017; Langer et al., 2019). The most recent of these developments in interview technology is AVIs. AVIs are a form of on-demand asynchronous video interviewing conducted on a web-based platform and make use of microphones and cameras to record applicant responses (Langer et al., 2020; Lukacik et al., 2022). When an applicant completes an AVI, their response(s) is uploaded to cloud storage and is then evaluated by human evaluators at a later stage (Lukacik et al., 2022).

1.1. Popularity of Asynchronous Video Interviews

Whilst exact statistics on the use of AVIs and technology-mediated interviews, in general, are difficult to obtain (Rubinstein, 2020; Tippins, 2015), anecdotal evidence suggests that there has been an upsurge in the use of AVIs (see Table 1) (Basch et al., 2020; HireVue, 2021; Modern Hire, 2021). For example, leading interview technology companies, such as HireVue have conducted 2.5 million interviews over five months (HireVue, 2021) and Modern Hire reported a 51% increase in the use of AVIs since 2019 (Modern Hire, 2021).

The upsurge in the usage of AVIs can largely be attributed to the increasing adoption or reliance on technology brought about by the COVID-19 pandemic (HireVue, 2021; Melchers et al., 2021; Modern Hire, 2021). However, unlike the COVID-19 pandemic which will one day come to an end, the usage of AVIs will not come to an end. According to Fennel (2021), more than 50% of employers will continue to use video interviews after the COVID-19 pandemic. Similarly, Maurer (2021) posit that 93% of employers in the United States of America expect to continue to use video interviews after the COVID-19 pandemic. The purported advantages of AVIs have also contributed to the rapid increase in their use (Lukacik

et al., 2022). These advantages include but are not limited to flexibility in terms of time and place when conducting an employment interview, system standardisation, reduced costs and a reduction in the time required for the staffing process (Basch et al., 2020; Brenner et al., 2016; Lukacik et al., 2022; Torres & Gregory, 2018).

Table 1

AVI Usage Over the Last Decade

Date	Interviews Conducted	Period (months)	Nominal Increase	% Increase
19 October 2011[1]	13,000	-	-	-
17 October 2016[1]	2,500,000	60	2,487,000	19130.77%
19 November 2017[2]	5,000,000	13	2,500,000	100.00%
09 October 2018[2]	8,000,000	11	3,000,000	60.00%
21 May 2019[3]	10,000,000	7	2,000,000	25.00%
21 July 2020[4]	15,000,000	14	5,000,000	50.00%
29 October 2020[4]	17,500,000	3	2,500,000	16.67%
23 March 2021[5]	20,000,000	5	2,500,000	14.29%

Note. [1]Greenfield (2016); HireVue ([2]2018, [3]2019, [4]2020, [5]2021).

In contrast to the upsurge in AVI usage, an extensive literature search conducted for this study revealed that there is limited empirical research on AVIs (e.g., Langer et al., 2019; Langer et al., 2020; Suen et al., 2019). However, the literature search revealed that there is ample research on videoconference interviews, a type of technology-mediated interview (e.g., Basch et al., 2020; Basch et al., 2021; Blacksmith et al., 2016; Sears et al., 2013; Wegge, 2006). AVIs differ from videoconference interviews in that they are on-demand and are not synchronous (Blacksmith et al., 2016; Langer et al., 2017; Lukacik et al., 2022). Whilst the research on technology-mediated interviews does not directly apply to AVIs, it is still of importance as the various forms of technology-mediated interviews do not differ in their basic forms/foundations (Langer et al., 2017; Lukacik et al., 2022).

1.2. Applicant Reactions in Interviews

Literature suggests that applicant reactions are a central issue within AVI research (e.g., Langer et al., 2020; Suen et al., 2019; Zibarras et al., 2018). Applicant reactions refer to the attitudes, cognitions, affect or perceptions that an applicant might have about selection tools and/or the hiring process, along with their impact on the selection process and organisational attractiveness (McCarthy et al., 2017; Nikolaou & Georgiou, 2018; Ryan & Huth, 2008).

Examples of applicant reactions include perceptions of social presence and fairness (Langer et al., 2020; McCarthy et al., 2017). Organisational attractiveness has to do with the degree to which an individual perceives an organisation as a place they want to work at (Highhouse et al., 2003). Social presence refers to the extent to which an interview is perceived as sociable, warm, or personal (Short et al., 1976; Lukacik et al., 2022). Lastly, fairness refers to the extent to which applicants perceive a specific selection procedure or system, such as AVIs, to be fair (Farago et al., 2013; Truxillo et al., 2015).

Findings from the literature suggest that individuals react more negatively to the automation of human tasks such as hiring (Lee, 2018; Lukacik et al., 2022), and that negative applicant reactions to selection procedures are exacerbated the more interviews are automated (Langer et al., 2019; Langer et al., 2020; Suen et al., 2019). In particular, findings also suggests that technology-mediated interviews are often ranked lower in perceptions of social presence and fairness compared to traditional FTF interviews (e.g., Basch et al., 2020; Brenner et al., 2016; Langer et al., 2020), and that this can have negative effects on organisational attractiveness (e.g., Langer et al., 2017; Langer et al., 2020; Lukacik et al., 2022).

A review by Lukacik et al. (2022) suggests/proposes that specific design features of AVIs, such as the use of high-quality welcome videos and audio-visual/video interview questions, can influence applicant perceptions of fairness, social presence and organisational attractiveness. Accordingly, Lukacik et al. (2022) suggested that the use of welcome videos and video interview questions can improve applicant perceptions of social presence, fairness and organisational attractiveness. This is because the use of videos is suggested to offer a more immersive interview experience, and also offer more information about the interview process and the organisation.

However, no empirical studies have implemented Lukacik et al.'s (2022) suggestion. Therefore, there is a need to empirically evaluate the effectiveness of Lukacik et al.'s (2022) recommendation to use welcome videos and video interview questions to improve applicant perceptions of social presence, fairness and organisational attractiveness. This is because existing research suggests that the more interviews are automated, the greater the extent to which applicant reactions are negative (Langer et al., 2019; Langer et al., 2020; Suen et al., 2019). It is also important to understand how applicant perceptions of social presence and fairness regarding AVIs can affect organisational attractiveness (Langer et al., 2017; Lukacik et al., 2022; McCarthy et al., 2017). This is because the use of AVIs in the selection procedure can influence organisational attractiveness which is vital for the success of an organisation as

it leads to increased levels of organisational prestige, being perceived as a good employer and having access to a more talented applicant pool (Highhouse et al., 2003; Langer et al., 2017). Moreover, the viability of AVIs as a selection tool can be lowered if high-quality talent is consistently lost due to negative applicant perceptions of organisational attractiveness, social presence and fairness (Highhouse et al., 2003; Lukacik et al., 2022; Melchers et al., 2021). Therefore, it is crucial that research be conducted to determine how and to what extent the design of AVIs, specifically how the use of audio-visual stimuli, can influence applicant perceptions of social presence, fairness and organisational attractiveness. Additionally, as AVIs are here to stay, there is a need for research on them in order to inform best practices when it comes to AVI design and usage (Lukacik et al., 2022; Maurer, 2021).

1.3. Frameworks for Studying AVI Design

AVI design can differ in numerous and important ways (see Lukacik et al., 2022), such as stimulus format (text versus audio-visual), response time and number of retries. This can lead to variability in how AVIs are designed and executed as organisations can tailor the design of AVIs according to their preferences (Langer et al., 2017; Lukacik et al., 2022). To accommodate the plethora of AVI design decisions and the theories underlying how these design decisions can influence applicant reactions, Lievens and Sackett's (2017) modular approach and/or Lukacik et al.'s (2022) granular approach can be used. These approaches suggest that AVIs cannot be discussed as a unitary type of interview and that greater insights into the effectiveness of selection procedures can be obtained by focusing on key design components such as stimulus format. Similarly, the effectiveness of welcome videos and video interview questions on social presence and fairness can be interpreted using social presence theory (Short et al., 1976) and Gilliland's fairness model of selection procedural justice (Gilliland, 1993) respectively.

1.4. Research Questions

Based on the above, this study attempted to address the following research questions:

1. What is the effect of AVI design, specifically the use of audio-visual stimuli in AVIs, on social presence, fairness and organisational attractiveness?
2. What is the effect of social presence perceptions and fairness perceptions on organisational attractiveness?

1.5. Dissertation Structure

This chapter presented the background and rationale of the current study and outlined the research questions. The following chapter provides a review of the literature on AVI research, social presence, fairness perceptions and organisational attractiveness, as well as an overview of this study's hypotheses. Thereafter, the methods chapter describes the research design, sampling and participants, materials, measures, procedure, ethical considerations, data capturing and statistical analyses approach. The empirical findings of this study are then presented in the results chapter. Using existing research, these empirical findings are then interpreted in relation to this study's hypotheses. Finally, the theoretical contributions and practical implications are discussed, and an overview of this study's limitations and recommendations for future research are provided. This dissertation concludes with a summary of this study's findings.

Chapter 2: Literature Review

This chapter begins by providing an overview of technology-mediated employment interviews and AVIs. This is followed by the presentation of contemporary theory on social presence and fairness, and an overview of the concepts of social presence, fairness and organisational attractiveness. Based on a review of existing literature, the relationships between these variables of interest are outlined and plausible hypotheses are presented. This chapter concludes by presenting a diagrammatic representation of the hypothesised relationships between this study's variables.

2.1. Technology-Mediated Employment Interviews

Technology-mediated interviews, also referred to as technology-enhanced interviews (Langer et al., 2020), are an alternative to traditional FTF selection interviews (Melchers et al., 2021). Whereas traditional FTF selection interviews are "a personally interactive process of one or more people asking questions orally to another person and evaluating the answers for the purpose of determining the qualifications of that person in order to make employment decisions" (Levashina et al., 2014, p. 243), technology-mediated employment interviews differ in that they tend to lack the personally interactive aspect of traditional FTF selection interviews (Blacksmith et al., 2016; Langer et al., 2020; Melchers et al., 2021). Furthermore, they differ from traditional FTF selection interviews in that they primarily use technology such as voice and video calls as the modality of the interview (Blacksmith et al., 2016; Langer et al., 2018; Langer et al., 2017).

Due to constant advancements in technology, several forms of technology-mediated interviews have been developed as alternatives to traditional FTF selection interviews (Basch et al., 2021; Langer et al., 2018; Langer et al., 2017). The first of such advancements are telephone interviews. In these interviews job applicants are asked interview questions by a representative of the organisation over the telephone and respond accordingly (Basch et al., 2021; Langer et al., 2017). Telephone interviews were followed by videoconference interviews where interviewees/applicants and interviewers got to see and hear each other in real-time. This was made possible through camera and videoconferencing technologies such as Skype and Google Hangouts (Basch et al., 2021; Langer et al., 2017). These were then followed by AVIs which are also referred to as digital interviews (Langer et al., 2017), pre-recorded interviews or one-way interviews (Mejia & Torres, 2018).

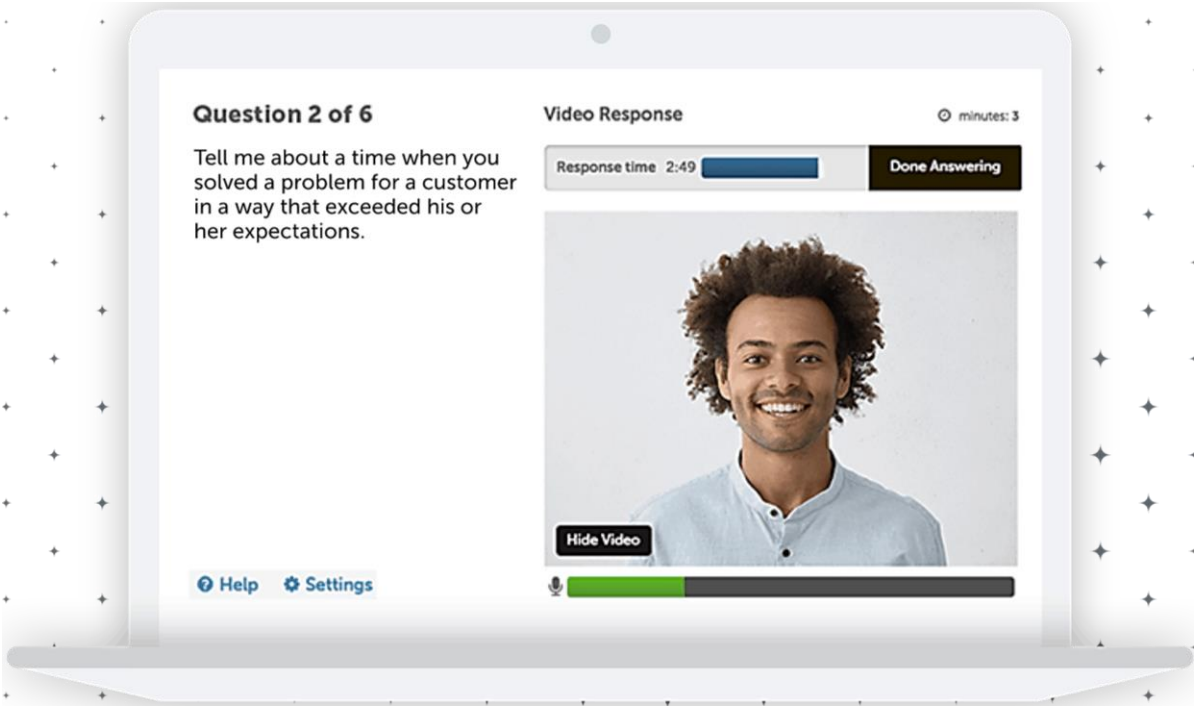
2.2. Asynchronous Video Interview Research

AVIs are a form of asynchronous video interviewing that are conducted on a web-based platform that makes use of sensor devices (microphones and cameras) to record applicant responses (Langer et al., 2017; Lukacik et al., 2022). Applicant responses are then evaluated at a later stage by human evaluators (Brenner et al., 2016; Langer et al., 2017). Unlike prior forms of interviews which are synchronous and can accommodate real-time changes in pacing, structure, and interpersonal dynamics, AVIs are asynchronous and static (Lukacik et al., 2022). AVIs are an on-demand alternative to traditional FTF and videoconference selection interviews (Langer et al., 2020; Lukacik et al., 2022; Suen et al., 2019).

During AVIs, there is no real-time interaction between the applicant and any representative from the organisation (Langer et al., 2019; Lukacik et al., 2022). Applicants can use a laptop, desktop computer, tablet or mobile phone to log onto a web-based AVI platform (see Figure 1) where they use their device's microphone and camera to record video responses to predefined interview questions which are shown onscreen (Basch et al., 2020; Brenner et al., 2016; Langer et al., 2020; Lukacik et al., 2022). HireVue, Modern Hire, myInterview and Spark Hire are examples of companies that provide platforms to conduct AVIs.

Figure 1

A Web-Based AVI Platform



Source. HireVue (n.d.)

2.2.1. Advantages and Disadvantages of Asynchronous Video Interviews

AVIs are attractive to organisations for various reasons. First, as AVIs are on-demand web-based interviews, there is more flexibility in terms of time and place, hence there is no need for interview scheduling (Basch et al., 2021; Langer et al., 2018). This increases efficiency, saves time and also reduces the costs associated with human resources professionals, supervisors and senior managers who may be involved in the selection process (Guchait et al., 2014; Suen et al., 2019; Torres & Gregory, 2018). These advantages are more pronounced in AVIs that make use of machine learning algorithms to screen multiple applicants at once to determine which applicant(s) is the most suitable for the job (Langer et al., 2019; Langer et al., 2020; Suen et al., 2019). Second, transport and accommodation costs are also reduced for both the applicant and organisation as interviews are web-based and thus there is no need to travel (Basch et al., 2020; Guchait et al., 2014; Torres & Gregory, 2018). Third, the independence of AVIs from time and space allows organisations to expand their applicant pool to areas that would have otherwise been difficult to reach due to time and geographical boundaries (Basch et al., 2020; Brenner et al., 2016). Lastly, the standardised nature of the interview content and questions offers psychometric benefits in the form of increased reliability and validity (Basch et al., 2020; Gorman et al., 2018; Lukacik et al., 2022).

However, AVIs are not without their disadvantages. Literature indicates that AVIs can negatively affect applicant reactions such as perceptions of social presence and fairness and are thus less accepted by applicants when compared to FTF interviews and other forms of technology-mediated interviews (see Basch et al., 2020; Blacksmith et al., 2016; Langer et al., 2017; Langer et al., 2020). Additionally, technologically challenged applicants may find it difficult to use a web-based AVI platform which can lead to them experiencing anxiety (Langer et al., 2018; Woods et al., 2020). The result of this anxiety is adverse effects on their interview performance (Langer et al., 2018; Lukacik et al., 2022). Furthermore, there are privacy and confidentiality concerns associated with AVIs (Langer et al., 2017; Langer et al., 2020). Applicants are reluctant to use such systems as they offer minimal transparency, and record and store private data that could be mishandled or misused (Langer et al., 2020; McCarthy et al., 2017). In the case of AVIs which make use of machine learning algorithms, there are also concerns when it comes to the accuracy of these algorithms as they have been found to be discriminative and/or biased in certain situations (see Dastin, 2018; Vincent 2018).

2.3. Design Features for AVIs

AVIs can differ in numerous and important ways based on their design features (Langer et al., 2019; Lukacik et al., 2022). Design features refer to the structure and format features, response formatting features, media presentation features and evaluation features of AVIs chosen to create the interview experience (see Table 2) (Lukacik et al., 2022. For example, some AVIs may make use of text-based interview questions and may, or may not, allow applicants to re-record their responses. Conversely, other AVIs may make use of video interview questions, or a combination of the two, but allow applicants to re-record their responses.

The scope for differences in AVI design (see Table 2) can lead to variability in how AVIs are applied in practice as organisations can tailor the design of AVIs according to their preferences (Langer et al., 2017; Langer et al., 2019; Lukacik et al., 2022). Furthermore, it is the design features in Table 2 that are responsible for how applicants perceive AVIs, as well the effects of AVIs on post-interview outcomes such as organisational attractiveness (Langer et al., 2017; Langer et al., 2019; Lukacik et al., 2022; Suen et al., 2019). For example, Langer et al. (2017) found that AVIs with a response preparation time of 60 seconds and a response time of up to three minutes led to higher perceptions of fairness amongst applicants. As such, AVIs cannot be discussed as a fixed design or unitary type of interview (Langer et al., 2019; Lukacik et al., 2022). Research by Brenner (2020) also proposes that research into new forms of technology-mediated interviews, such as AVIs, should adopt a modular research design as this is more adequate for understanding nuanced differences in design.

Within the literature, two approaches are commonly used when researching AVI design features, namely the modular approach (Lievens & Sackett, 2017) and the granular approach (Lukacik et al., 2022). Lievens and Sackett's (2017) modular approach to selection procedures suggests that the design of selection procedures can be broken down into seven key underlying components, otherwise known as predictor method factors. This allows for better insight and understanding into the workings of different interview components/design features and how they affect applicant reactions (Lievens & Sackett, 2017). The seven predictor method factors are stimulus format, contextualisation, stimulus presentation consistency, response format, response evaluation consistency, information source and instruments (see Table 3 for definitions and examples) (Lievens & Sackett, 2017). It is important to note that these seven predictor method factors represent key design components and that they are not exhaustive (Lievens & Sackett, 2017).

Table 2

Design Features of Asynchronous Video Interviews

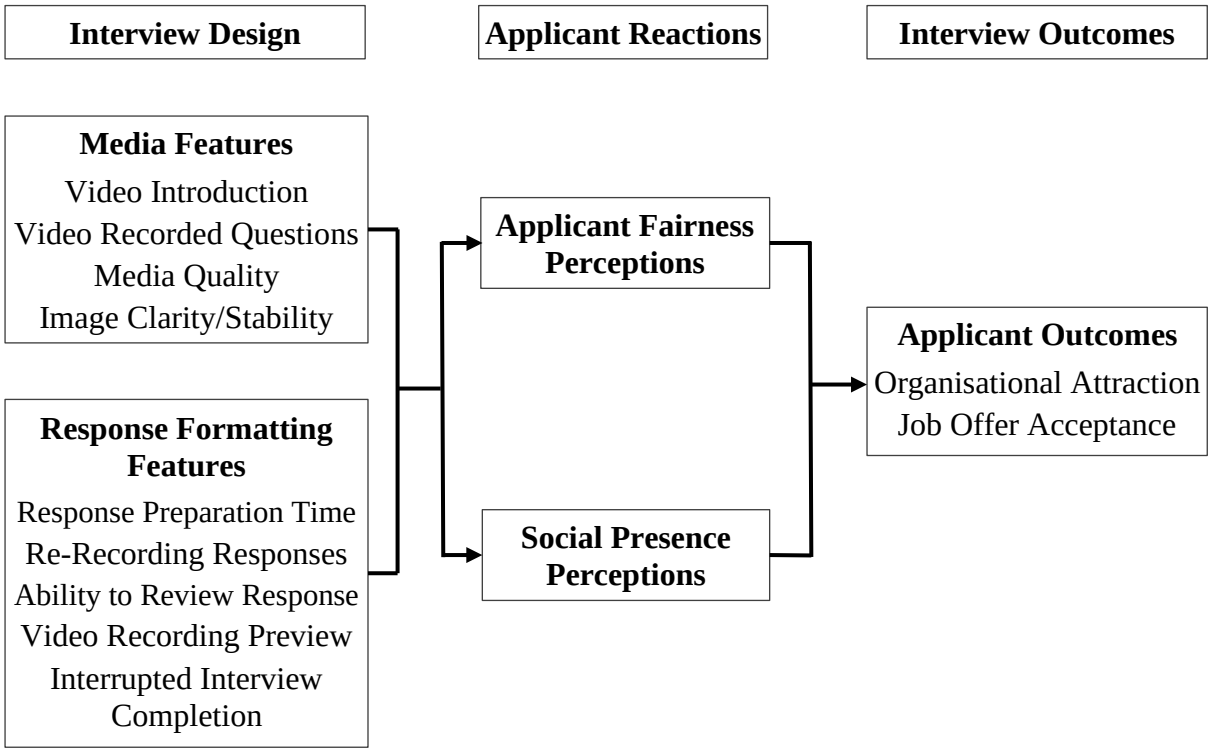
Design Feature	Description
Question timers[1]	The length of time an applicant has to read a question before they prepare their response. This can be a set duration, for example, 30 or 60 seconds, or until an applicant clicks a button to acknowledge that they understand the question and want to proceed.
Response preparation time[2]	The preparation time available to an applicant to think about/prepare a response before recording begins. Recording can occur immediately after a question is presented or when an applicant clicks the recording button. An applicant can even be provided with the interview questions in the invitation to complete the interview.
Response duration time[2]	The amount of time an applicant has to answer a question once response recording begins.
Re-recording of responses[2]	The option for an applicant to have multiple attempts at recording their response. This could be capped, for example at a maximum of three attempts, or an applicant can have an unlimited number of attempts.
Ability to review response[2]	The ability to review a recorded response before proceeding to the next question or re re-recording a response.
Video recording preview[2]	A picture-in-picture display (as can be seen in Figure 1) where an applicant can see themself as he/she is recording their response.
Interrupted interview completion[2]	The time limit imposed for interview completion. This includes unlimited time for an applicant to complete an interview without it timing out, or the ability for an applicant to pause the interview and resume it at a later time.
Text-based questions[3]	Presenting the interview questions to the applicant in a text-based format. This is what is shown in Figure 1.
Video introductions[3]	The inclusion of videos in the interview process. This can include welcome videos on the organisation, the workplace and/or the interview process.
Recorded audio-visual/video questions[3]	Using audio-visual/video recordings of human interviewers to present the interview questions to the applicant. This is the opposite of what is shown in Figure 1 where interview questions are presented in text format.
Media quality[3]	This has to do with the quality of the media included in the interviews. For example, the aesthetics, acting, audio/sound quality, and the resolution of videos and images.
Human evaluator(s)[4]	The ability for the recorded interview to be shared and assessed by multiple reviewers/evaluators (e.g., HR, management).
Automated assessment[4]	The ability to have interviews evaluated mechanically (i.e., without human judgement) with the use of Artificial Intelligence or machine learning. This can include personality assessment or deception detection.

Notes. [1] = Structure and formatting features; [2] = Response formatting features; [3] = Media presentation features; [4] = Evaluation features. Adapted from "Into the void: A conceptual model and research agenda for the design and use of asynchronous video interviews," by E.-R. Lukacik, J. S. Bourdage, and N. Roulin, 2022, *Human Resource Management Review*, *32*(1), p. 2 (https://doi.org/10.1016/j.hrmr.2020.100789). Copyright 2020 by Elsevier Incorporated.

Similar to Lievens and Sackett's (2017) modular approach, Lukacik et al. (2022) posit that due to the variability in AVI design, a granular approach to the understanding of AVI design features is needed to understand applicant reactions associated with AVIs. The granular approach suggests that the theoretical processes that govern applicant reactions can be impacted by specific design features such as those mentioned in Table 2 (Lukacik et al., 2022). Furthermore, the granular approach posits that specific AVI design decisions probably have the most significant impact on applicant perceptions and reactions, as well as on interview outcomes (Lukacik et al., 2022). Using the granular approach, Figure 2 demonstrates how specific design features of AVIs can affect applicant reactions and post-interview outcomes.

Figure 2

The Effects of AVI Design on Applicant Reactions and Post-Interview Outcomes



It, therefore, follows that a greater understanding of the effects of AVI design on applicant reactions can be achieved by examining related design factors, such as stimulus format/media presentation features, whilst holding other design factors constant.

Table 3

Definitions and of Categories Predictor Method Factors

Predictor Method Factor	Definition	Predictor Method Factor Category/Choice (example)
Stimulus format	Modality by which interview stimuli (information, questions, prompts) are presented to interviewees.	Textual stimuli, pictorial stimuli, or auditory stimuli Dynamic audio-visual/video stimuli Videoconference/remote interactive stimuli Face-to-face interactive stimuli
Contextualisation	The extent to which a detailed context is provided to interviewees.	Decontextualised Low, medium or high contextualisation
Stimulus presentation consistency	Level of standardisation adopted in presenting stimuli to interviewees.	Free stimuli, adaptive stimuli, or fixed stimuli
Response format	Modality by which interviewees are required to respond to stimuli.	Close-ended Textual or pictorial constructed Audio constructed or audio-visual/video constructed Videoconference/remote interaction Face-to-face interaction
Response evaluation consistency	Level of standardisation adopted in terms of evaluating interviewees responses.	Unconstrained judgment, calibrated judgment or automated scoring
Information source	Individual responding to the interview stimuli.	The behaviour exhibited (or choices made) by the interviewee in the assessment context. Self-reports by the interviewee about events beyond the assessment context. Reports by others on events outside the assessment context.
Instructions	The extent to which directions are made explicit to interviewees about which perspective they should take to respond to the interview stimuli.	General instructions Specific instructions

Note. From "The effects of predictor method factors on selection outcomes: A modular approach to personnel selection procedures," by F. Lievens and P. R. Sackett, 2017, *Journal of Applied Psychology, 102*(1), p. 45 (https://doi.org/10.1037/apl0000160). Copyright 2016 by the American Psychological Association.

2.4. Social Presence

Social presence is “the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions” (Short et al., 1976, p. 65). Numerous other definitions have since been proposed (see Koivula, 2015 p. 18) as social presence has been applied in a variety of disciplines or contexts such as online learning (e.g., Johnson, 2011; Koivula, 2015; Lee et al., 2011), virtual reality (e.g., Cho et al., 2015; Hammick & Lee, 2014) and technology-mediated communication (e.g., Walter et al., 2015). Within the context of AVIs, Lukacik et al. (2022) posit that the best-suited definition of social presence is “the extent to which a medium is perceived as sociable, warm, or personal when used to interact with others” (p. 6).

According to Short et al. (1976), social presence “varies between different media, it affects the nature of the interaction and it interacts with the purpose of the interaction to influence the medium chosen by the individual who wishes to communicate” (p. 65). Accordingly, social presence can be said to operate on a continuum, with high levels of social presence on the one end, and low levels of social presence on the other end. When a medium has a high level of social presence, it is perceived as being sociable, warm and/or personal (Lowenthal, 2012; Lukacik et al., 2022). Higher levels of social presence are associated with positive communication outcomes, organisational attraction, fairness, friendliness and enjoyment (Farago et al., 2013; Langer et al., 2019; Lee et al., 2006; Melchers et al., 2021; Oh et al., 2018). Additionally, individuals are less likely to acknowledge the presence of a medium in their communication when social presence is high (Lukacik et al., 2022). Conversely, when a medium has a low level of social presence, it is perceived as being less sociable, warm, and/or personal (Lowenthal, 2012; Lukacik et al., 2022).

2.4.1. Social Presence Theory

Social presence theory was developed by Short et al. (1976) to understand the effects of telecommunications media on communication and relationship building, and how this affects the social influence communication partners may exert on one another. Social presence theory is founded on the concepts of intimacy and immediacy proposed by Argyle and Dean (1965), and Wiener and Mehrabian (1968) respectively. Intimacy refers to the feeling of close connection that communicators feel during an interaction (Argyle & Dean, 1965), while immediacy refers to the psychological distance that a communicator places between individuals

(Short et al., 1976; Wiener & Mehrabian, 1968). Both intimacy and immediacy are influenced by verbal and nonverbal cues.

Intimacy is influenced in several ways such as eye contact, smiling, physical proximity and personal topics of conversation (Argyle & Dean, 1965; Oh et al., 2018). Short et al. (1976) also suggest that the social presence of a communication medium can influence intimacy. Subsequent research conducted by Tardy (1988) found that physical orientation, associations, close acquaintances, familiarity, variances in voice tone, pauses and inflexion of speech also influence intimacy. A degree of intimacy is required to establish and maintain communication (Argyle & Dean, 1965; Tardy, 1988). According to Argyle and Dean (1965), if any factor of intimacy is changed, a compensatory shift will occur in one or more other factors to maintain the status of equilibrium. This is known as the equilibrium model (Argyle & Dean, 1965; Chen, 2014). For example, when two individuals are placed close to each other, their eye contact may reduce (Cui et al., 2013). Another example is when an uncomfortable topic is being discussed, individuals tend to avoid eye contact and increase physical distance.

There are three forms of immediacy, namely verbal, nonverbal, and technological immediacy (Wiener & Mehrabian, 1968). Verbal immediacy has to do with the choice of words that individuals use to increase or reduce the psychological distance between them and others (Lowenthal, 2012; Wiener & Mehrabian, 1968). For example, the use of the words ‘our’, ‘let us’ or ‘we’ can create more immediacy between two individuals than simply using ‘you’ or ‘I’ (Chen, 2014; Lowenthal, 2012). Nonverbal immediacy refers to the conveyance of immediacy through nonverbal behaviours such as facial expressions, eye contact, dress, body movements and physical proximity (Chen, 2014; Cui et al., 2013; Lowenthal, 2012; Mehrabian, 1972). Lastly, technological immediacy suggests that a medium of communication can convey immediacy (Lowenthal, 2012; Mehrabian, 1972). For example, communicating in person is more immediate than communicating via video call, and communicating via video call is more immediate than communicating by voice call.

2.4.2. Antecedents of Social Presence

A systematic review of 152 studies by Oh et al. (2018) suggests that the antecedents of social presence fall under three categories, namely immersive qualities, contextual differences and individual psychological traits. Of these three categories, immersive qualities are the most researched (see Oh et al., 2018) and are the most relevant to the design of AVIs (Lukacik et al.,

2022; Walter et al., 2015). Nevertheless, contextual differences and individual psychological traits will be briefly unpacked in this section.

Immersive qualities have to do with the abilities of a medium to generate realistic experiences that can remove individuals from their physical reality (Oh et al., 2018; Slater & Wilbur, 1997). Immersive qualities are well aligned to the principles of social presence theory (Short et al., 1976) in that they are grounded in the assumption that levels of social presence are determined by the technological qualities of a medium (Lowenthal, 2012; Lukacik et al., 2022; Oh et al., 2018). This means that the qualities of a medium can have a direct effect on social presence (Koivula, 2015). When viewed from this perspective, immersive qualities can be said to be an objective measure of social presence. Examples of immersive qualities include behavioural realism, photographic realism, the general modality of a medium, and video and audio quality (Oh et al., 2018).

Behavioural realism which is the extent to which a visual representation, such as a video, behaves in a similar manner to an actual person can also affect social presence (Blascovich et al., 2002; Oh et al., 2018). Similarly, photographic realism which refers to the extent to which a visual representation appears realistic can also affect social presence (Oh et al., 2018). Behavioural realism is similar to the concepts of intimacy and nonverbal immediacy and can be operationalised by the extent to which the visual representations' nonverbal behaviour is consistent with actual human behaviour such as eye gaze, blushing and nodding. On the other hand, photographic realism merely refers to the photographically realistic appearance of virtual human beings (Blascovich et al., 2002; Oh et al., 2018). Whilst Oh et al. (2018) view the two as separate constructs, Blascovich et al. (2002) view photographic realism as an aspect of behavioural realism. However, Blascovich et al. (2002) posit that photographic realism is not a necessary aspect of behavioural realism. This means that behavioural realism can occur without the presence of photographic realism. Studies suggest that behavioural realism is the strongest predictor of social presence and that individuals experience greater levels of social presence when levels of behavioural realism and photographic realism are consistent (Oh et al., 2018). In other words, when both behavioural realism and photographic realism are high, individuals experience higher levels of social presence. On the other hand, when behavioural realism is low and photographic realism is high, individuals experience lower levels of social presence (Bailenson et al., 2005; Garau et al., 2003).

