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Effects of Background Cues on Videoconference Interview Ratings

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KEYWORDS

employment interview, personality, lens model

ABSTRACT

Interviewers regularly make personality-