When it comes to the modality of a medium, research has shown that text-based forms of technology-mediated communication elicit the lowest levels of social presence and that

‘richer’ or more vivid forms of media such as audio and video elicit higher levels of social presence (Appel et al., 2012; Kim et al., 2014; Oh et al., 2018). This is because audio and video mediums can generate more realistic experiences than text as they are more immersive and possess higher levels of social bandwidth (Kim et al., 2014; Langer et al., 2019; Oh et al., 2018).

Research also suggests that high-quality videos with a resolution of at least 720 pixels (also known as HD or 720p) can lead to higher levels of social presence (Bracken, 2005; Kim et al., 2014). Likewise, research also suggests that high-quality audio (48kHz sampling rate) leads to higher levels of social presence (Skalski & Whitbred, 2010). These findings can be attributed to the fact that high-quality audio is not downsampled, and HD+ visual representations (e.g., 720p, 1080p/Full HD) provide more clarity and detail (Torres, 2021), hence individuals can easily notice human behaviour/paralinguistic features such as eye gaze, blushing, smiling, nodding, intonation and pitch of voice. As a result, high-quality audio and video are likely to elicit higher levels of photographic realism which in turn leads to higher levels of social presence.

Social presence can also be influenced by contextual properties and individual differences. These antecedents respectively influence the perceived physical and psychological distance between interactants (Oh et al., 2018). This approach to predictors of social presence implies that social presence may in part be a subjective experience, and that contextual properties and individual differences may have an influence on social presence above and beyond immersive qualities (Basch et al., 2021; Oh et al., 2018). Examples of contextual properties which are positively related to social presence include physical proximity to other applicants (see Järvelä et al., 2016; Oh et al., 2018), and social cues about the presence of other applicants (see Choi & Kwak, 2017; Oh et al., 2018). Age, gender, and psychological traits are examples of individual differences which can influence social presence (see Brenner et al., 2016; Oh et al., 2018). Due to their nature, contextual properties and individual differences are antecedents of social presence that cannot be integrated into the design of AVIs.

2.4.3. Research Findings on Social Presence and Asynchronous Video Interviews

Research has shown that social presence is an important construct that can influence applicant perceptions and the usefulness of AVIs. For example, the overall acceptance of AVIs is influenced by perceptions of social presence, with lower perceptions of social presence associated with lower overall acceptance (Langer et al., 2019). This is because AVIs are

perceived as offering low social bandwidth, interactivity and transparency, and high surveillance as defined by Potosky's (2008) framework of media attributes (see Table 4). These findings were replicated in a similar study by Langer et al. (2020) who found that participants who had lower perceptions of social presence perceive organisations as less attractive. This occurs when AVIs rank low in social bandwidth, interactivity and transparency, and high in surveillance (Langer et al., 2020). Research has also shown that when participants perceive an interview medium as low in social presence, they also perceive the opportunities for effective impression management to be lower which in turn leads to lower perceptions of fairness (Basch et al., 2020).

Table 4

Description of Potosky's (2008) Framework of Media Attributes

Dimension	Description
Social bandwidth	The extent to which a medium allows for the exchange of relevant communication information.
Interactivity	The extent to which interaction is possible during an interview.
Transparency	The extent to which communication is clear/unobstructed and the degree to which interviewees/applicants do not notice the medium that they are using to communicate.
Surveillance	The extent to which interviewees/applicants perceive that a third party is monitoring them and/or can access information about the interview.

Source. Langer et al. (2019), Langer et al. (2020) and Potosky (2008).

2.4.4. Using Audio-Visual Stimuli to Improve Social Presence in AVIs

In line with social presence theory and the antecedents of social presence, audio-visual design features can be used to increase the level of social presence in AVIs. This is because audio-visual stimuli, such as videos, support high levels of intimacy, immediacy and immersive qualities, and can therefore generate realistic experiences and feelings of closeness (Appel et al., 2012; Kim et al., 2014; Oh et al., 2018; Wiener & Mehrabian, 1968). Accordingly, welcome videos can be used to present interview instructions and induce feelings of human-like interpersonal treatment, thus leading to increased levels of social presence perceptions (Lukacik et al., 2022). Organisations can also improve social presence levels by using videos to ask interview questions instead of using text and/or audio-based interview questions (Lukacik et al., 2022; Oh et al., 2018). By presenting a 'human interviewer' or 'real' person, the interview can mimic a FTF interview to a greater extent, thus increasing levels of behavioural realism and promoting perceptions of social presence (Chapman et al., 2003; Cummings & Bailenson, 2016; Oh et al., 2018). Audio-visual media/videos should also be

filmed/recorded in high-quality audio (48kHz sampling rate) and video (720p) to enhance photographic realism which can subsequently lead to higher levels of social presence perceptions (Bracken, 2005; Cummings & Bailenson, 2016; Lukacik et al., 2022; Oh et al., 2018). Basch et al.'s (2021) study also provides support for this as they suggested that high-resolution videoconference systems should be used to allow as much non-verbal communication as possible.

According to social presence theory, the interviewer(s) in the video should display verbal and nonverbal behaviour/paralinguistic features that are consistent with actual human behaviour in order to improve perceptions of social presence (Mehrabian, 1972; Short et al., 1976). For example, the interviewer should use words such as 'our', 'let us' or 'we' (verbal immediacy) and make appropriate eye contact (intimacy and nonverbal immediacy) by looking into the camera in the same way that he or she would when making eye contact in a FTF interview. The interviewer must also display normal emotions and facial expressions (e.g., nodding and smiling) in the video recording as they would in a FTF interview (Cummings & Bailenson, 2016; Farago et al., 2013).

Based on the aforementioned literature, the following hypothesis was posited as a tentative answer to the first research question:

H1. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of social presence.

2.5. Fairness

Within the selection context, fairness refers to the extent to which applicants perceive a specific selection procedure or system, such as AVIs, to be fair (Farago et al., 2013; Truxillo et al., 2015). Applicants' perception of fairness is important as it can influence important outcomes such as perceptions of the interview itself, organisational attractiveness, job offer acceptance and motivation to perform during the selection process (Guchait et al., 2014; McCarthy et al., 2017; Truxillo et al., 2015; Warrenbrand, 2021). Applicants' low perceptions of fairness may lead them to decline job offers out of resentment and/or concern that unfair treatment during the selection/recruitment procedure signals that the organisation does not treat its employees well (Gilliland 1993; Harold et al., 2016; Warrenbrand, 2021). Fairness perceptions can also influence applicant behavioural intentions when it comes to litigation (McCarthy et al., 2017; Truxillo et al., 2015; Zibarras et al., 2018). It is important to note that

a selection procedure or system which is perceived as less fair by applicants does not necessarily equate to a selection procedure or system being unfair (Ryan & Huth, 2008).

2.5.1. Gilliland's Fairness Model of Selection Procedural Justice

Using theories of organisational justice (e.g., Arvey & Sackett, 1993; Iles & Robertson, 1989; Schuler, 1993) and previous research findings (e.g., Bies & Moag, 1986; Greenberg, 1986; Leventhal, 1980), Gilliland (1993) developed a fairness model of selection procedural justice which outlines the procedural justice components of selection procedures and their impact on the overall fairness of the process. The model consists of ten rules of procedural justice that explain applicant fairness perceptions concerning employee selection procedures. The degree to which these rules have been satisfied or violated influences an applicant's fairness perceptions of the selection process (Gilliland, 1993; Truxillo et al., 2015; Warrenbrand, 2021). Within existing literature, Gilliland's (1993) fairness model of selection procedural justice is touted as the most important theoretical framework for examining applicant perceptions of fairness in relation to selection methods (Nikolaou & Georgiou, 2018; Nikolaou et al., 2015).

The ten rules of procedural justice are classified under three categories. The first category is formal characteristics which consists of the following rules – job relatedness, opportunity to perform, reconsideration opportunity, and consistency (Gilliland, 1993; Truxillo et al., 2015). This is followed by the explanations category which includes feedback, selection information and honesty. The last category is interpersonal treatment which comprises of interpersonal effectiveness of the administrator(s), two-way communication and propriety of questions (Gilliland, 1993; Truxillo et al., 2015). A brief explanation of each of the ten rules is provided in Table 5.

Generally, interviews satisfy many of the rules in Gilliland's (1993) fairness model of selection procedural justice, such as affording interviewees the opportunity to express themselves by showing their skills, qualifications and experiences, or by allowing two-way communication (Basch et al., 2021). However, given that technology changes the way interviewees and interviewers interact/communicate, this suggests that the rules in Gilliland's (1993) fairness model are not always fulfilled to the extent that they are in traditional FTF interviews (Basch et al., 2021; Bauer et al., 2011).

Table 5

Gilliland's (1993) Ten Selection Procedural Justice Rules

Procedural Justice Rule	Description
Formal Characteristics	
Job relatedness	The extent to which a procedure or test appears to be related to the actual job situation (face validity) and predict job performance (criterion validity).
Opportunity to perform	Giving applicants the opportunity to express themselves before a decision is made.
Reconsideration opportunity	The opportunity for applicants to challenge or modify the decision-making process.
Consistency	Consistency refers to the degree of consistency and standardisation of a selection procedure across applicants and time.
Explanations	
Feedback	The provision of both timely and relevant feedback.
Selection information	Providing applicants with a justification for a given decision.
Honesty	The credibility of information given to applicants during the selection process.
Interpersonal treatment	
Interpersonal effectiveness of the administrator(s)	Respect and warmth given to applicants during the selection process.
Two-way communication	The opportunity that applicants have to provide input, ask questions and/or have their views considered.
Propriety of questions	The appropriateness of the questions that are asked.

Source. Gilliland (1993) and Truxillo et al. (2015)

2.5.2. Fairness and Audio-Visual Stimuli

Changes to the design of AVIs can have a direct impact on the outcomes of Gilliland's (1993) fairness model of selection procedural justice. For example, Gilliland's (1993) interpersonal effectiveness of the administrator rule states that warmth can influence applicants' fairness perceptions of the selection process. Therefore, it follows that the use of high-quality videos in AVIs should positively influence this rule by allowing for increased warmth in the selection process. The increased warmth consequently increases applicant fairness perceptions (Farago et al., 2013). This view concurs with Gilliland (1994) who posits that warmth is one of the strongest predictors of applicant fairness perceptions. Chapman et al. (2003) also suggest that richer media, such as audio-visual stimuli, transmits verbal and nonverbal cues, use natural language and better convey personal emotions and feelings. The more interviews embody these qualities, the more likely they are to be perceived as fair

(Chapman et al., 2003). This is likely to lead to feelings of warmth. Accordingly, it was hypothesised that:

H2. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of fairness.

2.6. Organisational Attractiveness

Organisational attractiveness has to do with the degree to which an individual perceives a particular organisation as a place they want to work at, or the general desirability that an individual has to work for a particular organisation (Highhouse et al., 2003; Williams, 2013). It also encompasses an individual's intention to accept a job offer, recommendation intentions (i.e., recommending the organisation to others) and prestige evaluations of an organisation, all of which are crucial in influencing the success of an organisation (Highhouse et al., 2003; Langer et al., 2018; Langer et al., 2017).

The reason organisational attractiveness plays a key role when an applicant is deciding whether to accept a job offer has to do with the satisficing decision-making process that applicants use when deciding whether to accept a job offer (Williams, 2013). What this means is that individuals select that first solution that satisfies a minimum set of criteria when making a decision, rather than trying to maximise their outcomes (Williams, 2013). Organisational attractiveness is an important criterion that falls within this minimum set of criteria (Williams, 2013). An empirical study conducted by Warrenbrand (2021) supports this claim as the researcher found a positive relationship between organisational attractiveness and job offer acceptance.

Organisational attractiveness can also influence an applicant's decision on whether or not to accept an invitation to a job/selection interview. If applicants hold lower perceptions of an interview medium and an organisation is to use these mediums for an interview, this might adversely affect applicants' perceptions of organisational attractiveness (Melchers et al., 2021). As a result, applicants are less likely to accept an invitation for an interview which makes use of a medium that they hold lower perceptions of.

Research suggests that organisational attractiveness can be influenced by the design of AVIs (Lukacik et al., 2022), perceptions of social presence (Langer et al., 2019; Langer et al., 2020) and perceived fairness (Langer et al., 2019; Melchers et al., 2021; Warrenbrand, 2021).

2.6.1. Organisational Attractiveness and Audio-Visual Stimuli

The granular approach suggests that AVI design decisions, such as welcome/introduction videos and video recorded questions can influence interview outcomes such as organisational attractiveness (Lukacik et al., 2022). Welcome videos present an opportunity to enhance the characteristics of an organisation's recruitment process, which in turn promotes an organisation and its image, and this, in turn, leads to an increase in organisational attractiveness (Slama, 2020; Uggerslev et al., 2012). This is because welcome videos can provide a host of information about an organisation, such as values, facilities, what it is like to work for the organisation, and information relevant to the selection process itself (Cable & Yu, 2006; Lukacik et al., 2022). Such information can be provided overtly by explicitly stating the values of the organisation during the video and what it is like to work for the organisation, or in a covert/indirect manner by filming a high-quality production video that showcases the organisation's premises and facilities. Additionally, existing research suggests that rich media, such as high-quality videos, has significantly stronger positive effects on source credibility, job information, employer reputation and employer familiarity when compared to textual stimuli (Baum & Kabst, 2014; Frasca & Edwards, 2017). It is through these positive effects that high-quality videos can increase organisational attractiveness (Baum & Kabst, 2014). Based on this information, the following hypothesis was proposed:

H3. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will elicit higher levels of organisational attractiveness.

2.6.2. Organisational Attractiveness and Social Presence

Social presence perceptions of AVIs can affect perceptions of organisational attractiveness. For example, if applicants value warmth and interpersonal contact (social presence) in the workplace, a lack of social presence during an AVI can cause applicants to perceive an organisation as unattractive/less attractive as it may signal to them that an organisation does not value social presence. Studies by Langer et al. (2019) and Langer et al. (2020) found this to be the case as participants in their studies thought that an organisation was less attractive due to the use of AVIs which they perceived were low in social presence. In particular, these studies found that social presence mediated the relationship between technology-mediated interviews and organisational attractiveness. Therefore, it can be assumed that social presence elicited by AVIs can mediate applicants' perceptions of organisational attractiveness. Accordingly, the following hypothesis was posed:

H4. Social presence positively mediates the relationship between AVI stimulus format and organisational attractiveness.

2.6.3. Organisational Attractiveness and Fairness

Research suggests that fairness perceptions mediate the relationship between AVI design and organisational attractiveness on the basis that the implications of perceived fairness can extend to post-AVI outcomes such as organisational attractiveness (Lukacik et al., 2022). This suggestion is supported by Langer et al.'s (2019) study. Using mediation analysis, Langer et al. (2019) demonstrated that fairness perceptions mediate the relationship between the interview approach and organisational attractiveness. This is because applicants who perceive an interview procedure as fair also tend to view the interview procedure as a good procedure. Consequently, applicants are attracted to the organisation as the good interview procedure is viewed as a reflection of the 'good' organisation. Additionally, research also suggests that there is a positive relationship between fairness perceptions and organisational attractiveness, with applicants who perceive selection procedures as fair being more attracted to the respective organisation (e.g., Acikgoz et al., 2020; Konradt et al., 2013; Nikolaou & Georgiou, 2018; Schinkel et al., 2013). The reason being is that higher perceptions of fairness are likely to trigger positive affect which subsequently results in higher levels of organisational attractiveness (Chapman et al., 2005; Farago et al., 2013; McCarthy et al., 2017).

Furthermore, fairness perceptions related to the selection procedure can signal to applicants how an organisation treats its employees (Harold et al., 2016; Warrenbrand, 2021). Therefore, if applicants value fairness and they perceive an AVI which was used in the selection procedure as unfair/lacking in fairness, it may signal to them that an organisation does not treat its employees fairly. As a result, applicants perceive the organisation as unattractive or less attractive. Conversely, if applicants perceive a selection process as fair, they may believe this to be a demonstration of company care for employees which further influences organisational attractiveness (Nikolaou & Georgiou, 2018). Drawing from these arguments, as well the arguments in Section 2.5.2, the following hypothesis was put forward:

H5. Fairness perceptions positively mediate the relationship between AVI stimulus format and organisational attractiveness.

2.6.4. Organisational Attractiveness, Social Presence and Fairness

Earlier on (see Section 2.5.2) it was mentioned that warmth is one of the strongest predictors of applicant fairness perceptions (Gilliland, 1994). This is because an increase in

applicant fairness perceptions is in part due to increased warmth brought about by incorporating audio-visual stimuli in the design of AVIs. This suggests that social presence, which refers to how sociable, warm, and/or personal an interview medium is (Walter et al., 2015), can also influence applicant fairness perceptions of AVIs (see Farago et al., 2013). Research (e.g., Basch et al., 2020; Basch et al., 2021; Langer et al., 2020) has also shown that social presence can act as a mediator between interviews and applicant fairness perceptions. Therefore, it can be said that social presence can influence applicant perceptions and interview/applicant outcomes in the context of AVIs. When it comes to social presence perceptions, fairness perceptions and organisational attractiveness, Farago et al. (2013) found that procedural justice partially mediated the relationship between warmth, recommendation intentions, organisational attractiveness and job offer acceptance. This suggests that when applicants perceive an AVI as displaying social presence, they are also likely to perceive the AVI as fair which in turn prompts them to be attracted to the organisation as the organisation is treating them in a respectful, warm and fair manner. If one combines this information along with the previous two hypotheses (*H3* and *H4*), then a serial mediation effect is predicted (AVI stimulus format → social presence → fairness → organisational attractiveness). Accordingly, the following hypothesis was proposed:

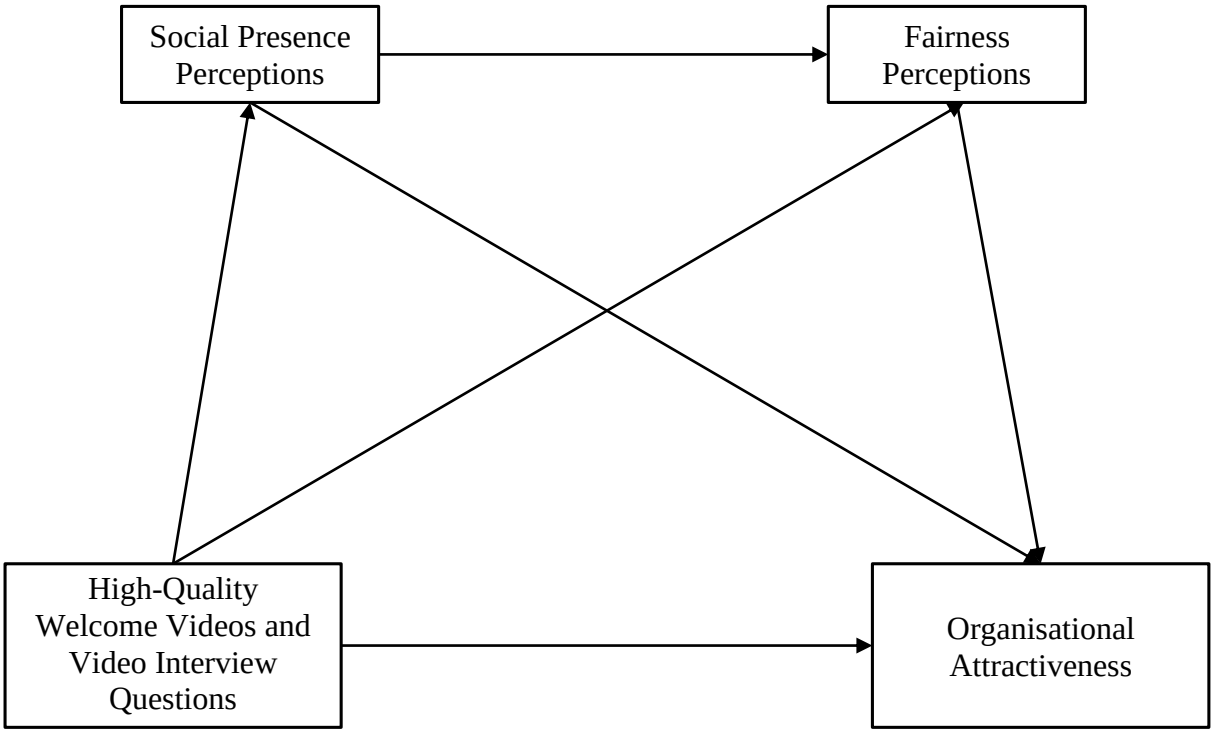
H6. The relationship between AVI stimulus format and organisational attractiveness is serially mediated by social presence and fairness (i.e., AVI stimulus format → social presence → fairness → organisational attractiveness).

2.7. Conceptual Framework

Based on the literature review and the hypothesised relationships between this study's variables, a diagrammatic representation of the hypothesised relationships between this study's variables is presented in Figure 3. *H1*, *H2* and *H3* were the primary hypotheses under investigation. *H4*, *H5* and *H6* were the secondary hypotheses under investigation as they were developed to further examine the relationship between AVI stimulus format and organisational attractiveness.

Figure 3

The Hypothesised Relationships Between this Study's Variables



Chapter 3: Methods

This chapter describes the procedures and processes that the researcher used to collect empirical data for hypothesis testing. A description of the research design, sampling approach, participant, measures, data collection procedure, ethical considerations, data capturing, data preparation and statistical analyses is provided.

3.1. Research Design

To answer this study's research questions, a between-subjects posttest-only experimental design was used. The researcher used an experimental design as it allowed him to explain variations in applicant outcomes, if any, due to the intervention, as well as establish causality (Crano et al., 2014; Kirk, 2013). To minimise issues associated with repeated measures of the same test, such as testing effects and pre-test sensitisation, a between-subjects posttest-only experimental design was used as it eliminates the pre-test, and participants are only assigned to one condition/group (Crano et al., 2014; Rosnow & Rosenthal, 2013). The drawback of this approach was that individual differences between the groups could have resulted in non-equivalent groups. To overcome this drawback, the researcher relied on a relatively large sample size and used random assignment to minimise the influence of variations within and between groups, thus ensuring that the control and experimental group were equivalent (Crano et al., 2014; Gravetter & Forzano, 2018). The notational structure of this study's design is presented in Table 6. Furthermore, this study made use of a field experiment as the researcher manipulated the independent variable in a real-life setting to induce relevant exogenous variation (Crano et al., 2014; Highhouse, 2009).

Table 6

Notational Structure of a Between-Subjects Posttest-Only Experimental Design

Condition	Intervention	Observation
R_1		O_1
R_2	X_1	O_2

Notes. R_1 = Control condition; R_2 = Experimental condition; X_1 = High quality welcome videos and video interview questions; O_1/O_2 = post-test.

3.1.1. Conditions and Variables

This study's independent variable (IV) was AVI design. The IV had two levels, one for the control condition and one for the experimental condition (Gravetter & Forzano, 2018).

Experimental Condition (Video-based AVI). Participants in the experimental condition undertook an AVI which made use of high-quality welcome videos and video interview questions (the intervention). Participants responded to the interview questions by recording videos of their responses using their device's webcam. Changes in the IV were used to measure changes in the dependent variable (DV) which was organisational attractiveness.

Control Condition (Text-based AVI). Participants in the control condition undertook an AVI which made use of a text-based welcome and text-based interview questions. As with the experimental condition, participants responded to the interview questions by recording videos of their responses using their device's webcam. The only difference between the text-based AVI and the video-based AVI was the stimulus format. The content and response format of text-based AVI was the same as the content in video-based AVI (see Appendix A).

3.2. Sampling and Participants

Initially, the researcher's target population was working-age individuals who were above the age of 18 as this is the minimum age for admission to any form of employment within South Africa (SA) and internationally (International Labour Organization, 1973; Republic of South Africa, 1997). Furthermore, these individuals also had to be computer literate, have access to the internet and a webcam, as well as speak English. The researcher sought to recruit participants for this sample using the process described below in Section 3.2.1. However, after approximately eight weeks of trying to recruit participants, the number of participants was still well below what was required of a statically valid sample size. Therefore, the researcher turned to Prolific, an on-demand online participant recruitment service, to recruit additional participants. As the majority of participants in the Prolific sample pool are from the United States of America (USA), the researcher restricted participants to only Americans to maximise the efficiency of the recruitment process. Therefore, this study had two samples, a South African sample (Sample 1) and an American sample (Sample 2).

To generate possible ideas on the effect size needed to compare the control and experimental groups, the researcher consulted a meta-analysis by Blacksmith et al. (2016) before commencing data collection. Blacksmith et al. (2016) found small mean effect sizes (d = –.41 and –.36). Using G*Power, a priori power analysis was computed using d = .40 to determine the required sample size for sufficient statistical power (≥.80) (Cohen, 1988; Crano et al., 2014). The result revealed that a sample size of N = 190 was necessary. Another a priori power analysis was conducted by converting the aforementioned d values to f^2 values (f^2 = .21

and .18) to determine the required sample size needed to detect sufficient statistical power in the serial/sequential mediation model. The result revealed that a sample size of $N = 72$ was sufficient. Conducting a priori power analyses was important as a low number of participants results in lower statistical power (Cohen, 1988; Crano et al., 2014). Low statistical power consequently increases the probability of Type II errors (Crano et al., 2014). Accordingly, the researcher aimed to oversample above the required 190 participants to compensate for the removal of potential outliers and careless/lazy responders (Arthur et al., 2021; Kirk, 2013), but fell short of this target due to time and monetary constraints.

3.2.1. Sample 1 – South African Sample

Participants were recruited using non-probability sampling techniques, specifically convenience and snowball sampling. This technique was used as it is an inexpensive form of data collection and the research also envisaged that it would allow for a large number of responses to be collected over a short period (Etikan et al., 2016; Terre Blanche et al., 2014).

The researcher started with convenience sampling by sharing this study's Uniform Resource Locator (URL) to known associates via WhatsApp Messenger. These associates were also asked to share the URL with family and friends, thereby resulting in snowballing. In addition to this, the researcher also shared the URL on his social media (e.g., LinkedIn and Facebook) with a request for the URL to be shared with others. Furthermore, the URL was also shared on UCTJustKidding, one of South Africa's most popular meme pages with over 100 000 followers on Instagram. The URL was also shared with the University of Cape Town's (UCT) Department of Student Affairs (DSA) mailing list, and the UCT Human Resources (HR) mailing list. Lastly, the researcher also handed out flyers and asked individuals on UCT's upper campus to participate in the study if they were interested. The limitation of these sampling techniques is that they can limit sample representativity (Crano et al., 2014; Etikan et al., 2016).

Sample 1 had a total of 281 respondents. After cleaning the data (see Section 4.1.), the sample was reduced to 58 participants ($n = 28$ in the control group, $n = 30$ in the experimental group). Participants ages ranged from 18 to 55 years ($M = 24.41$, $SD = 6.12$). The most commonly occurring ages in the sample were 23 and 24 years, with each age having 13 participants. The sample consisted of 58.60% ($n = 34$) females and 41.40% ($n = 24$) males. This was indicative of an overrepresentation of females as the South African labour force is 46.97% female and 53.03% male (Statistics South Africa, 2021). The majority of the participants were full-time

students (*n* = 31, 53.45%). A more detailed overview of Sample 1's demographics is provided in Table 7.

Table 7

Demographic Statistics for Sample 1 (SA)

Demographic	Category	Control		Experimental		Entire Sample	
		f	%	*f*	%	*f*	%
Gender	Female	19	67.90	15	50	34	58.60
	Male	9	32.10	15	50	24	41.40
Employment Status	Employed	6	21.43	4	13.30	10	17.20
	Self-employed	1	3.57	2	6.70	3	5.20
	Unemployed	2	7.14	1	3.30	3	5.20
	Full-time Student	12	42.86	19	63.30	31	53.40
	Student and working part-time	6	21.43	4	13.30	10	17.20
	Missing	1	3.57	-	-	1	1.70
Device Used	Laptop/Desktop	23	82.14	29	96.67	52	89.66
	Smartphone	5	17.86	1	3.33	6	10.34
Resolution	Standard (480p)	1	3.57	-	-	1	1.72
	High Definition (720p)	20	71.43	27	90	47	81.03
	Full HD and above	7	25	3	10	10	17.24
AVI Experience	Synchronous only	12	42.86	10	33.33	22	37.93
	Asynchronous only	1	3.57	1	3.33	2	3.45
	Unsure whether synchronous or asynchronous	1	3.57	1	3.33	2	3.45
	None	14	50.00	16	53.33	30	51.72
	Unsure at all	-	-	1	3.33	1	1.72
	Did not state	-	-	1	3.33	1	1.72

Notes. *N* = 58, control *n* = 28; experimental *n* = 30. *F* = frequency; % = percentage. Devices categorised according to Arthur and Traylor (2019).

3.2.2. Sample 2 – American Sample

Participants were recruited via Prolific using convenience sampling. On Prolific, participants were given a brief description of the study and were informed that they would receive £3.18 upon completing the study. Any American resident in the Prolific sample pool

was eligible to participate. Participation was on a first-come, first-serve basis. Interested participants were redirected to Qualtrics where they completed the study.

Prolific was used as it was a cost-effective solution that allowed the researcher to collect a large number of high-quality responses in a relatively quick timeframe (Palan & Schitter, 2018; Peer et al., 2017). Another reason for using Prolific is that the efficacy of online participant recruitment services has been proven through their extensive use in empirical research (e.g., Haesevoets et al., 2021; Marreiros et al., 2017; Schudlik et al., 2021; Wong, 2020). Furthermore, unlike Amazon's Mechanical Turk platform, Prolific is known to have more naïve and/or novice participants (Palan & Schitter, 2018; Peer et al., 2017; Prolific n.d.; Robinson et al., 2019). Unlike non-naïve participants (also known as 'superworkers' or professional survey-takers) who are familiar with research tools (manipulations and measurement scales) due to frequent participation in research/surveys, naïve participants are not familiar with research tools hence they are less likely to answer in line with researchers' expectations (Newman et al., 2021; Palan & Schitter, 2018; Peer et al., 2017). This reduces the probability of demand characteristics.

Sample 2 (USA) had a total of 374 respondents. After cleaning the data (see Section 4.1.), the sample was reduced to 169 participants (n = 82 in the control group, n = 87 in the experimental group). Participants ages ranged from 18 to 69 years (M = 35.33, SD = 12.76), with the most commonly occurring age being 27 years (n = 9). The mean age of participants in the control group was 34.33 years and in the experimental group, the mean age was 36.38 years. The sample consisted of 61.50% (n = 104) females and 37.90% (n = 64) males. The majority of the participants were employed (n = 99, 58.60%). A more detailed overview of Sample 2's demographics is provided in Table 8.

Table 8

Demographic Statistics for Sample 2 (USA)

Demographic	Category	Control		Experimental		Entire Sample	
		f	%	*f*	%	*f*	%
Gender	Female	51	62.20	53	60.90	104	61.50
	Male	31	37.80	33	37.90	63	37.90
	He/She	-	-	1	1.10	1	.60
Employment Status	Employed	49	59.76	50	57.50	99	58.60
	Self-employed	10	12.20	12	13.80	22	13.00
	Unemployed	10	12.20	16	18.40	26	15.40

Demographic	Category	Control		Experimental		Entire Sample	
		f	%	*f*	%	*f*	%
	Full-time Student	11	13.41	6	6.90	17	10.10
	Student and working part-time	1	1.22	2	2.30	3	1.80
	Prefer not to say	1	1.22	1	1.10	2	1.20
Device Used	Laptop/Desktop	73	89.02	77.00	88.51	150	88.76
	Smartphone/Tablet	8	9.76	10	11.49	18	10.65
	Missing	1	1.22	-	-	1	.60
Resolution	High Definition (720p)	54	62.07	55	63.22	109	64.50
	Full HD and above	28	32.18	32	36.78	60	35.50
AVI Experience	Synchronous only	10	12.20	16	18.39	22	15.38
	Asynchronous only	4	4.88	4	4.60	2	4.73
	Synchronous and asynchronous	16	19.51	19	21.84	2	20.71
	Unsure whether synchronous or asynchronous	13	15.85	7	8.05		11.83
	None	38	46.34	41	47.13	30	46.75
	Unsure at all	1	1.22	-	-	1	0.59

Notes. N = 169, control n = 82; experimental n = 87. F = frequency; % = percentage. Devices categorised according to Arthur and Traylor (2019).

3.2.3. Random Assignment

In both samples, participants were randomly assigned to the control or experimental group using Qualtrics' (see Qualtrics, 2021) automated randomisation feature. Random assignment was used so that participants had an equal chance of being assigned to either the control or experimental group (Allen, 2017). Additionally, random assignment minimised the influence of variations within and between groups, thus ensuring that the control and experimental group were equivalent (Gravetter & Forzano, 2018). Variations can include but are not limited to individual characteristics (e.g., age, gender, occupation), education level and income class (Allen, 2017). Furthermore, with random assignment, any observed differences between the control and experimental were likely due to chance and not due to unknown variables (Allen, 2017).

3.3. Validity of the Experiment

The validity of a study is defined in terms of internal and external validity. Internal validity is concerned with factors other than the intervention that can account for the observed differences between the control and experimental group (Crano et al., 2014). Plausible threats to the internal validity of this study were testing, mortality, selection, non-response bias, careless responding, demand characteristics, and experimenter-expectancy effects (Campbell & Stanley, 1963; Crano et al., 2014; Davern, 2013). To mitigate the testing threat, a between-subjects posttest-only design was used as it exposes participants to only one group and test (Crano et al., 2014). The mortality threat was mitigated by avoiding lengthy AVIs and online questionnaires, and the selection threat was mitigated by using random assignment (Crano et al., 2014). As the researcher used Qualtrics' randomisation feature for random assignment, he was only able to tell which condition participants were assigned to when he reviewed their responses, therefore allowing for a double-blind study. A double-blind study minimises demand characteristics and experimenter-expectancy effects (Kirk, 2013). To account for non-response bias, a forced response format was used for each item in the questionnaire. Lastly, attention checks were used to account for careless responses (Arthur et al., 2021; Hauser et al., 2018).

External validity is concerned with the generalisability of the findings of this study across different populations and settings (Highhouse, 2009; Kirk, 2013). To maintain the external validity of this study, participants were recruited across various age groups, genders, occupations and countries. Care was also taken to report any unique characteristics and/or procedures of this study in the materials, methods, and data collection and procedure section in line with Appelbaum et al.'s (2018) suggested reporting standards. Although this study was conducted in a low-stakes situation, it made use of simulated selection interviews that come at least relatively close to actual interviews. Previous research supports the use of simulated selection interviews as it has been revealed that simulated interviews can be criterion valid when it comes to predicting job performance (e.g., Ingold et al., 2015; Oostrom et al., 2016) and academic performance (e.g., Day & Carroll, 2003; Klehe & Latham, 2006). Furthermore, participants in Sample 1 (SA) were given feedback in relation to their interview skills/performance. Similarly, participants in Sample 2 (USA) were only paid after the researcher determined that they had completed the study satisfactorily. Additionally, failure to complete the study satisfactorily meant that they would receive a demerit point on Prolific.

Therefore, there was a reason for participants in both Sample 1 (SA) and Sample 2 (USA) to take the simulated interviews seriously.

3.4. Materials

This section describes the materials used in this study, as well as an overview of how the materials were developed.

3.4.1. Company Introduction

A fictitious company introduction (see Appendix A) was presented to participants. Participants were asked to imagine that they were applying for a job of they choosing to the fictitious company. A company introduction, instead of a job description, was used so as to not link the interview to a specific job. The reason for this is that the researcher wanted to avoid a situation where participants did not like the role in the job description, thus resulting in them dropping out of the study. Additionally, the researcher also wanted to avoid a situation where participants continue with the AVI, but due to them not liking the role, they perceive the AVI in a negative light. A similar approach was adopted by Basch et al. (2020), and Brenner et al. (2016).

3.4.2. AVI Platform and Setup

myInterview, an online video interviewing platform was used to conduct the AVIs. The platform was configured so that participants had 60 seconds to prepare their responses before the AVI platform began video recording their responses (Langer et al., 2017; Lukacik et al., 2022). Participants also had an unlimited response time for each question, unlimited attempts to re-record their responses, and the interview also allowed for interrupted interview completion (Lukacik et al., 2022; Wong, 2020). By using these settings and holding them constant across both groups, the other rules in Gilliland's models (e.g., reconsideration opportunity and opportunity to perform) are less likely to act as confounding variables (Langer et al., 2017; Wong, 2020). Similarly, the other design features (structure and formatting, response formatting) in Lukacik et al.'s (2022) granular approach are less likely to act as confounding variables.

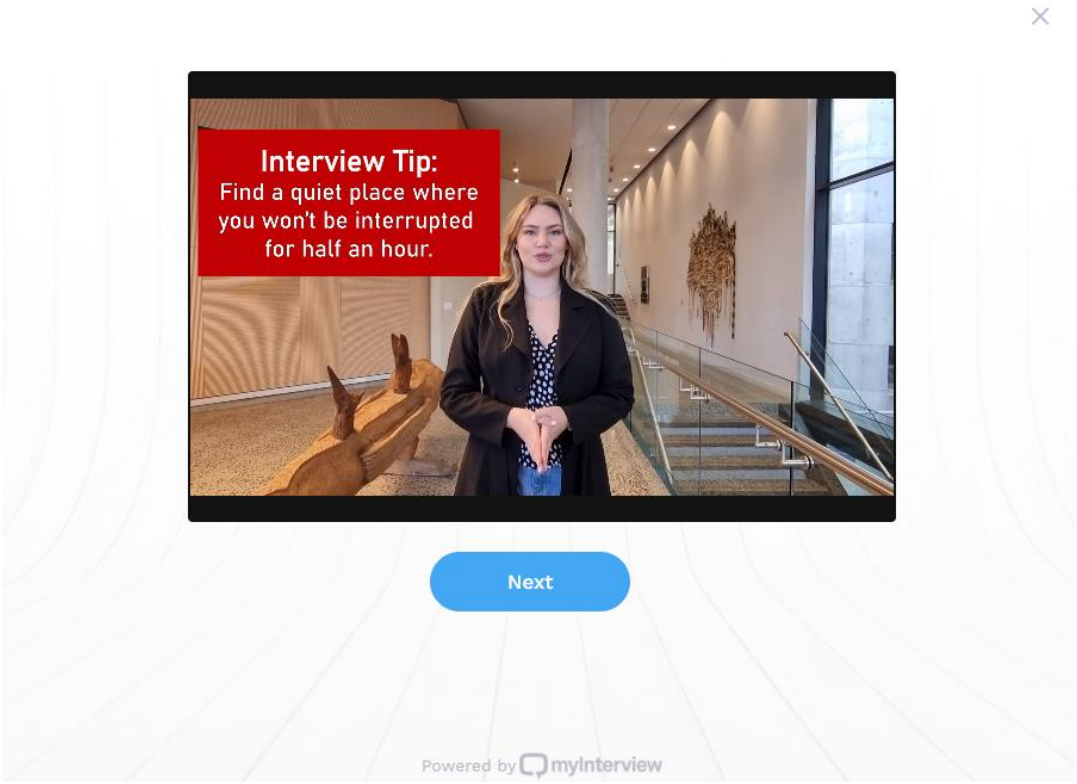
To give participants an opportunity to become familiar with the AVI procedure, a practice round was provided before the start of the interview. Participants were given a chance to interact with the platform's features in a configuration that was identical to what they would

experience during the interview. Participants were also instructed to record their responses in English.

Video-Based AVIs. An AVI which made use of high-quality welcome videos and pre-recorded high-quality video interview questions was used in the experimental group. The high-quality videos were recorded using a digital camera capable of recording 1080p (full HD) videos. Videos were recorded in 1080p at 60 FPS to enhance photographic realism. Higher resolutions such as Quad HD and Ultra HD (4K) were not used as these resolutions consume more resources such as storage space, bandwidth/data and processing power. Furthermore, these resolutions can only be viewed on select costly displays or high-end devices such as Dell XPS or iMacs (Levenson & Perry, 2021; Novaro Digital, 2021). Furthermore, recording the videos in 1080p means they can also be viewed in 720p (HD), but 720p videos cannot be viewed in 1080p. The audio sampling rate of the videos was 48kHz. The videos were recorded in a foyer to mimic the setting of a lobby and the interviewer was a white female in her mid-twenties. The videos were also edited using Adobe Premiere Pro 2021 to include a company logo and instructions and tips on how to complete the AVI (see Figure 4). The high-quality videos had a playback time of approximately four minutes and 35 seconds.

Figure 4

Screenshot of Part of the Welcome Video from The Video-Based AVIs

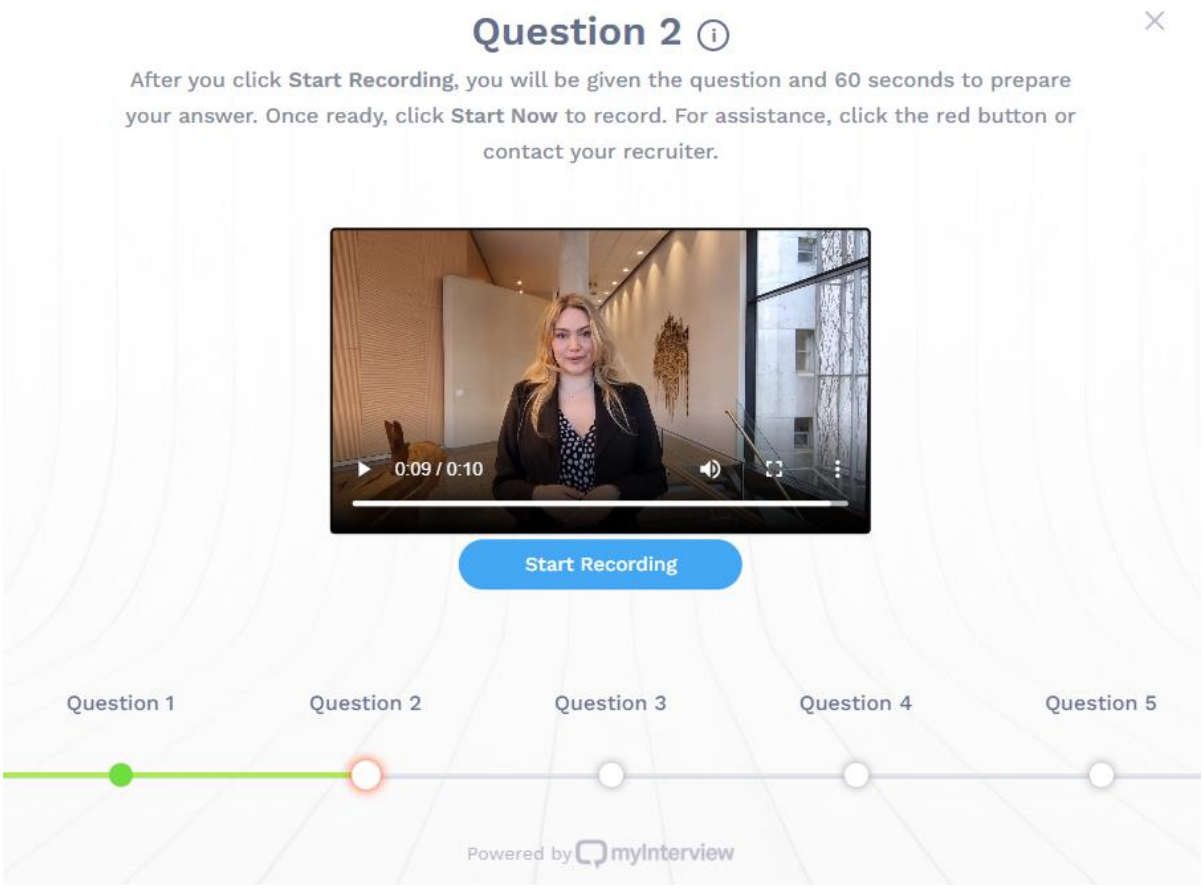


Note. Company logo is not included in this video still/screenshot.

The welcome video briefly introduced the fictitious company and what it had to offer prospective members. It also contained instructions and tips on how to complete the AVI (see Figure 4 for a screenshot of the user interface [UI]). Interview questions consisted of three behavioural and two situational questions that tap multiple interview dimensions, namely communication, interpersonal skills, leadership, critical thinking, and time management. These dimensions were selected as they are commonly used in interviews and apply to a wide variety of job roles (de Kock et al., 2015; Huffcutt et al., 2001). A screenshot of how the video interview questions were presented is shown in Figure 5. After watching the video, participants had to click 'Start Recording' whereafter they were directed to a page similar to what is shown in Figure 6. On this page, participants had to record their responses. Similar to what is shown in Figure 6, the video-based AVIs also included text-based questions. Both the welcome video and interview questions were presented in English (see Appendix A).

Figure 5

Screenshot of Question Two from the Video-Based AVIs

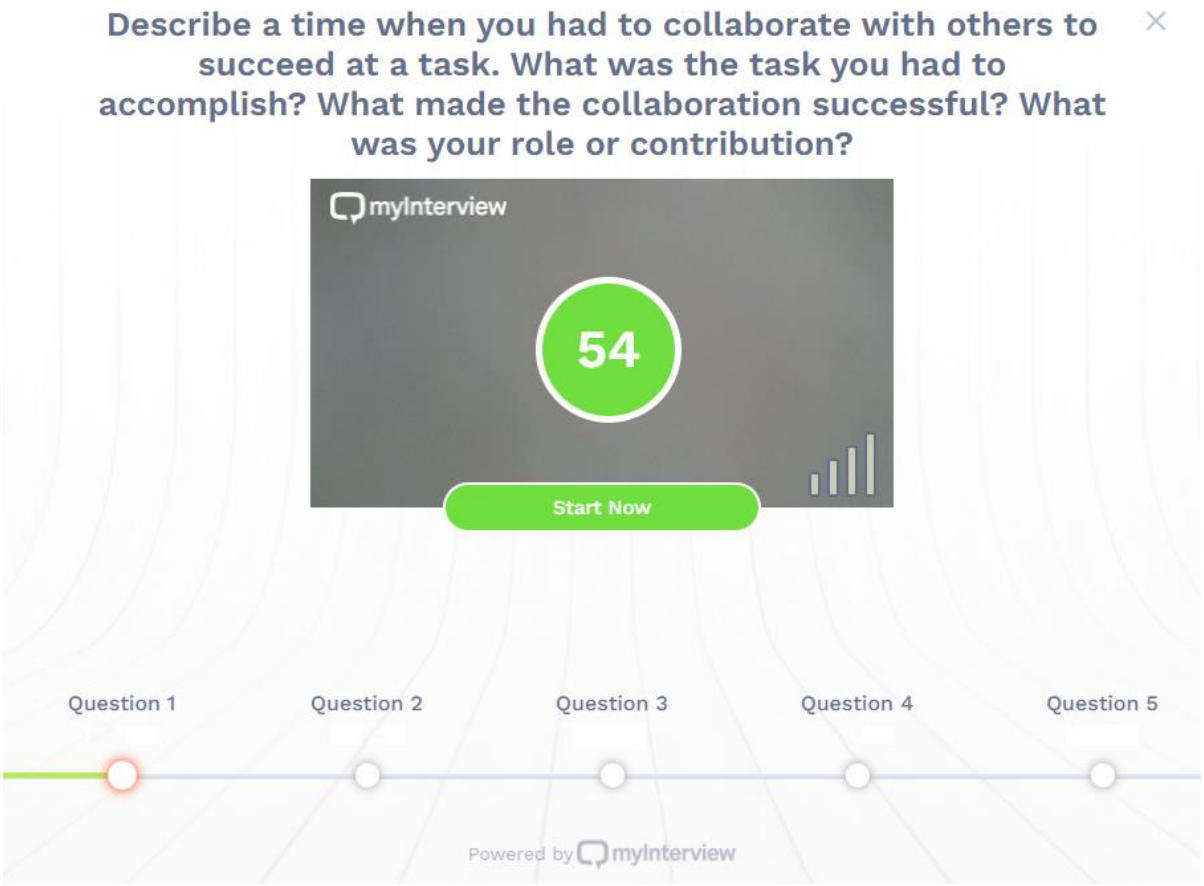


Text-Based AVIs. Text-based AVIs were used in the control group. These AVIs had a text-based welcome message and text-based interview questions which were displayed

onscreen on participants devices (see Figure 6 for a screenshot of the UI). The content of the text-based welcome section and the interview questions mirrored those of the video-based AVI (see Appendix A). There was no use of audio-visual stimuli in the text-based AVIs.

Figure 6

Screenshot of Question One from the Text-Based AVI



3.5. Measures

An online questionnaire that utilised closed-ended items was used to collect self-report data on the independent variables (see Appendix B). The questionnaire included a demographic information questionnaire, a compilation of existing scales that were used to measure the variables of interest and attention check questions.

The questionnaire was preceded by a cover page (see Appendix C). The cover page provided a brief description of the study, stated the benefits of participating in the study, how collected data will be kept anonymous and confidential, and that participation in the study was voluntary. The researcher's contact details were also provided on the cover page.

3.5.1. Fairness

An adapted version of Colquitt's (2001) seven-item Procedural Justice Scale (PJS) was used to measure fairness. As can be seen in Table 9, the PJS has been shown to be valid and have good internal consistency within multiple cultural contexts hence its use in this study. Participants' responses were rated on a 5-point Likert scale (1 = to a very small extent, 5 = to a very large extent). Examples of items are "Do you believe you could express your views and feelings during the interview?" and "Do you believe this interview process can be applied consistently to all applicants?".

Table 9

Procedural Justice Scale Reliability and Validity Information

Source	Internal Consistency (α)	Validity
Omar et al. (2018)	.88	Convergent validity present (AVE = .64). Discriminant validity established using square root of AVE.
Siwela and van der Bank (2021)	.90	Unidimensionality confirmed. Factor loadings > .70.
Stan and Vîrgă (2021)	.85	CFA proves excellent construct validity. Excellent CFI (.99), RMSEA (.06), and SRMR (.03).
Warrenbrand (2021)	.73	Not reported.

Notes. Confirmatory factor analysis (CFA) is based on Hu and Bentler's (1999) cut-off criteria. Comparative Fit Index (CFI) values close to or greater than .95 are excellent; Standardised root mean square residual (SRMR) values close to or below .08 are excellent; Root mean square error of approximation (RMSEA) values close to or below .06 are excellent. AVE = Average Variance Extracted

3.5.2. Social Presence

To measure perceptions of social presence within the AVIs, Short et al.'s (1976) four-item social presence scale (SPS) was used. The SPS was used as it was specifically developed to measure Short et al.'s (1976) concept of social presence. It is also the dominant measure of social presence and has been utilised in multiple studies concerning technology-mediated communication (e.g., Tang et al., 2013; Walter et al., 2015) and AVIs (e.g., Basch et al., 2020; Basch et al., 2021). Additionally, as can be seen in Table 10, previous studies have demonstrated that the SPS showed good internal consistency and measurement validity. The

SPS utilises a seven-point semantic differential scale to ask participants how they would rate the AVI on the following four bipolar pairs: impersonal-personal, insensitive-sensitive, cold-warm, and passive-active. The more personal, sensitive, warm, and sociable the interview is perceived to be, the higher social presence is.

Table 10

Social Presence Scale Reliability and Validity Information

Source	Internal Consistency (α)	Validity
Basch et al. (2020)	.81	Not reported.
Spears (2012)	.76	Content validity established using subject matter experts.
Tang et al. (2013)	.87	Unidimensionality confirmed. Convergent validity present (AVE = .62). Discriminant validity established using PLS. Item loadings > 0.64.

Notes. AVE = Average Variance Extracted; PLS = Partial Least Squares Regression. AVE cut-off (> .5) based on Fornell and Larcker's (1981) criteria.

3.5.3. Organisational Attractiveness

Organisational attractiveness was measured using the general attractiveness factor of the Organisation Attraction Scale (OAS) developed by Highhouse et al. (2003). The OAS is a multidimensional scale comprised of 15-items and three dimensions/factors, namely general attractiveness, intentions to pursue, and prestige. Each factor has five items. The general attractiveness factor was used as this factor was the most relevant to this study. Furthermore, previous studies have demonstrated that the general attractiveness factor showed measurement validity and has good internal consistency (see Table 11). Lastly, it has also been used within multiple cultural contexts, including South Africa (e.g., Ramdenee, 2020; Stoughton et al., 2015).

Participants were required to rate the extent to which they agreed with each item on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Example items are "For me, this company would be a good place to work" and "I am interested in learning more about this company". Item two ("I would not be interested in this company except as a last resort") was reverse scored in line with the authors' scoring guidelines.

Table 11

General Attractiveness Factor Reliability and Validity Information

Source	Internal Consistency (α)	Validity
Highhouse et al. (2003)	.88	Factor loadings > .60.
Ramdenee (2020)	.88	Construct validity proven using PCA. Unidimensionality confirmed. Factor loadings above .70.
Stoughton et al. (2015)	.95	Not reported.
Thompson (2013)	.92	Construct validity proven using PCA. Unidimensionality confirmed. Factor loadings above .79.

3.5.4. Demographic Information

Participants were asked to provide information on their gender, age, employment status, occupation, job level and country of residence (see the demographic section of the questionnaire in Appendix B). They were also asked to state the device (phone or laptop) they were using to participate in the study, the time at which they were undertaking the study, and whether they have previously participated in a form of asynchronous video interviewing. Participants had the option to not respond to these questions.

3.5.5. Attention Checks

Attention checks are questions designed to check whether participants are reading questions before answering them or just skipping to the answer choices (Arthur et al., 2021; Hauser et al., 2018). Two attention check items were used. One was placed in the PJS ("It is important that I pay attention in this study. Please select 'To a very large extent' as your response.") and the other was placed in the general attractiveness factor ("Fish do not need water to survive. Please select strongly agree."). The attention check items were administered to both the control and experimental group.

3.6. Ethical Considerations

In accordance with the ethical guidelines of the American Psychological Association (APA, 2017) and the Commerce Faculty EiRC, the nature, purpose, and benefits of participating in this study were made clear on the cover page so that participants could provide informed consent (see Appendix C). Participants were also informed that they can withdraw from the study at any time without penalty or disadvantaging themselves. Participants' anonymity and confidentiality were respected throughout the study. Participants did not have

to provide identifying information to take part in the study. In the SA Sample (Sample 1), participants AVI responses and questionnaire responses were linked using a randomly generated number. In the American Sample (Sample 2), participants AVI responses and questionnaire responses were linked by using their Prolific identification number. Participants' questionnaire and video responses were stored securely on the researcher's Qualtrics and myInterview accounts respectively. The researcher was the sole individual with access to these accounts.

Participants were debriefed as they were unaware of the true purpose of this study and they allocation to the control or experimental group due to information being withheld throughout the data collection phase (Kirk, 2013). This equates to a form of passive deception and deception warrants debriefing (see Appendix D) (APA, 2017; VandenBos, 2015).

As participants were offered a monetary incentive/thank you gift for participating in this study, the researcher took steps to ensure that he was not commodifying his research, coercing, or unduly influencing participants. To do this, he followed the guidelines/suggestions put forward by the APA (2017) and Largent et al. (2019), namely (i) offering an incentive, not a payment, (ii) keeping the monetary value of the incentive small, and (iii) providing compelling reasons for individuals to participate in this study (e.g., opportunity to practice an AVI, contribute to novel research). Participants in the SA Sample (Sample 1) had the opportunity to enter a lucky draw where they could win one of ten USD25.00 raffles. Participants in the American Sample (Sample 2) were paid £3.18 after the researcher determined that they had completed the study satisfactorily.

3.7. Data Collection and Procedure

The researcher began with obtaining ethical approval from the UCT's Commerce Faculty Ethics in Research Committee (EiRC). Whilst awaiting the outcome of his ethical approval application, the researcher created the online questionnaire using Qualtrics, an online survey platform. Unlike the questionnaire shown in Appendix B, all the items apart from the demographic information section were randomised using Qualtrics' randomisation feature (see Qualtrics, 2021). Before data collection commenced, the researcher conducted a priori power analysis to estimate the minimum sample size required.

Following ethical approval, the researcher began recording the high-quality videos that were used for the AVIs in the experimental group. When recording was completed, the videos were edited using Adobe Premiere Pro 2021. The researcher then uploaded the video interview

and the text-based interview to myInterview. myInterview was subsequently embedded between the consent page and measures section in the online Qualtrics questionnaire.

Thereafter, the researcher conducted a pilot study to test if Qualtrics and myInterview functioned as intended. The pilot study also served to assist the researcher in determining if the welcome, interview questions and questionnaire items were worded properly and were culturally appropriate in the diverse South African context (Rosnow & Rosenthal, 2008). The feedback from the pilot study indicated that no changes were necessary and so the researcher began collecting data from the target population.

The URL for this study's data collection instrument was then shared via social media, and with the UCT DSA and UCT HR mailing lists as described in Section 3.2.1. As mentioned previously, when the researcher's initial sampling failed to yield a sufficient number of responses, he began to use Prolific to aid his data collection. The procedure once participants clicked the URL was the same for both the SA and American samples. When participants clicked the URL, they were directed to the cover page of the online questionnaire where they had to provide informed consent. Upon completing the cover page, participants had to read the company introduction/job description. Participants were then randomly assigned to the control or experimental group and completed the relevant AVI. Thereafter participants had to complete the remainder of the online questionnaire and the subsequent demographic information questionnaire, following which they were debriefed.

After completing the study, participants in the SA Sample were presented with the opportunity to enter a lucky draw to win one of ten USD25.00 raffles. Participants in the American Sample were paid £3.18 after the researcher determined that they had completed the study satisfactorily. Data was collected over a period of approximately nine weeks from 20th August 2021 to 24th October 2021.

3.8. Data Capturing, Data Preparation and Statistical Analyses

The researcher imported the data from Qualtrics into IBM's Software Package for the Social Sciences (SPSS) version 27 for reverse scoring, cleaning and statistical analyses. Subsequently, the researcher screened the data for potential problems such as incomplete responses, careless/lazy responders and pattern responses (Aguinis et al., 2021; Osborne, 2013). Incomplete responses and pattern responses were flagged for further inspection by visually inspecting the data. Careless/lazy responders were identified using attention checks

(Arthur et al., 2021; Hauser et al., 2018). After screening the data, any items that needed to be reverse scored were reverse-scored.

Thereafter, internal consistency reliability was assessed using Cronbach's alpha (Cronbach, 1951). Assumption tests were then run to test the data for assumptions of multivariate tests. The assumptions tested were outliers (influential cases/extreme scores), normality, independence, linearity, homoscedasticity and multicollinearity (Field, 2018; Tabachnick & Fidell, 2019). Descriptive statistics were used to describe sample demographics and describe central tendency and dispersion of participants' overall questionnaire responses. To test hypotheses about mean differences between the conditions (*H1*, *H2* and *H3*), bootstrapped independent samples t-tests were used. Hayes' Process macro v4.0 for SPSS (Hayes, 2018) was used to conduct a serial/sequential mediation analysis on *H4*, *H5* and *H6*.

The above-mentioned data capturing, data preparation and statistical analyses methods were used for both Sample 1 (SA) and Sample 2 (USA). The two samples were analysed independently.

Chapter 4: Results

This chapter presents this study's statistical findings. Results are discussed first for Sample 1 (SA), followed by Sample 2 (USA). It begins with a description of the data cleaning process, followed by a description of the internal consistency reliability. The assumption tests to test the data for assumptions of parametric tests and multivariate tests are then reported, followed by the descriptive statistics and the results of hypothesis tests.

4.1. Data Cleaning Process

The researcher began the data cleaning process by removing any incomplete responses. The researcher determined that an incomplete response was one where a participant dropped out before beginning the AVI and/or failed to complete at least one scale in the online questionnaire. Of the 281 responses collected from Sample 1 (SA), 222 (79%) incomplete responses were removed. Of the 374 responses collected from Sample 2 (USA), 196 (52.40%) incomplete responses were removed. An additional response was removed from Sample 1 (SA) as the respondent lived in Norway and a further eight responses were removed from Sample 2 (USA) as the respondents revoked their informed consent.

Thereafter, the researcher examined the data for the presence of careless/lazy responders and pattern responses (Aguinis et al., 2021; Osborne, 2013). No careless/lazy responders were found after examining the attention check items in Sample 1 (SA). However, a careless/lazy responder was removed from Sample 2 (USA) as the respondent failed the attention check items. Obvious pattern responses were identified by visually inspecting the data. Any response that exhibited no response variation within at least two scales before reverse scoring was flagged for further examination. Further examination entailed an evaluation of the respondents' response time, and with Sample 2 (USA), also a consideration of the number of rejections the respondent had on Prolific, as well as their Prolific score[1]. If a response met at least three of the following criteria in addition to lacking response variation, the response was removed. The criteria used were – reverse-scored item had the same response as other items before reverse scoring, response time below 15 minutes, having been rejected at least once on Prolific, and having a Prolific score below 100. Based on these criteria, no pattern responses were identified in Sample 1 (SA) or Sample 2 (USA). After screening the data, one item in the OAS ("I would not be interested in this company except as a last resort.") was reverse scored.

[1] Number of rejections and Prolific score are based on past/previous studies that the respondent completed on the Prolific platform. These metrics are an indicator of the of respondent quality.

In sum, 223 (79.36%) responses were removed from Sample 1 (SA) resulting in a sample size of N = 58 participants (n = 28 in the control group, n = 30 in the experimental group). From Sample 2 (USA), 205 (54.81%) responses were removed resulting in a final sample size of 169 participants (n = 82 in the control group, n = 87 in the experimental group). When combining both samples, the study comprised 227 respondents.

4.2. Validity – Sample 1 (South African Sample)

Neither confirmatory factor analysis (CFA) nor exploratory factor analysis (EFA) was conducted due to the small sample size (N = 58) (Gorsuch, 2014; Watkins, 2018). As discussed in Section 3.5, numerous empirical studies have shown that the PJS, SPS and OAS are valid.

4.3. Reliability – Sample 1 (South African Sample)

Cronbach's alpha (α) was used to assess the internal consistency reliability of the PJS, SPS and OAS within each condition. According to Nunnally and Bernstein (1994), $\alpha \leq .70$ is acceptable, $\alpha \leq .80$ is good, and $\alpha \leq .90$ is excellent. However, it should be noted that due to the sample size being small, a detailed analysis of internal consistency is not reported and only α values are reported. Furthermore, due to the small sample size, the α values should be interpreted with caution as they are likely to fluctuate (Nunnally & Bernstein, 1994). As can be seen in Table 12, the α values were markedly different within and across the conditions, with α values even below .70 ($.57 \leq \alpha \leq .93$). The researcher ruled out the effects of the cultural appropriateness of the scale items (Foxcroft & Roodt, 2019), as well the small number of scale items (Cortina,1993; Nunnally & Bernstein, 1994) as possible explanations for the low α values as the scales have been used in multiple cultural contexts, South Africa included, and yielded acceptable α values (e.g., Ramdenee, 2020; Siwela & van der Bank, 2021; Stan & Vîrgă, 2021; Tang et al., 2013). Therefore, a small sample size is the most plausible explanation for the findings of the reliability analysis.

Removing items from the respective scales to improve α was not considered a viable option as the scales contain relatively few items. Therefore, removing any items would greatly reduce the sampling of the content domain which subsequently affects the criterion validity of the respective measures (Kaplan & Saccuzzo, 2017; Nunnally & Bernstein, 1994). As the results are likely to reflect idiosyncrasy in the sample composition brought about by sampling error, the scales were scored according to the respective authors' frameworks (see Colquitt, 2001; Highhouse et al., 2003; Short et al., 1976).

Table 12

Internal Consistency (α) Values for the Scales used with Sample 1 (SA)

Condition	Scale	Number of Items	(α)	Standardised α
Control	Procedural Justice	7	.60	.63
	Social Presence	4	.80	.80
	Organisational Attractiveness	5	.93	.93
Experimental	Procedural Justice	7	.65	.69
	Social Presence	4	.57	.59
	Organisational Attractiveness	5	.79	.82

Notes. $N = 58$, control $n = 28$; experimental $n = 30$.

4.4. Assumption Tests – Sample 1 (South African Sample)

Assumption tests/preliminary analyses were conducted to confirm whether the data met the assumptions of parametric tests. The assumptions of multivariate tests are not reported as the sample size for Sample 1 was not sufficient to conduct multivariate analyses (e.g., mediation). The results of the assumption tests for the control and experimental groups are presented below.

4.4.1. Outliers

Boxplots and transformed *z*-scores were used to check for the presence of univariate outliers. Boxplots denote mild outliers with a circle and extreme outliers with an asterisk (Field, 2018). A *z*-score with an absolute value above 3.29 ($-3.29 \leq z \leq 3.29$) indicates the presence of an outlier (Osborne, 2013; Tabachnick & Fidell, 2019). However, a case being marked as an outlier is not a sufficient justification for removal. Instead, the case should be further examined to determine whether the case is an influential outlier or an interesting outlier (Aguinis et al., 2013). Influential outliers were removed whereas interesting outliers were retained (Aguinis et al., 2013; Aguinis et al., 2021).

The boxplots (see Appendix E, Figures E1-E2) revealed that there were three mild outliers in the control group and none in the experimental group. Further examination of the mild outliers revealed that they were interesting cases, hence they were retained (Aguinis et al., 2013). The *z*-scores did not indicate the presence of any outliers as there were no absolute values above 3.29. Therefore, this assumption was satisfied.

4.4.2. Independence

When comparing two independent means, the observations in the different groups should be independent (Field, 2018). As the control group and experimental group are independent, this assumption was satisfied, and independent sample t-tests were conducted using the data.

4.4.3. Homoscedasticity

A Levene's test was computed for each variable when the researcher ran the bootstrapped independent sample t-tests. Levene's test was non-significant for the social presence variable (SPS) (p = .19) and the fairness variable (PJS) (p = .87), thereby satisfying the assumption of homoscedasticity. Conversely, Levene's test was significant for the organisational attractive variable (OAS) (p = .03), thereby indicating that homoscedasticity was violated. To account for this, the researcher did not assume equal variances when interpreting the bootstrapped independent sample t-test results (Field, 2018).

4.4.4. Normality

Residuals should be random and normally distributed with a mean as close to 0 as possible (Field, 2018). Probability-probability plots (P-P Plots) can be used to determine whether this assumption has been met or not. The closer the values are to the diagonal of the plot, the closer the distribution of the residuals are to a normal distribution (Field, 2018). Normality is only satisfied in the case of social presence within the experimental group as the values are relatively close to the diagonal line and there is minimal sagging (see Appendix E, Figure E3). As can be seen in Appendix E, Figure E4-E8, normality has not been satisfied as the values are not relatively close to the diagonal line and there is sagging. Based on the P-P plots, the assumption of normality has not been satisfied.

To confirm the findings of the P-P plots, Shapiro-Wilk tests were run. The results (see Table 13) indicate that the majority of the data satisfy the assumption of normality as $p > .05$, but there are still violations of normality. Although the assumption of normality appears to be violated, this is not a cause for concern as only the most severe violations of normality affect the validity of statistical inferences unless the sample size is quite small ($N < 20$) (Field, 2018; Hayes, 2018; Tabachnick & Fidell, 2019). Nevertheless, to account for the violations in normality, bootstrapping was applied (Field, 2018; Hayes, 2018). 5000 bootstrap samples were used as this is sufficient in most applications (Hayes, 2018).

Table 13

Shapiro-Wilk Test of Normality for Sample 1 (SA)

	Control Condition			Experimental Condition		
	W	df	*p*	*W*	df	*p*
Fairness Perceptions	.93	30	.06	.97	28	.48
Social Presence Perceptions	.91	30	.03*	.98	28	.81
Organisational Attractiveness	.94	30	.09	.92	28	.03*

Notes. $N = 58$, control $n = 28$; experimental $n = 30$. * = significant at $p = .05$

4.5. Descriptive Statistics – Sample 1 (South African Sample)

Descriptive statistics were used to examine the mean, standard deviation, minimum and maximum for the scales used in this study. Skewness and kurtosis and histograms were used to assess the normality of the data. Each scale's mean score was analysed in relation to the scale's midpoint. The PJS and OAS have a midpoint of three, and the SPS has a midpoint of four. An average score higher than the midpoint equates to greater levels of the variable of interest whereas scores lower than the midpoint equate to lower levels of the variable of interest.

As can be seen in Figure 7 and Table 14, the average scores for fairness were above the midpoint of three for the control and experimental groups, thus indicating that on average all participants experienced higher levels of fairness, and more so with the experimental group. Social presence scores were also above the midpoint for the control and experimental groups, with the experimental group having experienced higher levels of social presence compared to the control group. Similarly, organisational attractiveness scores were above the midpoint of three for the control and experimental groups, with the experimental group experiencing higher levels of organisational attractiveness compared to the control group. The histograms in Appendix E, Figures E9-E14 also revealed that the distributions of the PJS and SPS scores within both conditions, and the OAS scores in the experimental group are bimodal.

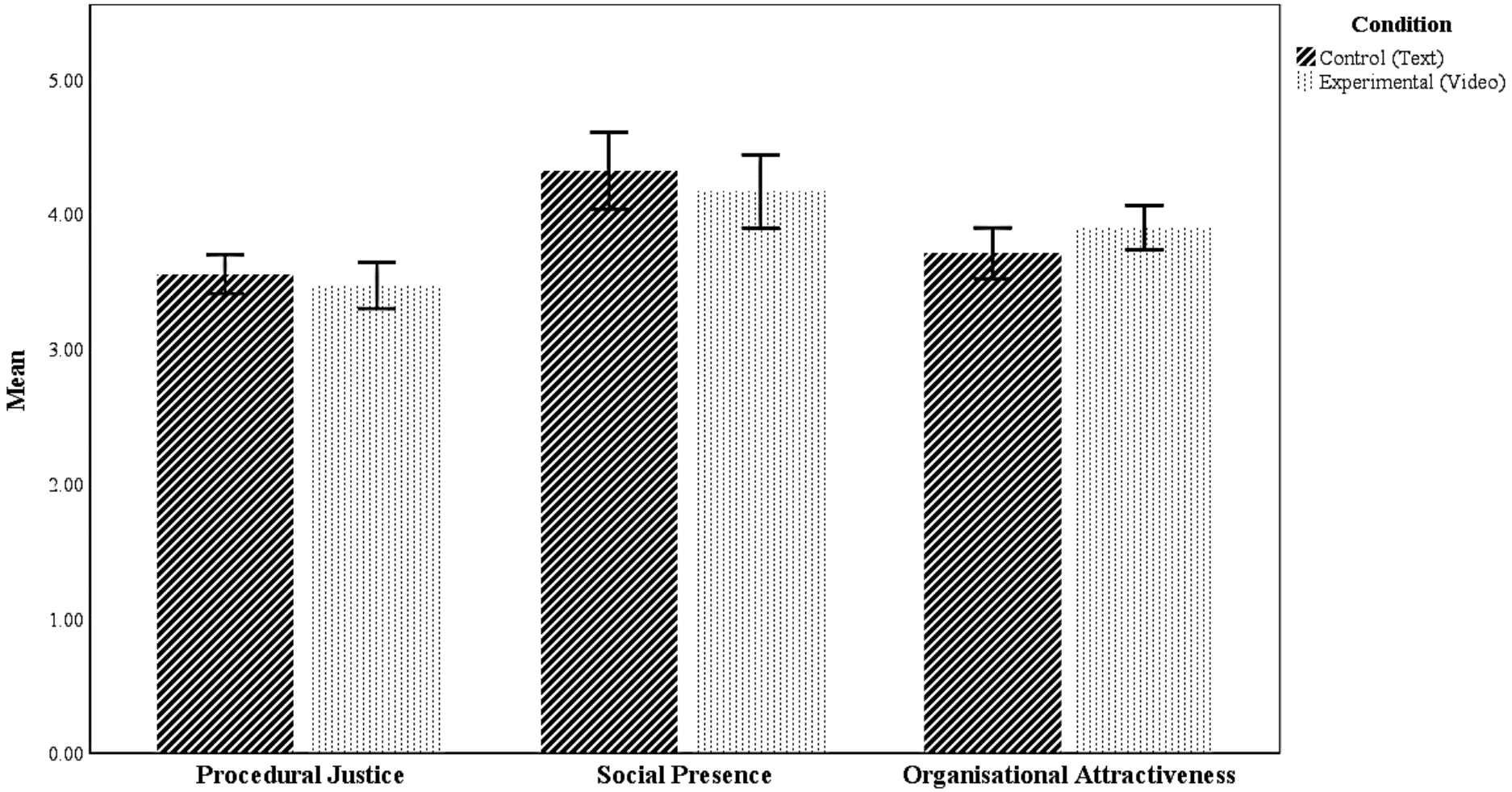
The skewness values in Table 14 illustrate that the distribution of the PJS scores in the control condition is approximately symmetrical/normal (−0.5 to 0.5) (Bulmer, 1979; Piovesana & Senior, 2018). Conversely, the distribution of the SPS and OAS scores in the control condition is moderately negatively skewed (−1.0 to −0.5) (Bulmer, 1979). These scores suggest that in the control condition, most participants scored above the mean on the SPS and OAS, whereas most participants scored around the mean on the PJS. Conversely, in the experimental condition, the distribution of all the scores is approximately normal, thus indicating that most

participants scored around the mean (Bulmer, 1979; Piovesana & Senior, 2018). As the sample size within each condition is less than 50, the standardised skewness scores ($z_{skewness} < 1.96$) confirm that the distribution of scores is normal within both conditions, except for the SPS in the control group which has a non-normal distribution (Kim, 2013).

The kurtosis values in Table 14 indicate that the distribution of the PJS scores in the control condition is more platykurtic than mesokurtic (Osborne, 2013; Tabachnick & Fidell, 2019). The distribution of the SPS scores in the control condition is more leptokurtic than mesokurtic, whereas the OAS scores in both of the conditions, and the PJS and SPS scores in the experimental condition are more mesokurtic than platykurtic (Osborne, 2013; Westfall, 2014). Mesokurtic scores resemble the normal distribution (Westfall, 2014). As the absolute kurtosis values are less than three and the absolute standardised kurtosis scores are less than 1.96, the distribution of scores is normal within both conditions (Field, 2018; Kim, 2013; Westfall, 2014).

Figure 7

Bar Chart with Mean Scores and Confidence Intervals for the Control and Experimental Group in Sample 1 (SA)



Notes. N = 58, control n = 28; experimental n = 30.

Table 14

Descriptive Statistics for the Procedural Justice Scale, Social Presence Scale and Organisational Attractiveness Scale in Sample 1 (SA)

Conditions	Scale	*n*	*Mdn*	*Mode*	*M*	*SD*	Min	Max	Skewness			Kurtosis			BCa 95% CI	
									Statistic	*SE*	*z*	Statistic	*SE*	*z*	LL	UL
Control	Procedural Justice	28	3.36	3.57	3.16	0.60	2.00	4.00	–0.36	0.44	–0.82	–1.11	0.86	–1.29	2.94	3.38
	Social Presence	28	4.50	4.50	4.46	1.38	1.00	7.00	–0.94	0.44	–2.14	1.39	0.86	1.62	3.93	4.94
	Organisational Attractiveness	28	4.00	3.60	3.76	0.91	1.80	5.00	–0.63	0.44	–1.43	–0.37	0.86	–0.43	3.42	4.07
Experimental	Procedural Justice	30	3.43	3.43	3.47	0.66	2.29	5.00	0.43	0.43	1.00	–0.06	0.83	–0.07	3.25	3.71
	Social Presence	30	5.25	5.00	5.26	0.87	3.50	7.00	0.13	0.43	0.30	–0.32	0.83	–0.39	4.97	5.58
	Organisational Attractiveness	30	4.20	5.00	4.23	0.59	3.20	5.00	–0.19	0.43	–0.44	–0.92	0.83	–1.11	4.01	4.43
Combined Sample	Procedural Justice	58	3.43	3.57	3.32	0.64	2.00	5.00	0.15	0.31	0.48	–0.10	0.62	0.78	3.16	3.48
	Social Presence	58	5.00	4.25[a]	4.87	1.21	1.00	7.00	–1.02	0.31	–3.29	2.33	0.62	–5.31	4.55	5.17
	Organisational Attractiveness	58	4.20	4.20[a]	4.00	0.79	1.80	5.00	–0.82	0.31	–2.65	0.48	0.62	–4.27	3.79	4.20

Notes. $N = 58$. Min = minimum; max = maximum; CI = confidence interval; LL = lower limit; UL = upper limit. Bootstrap results are based on 5000 samples.

[a] Multiple modes exist. The smallest value is shown.

4.6. Hypothesis Testing – Sample 1 (South African Sample)

H1, *H2* and *H3* were each tested using a bootstrapped independent samples t-test. Ideally, *H4*, *H5* and *H6* would have been tested with serial/sequential mediation analyses. However, Sample 1's small sample size is not conducive for conducting mediation analyses (Field, 2018). All bootstrapped results are based on 5000 bootstrap samples. The researcher utilised a significance level of $p = .05$ for all tests.

4.6.1. Hypothesis 1

> *H1*. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of social presence.

A bootstrapped independent samples t-test was used to test *H1*. The results revealed that on average, participants in the experimental group perceived the AVIs with high-quality videos to have higher levels of social presence ($M = 5.26$, $SE = .16$) when compared to the control group who received the text-based AVIs ($M = 4.46$, $SE = .26$). This difference, .81, BCa 95% CI [.22, 1.42], was significant $t(56) = 2.66$, $p = .005$, and represented a medium effect size ($d = .70$) (Cohen, 1988). Therefore, *H1* is supported.

4.6.2. Hypothesis 2

> *H2*. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of fairness.

H2 was tested using a bootstrapped independent samples t-test. The results revealed that on average, participants in the experimental group perceived the high-quality video AVIs to be fairer ($M = 3.47$, $SE = .12$) when compared to the control group who received the text-based AVIs ($M = 3.16$, $SE = .11$). This difference of .31 was significant $t(56) = 1.86$, $p = .03$, and represented a medium effect size ($d = .50$) (Cohen, 1988). Despite the BCa 95% CI [–.01, .64] crossing zero, the alternate hypothesis was retained as the CIs marginally include zero. Furthermore, using Cohen's U_3, the effect size corresponds to the 69th percentile which means that the average participant in the experimental group is at the 69th percentile on the PJS (Durlak, 2009). In other words, on average participants in the experimental group score 19% higher than participants in the control group. As these findings are not negligible, *H2* is supported.

4.6.3. Hypotheses 3

H3. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will elicit higher levels of organisational attractiveness.

A bootstrapped independent samples t-test was used to test whether organisational attractiveness levels were higher in the experimental/high-quality video group compared to the control/text group. The results revealed that on average, participants in the experimental group perceived the fictitious organisation to be more attractive (M = 4.23, SE = .11) when compared to the control group who received the text-based AVIs (M = 3.76, SE = .17). This difference, .47, BCa 95% CI [.08, .87], was significant $t(45.74) = 2.32$, p = .01, and represented a medium effect size (d = .62) (Cohen, 1988). Therefore, the results of this analysis provide support for *H3*.

4.6.4. Hypotheses 4, 5 and 6

As mentioned previously, *H4*, *H5* and *H6* which were concerned with mediation effects were not tested as Sample 1 (SA) had a small sample size (N = 58) (Field, 2018).

4.7. Post Hoc Power Analysis – Sample 1 (South African Sample)

A post hoc power analysis was conducted using G*Power to determine whether Sample 1 (SA) had sufficient power to detect effects that could have existed (Crano et al., 2014). The input parameters were two tails, n = 28 and n = 30, mean d (*H1*-*H3*) = .61, and error probability = .05. The results yielded a power coefficient of .63. This suggested that this study may not have had sufficient power to detect effects that existed, thus, there was an increased risk of making a Type II error (Cohen, 1988; Crano et al., 2014).

4.8. Validity – Sample 2 (American Sample)

Neither confirmatory factor analysis (CFA) nor exploratory factor analysis (EFA) was conducted due to the small sample size (N = 169, n = 82 in the control group, n = 87 in the experimental group) (Gorsuch, 2014; Watkins, 2018). As discussed in Section 3.5, the measurement validity of the PJS, SPS and OAS is supported by numerous empirical studies. For the purpose of reliability analyses, unidimensionality for all scales was assumed – an assumption largely supported by prior studies (e.g., Ramdenee, 2020; Siwela & van der Bank, 2021; Tang et al., 2013).

4.9. Reliability – Sample 2 (American Sample)

Cronbach's alpha (α) was used to assess the internal consistency of the PJS, SPS and OAS within each condition. Corrected item-total correlations were also examined to determine the extent of the correlation between each item and the total score (Field, 2018; Pallant, 2016). Items with a corrected item-total correlation of less than .30 warrant removal as this suggests that those items do not correlate well with the overall scale (Field, 2018). The results of the reliability analyses are presented in Table 15.

Table 15

Reliability Analyses Results for the PJS, SPS and OAS across both Conditions in Sample 2

Condition	Scale	Cronbach's Alpha (α)	Corrected Item-Total Correlations	Cronbach's Alpha if Item Deleted
Control	Procedural Justice	.77	$.36 < r < .59$	$.72 < \alpha < .77$
	Social Presence	.81	$.60 < r < .67$	$.75 < \alpha < .78$
	Organisational Attractiveness	.91	$.64 < r < .84$	$.87 < \alpha < .92$
Experimental	Procedural Justice	.85	$.45 < r < .69$	$.82 < \alpha < .86$
	Social Presence	.75	$.41 < r < .66$	$.64 < \alpha < .76$
	Organisational Attractiveness	.90	$.67 < r < .85$	$.85 < \alpha < .89$

Notes. $N = 169$, control $n = 82$; experimental $n = 87$. Individual item-total statistics for each of the scales can be found in Appendix F, Tables F1-F3.

As can be seen in Table 15, all the scales have above acceptable internal consistency values ($\alpha < 70$) (Nunnally & Bernstein, 1994). Corrected item-total correlations did not warrant the removal of any item(s) as they were all above the cut-off point of .30 (Field, 2018; Pallant, 2016). Although removing an item ("I would not be interested in this company except as a last resort.") from the OAS in the control group based on "Cronbach's Alpha if Item Deleted" would improve the internal consistency of the OAS, the item was retained as removing it would not substantially improve α. Furthermore, the item was also retained as removing it from the OAS in the control group would require the same item to be removed from the OAS in the experimental group so that the scale remains equivalent across both groups and removing the item in the experimental group would decrease α. Moreover, the OAS contains five items and removing an item from the OAS would adversely affect the sampling of the content domain by reducing it by 20% (Kaplan & Saccuzzo, 2017; Nunnally & Bernstein, 1994).

Similarly, removing an item ("Do you believe that applicants could appeal the hiring decision?") from the PJS in the experimental group would improve the internal consistency of the PJS in the experimental group. However, the item was retained as removing it would not substantially improve α. Furthermore, the item was also retained as removing it from the PJS in the experimental group would require the same item to be removed from the PJS in the control group so that the scale remains equivalent across both groups and removing the item in the control group would not improve α.

Similarly, removing an item/pair ("Passive: Active") from the SPS in the experimental group would improve the internal consistency of the SPS. However, the item was retained as the improvement in α would not be substantial and removing the item from the SPS in the control group would substantially decrease α in the control group. Moreover, the SPS contains four items and removing an item from the SPS would adversely affect the sampling of the content domain by reducing it by 25% (Kaplan & Saccuzzo, 2017; Nunnally & Bernstein, 1994). Therefore, the item was retained.

4.10. Assumption Tests – Sample 2 (American Sample)

Assumption tests were conducted to confirm whether the data met the assumptions of parametric tests and multivariate tests. As mediation can be broken down into a series of regression analyses, the data must satisfy the assumption of each regression analysis (Hayes, 2018; Judd & Kenny, 1981; Kane & Ashbaugh, 2017). Accordingly, the researcher conducted three multiple regression analyses, one for each proposed pathway in the serial/sequential mediation model. The results of the assumption tests are presented below. Unless stated otherwise, the guidelines and/or cut-off points are the same as those stated in Section 4.4.

4.10.1. Outliers

The boxplots (see Appendix G, Figures G1-G2) revealed that there were two mild outliers in the control group and three in the experimental group. Further examination of the mild outliers revealed that they were interesting cases, hence they were retained (Aguinis et al., 2013). Based on *z*-scores, there was one outlier in the OAS scores from the experimental condition. This outlier was also identified in the boxplots. Further examination revealed that the outlier was an interesting case, hence it was not removed[2] (Aguinis et al., 2013). Therefore, this assumption was satisfied.

[2] The participant's feedback at the end of the study questionnaire provided support for retaining the response.

Mahalanobis distance, Cook's distance and leverage values were examined to determine if there were any multivariate outliers. Standardised residuals which are approximately less than -3.30 or greater than 3.30 warrant closer examination (Tabachnick & Fidell, 2019). Significant Mahalanobis distances over 15 would have been problematic in this case as the sample size (N = 169) exceeds 100 (Barnett & Lewis, 1978; Tabachnick & Fidell, 2019). Cook's values greater than 1 may also be cause for concern (Cook & Weisberg, 1982). Lastly, leverage values above .07 $(3(k+1)/n)$ would warrant further investigation (Pituch & Stevens, 2016). As there were no multivariate outliers in any of the multiple regression models, this assumption was satisfied.

4.10.2. Independence

When comparing two independent means, the observations in the different groups should be independent (Field, 2018). As the control group and experimental group are independent, this assumption is satisfied, and independent sample t-tests were conducted using the data.

To satisfy this assumption, residuals should be uncorrelated (Field, 2018). The Durbin-Watson statistic was used to check for this assumption. Values less than 1 or greater than 3 are cause for concern. All three models satisfied this assumption ($2.06 \leq DW \leq 2.20$).

4.10.3. Homoscedasticity

Levene's test was non-significant for all three variables (SPS, p = .49; PJS, p = .22; OAS, p = .26), thereby satisfying the assumption of bivariate homoscedasticity. Multivariate homoscedasticity was assessed by plotting standardised predicted residuals against standardised observed residuals in a scatterplot. The data points should be randomly and evenly dispersed. A cone-shaped pattern is a cause for concern. As is evident in Appendix G, Figures G9-G11, the data points were randomly and evenly dispersed, as the graphs neither curved nor funnelled out, thereby meeting the assumption.

4.10.4. Linearity

Linearity was assessed by visually inspecting scatterplots. As can be seen in the matrix scatter plot in Appendix G, Figure G12, the linearity assumption was satisfied as the data points formed a straight line. Linearity was also assessed by fitting Loess curves to the scatterplots in Appendix G, Figures G9-G11. All the models are fairly linear as the Loess curves centre close to 0 along the x-axis (Kane & Ashbaugh, 2017).

4.10.5. Normality

Based on P-P plots (see Appendix G, Figures G3-G9), normality has only been satisfied in the case of the PJS and SPS in the experimental group. To confirm the findings of the P-P plots, Shapiro-Wilk tests were run. The results (see Table 16) indicate that the majority of the data satisfy the assumption of normality as $p > .05$, but that that normality was violated in the case of organisational attractiveness. To account for the violations in normality, 5000 bootstrap samples were used (Field, 2018; Hayes, 2018).

Table 16

Shapiro-Wilk Test of Normality for Sample 2 (USA)

	Control Condition			Experimental Condition		
	W	df	*p*	*W*	df	*p*
Fairness Perceptions	.98	82	.17	.98	87	.30
Social Presence Perceptions	.97	82	.07	.98	87	.22
Organisational Attractiveness	.94	82	.00*	.94	87	.00*

Notes. $N = 169$, control $n = 82$; experimental $n = 87$. * = significant at $p = .05$

4.10.6 Multicollinearity

Average variance inflation factors (VIFs) and tolerance values were used to assess for multicollinearity. As the VIF values in all the models were below 10 and the tolerance statistics were above 0.1, there was no multicollinearity in any of the models. Therefore, this assumption was met.

4.11. Descriptive Statistics – Sample 2 (American Sample)

Using the guidelines mentioned in Section 4.5, descriptive statistics were used to examine the mean, standard deviation, minimum and maximum for the scales used in this study. Skewness and kurtosis and histograms were used to assess the normality of the data.

As can be seen in Figure 8 and Table 17, the average scores for perceptions of fairness were above the midpoint of three for both of the conditions, thus indicating that on average participants experienced above average levels of fairness in both conditions. This was truer for the control group. Social presence scores and organisational attractiveness scores were also above the midpoint for both conditions (four and seven respectively), with the experimental condition having experienced lower levels of social presence compared to the control condition. Conversely, the experimental condition experienced higher levels of organisational attractiveness compared to the control condition.

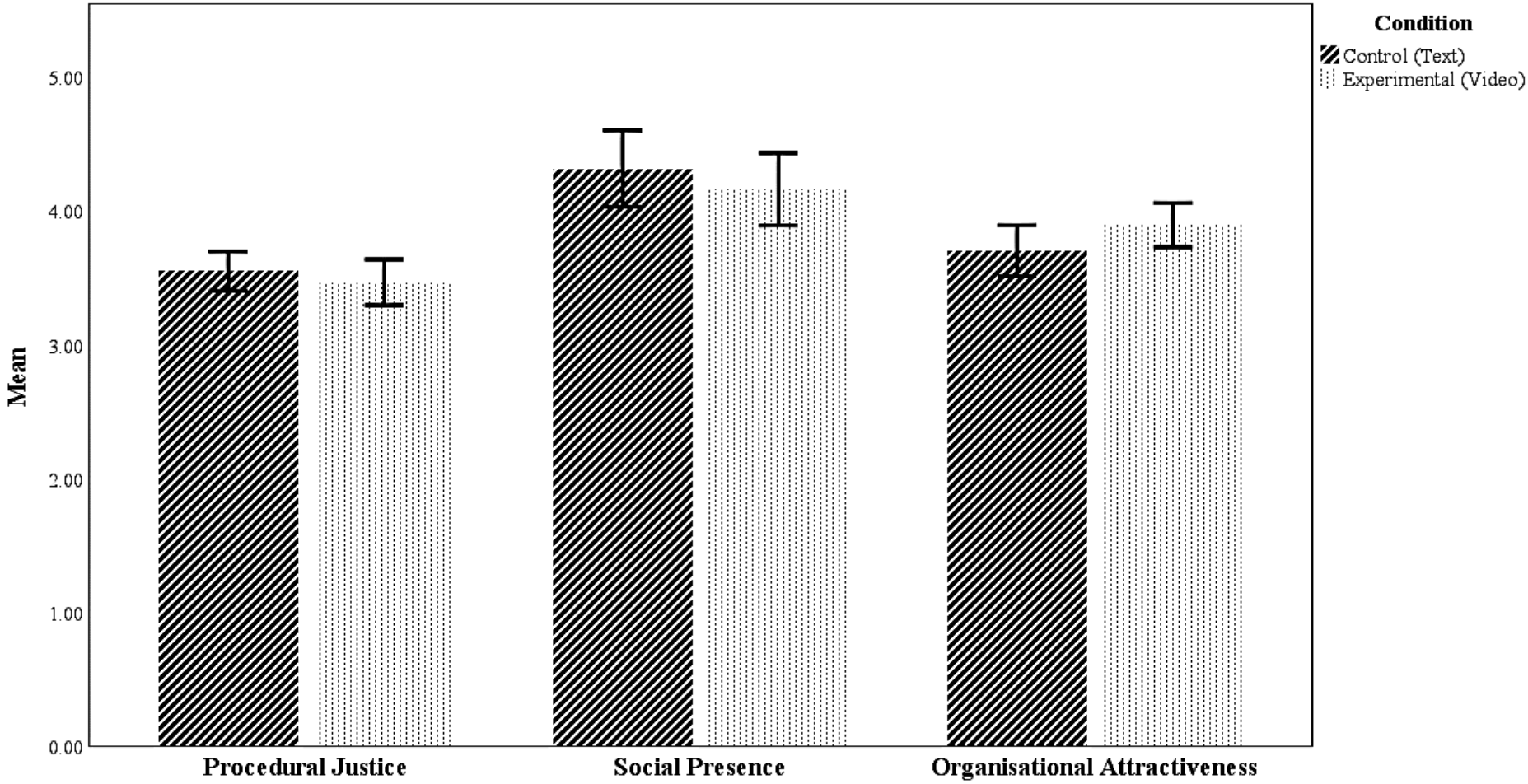
As illustrated by the skewness values in Table 17, the distribution of the PJS scores and SPS in both conditions is approximately symmetrical/normal (−0.5 to 0.5) (Bulmer, 1979; Piovesana & Senior, 2018). Across both conditions, the distribution of the OAS scores is moderately negatively skewed (−1.0 to −0.5) (Bulmer, 1979). These scores suggest that in both conditions, most participants scored around the mean on the PJS and SPS, whereas most participants scored above the mean on the OAS (Bulmer, 1979; Piovesana & Senior, 2018). Given that the sample size within each condition is greater than 50, the standardised skewness scores ($z_{skewness} < 3.29$) confirm that the distribution of scores is normal within both conditions, except for the OAS in the control group which has a non-normal distribution (Kim, 2013).

The kurtosis values in Table 17 indicate that across both conditions, the distribution of scores for all the scales is more mesokurtic than platykurtic, except for the OAS scores in the experimental condition which are more leptokurtic than mesokurtic (Osborne, 2013; Westfall, 2014). As the absolute kurtosis values are less than three and the absolute standardised kurtosis scores are less than 3.29, the distribution of scores is normal within both conditions (Kim, 2013; Tabachnick & Fidell, 2019).

The histograms in Appendix G, Figures G13-G18 also display similar findings to the skewness and kurtosis values. However, the histograms reveal the distribution for the OAS scores in both conditions is bimodal (see Appendix G, Figure G17-G18).

Figure 8

Bar Chart with Mean Scores and Confidence Intervals for the Control and Experimental Group in Sample 2 (USA)



Notes. N = 169, control n = 82; experimental n = 87.

Table 17

Descriptive Statistics for the Procedural Justice Scale, Social Presence Scale and Organisational Attractiveness Scale in Sample 2 (USA)

Conditions	Scale	*n*[a]	*Mdn*	*Mode*	*M*	*SD*	Min	Max	Skewness			Kurtosis			BCa 95% CI	
									Statistic	*SE*	*z*	Statistic	*SE*	*z*	LL	UL
Control	Procedural Justice	82	3.71	3.86	3.55	0.66	2.14	5.00	–0.10	0.27	–0.38	–0.72	0.53	–1.36	3.41	3.69
	Social Presence	82	4.00	3.50	4.32	1.30	1.50	7.00	0.22	0.27	0.82	–0.64	0.53	–1.22	4.04	4.60
	Organisational Attractiveness	82	3.90	4.00	3.71	0.86	1.00	5.00	–0.72	0.27	–2.71	0.63	0.53	1.19	3.52	3.88
Experimental	Procedural Justice	87	3.57	3.57	3.47	0.80	1.00	5.00	–0.40	0.26	–1.55	0.14	0.51	0.28	3.31	3.63
	Social Presence	87	4.25	5.00	4.17	1.27	1.00	7.00	–0.08	0.26	–0.31	0.36	0.51	0.70	3.91	4.42
	Organisational Attractiveness	87	4.00	4.00	3.90	0.77	1.00	5.00	–0.87	0.26	–3.35	1.39	0.51	2.73	3.74	4.05
Combined Sample	Procedural Justice	169	3.57	3.86	3.51	0.74	1.00	5.00	–0.33	0.19	–1.74	0.01	0.37	0.03	3.40	3.62
	Social Presence	169	4.00	3.50	4.24	1.28	1.00	7.00	0.07	0.19	0.37	–0.14	0.37	–0.38	4.05	4.44
	Organisational Attractiveness	169	4.00	4.00	3.81	0.82	1.00	5.00	–0.80	0.19	–4.21	0.93	0.37	2.51	3.68	3.93

Notes. $N = 169$. min = minimum; max = maximum; CI = confidence interval; LL = lower limit; UL = upper limit. Bootstrap results are based on 5000 samples.

[a] Sample sizes are unequal as a result of removing unsatisfactory/incomplete responses. See Section 4.1 for more information.

4.12. Hypothesis Testing – Sample 2 (American Sample)

H1, *H2* and *H3* were each tested using a bootstrapped independent samples t-test. *H4*, *H5* and *H6* were tested using a serial/sequential mediation analysis. All bootstrapped results are based on 5000 bootstrap samples. The researcher utilised a significance level of $p = .05$ for all tests.

4.12.1. Hypothesis 1

> *H1*. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of social presence.

A bootstrapped independent samples t-test was used to test *H1*. Contrary to what was hypothesised, the results revealed that on average, participants in the experimental group did not perceive the high-quality video AVIs to have higher levels of social presence ($M = 4.17$, $SE = .14$) when compared to the control group who received the text-based AVIs ($M = 4.32$, $SE = .14$). This is also reflected in the negative effect size ($d = –.12$) (Cohen, 1988). The difference of –.15 between the control and experimental, BCa 95% CI [–.55, .23], was non-significant $t(167) = –.78$, $p = .22$. Therefore, *H1* is not supported.

4.12.2. Hypothesis 2

> *H2*. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of fairness.

The results of a bootstrapped independent samples t-test revealed that on average, participants in the experimental group did not perceive the high-quality video AVIs to be fairer ($M = 3.47$, $SE = .09$) when compared to the control group who received the text-based AVIs ($M = 3.55$, $SE = .07$). This difference, –.08, BCa 95% CI [–.31, .13], was non-significant $t(167) = –.74$, $p = .23$, and represented a small effect size ($d = –.11$). Based on these findings, *H2* is not supported.

4.12.3. Hypotheses 3

> *H3.* AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will elicit higher levels of organisational attractiveness.

A bootstrapped independent samples t-test was used to test whether organisational attractiveness levels were higher in the experimental/high-quality video group compared to the control/text group. The results revealed that on average, participants in the experimental group (audio-visual and text-based AVI) perceived the fictitious organisation to be somewhat more attractive (M = 3.90, SE = .08) when compared to the control group (M = 3.71, SE = .10). However, this difference of .19, BCa 95% CI [–.06, .44], was non-significant $t(167) = 1.52$, p = .07, and represented a small effect size (d = .23) (Cohen, 1988). Therefore, *H6* is not supported.

4.12.4. Hypotheses 4, 5 and 6

H4. Social presence positively mediates the relationship between AVI stimulus format and organisational attractiveness.

H5. Fairness perceptions positively mediate the relationship between AVI stimulus format and organisational attractiveness.

H6. The relationship between AVI stimulus format and organisational attractiveness is serially mediated by social presence and fairness (i.e., AVI stimulus format → social presence → fairness → organisational attractiveness).

Hayes PROCESS v4.0, model 6, was used to conduct a bootstrapped serial mediation analysis to test *H4*, *H5* and *H6*. Mediation analysis examines the (proposed) direct and indirect pathways through which an independent variable (*X*) transmits its effects on a dependent variable (*Y*) through one or more mediator variables (*M*) (Hayes, 2018; Preacher et al., 2007). The total effect (*c*) of *X* on *Y* can be partitioned into a combination of a direct effect (*c'*) of *X* on *Y*, and an indirect/mediation effect (*ab*) of *X* on *Y* that is transmitted through *M* (Agler & De Boeck, 2017; Kane & Ashbaugh, 2017). The total effect (*c*) quantifies the estimated difference in *Y* between two people that differ by one unit in *X*, taking into account the mediating variable(s) (Igartua & Hayes, 2021). Conversely, the direct effect (*c'*) quantifies the estimated difference in *Y* between two people that differ by one unit in *X* when the mediators are controlled for (Igartua & Hayes, 2021). The indirect effect (*ab*) is a result of the product of the regression coefficients of the pathways between *X* and *M* (*a*), and *M* and *Y* (*b*) (see Figure 9). If *ab* is different from zero, it can be said that mediation has taken place (Igartua & Hayes, 2021).

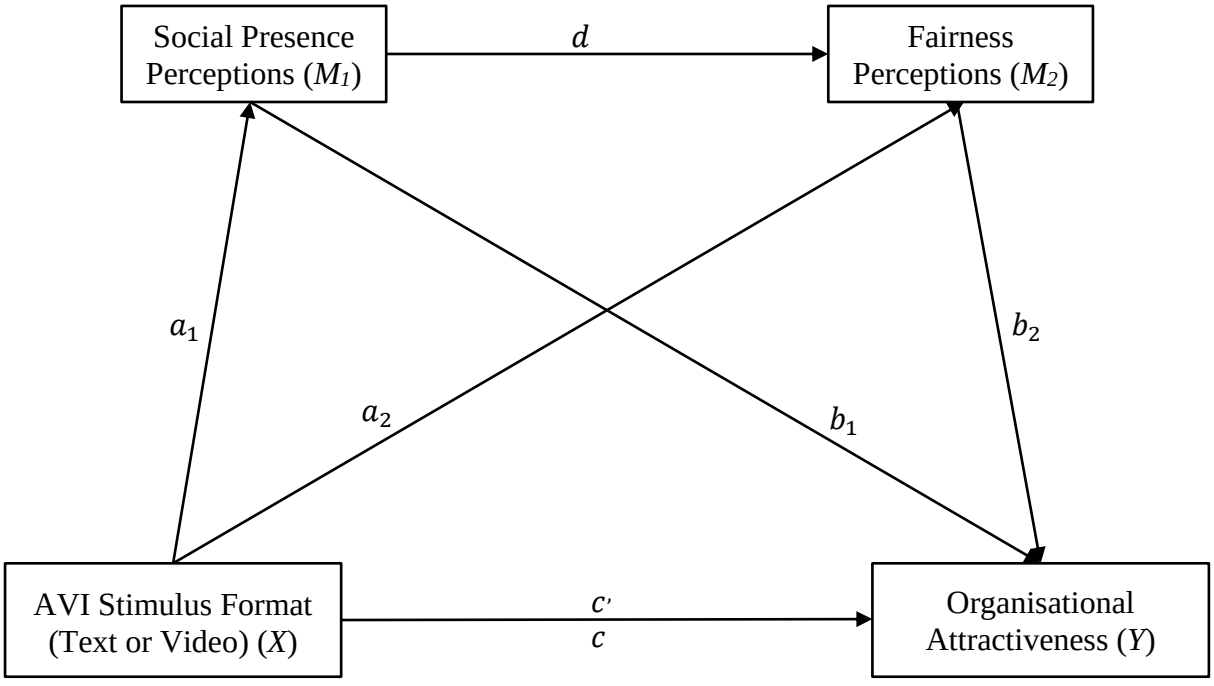
The simplest form of mediation, known as simple mediation, occurs when a mediator is proposed to explain the relationship between *X* and *Y* (Igartua & Hayes, 2021; Kane &

Ashbaugh, 2017). More complex forms of mediation, namely parallel mediation and serial mediation, propose that two or more variables (M_1, M_2, etc.) mediate the relationship between *X* and *Y* (Hayes, 2018; Igartua & Hayes, 2021). However, unlike parallel mediation, serial mediation also proposes that one mediator leads to another, for example M_1 leads to M_2. In mediation models, the number of indirect pathways/indirect effects (*ab*) equates to the number of mediators in the model. For example, a parallel mediation model will have two indirect pathways (a_1b_1 and a_2b_2). With serial mediation (see Figure 9), there is an added indirect pathway (a_1db_2) to account for the indirect effect when another mediator (M_2) is proposed to mediate an indirect effect/another mediator (M_2) (Hayes, 2018; Kane & Ashbaugh, 2017).

Serial mediation analysis was used as theoretical evidence suggests that social presence can lead to fairness perceptions (*d*). The results of the analysis were interpreted according to Igartua and Hayes's (2021) recommendations and reported according to Vo et al.'s (2020) recommendations.

Figure 9

Conceptual Model and Hypotheses tested through Serial Mediation Analysis



Notes. a_1b_1 *= H4;* a_2b_2 *= H5;* a_1db_2 *= H6*

Contrary to what was hypothesised, the results (see Figure 10 and Table 18) of the serial mediation analysis revealed that there was a negative indirect effect of AVI stimulus format on organisational attractiveness through either social presence perceptions (a_1b_1, *H4*) or fairness perceptions (a_2b_2, *H5*). This means that participants who received the audio-visual and text-

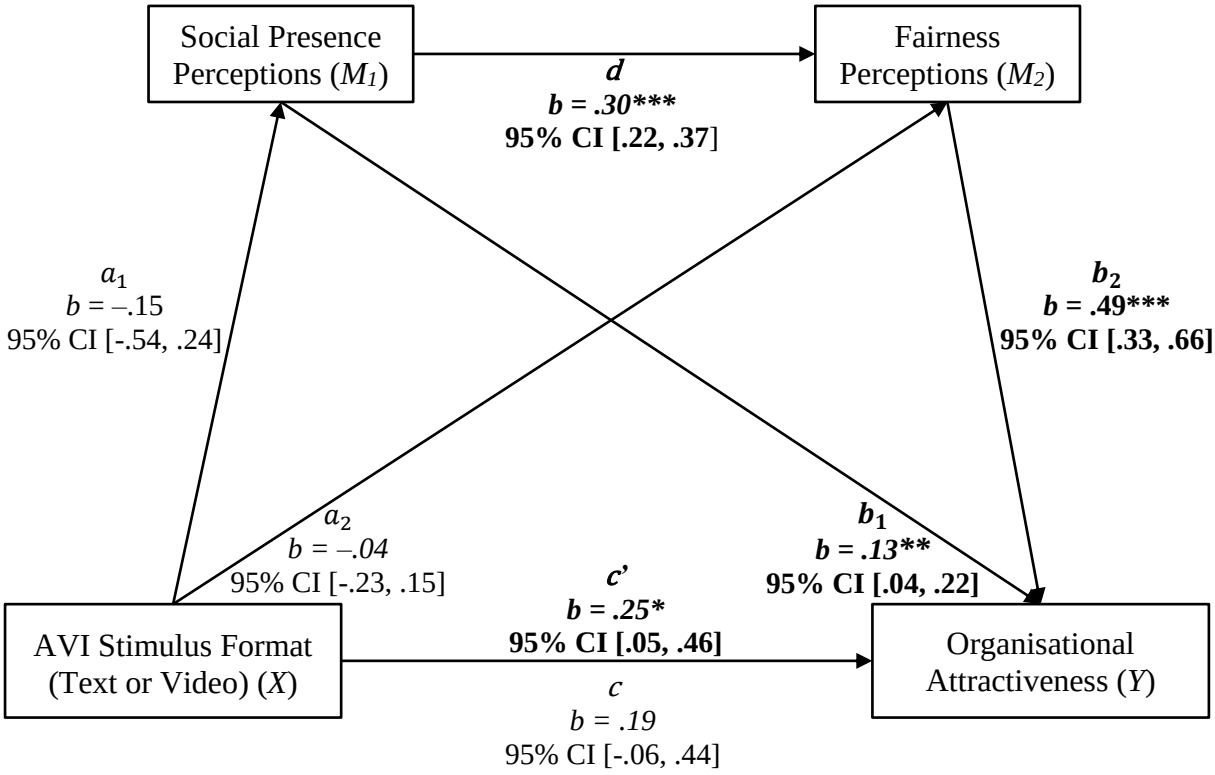
based AVIs (experimental condition), on average, experienced lower perceptions of social presence and fairness relative to the participants who received the text-based AVIs (control condition). However, the indirect effects were not different from zero for either *H4* (*b* = –.02, 95% BCa CI [–.08, .03]) or *H5* (*b* = –.02, 95% BCa CI [–.12, .07]). This suggests non-significance. Similarly, the negative indirect effect of AVI stimulus format on organisational attractiveness through both social presence and fairness (*H6*) was not different from zero which suggest non-significance (*b* = –.02, 95% BCa CI [–.09, .03]).

Furthermore, the results also revealed that the direct (positive) relationship between social presence and organisational attractiveness (b_1), social presence and fairness (*d*), and fairness and organisational attractiveness (b_2) were all statistically significant. The results also revealed that the total effect (*c*) of AVI stimulus format on organisational attractiveness was non-significant. When controlling for social presence perceptions and fairness perceptions (direct effect, *c'*), the effect between AVI stimulus format and organisational attractiveness increased and was significant.

As the results for *H4*, *H5* and *H6* are not different from zero, it can be said that *H4*, *H5* and *H6* are not supported.

Figure 10

Results of the Serial Mediation Analysis Conducted to Test H4, H5 and H6



Notes. $N = 169$. Bootstrap results are based on 5000 samples. Significant effects are in boldface.
*$p < .05$, **$p < .01$, ***$p < .001$

Table 18

Regression Coefficients and Standard Errors for the Serial Mediation Model in Figure 9

Predictor Variable	Outcome/Dependent Variable											
	Social Presence Perceptions				Fairness Perceptions				Organisational Attractiveness			
	b	*SE B*	*t*	*p*	*b*	*SE B*	*t*	*p*	*b*	*SE B*	*t*	*p*
AVI Stimulus Format	–.15	.20	–.78	.44	–.04	.10	–.40	.69	.25	.10	2.45	.02
Social Presence Perceptions	-	-	-	-	.30	.04	7.79	< .001	.13	.05	2.77	.01
Fairness Perceptions	-	-	-	-	-	-	-	-	.49	.08	6.01	< .001
	R^2 = .004				R^2 = .27				R^2 = .34			
	$F(1, 167) = .60$, $p = .44$				$F(2, 166) = 30.69$, $p < .001$				$F(3, 165) = 28.91$, $p < .001$			

Notes. $N = 169$; *b* = unstandardised beta coefficient; *SE B* = standard error of the unstandardised beta coefficient.

4.13. Post Hoc Power Analysis – Sample 2 (American Sample)

Two post hoc power analysis was conducted for Sample 2 (USA), one to test the t-tests and the other to test *F*-tests. The input parameters for the t-test power analysis were two tails, $n = 82$ and $n = 87$, mean d (*H1-H3*) = .15, and error probability = .05. The results yielded a power coefficient of .16. This suggested that this study may not have had sufficient power to detect effects that existed, thus, there was an increased risk of making a Type II error (Cohen, 1988; Crano et al., 2014).

The input parameters for the *F*-test power analysis were Cohen's $f^2 = .52$ and error probability = .05, $N = 169$, predictors = 3. The results yielded a power coefficient of 1.0. This suggested that this study had sufficient statistical power to detect effects that existed, thus, there was a reduced risk of making a Type II error (Cohen, 1988; Crano et al., 2014).

4.14. Further Analysis

Although device type was not a feature of the present study, the effect of device type was explored. Data from Qualtrics revealed that different devices were used by participants to complete the study. This is in accordance with what is seen in practice, therefore providing support for the high fidelity of this study. Nevertheless, as literature suggests (e.g. Arthur & Traylor, 2019; Morelli et al., 2017) that screen size, which varies by device type, can influence applicants' reactions and/or performance during technology-based assessment, the researcher grouped the device types according to screen size. Desktops and laptops tend to have bigger screen sizes relative to smartphones/mobile phones hence they were grouped as one category, with smartphones being the other category (Arthur & Traylor, 2019). To determine whether screen size had any effect on the variables in this study, it was input as a covariate in a 2x3 MANCOVA. The results revealed that there was no statistically significant difference between AVI stimulus format on the combined dependent variables after controlling for device type, $F(3, 163) = 2.54$, $p = .06$, Wilks' $\Lambda = .96$, partial $\eta^2 = .05$. The non-statistically significant results of the MANCOVA suggested that screen size/device type did not influence this study's results.

Chapter 5: Discussion

Over the past decade, there has been an exponential increase in the use of AVIs. In contrast to the upsurge in AVI usage, there has been minimal research into how the design of AVIs can influence applicant perceptions of social presence, fairness and organisational attractiveness. This is despite it being known that the design of interviews in general, whether traditional FTF interviews or videoconference interviews, can influence applicant reactions/perceptions. Therefore, the primary aim of this study was to empirically examine the effect of audio-visual stimuli on applicants' perceptions of social presence, fairness and organisational attractiveness. The secondary aim of this study was to examine how social presence perceptions and fairness perceptions influence organisational attractiveness which is vital in influencing the success of an organisation (Highhouse et al., 2003; Langer et al., 2018; Langer et al., 2017). An overview of the results concerning the different hypotheses is presented in Table 19.

Table 19

Summary of the Results

Hypotheses	Supported	
	Sample 1	Sample 2
H1. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of social presence.	Yes	No
H2. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will be perceived as having higher levels of fairness.	Yes	No
H3. AVIs which use high-quality welcome videos, high-quality video interview questions, and text interview questions will elicit higher levels of organisational attractiveness.	Yes	No
H4. Social presence positively mediates the relationship between AVI stimulus format and organisational attractiveness.	*H4*, *H5* and *H6* were not tested due to the small sample size.	No
H5. Fairness perceptions positively mediate the relationship between AVI stimulus format and organisational attractiveness.		No
H6. The relationship between AVI stimulus format and organisational attractiveness is serially mediated by social presence and fairness.		No

Note. Sample 1 is the SA sample; Sample 2 is the USA sample.

This chapter provides an interpretation of this study's results, compares them to existing literature and offers possible reasons for the results obtained. Thereafter, the theoretical and

practical implications are presented, limitations are explored and recommendations for future research are provided. This chapter concludes with an overall summary of this study.

5.1. Main Findings

This study's main findings are interpreted below in relation to existing literature. First, the results relating to AVI stimulus format and perceptions of social presence, fairness, and organisational attractiveness are respectively discussed. This is then followed by a discussion of the results of the serial mediation model.

5.1.1. The Relationship between Audio-Visual Stimuli and Social Presence Perceptions

Within Sample 1 (SA), the results revealed that the use of audio-visual and text-based AVIs led to higher levels of social presence perceptions when compared to AVIs which were solely text-based. Additionally, the results also revealed that the differences in perceptions of social presence between the two groups (text versus audio-visual) were moderate, meaning the use of audio-visual stimuli in AVIs can result in noticeable differences. Conversely, results from Sample 2 (USA) did not provide any credible evidence as to whether there is, or is not, a relationship between the use of audio-visual stimuli and textual stimuli in AVIs and applicants social presence perceptions.

Within Sample 1 (SA), the difference in perceived social presence between audio-visual and text-based AVIs versus text-based only AVIs can be explained by social presence theory (Short et al., 1976). This is because social-presence theory predicts that richer media, such as high-quality audio-visual stimuli, is more immersive as it can generate more realistic experiences that can remove individuals from their physical reality (Oh et al., 2018). The richer the media, the greater the social presence. Furthermore, in line with Potosky's (2008) framework of media attributes, this finding also suggests that high-quality audio-visual stimuli may possess greater levels of social bandwidth compared to textual stimuli. Facial expressions, the pitch of voice, intonation and gestures were noticeable with the audio-visual stimuli AVI, whereas this was not the case with textual stimuli AVI. Therefore, high-quality audio-visual stimuli is better able to convey verbal and nonverbal/paralinguistic cues thus resulting in the interviewer being perceived as more 'real' and/or warm which promotes perceptions of social presence. Additionally, it is also possible that the use of a welcome video gave applicants the impression that the AVI was connecting them to members of the organisation, thus causing them to feel more respected which in turn makes the virtual interaction seem more personal and warmer (Langer et al., 2017).

The findings from Sample 1 (SA) are in line with previous research (e.g., Langer et al., 2017; Langer et al., 2019; Langer et al., 2020) which suggests that applicants prefer interviews that have rich(er) social cues. It is also in line with previous research by Bracken (2005) which found that individuals prefer richer media as it elicits greater levels/feelings of social presence. Lastly, these findings provide support for Lukacik et al.'s (2022) proposition that the use of video introductions and video recorded questions increases perceptions of social presence relative to the use of written questions. Therefore, based on these findings, organisations should consider the use of audio-visual stimuli in AVIs as it can lead to increased levels of social presence.

Conversely, the results from Sample 2 (USA) did not provide any credible evidence as to whether there is a relationship between stimulus format (text versus audio-visual) and social presence perceptions. A possible explanation for this finding could lie in the antecedents of social presence, namely immersive qualities, contextual differences and individual psychological traits (Oh et al., 2018) (see Section 2.4.2), and how the SPS measures social presence.

Existing research (e.g., Lukacik et al., 2022; Oh et al., 2018; Short et al., 1976; Walter et al., 2015) suggests that of the three antecedents of social presence, immersive qualities is the strongest and most important antecedent, with Short et al. (1976) even designing the SPS to only measure the immersive qualities of a medium. This is because the immersive qualities of a communication medium are physical attributes (e.g., images, video, media quality) hence they can be objectively defined, manipulated and measured. Consequently, the other two antecedents of social presence are not measured by the SPS, and therefore the effects of stimulus format on social presence cannot be wholly accounted for by the results. It could be that within Sample 2 (USA), contextual differences and individual psychological traits played a greater role in determining applicants' perceptions of social presence, but as this was not measured and the content validity of the SPS was not examined in this study, it cannot be said with certainty that this was the case. However, recent research by Basch et al. (2021) suggests that it is more plausible to assume that social presence is more a facet of human perception than an attribute of a communication medium. Similarly, recent research by Kreijns et al. (2021) suggests that social presence is only partially determined by the immersive qualities of a communication medium. Therefore, the lack of credible evidence as to whether there is a relationship between stimulus format and social presence perceptions in Sample 2 (USA) can

be possibly attributed to the SPS not measuring all three antecedents of social presence. Further research is needed to determine if this is the case.

Another possible reason for Sample 2's (USA's) findings could be that within the population from which the sample was drawn, there is no difference between AVIs which make use of audio-visual stimuli and AVIs which make use of only textual stimuli on applicants' perceptions of social presence. It could also be that there is a difference in social presence perceptions in the population, but that this difference is to a much smaller magnitude than expected. The marginal difference between the average social presence scores of the text-based AVI group and the audio-visual based AVI group, and the small effect size, suggest that this could possibly be the case. However, it is important to interpret these findings with caution as they are based on null/non-significant results. Further research is therefore needed to confirm these findings.

Another finding was that there was also a difference in the average levels of social presence across both Sample 1 and 2. Participants in Sample 1 (SA) experienced higher levels of social presence across both conditions (text and audio-visual), and more so in the audio-visual condition, when compared to Sample 2 (USA). Furthermore, Sample 2's (USA's) results were opposite to Sample 1's (SA's) with the text-based AVI eliciting slightly higher levels of social presence compared to the audio-visual based AVI. These differences, along with Sample 1's (SA's) findings suggest that there are some differences between the control and experimental groups (text versus audio-visual), and that cross-cultural differences and/or contextual differences (e.g., less economically developed country versus more economically developed country) could possibly influence applicants' social presence perceptions. Further empirical research is needed to determine the true extent of these differences and the underlying cause(s) of these differences.

Social Presence Perception Differences between the SA and USA Samples. Employment status, age, interview and work experience are possible reasons as to why Sample 1 (SA) experienced higher levels of social presence relative to Sample 2 (USA). First, in Sample 1 (SA), more than half of the participants were full-time students whereas in Sample 2 (USA) only 10.10% of the participants were full-time students. Conversely, more than half of the participants in Sample 2 (USA) were employed whereas 17.20% of the participants in Sample 1 (SA) were employed. These numbers taken together with an average age difference of 10.92 years (24.41 years, Sample 1; 35.33 years Sample 2) suggest that participants in Sample 2 (USA) are more likely to have more interview experience, be it with FTF interviews

and/or technology-mediated interviews, as well as more work experience. It is possible that these differences could have influenced the results[3].

Although participants were not asked to compare their participation in this study to previous interview experiences, it is possible that participants in Sample 2 (USA) could have, at the very least at a subconscious level, used previous interview experiences as a benchmark when answering this study's questionnaire (Newell & Shanks, 2014). Research (e.g., Blacksmith et al., 2016; Langer et al., 2020) has shown that FTF interviews are preferred over digital interviews such as video conferences and AVIs, and when compared to FTF interviews, participants rank FTF interviews higher in social presence. Therefore, it is possible that prior interview experience could have negatively influenced participants' social presence perceptions in Sample 2 (USA). Similarly, it is also possible that the participants in Sample 2 (USA) had more work experience and this led to differences in perceptions between Sample 1 (SA) and Sample 2 (USA). This explanation concurs with a finding by Langer et al. (2020) who found that applicants with different levels of work experience react differently to different forms of technology-mediated interviews.

Furthermore, as the majority of the participants in Sample 1 (SA) were university students, they are used to both synchronous and asynchronous forms of communication as they had to undergo a combination of both synchronous and asynchronous learning during the 2020 academic year due to the COVID-19 pandemic (Cranfield et al., 2021; Rudman, 2021). Moreover, compared to the general population, students may be more familiar with modern communication technologies (Bach et al., 2021). As a result of this, it is possible that they may be more accustomed to asynchronous forms of technology-mediated communication compared to Sample 2 (USA)[4]. This taken together with their lack of prior interview experience to use as a benchmark could have resulted in them perceiving the AVI as higher in social presence relative to Sample 2's (USA's) participants.

[3] This study's data revealed that Sample 2's (USA) participants had more AVI experience (see Table 7 and 8). It is possible that because Sample 2 (USA) has a higher mean age, it is indicative that they entered the workforce earlier than the Sample 1 (SA), hence it is likely that they are more used to/have more experience with traditional interviews as AVIs are a relatively new technology which have only recently begun being widely used (see Section 1.1 and Table 1.1).

[4] Although information was not collected on which university participants attended, based on the fact that many of the student participants had myuct domain emails, and that participants were recruited via the UCT mailing list and UCT's upper campus, it is highly likely that the majority of students were from UCT. During 2020 UCT adopted an asynchronous form of online learning (https://bit.ly/uct2020ERT).

5.1.2. The Relationship between Audio-Visual Stimuli and Fairness Perceptions

In line with the hypothesised relationship between AVI stimuli format and fairness perceptions, Sample 1's (SA's) results revealed that the use of high-quality welcome videos, high-quality video interview questions and text interview questions in AVIs led to higher fairness perceptions. The results also revealed that in Sample 1 (SA) the differences in fairness perceptions between the two groups (text versus audio-visual) was moderate, thus suggesting that the use of audio-visual stimuli in AVIs can result in noticeable differences in fairness perceptions. On the other hand, Sample 2's (USA's) results did not provide any credible evidence as to whether the use of audio-visual stimuli and textual stimuli in AVIs and fairness perceptions are, or are not, related. Unlike Sample 1's results, Sample 2's results were not expected.

Sample 1's (SA's) results can possibly be explained by the fact that individuals prefer high-quality audio-visual media as it can transmit more verbal and nonverbal cues than text-based media (Basch et al., 2021; Brenner, 2020). This is because the more verbal and nonverbal cues a communication medium has, the warmer it is perceived to be, and the warmer a communication medium is perceived to be, the greater applicants' fairness perceptions of the respective communication medium (Gilliland, 1993, 1994; Farago et al., 2013). In this study, the communication medium is either text-based AVIs or high-quality audio-visual based AVIs, with the latter containing more verbal and nonverbal cues. This explanation is in line with findings by Chapman et al. (2003) which suggests that the more interviews embody verbal and nonverbal cues, use natural language and better convey personal emotions and feelings, the more likely they are to be perceived as fair. As fairness perceptions can influence job offer acceptance, motivation to perform during the selection and applicant behavioural intentions when it comes to litigation (Guchait et al., 2014; McCarthy et al., 2017; Truxillo et al., 2015), it is suggested that organisations make use of high-quality audio-visual based AVIs to positively influence applicants' fairness perceptions.

When it comes to Sample 2's (USA's) findings, the lack of credible evidence as to whether the use of audio-visual stimuli in AVIs and fairness perceptions are, or are not, related can be attributed to several possible reasons. First, according to Gilliland (2008), extreme forms of fairness or unfairness are most salient in influencing an individual's fairness perceptions. Therefore, when an AVI is perceived as neither extremely fair nor extremely unfair, fairness does not become salient (Konradt et al., 2013). Given that Sample 2's (USA's) average fairness perception score was not extreme, it is possible that participants in both conditions did not

perceive the AVIs as extremely fair or unfair. Therefore, this explanation seems plausible as to why the results were nonsignificant. Second, it could be that within the population from which Sample 2 (USA) was drawn, there is no difference between individuals' fairness perceptions for AVIs which make use of audio-visual and textual stimuli and AVIs which make use of only textual stimuli. On the other hand, it could also be that there is a difference in fairness perceptions in the population, but that this difference is to a much smaller magnitude than expected. However, as Sample 2's (USA's) findings are based on null results, further empirical research is needed to provide support for them. Therefore, Sample 2's (USA's) findings should be interpreted with caution.

5.1.3. The Relationship between Audio-Visual Stimuli and Organisational Attractiveness

Sample 1's (SA's) results revealed that the use of high-quality welcome videos, high-quality video interview questions and text interview questions in AVIs led to higher levels of organisational attractiveness. Additionally, the results also revealed that the differences in perceptions of organisational attractiveness between the two groups (text versus audio-visual) were moderate, meaning the use of audio-visual stimuli in AVIs can result in noticeable differences in perceptions of organisational attractiveness. Conversely, Sample 2's (USA's) results did not provide any credible evidence as to whether there is, or is not, a relationship between the use of audio-visual stimuli and textual stimuli in AVIs and applicants' perceptions of organisational attractiveness. Whereas Sample 1's results were expected, Sample 2's were not.

Within Sample 1 (SA), the difference in organisational attractiveness levels between audio-visual and text-based AVIs versus text-based only AVIs can be explained the fact that welcome videos provide a host of information about an organisation, such as values, facilities, what it is like to work for the organisation, and information relevant to the selection process. For example, the welcome video used in this study was shot in full HD and in a modern building that has an appealing aesthetic and ornaments/decorations. This could have increased psychological fidelity and given the impression that the organisation is well resourced and financially stable (Lukacik et al., 2022). Consequently, this could have enhanced the characteristics of the fictitious organisation's recruitment process and its image which in turn led to increased levels of organisational attractiveness (Slama, 2020; Uggerslev et al., 2012). It could also be that having a representative of the fictitious organisation introduce the organisation and the job, albeit virtually, led to applicants feeling that they were treated with respect, which consequently increased their perceived levels of organisational attractiveness

(Langer et al., 2017). Therefore, as was found in this study, if an AVI lacks audio-visual stimuli, the perceived levels of organisational attractiveness will be lower than one that includes audio-visual stimuli. In line with the findings of Langer et al. (2019) and Langer et al. (2020), another possible explanation for this finding might have to do with social presence and fairness being valued by the participants. As the participants perceived the audio-visual and text-based AVI as having higher levels of social presence and fairness, and they possibly valued this, it could have resulted in higher levels of organisational attractiveness. Based on these findings from Sample 1 (SA), it would make sense for organisations to make use of audio-visual and text-based AVIs as opposed to text-based only AVIs.

Unlike Sample 1's (SA's) findings, Sample 2's (USA's) findings did not provide any credible evidence as to whether the use of audio-visual stimuli and textual stimuli in AVIs and applicants' perceptions of organisational attractiveness are, or are not, related. As with perceptions of social presence and fairness within Sample 2, a possible explanation for this finding could be that within the population from which Sample 2 (USA) was drawn, there is no difference between AVIs which make use of audio-visual and textual stimuli and AVIs which make use of only textual stimuli on organisational attractiveness levels. However, it could also be that there is a difference in perceptions of organisational attractiveness in the population, but that this difference is to a much smaller extent than expected. A finding that stood out in Sample 2's (USA's) results is that the experimental group (audio-visual and text-based AVI) had both lower perceptions of social presence and fairness compared to the control group (text-based only AVI), yet the experimental group had higher perceptions of organisational attractiveness relative to the control group. This contrasts with existing research which suggests that higher levels of social presence (e.g., Langer et al., 2019; Langer et al., 2020) and fairness (e.g., Acikgoz et al., 2020, Konradt et al., 2013; Nikolaou & Georgiou, 2018) are associated with increased levels of organisational attractiveness. However, this finding is partially supported by Langer et al.'s (2017) study which found that lower fairness perceptions did not negatively affect organisational attractiveness levels. Nevertheless, it is important to interpret these findings with caution as they are based on null/non-significant results. Further research is therefore needed to confirm these findings.

5.1.4. Findings of the Serial Mediation Model

To further explore the relationships between AVI stimulus format, social presence perceptions, fairness perceptions and organisational attractiveness, a serial mediation model was tested using Sample 2's (USA's) data. Contrary to what was hypothesised, the results of

the mediation analyses did not provide any conclusive evidence as to whether the relationship between AVI stimulus format and organisational attractiveness is mediated by social presence and/or fairness perceptions. These results contradict the findings of Langer et al. (2020) who found that social presence perceptions mediate the relationship between the interview approach and organisational attractiveness. Similarly, these results also contradict the findings of Langer et al. (2019) who found that fairness perceptions mediate the relationship between the interview approach and organisational attractiveness. There are multiple possible explanations for this finding, all of which are similar to the explanations for Sample 2's (USA's) respective findings mentioned in Sections 5.1.1–5.1.3.

First, it is possible that there is no conclusive evidence as to whether the relationship between AVI stimulus format and organisational attractiveness is mediated, or not, by social presence because of how the SPS measures social presence perceptions (see Section 5.1.1). This explanation could also possibly explain why there is no conclusive evidence as to whether, or not, AVI stimulus format influences social presence perceptions which in turn influences fairness perceptions, which subsequently influences organisational attractiveness (AVI stimulus format → social presence → fairness → organisational attractiveness). In the case of both of these relationships, it could also be that these relationships are present in Sample 2's (USA's) population, but that these relationships exist to a much smaller extent than expected.

Second, it is possible that there is no conclusive evidence as to whether the relationship between AVI stimulus format and organisational attractiveness is mediated, or not, by fairness perceptions participants did not experience extreme forms of fairness or unfairness. According to Gilliland (2008), are extreme forms of fairness are most salient in influencing an individual's fairness perceptions. It is possible that participants in both conditions did not perceive the AVIs as extremely fair or unfair given that Sample 2's (USA's) average fairness perception score was not extreme. It could also be that this relationship (AVI stimulus format → fairness → organisational attractiveness) is present in Sample 2's (USA's) population, but that this relationship exists to a much smaller extent than expected. Further research is therefore needed to determine whether or not such a relationship exists.

5.2. Theoretical Contributions

Theoretically, this study contributes to the literature on AVI research in several ways. First, this is one of the first studies to shed light on possible serial mediators of organisational attractiveness within the context of AVIs, thereby providing a greater understanding of how

AVIs can influence applicant perceptions. Second, existing research on AVIs predominantly focuses on the differences between FTF interviews, videoconferences and AVIs (e.g., Blacksmith et al., 2016, Langer et al., 2017). Little attention has been paid to the design of AVIs. Given that AVIs are here to stay due to ongoing technological progress and the ongoing COVID-19 pandemic, this research contributes to research on best practices regarding AVI design and usage, specifically when it comes to stimulus format. Third, this study provides preliminary evidence that could explain differences in applicants' perceptions of AVIs across different countries and cultures. This preliminary/anecdotal evidence can be used as a foundation for further research into the use of AVIs across different countries and cultures. By contributing to the literature on AVI research, this study responds to calls for more research on technology-mediated interviews (e.g., Blacksmith et al., 2016; Lukacik et al., 2020; Maurer, 2021; Morelli et al., 2017).

Another theoretical contribution of this study has to do with social presence theory. Short et al. (1976) developed social presence theory in the late 1970s. At this point in time, the internet did not exist, and most forms of communication were synchronous/immediate (Kreijns et al., 2021). Furthermore, social presence theory has largely been used within the context of online learning (Chen, 2014; Johnson, 2011; Koivula, 2015; Lee et al., 2011). By utilising social presence theory in the context of AVI research, and more so in a unique time such as the COVID-19 pandemic, this study demonstrates the versatility/applicability of social presence theory across different contexts.

5.3. Practical Implications

Several practical implications arose from the findings of the current study. First, within the South African context and with a younger population, the findings from this study suggest that both audio-visual stimuli and textual stimuli should be used when designing AVIs as this can lead to greater levels of social presence, fairness and organisational attractiveness, all of which are beneficial to the organisation. Whilst there are production costs associated with including audio-visual stimuli in AVIs, the benefits outweigh the cost. This is because the interview provides an opportunity to market/sell the organisation to applicants. Being able to market/sell the organisation favourably in an interview is important so that applicants can walk away from the interview with a strong level of organisational attractiveness and may therefore accept the job offer from the organisation as opposed to one from a competitor (Farago et al., 2013). Including audio-visual stimuli in AVIs positively influences applicants' social presence

perceptions, fairness perceptions and organisational attractiveness perceptions which in turn influences important outcomes such as perceptions of the interview itself, job offer acceptance and motivation to perform during the selection process (Guchait et al., 2014; McCarthy et al., 2017; Truxillo et al., 2015).

Second, within the American context and with an older population, it is advised that recruiters and organisations should pay close attention to the effects of AVI stimulus format on applicant reactions/perceptions given Sample 2's (USA's) lack of conclusive evidence. Although this study partially alleviated the concerns associated with AVI stimulus format and applicant reactions by demonstrating that the use of both audio-visual stimuli and textual stimuli led to increased levels of social presence, fairness and organisational attractiveness within Sample 1 (SA), the findings from Sample 2 (USA) were not conclusive. Therefore, until further research/replication studies can confirm the effects of AVI stimulus format in a population similar to Sample 2's (USA's), recruiters and organisations should pay close attention to the effects of AVI stimulus format on applicant reactions/perceptions. They should weigh up the perceived benefits of AVIs as a selection utility with other considerations such as applicant reactions and organisational attractiveness.

Third, it is advised that AVIs, regardless of stimulus format, be limited to the initial stages of the recruitment process to screen out unsuitable candidates until such a time that there is more conclusive evidence on the effects of AVI stimulus format on other applicant reactions and outcomes such as anxiety and interview performance (Basch et al., 2020; Toldi, 2011). This is because using AVIs at a later stage of the recruitment process to screen top candidates may, or may not, result in negative applicant reactions. In the event that it does, it is possible the applicants will withdraw from the recruitment process which will be costly to the organisation as the recruitment process costs money, manpower, and is time-consuming (Truxillo et al., 2015). By limiting AVI usage to the initial stages of the recruitment process, organisations are still able to benefit from the advantages of AVIs whilst minimising the effects/costs of potential negative applicant reactions (Sears et al., 2013).

Fourth, the fact this study was conducted across different two different countries and cultures increases the generalisability and robustness of this study's findings. Therefore, the findings of this study could possibly prove useful to multinational organisations seeking to implement standardised selection systems using AVIs. Moreover, unlike previous studies where participants did not take part in actual interviews but instead answered survey questions after reading a description of the interview (e.g., Basch et al., 2020) or watching a video of the

interview (e.g., Langer et al., 2019; Langer et al., 2020), this study made use of a commercially available digital interview platform to conduct actual AVIs thus further increasing the generalisability and robustness of this study's findings.

Lastly, the findings from Sample 1 (SA) should be highly relevant for the screening of entry-level positions (Basch et al., 2020) at least within the South African context. This is because participants in Sample 1 (SA) were predominantly students and had an average age of 24.41 years. Therefore, the results might not generalise to older applicants and applicants for more senior/hierarchically higher positions (Langer et al., 2017).

5.4. Limitations and Recommendations for Future Research

The findings and contributions of this study should be interpreted in light of several limitations, all of which serve as a basis for future research.

First, although there was reason for participants to take this study seriously (see Section 3.3), it does not change the fact that participants took part in a mock interview with low-stakes. Existing research has shown that different levels of stake (low- versus high-stakes) can affect applicant reactions during an interview (Langer et al., 2019). Therefore, it remains to be shown whether the results of this study can be generalised to real interview situations in which there is more at stake. Accordingly, it is recommended that future research conduct an experimental study in a real-life high-stakes situation to determine whether the results are different to this study. Alternatively, future research can also conduct a 2×2 experimental study (high-stakes, text-based only AVI × high-stakes, audio-visual and text-based AVI) to determine whether this study's findings can be generalised to real interview situations.

Second, this study utilised one interview that was independent of the multi-stage selection process that is typically used in real-life selection situations. Accordingly, the use of an AVI during the screening stage of the selection process is likely to be perceived differently than the use of an AVI during the final stage of the selection process (Basch et al., 2020). In line with this, future research should compare applicant reactions to different forms of AVI stimulus during a multi-stage selection process.

Third, this study was unable to control for the multiple sources of information, such as a company website and social media, and anonymous company review sites (e.g., Glassdoor), that applicants use to determine an organisation's attractiveness as an employer during the application process (Langer et al., 2020; Chapman et al., 2005). This is because this study made use of a fictitious company and a mock interview. Accordingly, future research can manipulate

participants' perceptions of the organisation before and/or after the interview and examine how this manipulation is associated with applicant reactions to different forms of AVI stimulus format.

Fourth, the results from Sample 1 (SA) might not apply to older applicants and applicants for mid to senior-level positions as the majority of Sample 1's (SA's) participants were students. Furthermore, the average age was 24.41 years with 23 and 24 years being the most common ages. These demographic characteristics are typically associated with entry-level applicants (Langer et al., 2017). The opposite of Sample 1 (SA) can be said for Sample 2 (USA). Therefore, future research should recruit a sample that adequately represents different job/position levels so that the findings are more generalisable and robust.

Fifth, the validity of the scales used to measure applicant perceptions was not assessed due to the sample sizes not being sufficient to conduct confirmatory factor analysis or exploratory factor analysis. The lack of a sufficient sample size was due to time and monetary constraints. Future research should therefore pay special attention to time and monetary constraints so that the researchers can recruit a sufficient sample size to assess the validity of the measurement scales used in their research. In doing so, this can improve the robustness of their findings.

Additional recommendations for future research include examining applicant reactions to AVI stimulus format in different contexts as the results of the two samples from two different countries and cultures differed (SA versus USA). This implies that cross-cultural differences can influence applicant perceptions. Similarly, it is also possible that individual differences such as age, interview experience and technological familiarity/preferences can influence applicant perceptions. Therefore, these aspects should also be considered by future research as it can help inform best practices for AVI design and usage. Lastly, it is also recommended that future research adopt a mixed methods study as applicant perceptions are more subjective than objective. By including a qualitative component, researchers will gain rich data which will further enable them to understand what influences applicant perceptions when it comes to AVIs, and how best to take advantage of these influences when designing AVIs.

Chapter 6: Conclusion

Although the usage of AVIs has surged in recent years and is expected to continue increasing, research into how AVI design can influence applicant reactions/perceptions of the interview and organisation is limited and lagging behind. To help address the shortfall in AVI research, this study adopted a granular/modular approach to empirically examine the effects of different forms of AVI stimulus format, specifically textual stimuli versus audio-visual stimuli, on applicant perceptions of social presence, fairness and organisational attractiveness. Additionally, this study also examined how social presence perceptions and fairness perceptions may influence organisational attractiveness. Using a between-subjects posttest-only experimental design and two samples, data was collected to empirically examine the hypothesised relationships.

Although many of the hypothesised relationships were not statistically significant and the results differed between the samples, the data suggest that different forms of AVI stimuli influence applicant perceptions of social presence, fairness and organisational attractiveness to different extents. For example, Sample 1's (SA's) findings suggest that recruiters/organisations should incorporate both audio-visual stimuli and textual stimuli, as opposed to just textual stimuli, into the design of AVIs. Conversely, Sample 2's (USA's) findings did not provide any conclusive evidence as to whether both audio-visual stimuli and textual stimuli should, or should not, be incorporated into the design of AVIs. Therefore, further research is needed to investigate and clarify the findings of this study. It is hoped that this study has provided applicants, recruiters, organisations and the academic/research community with a much-needed preliminary look into the nuanced workings of AVI design and the influence that AVI stimulus format may have on applicant perceptions of social presence, fairness and organisational attractiveness.

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Appendices

Appendix A

AVI Materials

Company Introduction

Before proceeding, please imagine that you have responded to the job advertisement below. You have applied for an attractive job/position of your choice at Hooper. You choose the position and the level of the position. It can be a fictitious position or a position you may have come across in another job advertisement. After submitting your application, you receive an invitation via email to participate in an asynchronous video interview. A link to the interview is included in the email.

Please note when you proceed to your interview, you will be asked to provide your name and email so that your report can be emailed to you. You can provide a fictitious name and email (e.g., John Doe, johndoe@janedoe.com) if you do not want to receive a report and if you do not want to reveal your identity.

HOOPER INTERNATIONAL

Hello and thank you for showing an interest in Hooper!

Hooper is a global company with business operations in 60 countries on six continents. We pride ourselves on doing business the right way and making a real difference in the world.

At Hooper, we feel good about the work we do! When you work at Hooper, you can bring your own purpose to life through the work that you do with us. You will work with a company that is loved, improving the lives of our customers and their communities. At Hooper, we give you the freedom to succeed and a stimulating work environment that will spark your creativity and help you become a better you.

Welcome Script

Welcome

Hello and welcome to your digital interview with Hooper. I'm Zara and I'm here helping out the Hooper recruitment team. We appreciate the time you have invested in your Hooper application so far and we hope you find this next step in the process both interesting and fun. If you are not that familiar with Hooper, we are a global company with business operations in 60 countries on six continents. We are a growing company filled with energy and excitement. I get to work with a lot of very talented people every day and we all get to work on interesting and challenging projects together.

Okay, so now let us move on to the interview and more about you. This digital interview will help bring your resume to life. It is a chance to shine, to showcase yourself and tell us about your unique experiences. Have you ever done a digital interview before? If not, I just want to share some helpful tips with you before you get started.

First, find a quiet place with good lighting where you will not be interrupted for at least a half-hour. Try to perform a quick test of your camera and sound. Once you begin the interview, you will have 60 seconds to prepare a response for the first question posed before you begin recording your response. This will be the same for the remaining four questions. Look at your screen during the interview to see the timer. You will be able to stop and start recording again, and you will have an unlimited number of retries, so take your time recording each question. If you need to jot down some notes, go ahead, we will wait.

Still unsure? Don't worry, the next page will take you to a practice round (this will not be evaluated and will have no effect on your scores).

And finally, do not worry about being too formal. Just try to be yourself, be honest and straightforward. We want to get to know the real you. You just might be the person we will get to work with in the future. I will catch up with you again after you have finished recording.

Good luck and I am Hooping for you!

Closing (shown after interview questions)

Hey, you did it! Thank you for taking the time to complete your interview. Now, please keep an eye out for communication from us because you will be receiving information about next steps soon. Thanks again!

Interview Questions

1. Describe a time when you had to collaborate with others to succeed at a task. What was the task you had to accomplish? What made the collaboration successful? What was your role or contribution?[1, 3, 4]
2. Describe a situation where you had to evaluate the risks, benefits, and potential outcomes of a decision. For example, buying something important, investing in something, starting a new project, etc. How did you handle it? And what was the outcome?[1, 5]
3. Describe a time when you took the lead on a group project. What was the project, how did you behave as a leader, and what was the outcome?[1, 6]
4. How would you handle a situation where your work colleagues ignore your ideas and input?[2,7]
5. How do you manage your time and prioritise tasks?[2, 8]

Notes. [1] = Behavioural question; [2] = Situational question; [3] = Interpersonal Skills/People Management; [4] = Teamwork; [5] = Critical Thinking; [6] = Leadership; [7] = Communication; [8] = Time Management

Question 1–3 from Wong (2020).

Question 4 from de Kock et al. (2015).

Appendix B

Study Questionnaire

Part 1 – Procedural Justice Scale

Please answer the following statements by selecting the option which best represents your opinion. There are no right or wrong options.

To what extent:

1. **Do you believe you could express your views and feelings during the interview?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

2. **Do you believe that you have influence over the outcome of the interview?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

3. **Do you believe this interview process can be applied consistently to all applicants?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

4. **Do you believe the interviewing procedure is free of bias?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

5. **Do you believe the interviewing procedure are based on accurate information?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

6. **Do you believe that applicants could appeal the hiring decision?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

7. **Do you believe this method of hiring upheld ethical and moral standards?**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

8. **It is important that I pay attention in this study. Please select 'To a very large extent' as your response.**

To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
○	○	○	○	○

Part 2 – Social Presence Scale (SPS)

Please answer the following statements by selecting the answer option which best represents your opinion. There are no right or wrong options.

How would you describe the communication media you used for the interview?

Impersonal						Personal
○	○	○	○	○	○	○
Insensitive						Sensitive
○	○	○	○	○	○	○
Cold						Warm
○	○	○	○	○	○	○
Passive						Active
○	○	○	○	○	○	○

P.T.O

Part 3 – General Attractiveness Factor of the Organisation Attraction Scale

Please answer the following statements by selecting the option which best represents your opinion. There are no right or wrong options.

1. **For me, this company would be a good place to work.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

2. **I would not be interested in this company except as a last resort.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

3. **This company is attractive to me as a place for employment.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

4. **I am interested in learning more about this company.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

5. **A job at this company is very appealing to me.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

6. **Fish do not need water to survive. Please select strongly agree.**

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

P.T.O

Part 4

Please respond to the following questions

Buffering Check Question

Did you experience any buffering during your interview? If yes, please state how many times you experienced buffering.

Choose an item.

Click or tap here to enter text.

Part 5 – Demographic Information Questionnaire

Please answer all of the following.

1. **Please state your age.**

   Click or tap here to enter text.

2. **Please state your gender.**

   Choose an item.

   If Other, please feel free to specify here.

3. **Which country do you reside in?**

   Click or tap here to enter text.

4. **What is your employment status?**

   Choose an item.

5. **What is your occupation and job level?**
   E.g., intern, entry level, associate, junior/senior manager, director, CFO, COO, Vice President, CEO, owner

   Click or tap here to enter text.

6. **What device are you currently using?**

   Choose an item.

7. **Which country are you from?**

   Click or tap here to enter text.

8. **Have you previously undertaken any form of video interview? If yes, please specify which type e.g., synchronous video interview, asynchronous video interview or unsure.**

   Choose an item.

   Choose an item.

9. **What time is it?**

Click or tap here to enter text.

If there are any comments you would like to make, please feel free to do so in the box below.

Click or tap here to enter text.

Thank you for your time!

Appendix C

Online Survey Cover Page

Hi there 👋

What is this study about?

With the onset of the COVID-19 pandemic and the subsequent increase in remote working, there has been an upsurge in the use of video interviews. At least 60% of hiring managers make use of video interviewing technology. However, the upsurge in video interview usage has not been matched by an equal amount of research. This study, therefore, aims to tackle this gap by investigating how best to design digital interviews.

What is in it for you?

This is a good opportunity for you to practice your video interview skills at no cost.

If you decide to participate in this study, you will be presented with five interview questions. Using your laptop, desktop or mobile device's webcam and microphone, you will have to record yourself answering the interview questions. After you have answered the questions, your recordings will automatically upload to cloud storage. Your videos will be deleted once this study has been completed. You will also be presented with several statements and asked to provide your opinion about them after you have completed the video interview. The entire process should take you approximately 35 minutes to complete.

This study utilises the English language and all responses should be in the English language.

By selecting 'Yes', you acknowledge your research rights below and agree to participate in this study.

☐ Yes, I agree and acknowledge to participate in this study of my own free will and I confirm that I am at least 18 years old. I also understand that I may choose to stop participating at any time without penalty or disadvantaging myself.

☐ No, I do not acknowledge my research rights and do not want to participate in this study.

Your Research Rights

The University of Cape Town's Commerce Faculty Ethics in Research Committee has approved this study (REC 2021/07/019). There are no known risks or dangers associated with this study. The information you provide will only be used as aggregated data. Furthermore,

your data will remain confidential and be stored securely on a cloud storage account. I will be the only individual who knows the password to this account.

Please note that this study will not influence your current or future employment opportunities.

This study is voluntary, and you may withdraw from it at any time.

By selecting ‘Yes’, you agree to participate in this study and follow all instructions.

If you do not want to participate in this study, you can close this window.

If you want a copy of this consent form, or if you have any questions or comments, please feel free to contact me via e-mail at ptlahm005@myuct.ac.za, or my supervisor, Professor Francois De Kock at francois.dekock@uct.ac.za.

Your time and participation will be greatly appreciated!

Appendix D

Debriefing Form

Thank you for participating in this research on asynchronous video interviews (AVIs). AVIs are on-demand one-way asynchronous video interviews conducted on a web-based platform, such as myInterview, and make use of microphones and cameras to record interviewees' responses.

When you agreed to participate in this research, it was important that some information was withheld from you. This research utilised an experimental research design. Therefore, you were not told whether you were assigned to the experimental or control group in the beginning as this could have influenced your responses. If your video interview consisted of video interview questions, a video introduction and closing, then you were in the experimental group. Conversely, if your interview introduction, questions and closing were presented in text format, then you were in the control group.

This research seeks to understand how the use of different media stimuli (text and video) in AVIs affects interviewee reactions, in particular perceptions of fairness and social presence, and how these perceptions influence interviewees perceptions of organisational attractiveness. This is important to organisations as organisational attractiveness has to do with the degree to which an individual perceives a particular organisation as a place they want to work at. If interviewees perceive AVIs as unfair and lacking in social presence, they may decide not to work for a particular organisation. As a result, organisations may lose out on top talent, and the money and time spent on recruitment is not utilised efficiently.

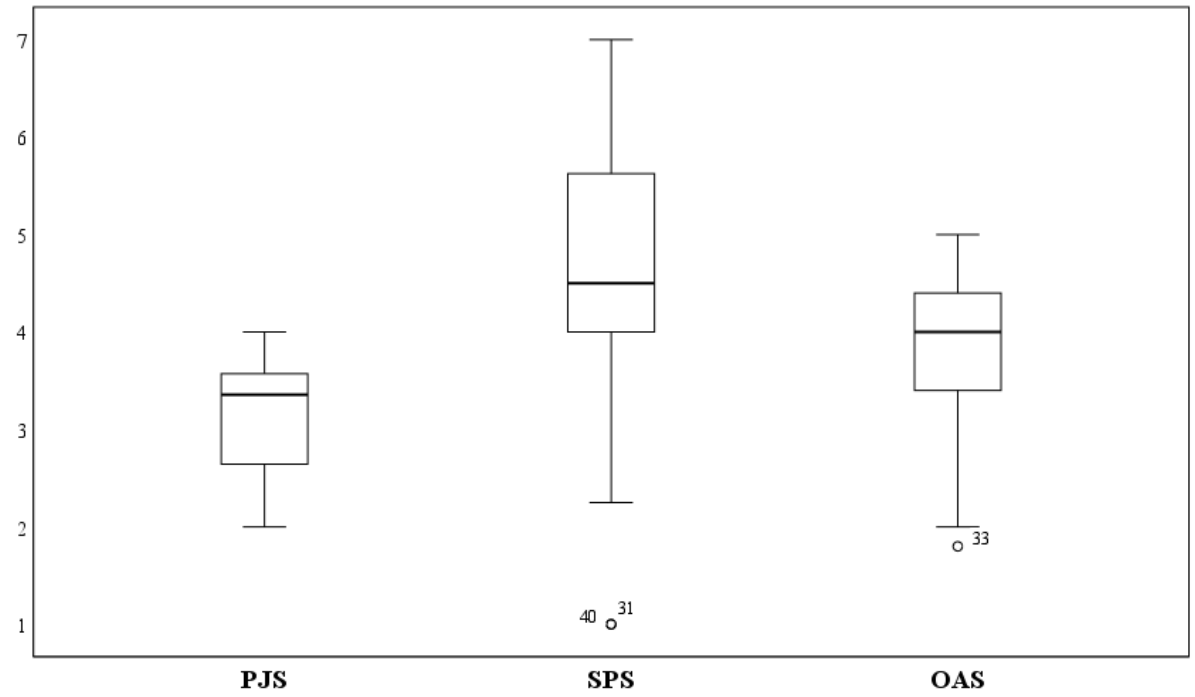
If you have any questions or concerns about this study, please feel free to contact the researcher, Ahmed Patel, at ptlahm005@myuct.ac.za, or my supervisor, Professor Francois De Kock at francois.dekock@uct.ac.za.

Appendix E

Sample 1 (SA) Preliminary Analyses Outputs

Figure E1

Boxplot for Sample 1's (SA) Control Group



Note. ∘ = mild outlier

Figure E2

Boxplot for Sample 1's (SA) Experimental Group

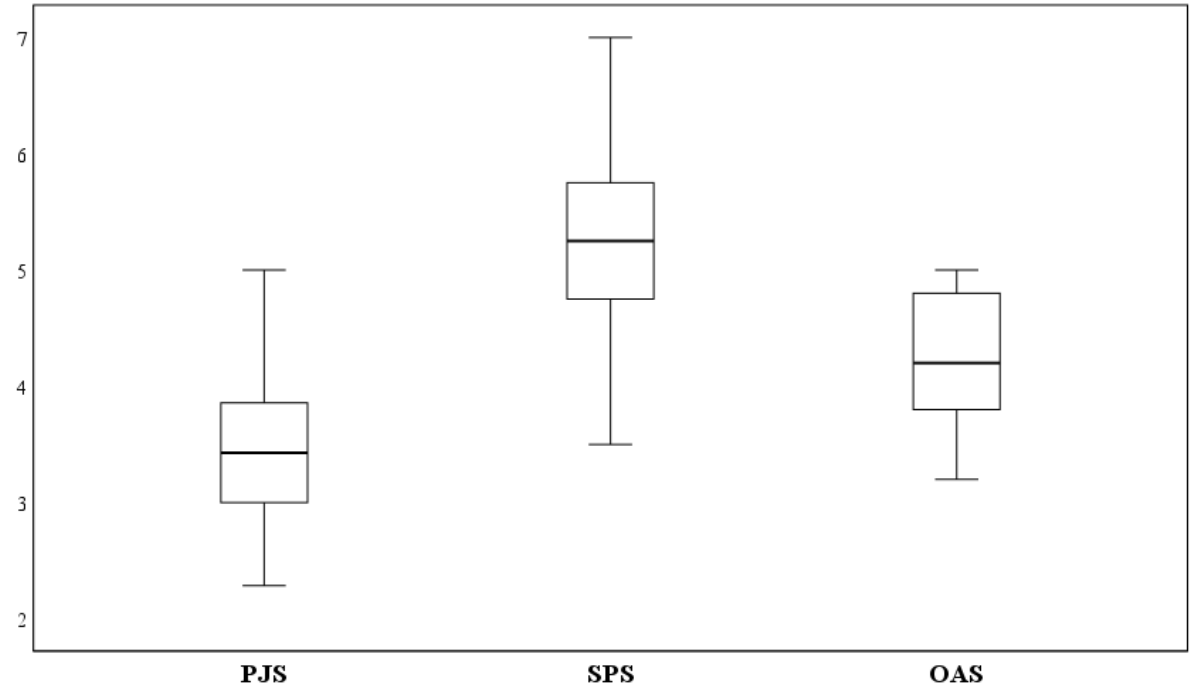


Figure E3

Normal P-P Plot Showing Normal Distribution of Residuals for SPS in the Experimental Group

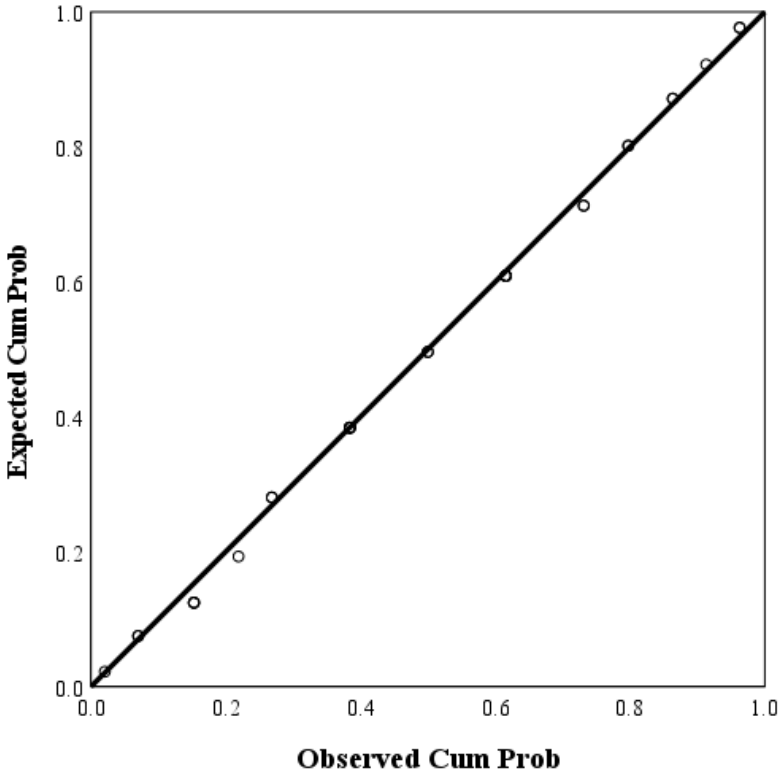


Figure E4

Normal P-P Plot Showing Distribution of Residuals for the PJS in the Control Group in Sample 1

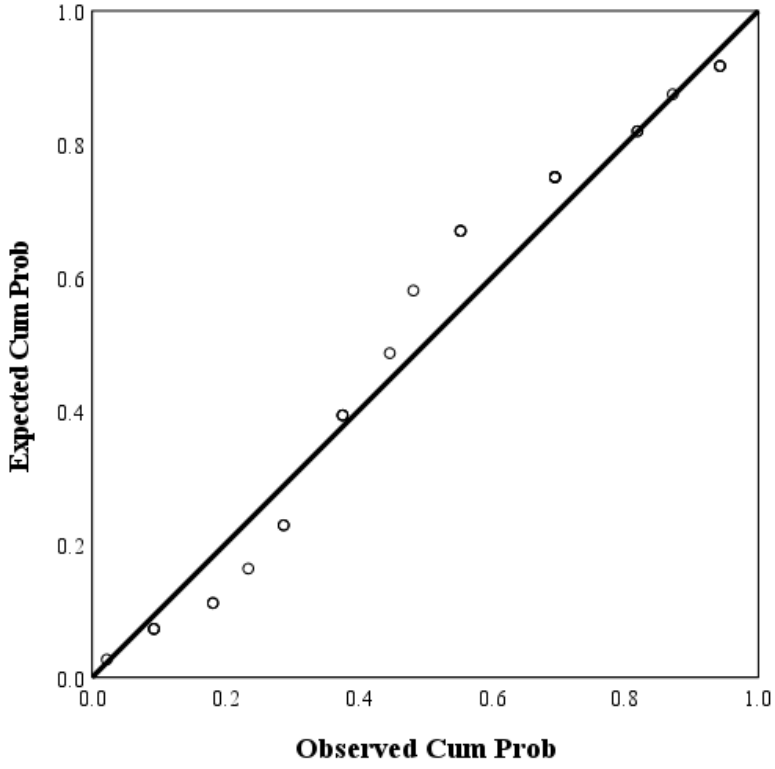


Figure E5

Normal P-P Plot Showing Distribution of Residuals for PJS in the Experimental Group

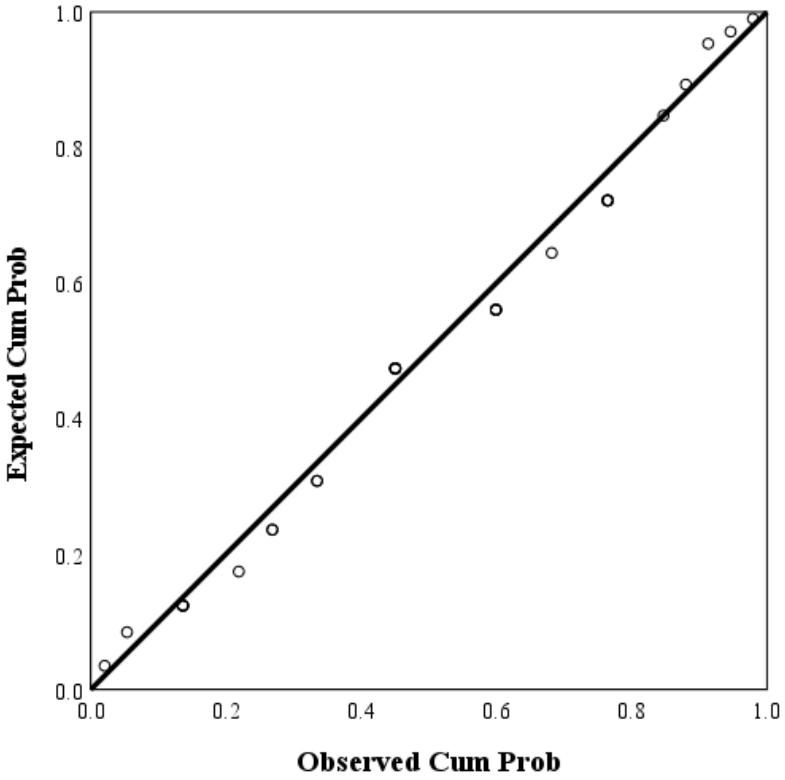


Figure E6

Normal P-P Plot Showing Distribution of Residuals for SPS in the Control Group in Sample 1

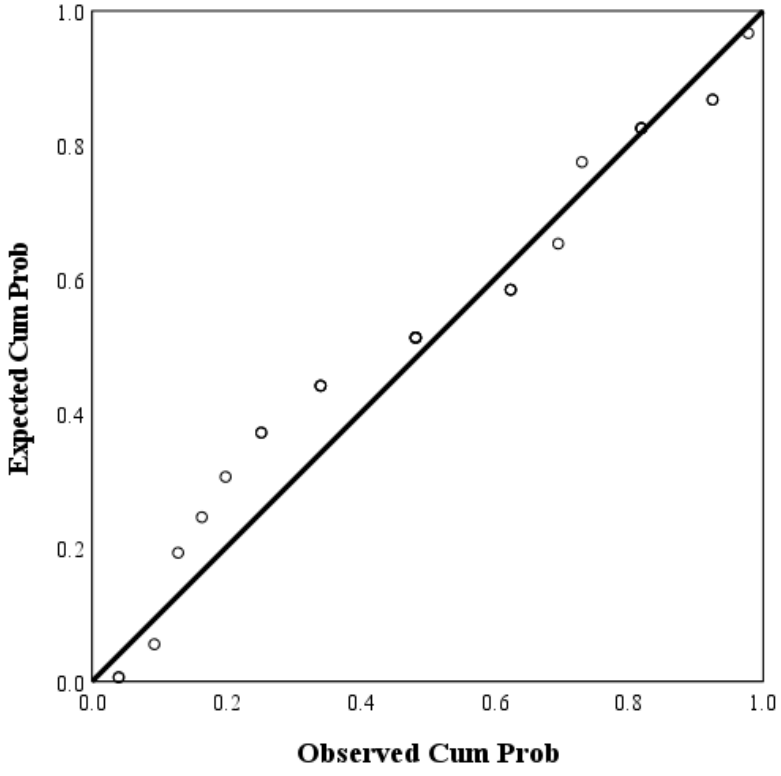


Figure E7

Normal P-P Plot Showing Distribution of Residuals for OAS in the Control Group for Sample 1

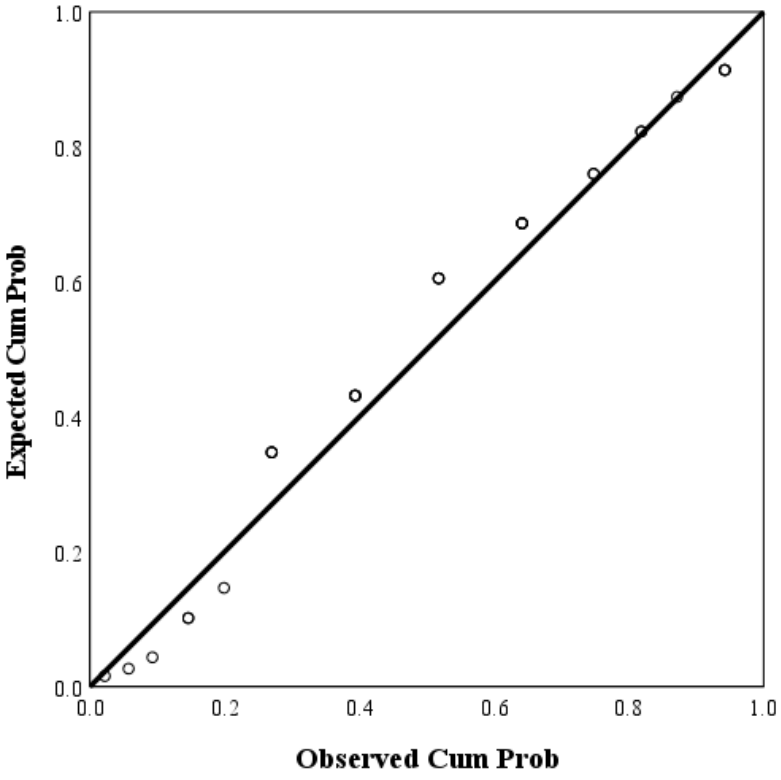


Figure E8

Normal P-P Plot Showing Distribution of Residuals for OAS in the Experimental Group

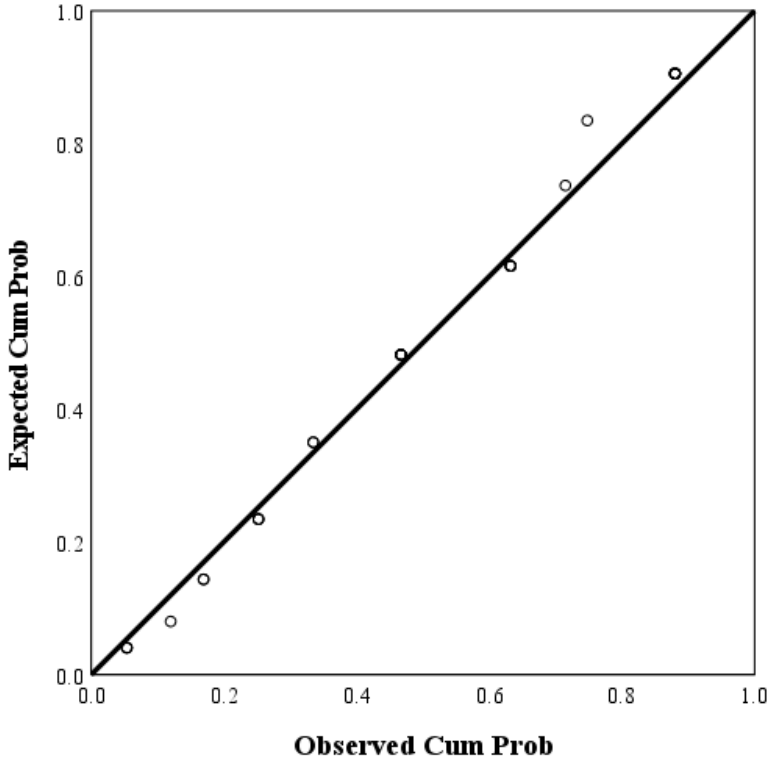


Figure E9

Histogram for the PJS in the Control Group in Sample 1 (SA)

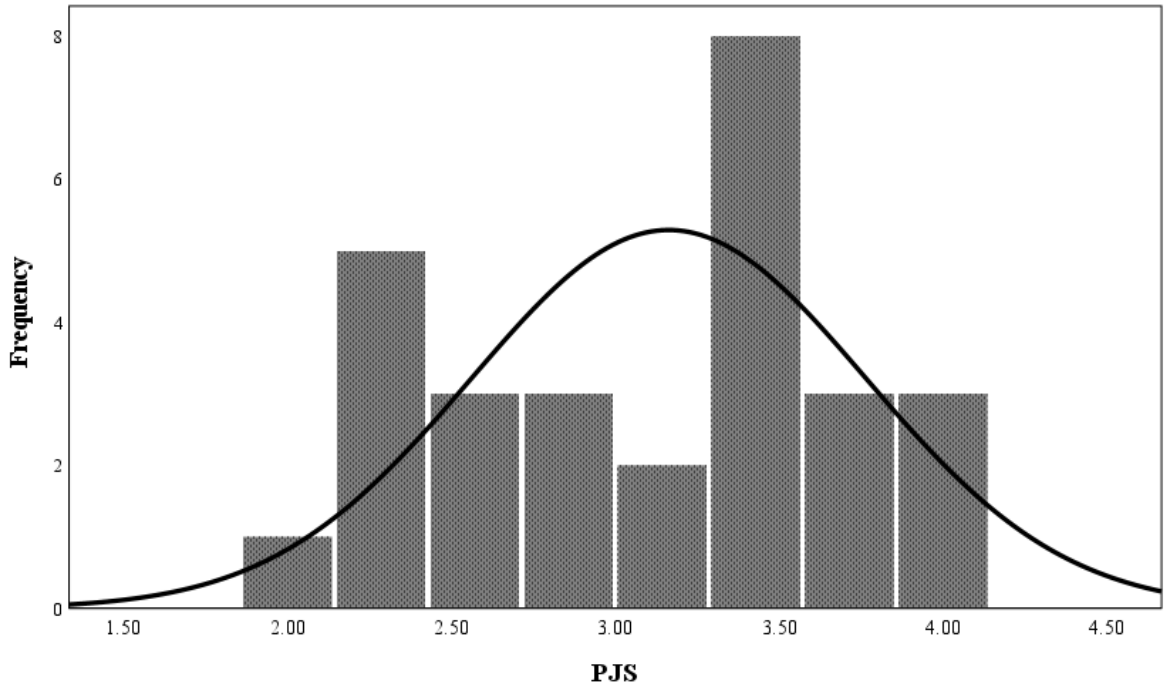


Figure E10

Histogram for the PJS in the Experimental Group in Sample 1 (SA)

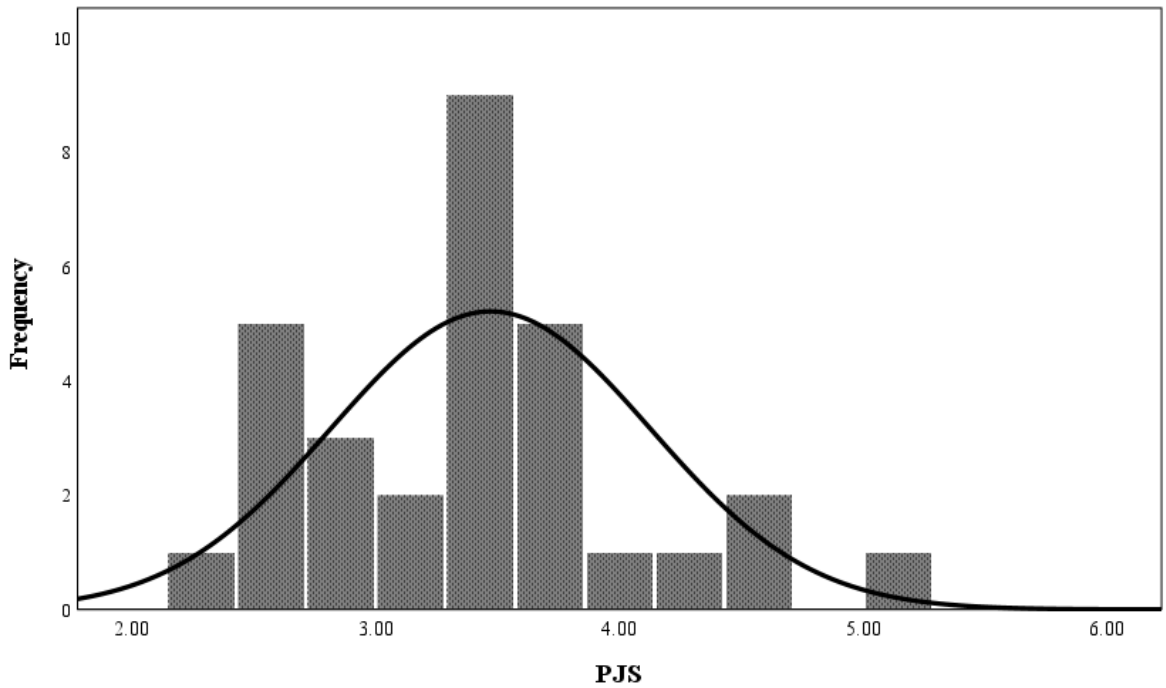


Figure E11

Histogram for the SPS in the Control Group in Sample 1 (SA)

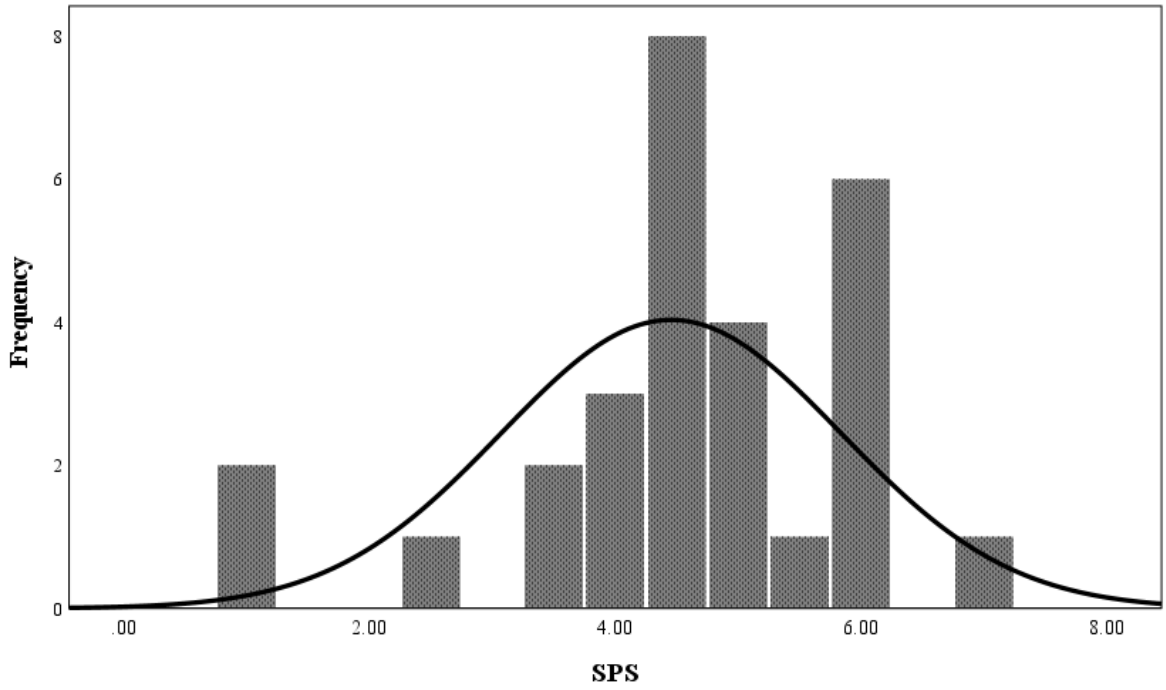


Figure E12

Histogram for the SPS in the Experimental Group in Sample 1 (SA)

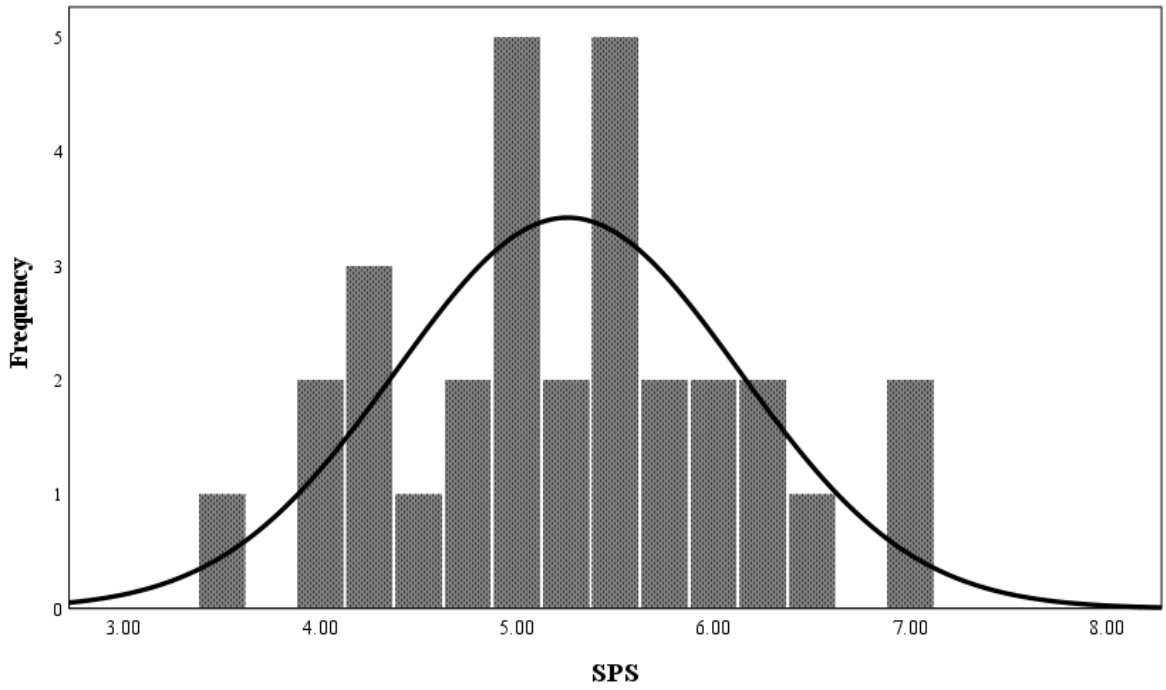


Figure E13

Histogram for the OAS in the Control Group in Sample 1 (SA)

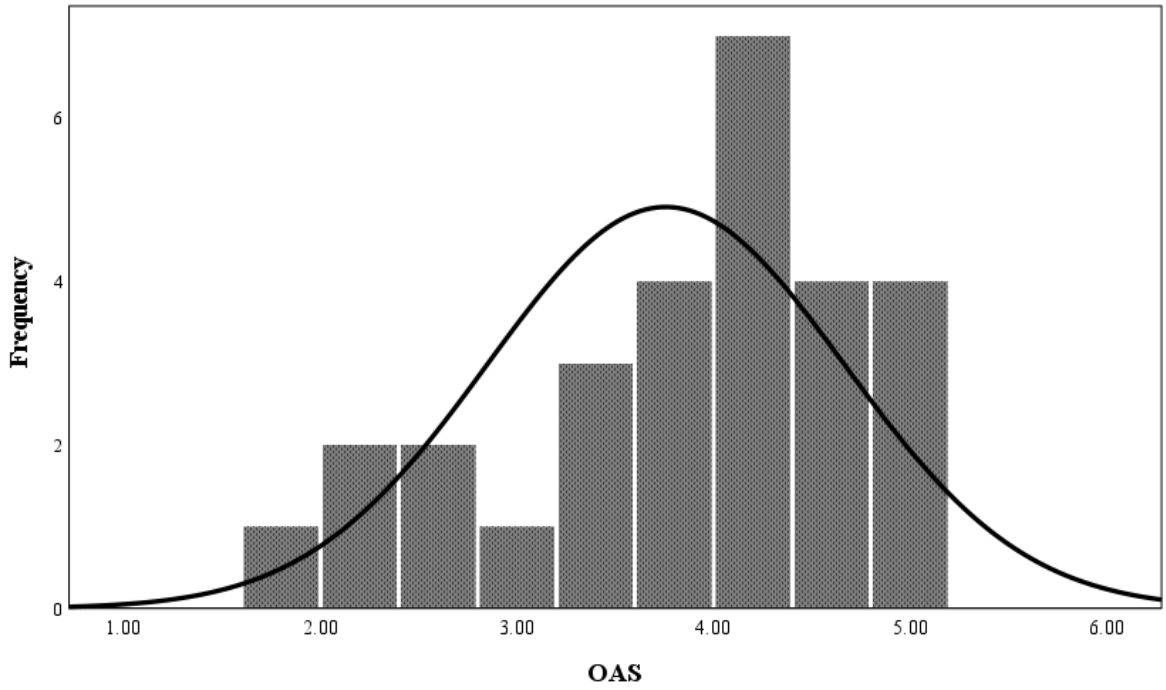
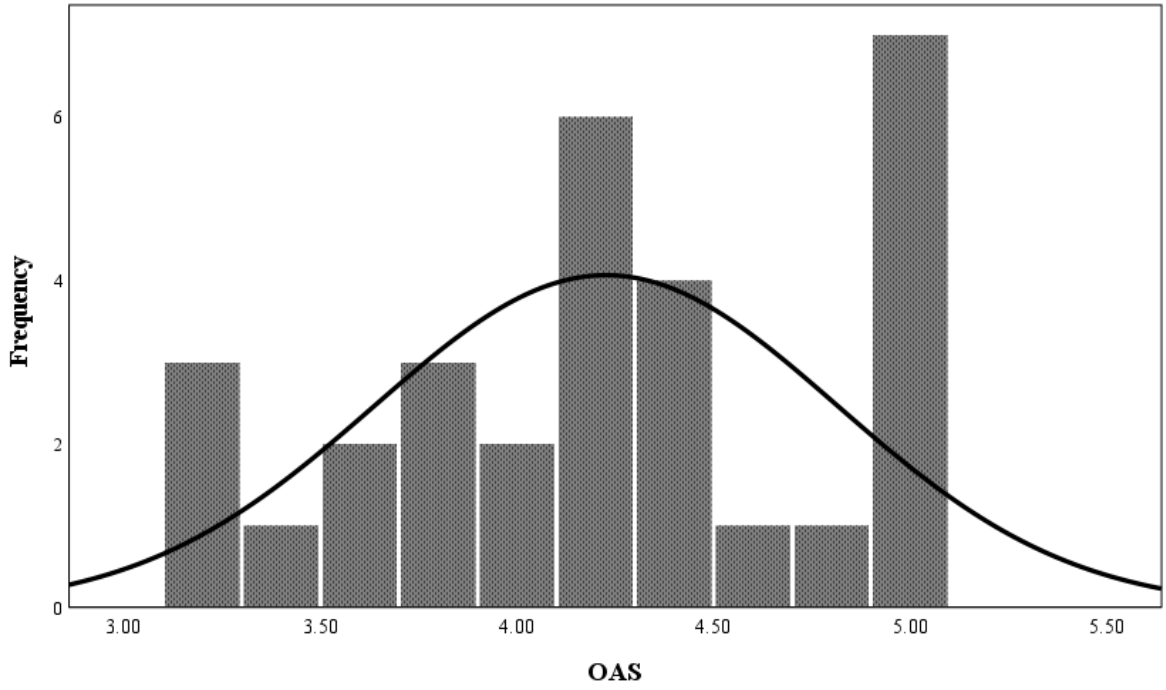


Figure E14

Histogram for the OAS in the Experimental Group in Sample 1 (SA)



Appendix F

Sample 2 (USA) Item-total Statistics

Table F1

PJS Corrected Item-Total Correlations and Cronbach's Alpha if Item Deleted for Sample 2

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Experimental Group		
Do you believe you could express your views and feelings during the interview?	0.59	0.84
Do you believe that you have influence over the outcome of the interview?	0.60	0.84
Do you believe this interview process can be applied consistently to all applicants?	0.68	0.82
Do you believe the interviewing procedure is free of bias?	0.69	0.82
Do you believe the interviewing procedure are based on accurate information?	0.67	0.82
Do you believe that applicants could appeal the hiring decision?*	0.45	0.86
Do you believe this method of hiring upheld ethical and moral standards?	0.67	0.83
Control Group		
Do you believe you could express your views and feelings during the interview?	0.36	0.76
Do you believe that you have influence over the outcome of the interview?	0.53	0.73
Do you believe this interview process can be applied consistently to all applicants?	0.58	0.72
Do you believe the interviewing procedure is free of bias?	0.50	0.74
Do you believe the interviewing procedure are based on accurate information?	0.59	0.72
Do you believe that applicants could appeal the hiring decision?	0.39	0.77
Do you believe this method of hiring upheld ethical and moral standards?	0.54	0.73

Notes. $N = 169$, control $n = 82$; experimental $n = 87$. *Item not removed as removal would not result in a substantial improvement in alpha.

Table F2

OAS Corrected Item-Total Correlations and Cronbach's Alpha if Item Deleted for Sample 2

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
	Experimental	
Impersonal : Personal	0.51	0.72
Insensitive : Sensitive	0.66	0.64
Cold : Warm	0.63	0.64
Passive : Active*	0.41	0.76
	Control	
Impersonal : Personal	0.67	0.75
Insensitive : Sensitive	0.60	0.78
Cold : Warm	0.66	0.75
Passive : Active	0.62	0.77

Notes. N = 169, control n = 82; experimental n = 87. *Item not removed as removal would not result in a substantial improvement in alpha.

Table F3

OAS Corrected Item-Total Correlations and Cronbach's Alpha if Item Deleted for Sample 2

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
	Experimental	
For me, this company would be a good place to work.	0.82	0.86
I would not be interested in this company except as a last resort.	0.74	0.88
This company is attractive to me as a place for employment.	0.85	0.85
I am interested in learning more about this company.	0.67	0.89
A job at this company is very appealing to me.	0.67	0.89
	Control	
For me, this company would be a good place to work.	0.79	0.88
I would not be interested in this company except as a last resort.*	0.64	0.92
This company is attractive to me as a place for employment.	0.84	0.87
I am interested in learning more about this company.	0.78	0.88
A job at this company is very appealing to me.	0.83	0.87

Notes. N = 169, control n = 82; experimental n = 87. *Item not removed as removal would not result in a substantial improvement in alpha.

Appendix G

Sample 2 (USA) Preliminary Analyses Outputs

Figure G1

Boxplot for Sample 2's (USA) Control Group

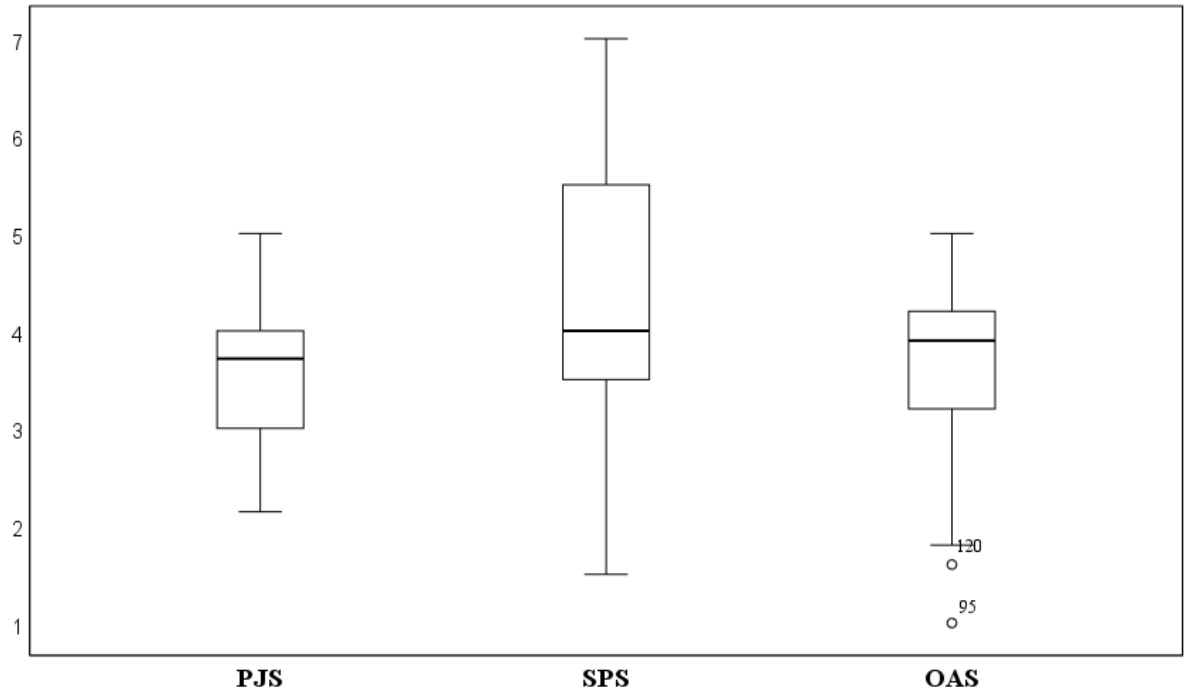


Figure G2

Boxplot for Sample 2's (USA) Experimental Group

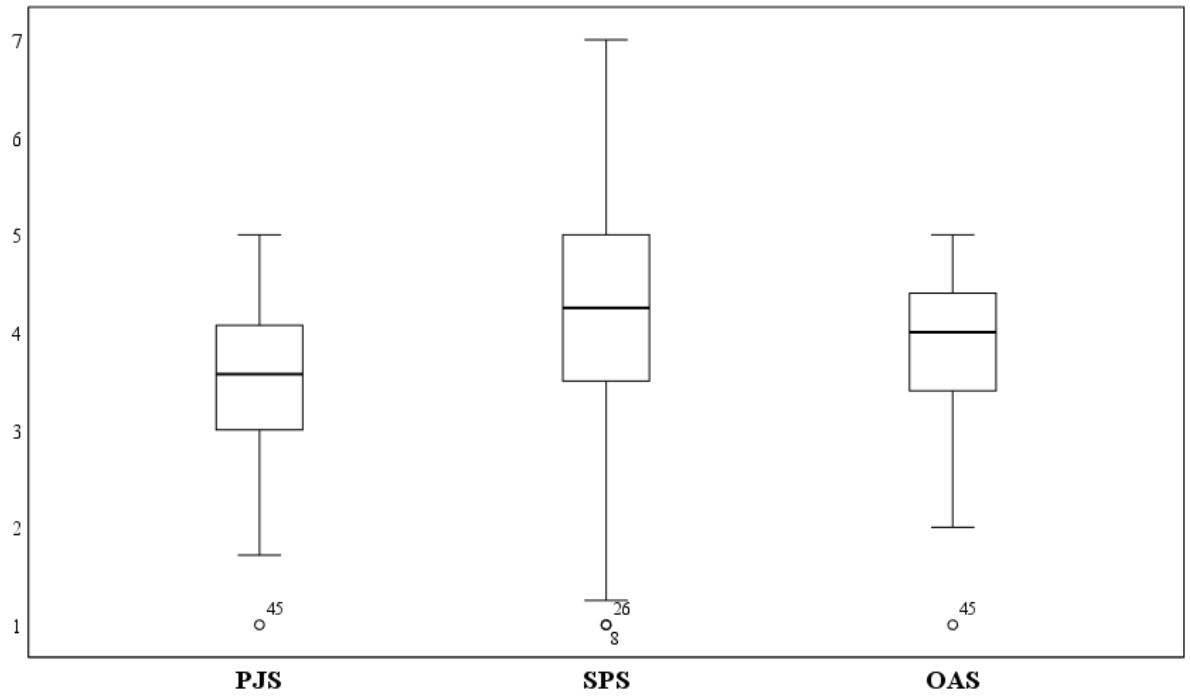


Figure G3

Normal P-P Plot Showing Distribution of Residuals for PJS in the Experimental Group

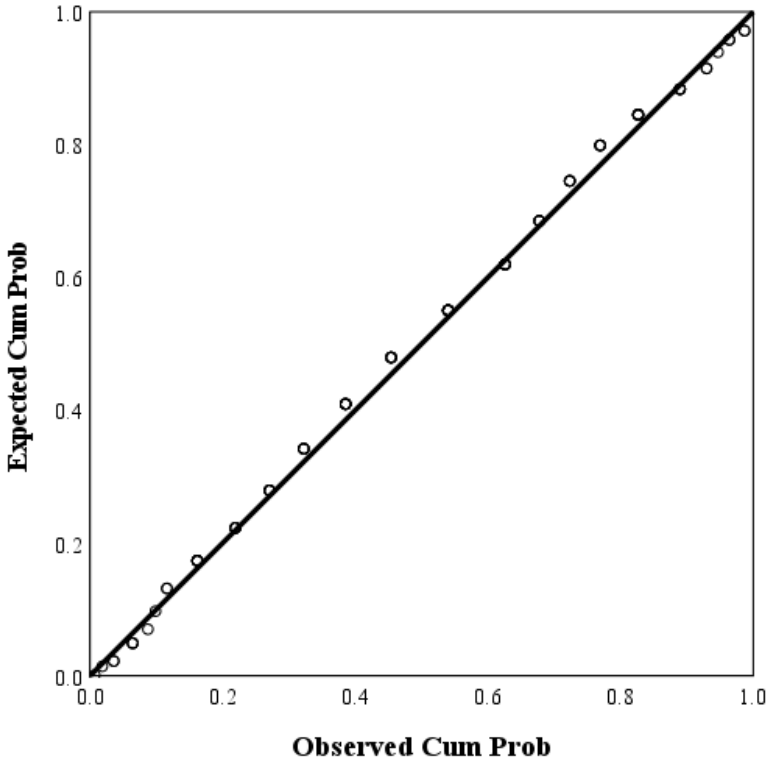


Figure G4

Normal P-P Plot Showing Distribution of Residuals for SPS in the Experimental Group

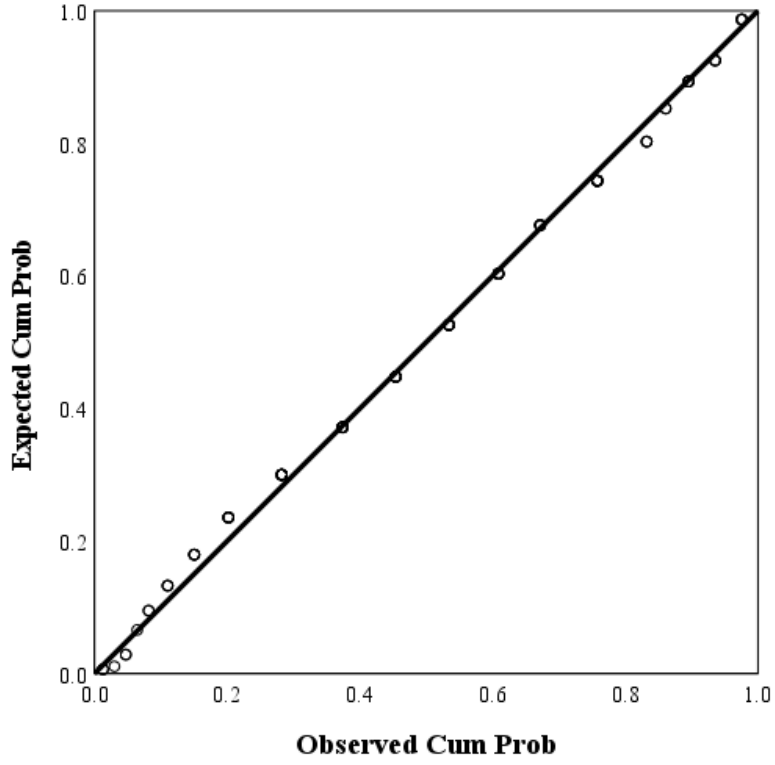


Figure G5

Normal P-P Plot Showing Distribution of Residuals for SPS in the Control Group in Sample 2

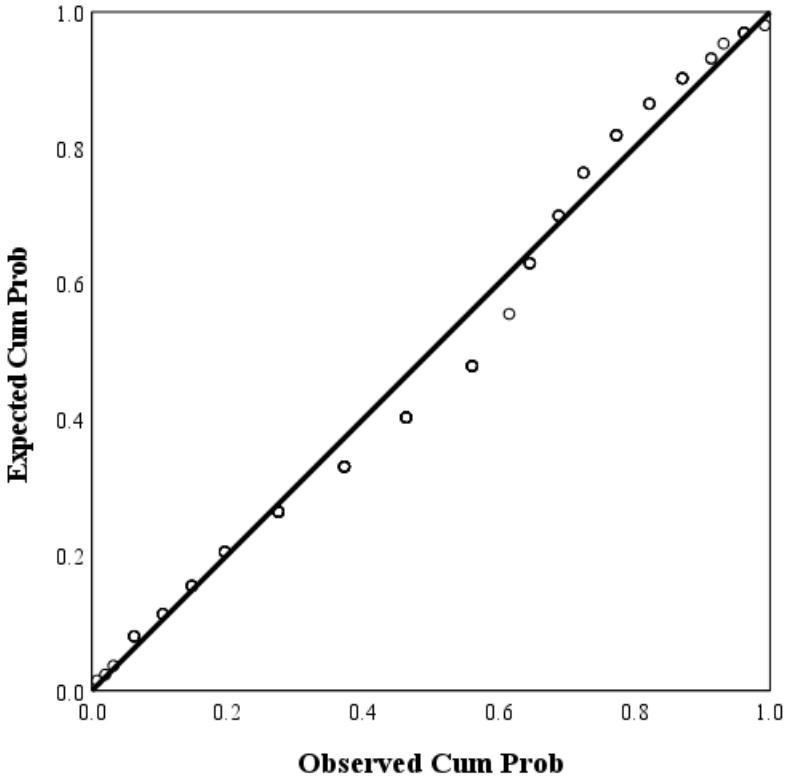


Figure G6

Normal P-P Plot Showing Distribution of Residuals for OAS in the Experimental Group

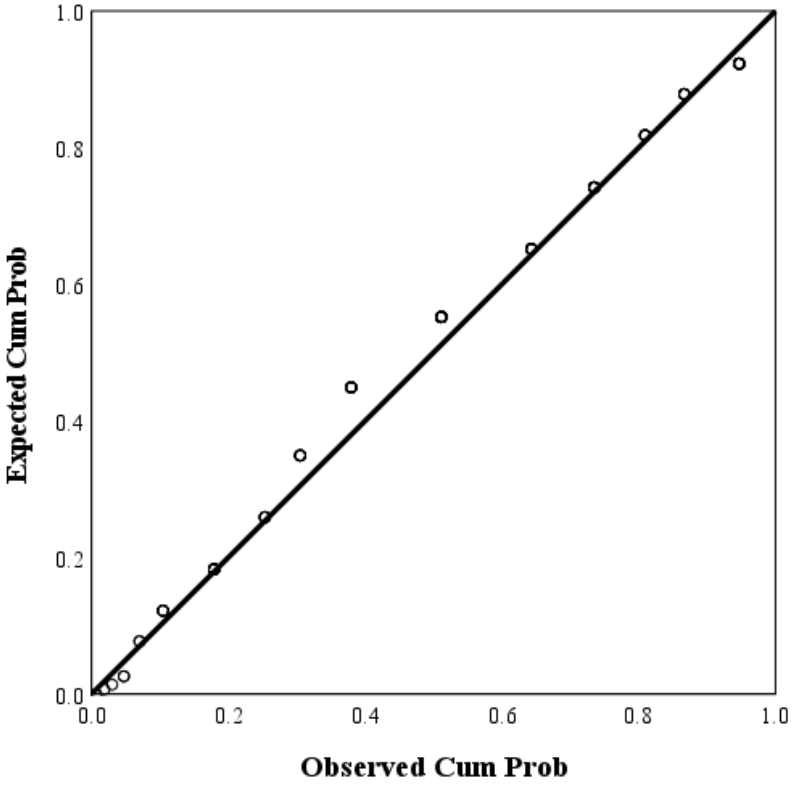


Figure G7

Normal P-P Plot Showing Distribution of Residuals for OAS in the Control Group in Sample 2

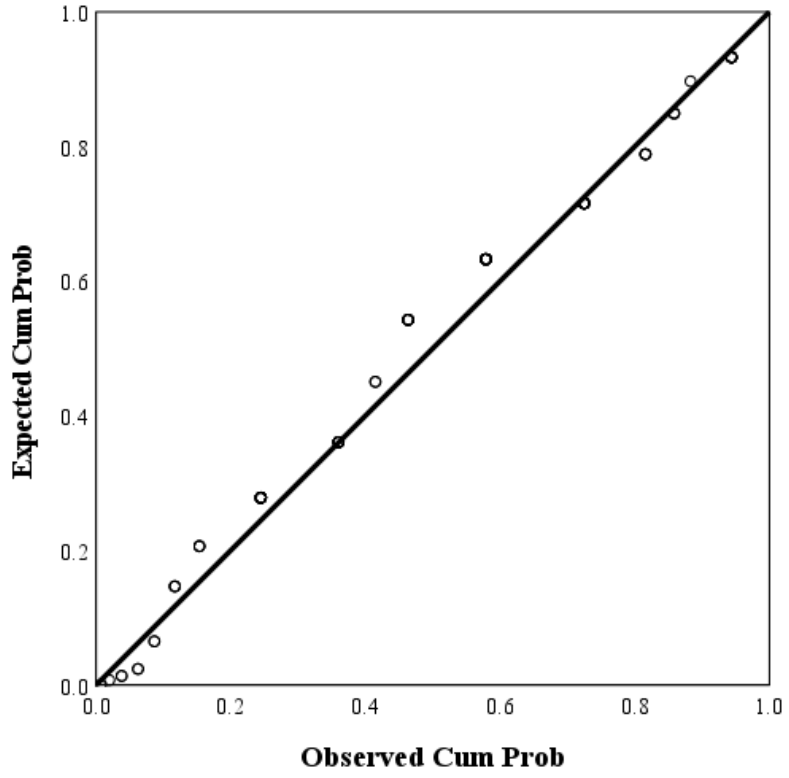


Figure G8

Normal P-P Plot Showing Distribution of Residuals for PJS in the Control Group Sample 2

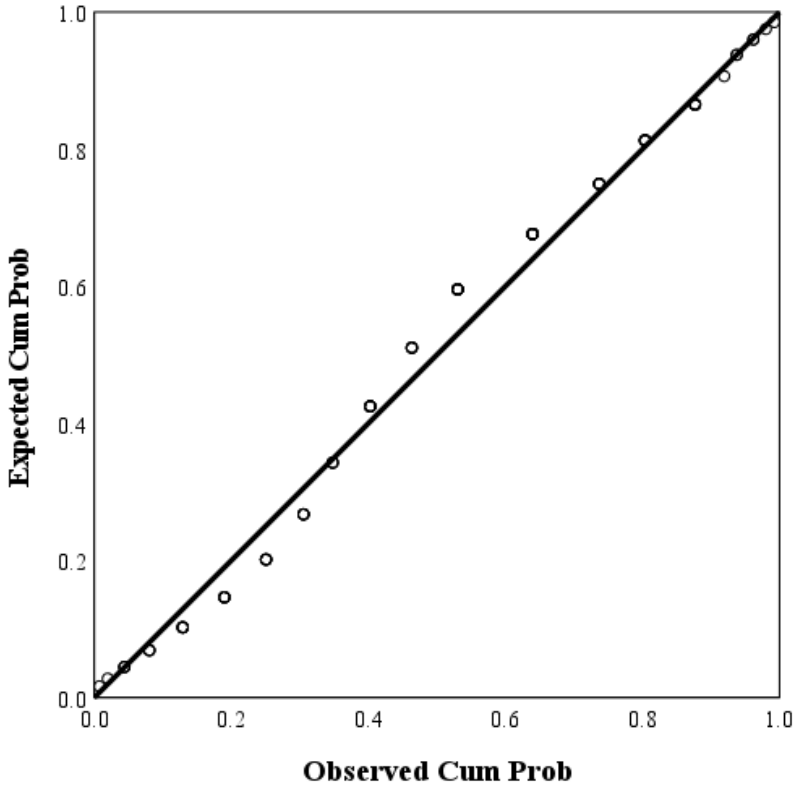
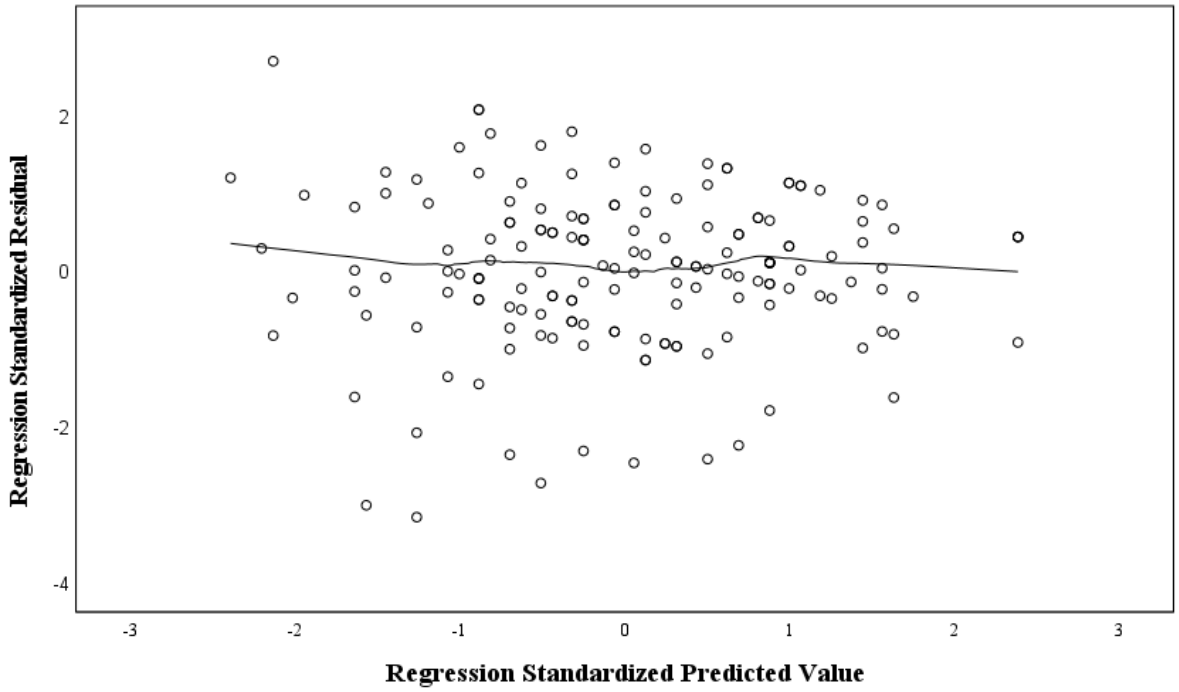


Figure G9

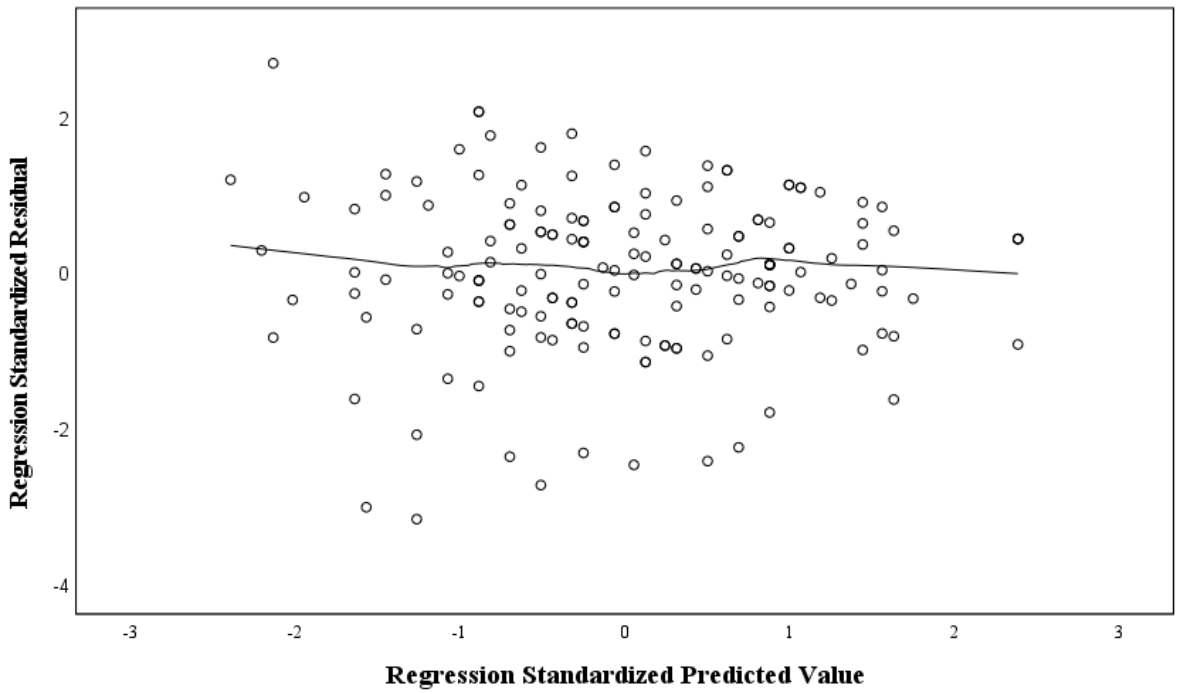
Standardised Observed Residuals vs Standardised Predicted Residuals for Model One



Notes. Predictor variables are condition (text vs video) and social presence. The outcome variable is organisational attractiveness.

Figure G10

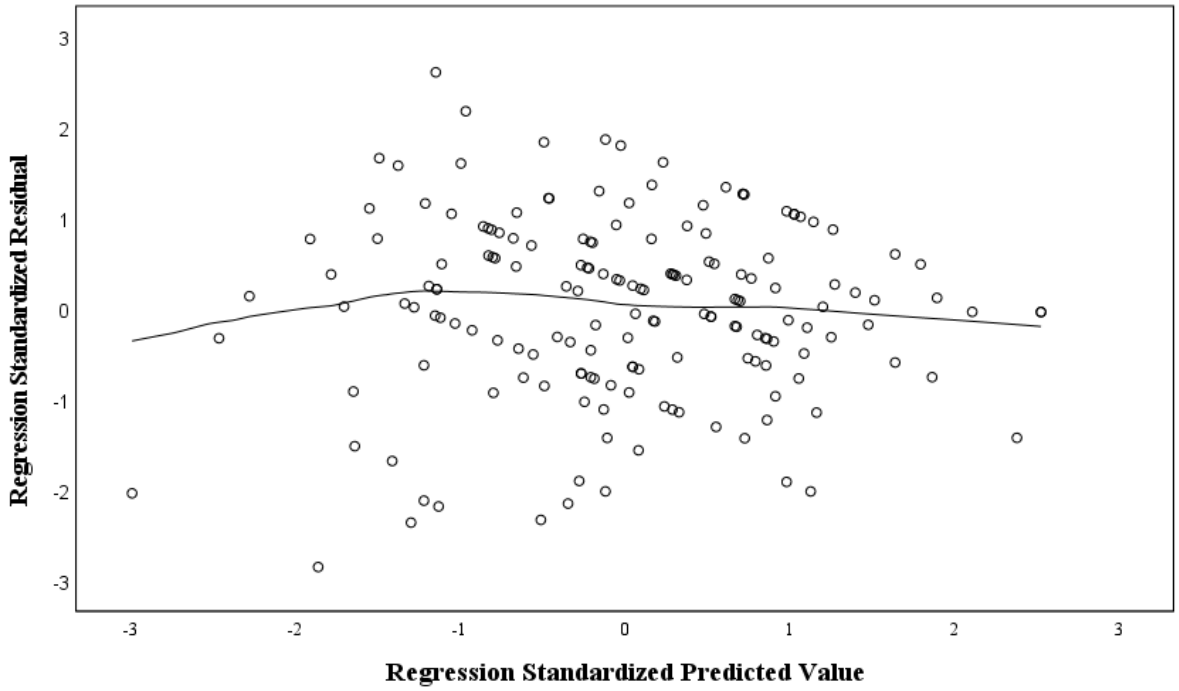
Standardised Observed Residuals vs Standardised Predicted Residuals for Model Two



Notes. Predictor variables are condition (text vs video) and fairness. The outcome variable is organisational attractiveness.

Figure G11

Standardised Observed Residuals vs Standardised Predicted Residuals for Model Three



Notes. Predictor variables are condition (text vs video), social presence and fairness. The outcome variable is organisational attractiveness.

Figure G12

Matrix Scatterplot for the Linear Relationships between the Variables in the Regression Models

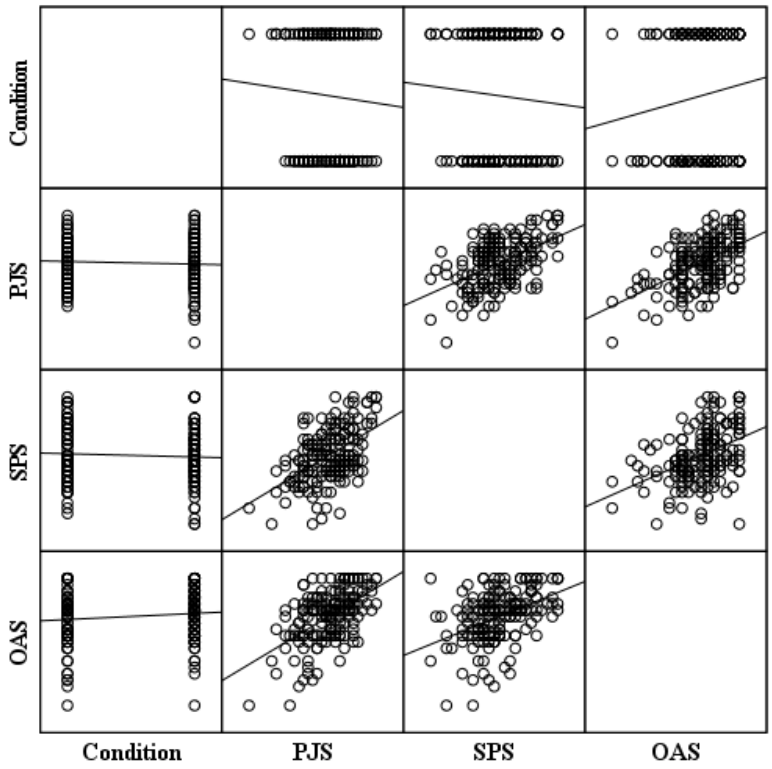


Figure G13

Histogram for the PJS in the Control Group in Sample 2 (USA)

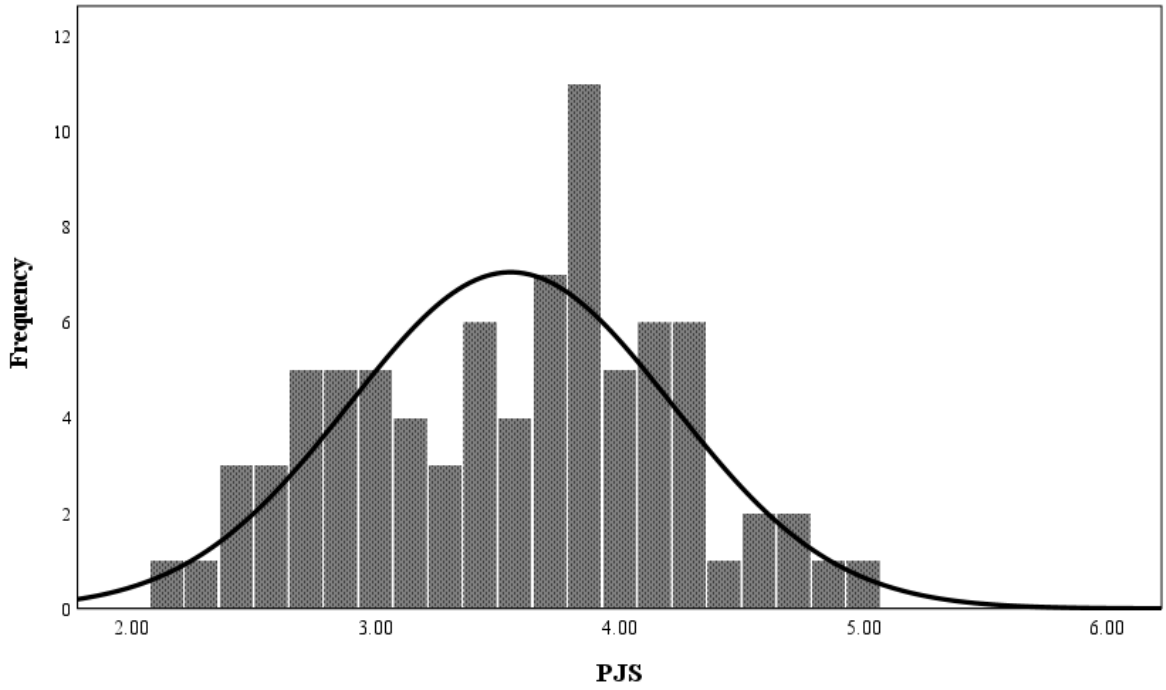


Figure G14

Histogram for the PJS in the Experimental Group in Sample 2 (USA)

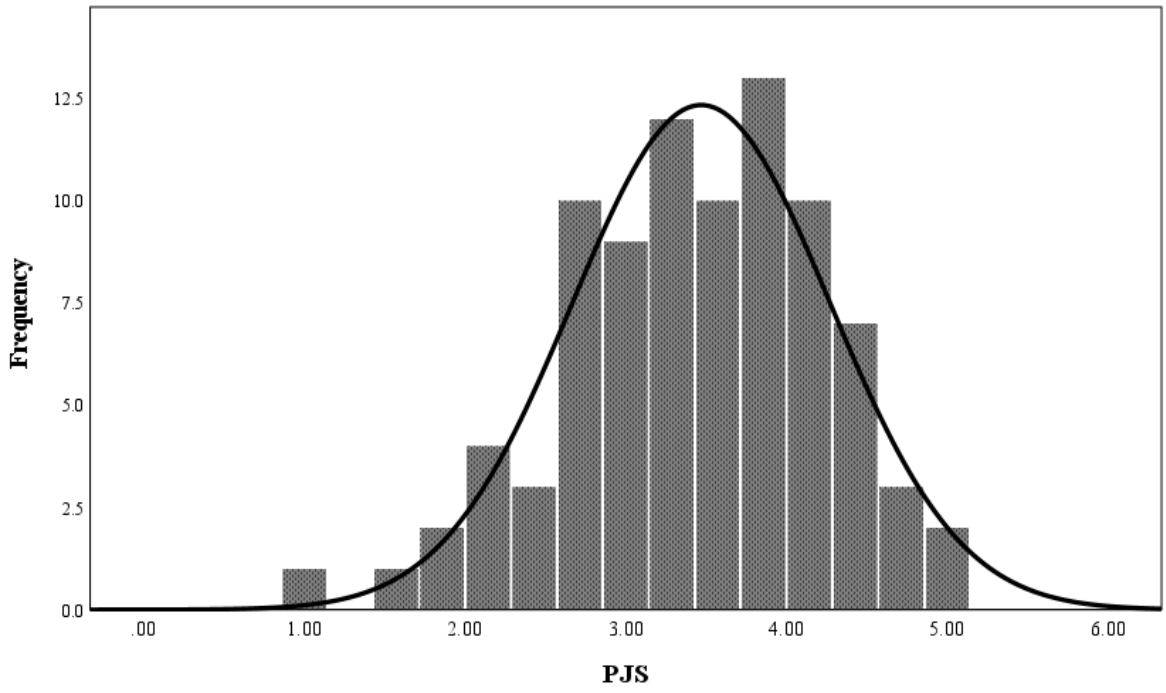


Figure G15

Histogram for the SPS in the Control Group in Sample 2 (USA)

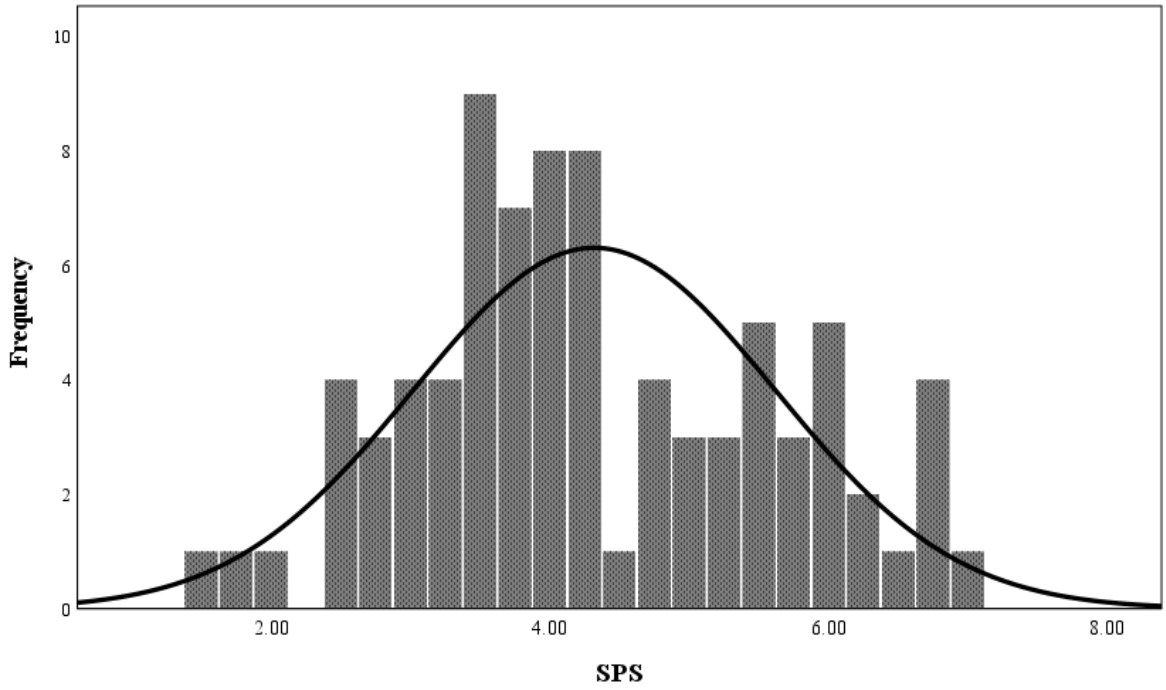


Figure G16

Histogram for the SPS in the Experimental Group in Sample 2 (USA)

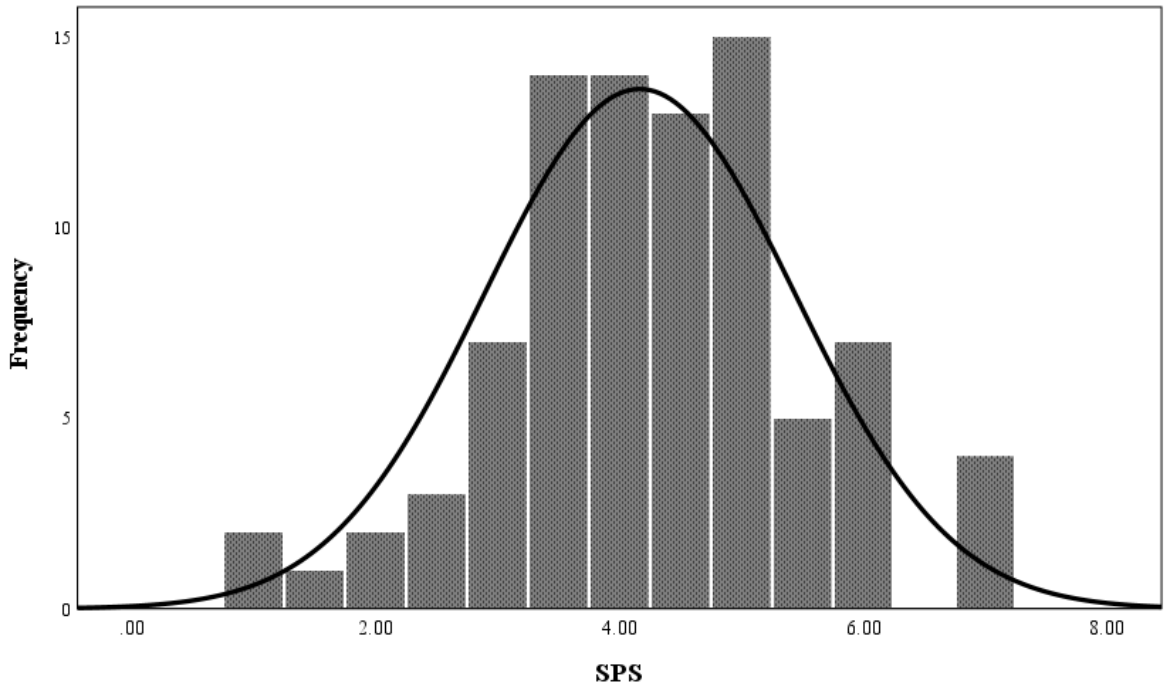


Figure G17

Histogram for the OAS in the Control Group in Sample 2 (USA)

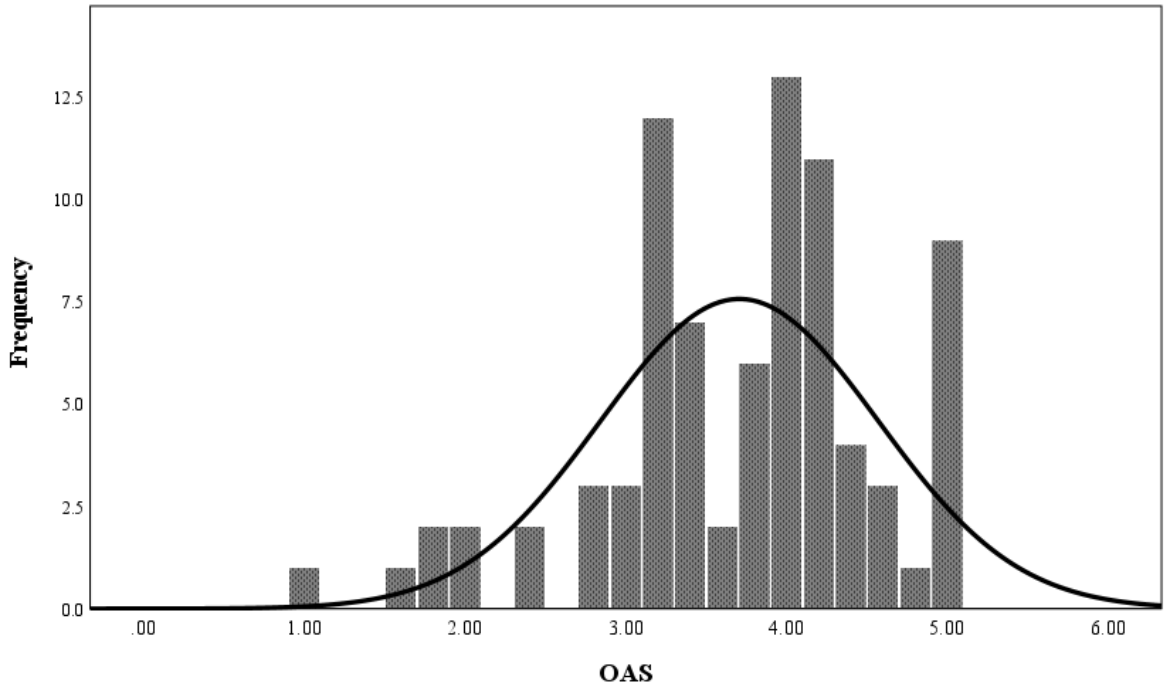
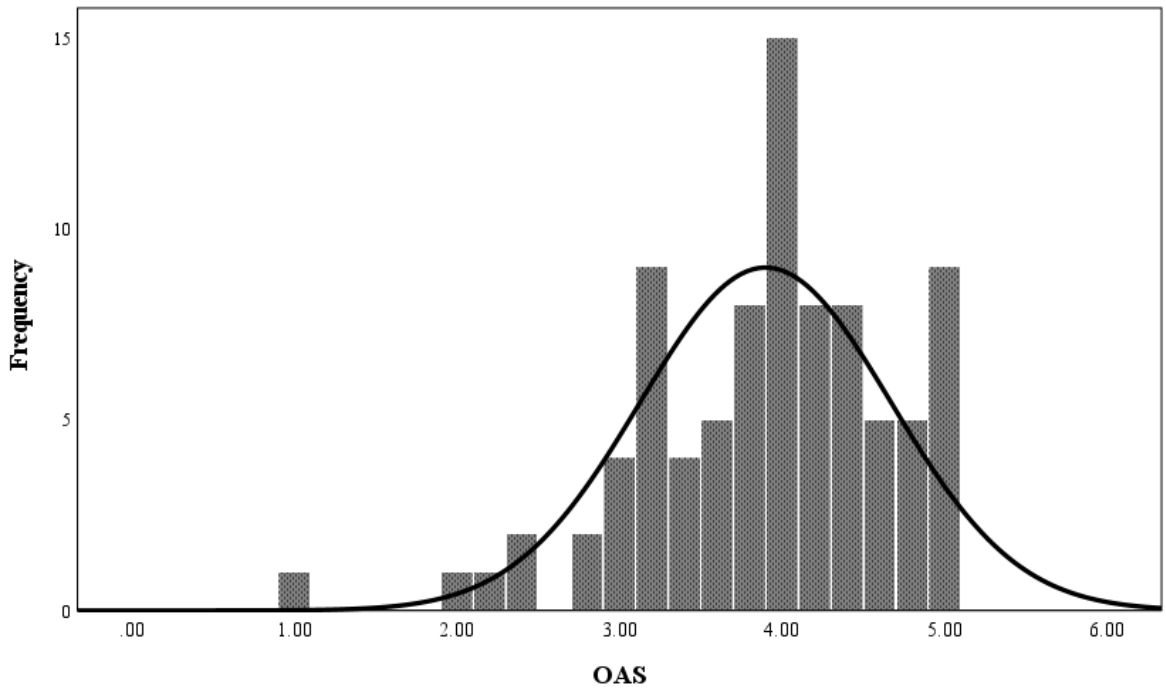


Figure G18

Histogram for the OAS in the Experimental Group in Sample 2 (USA)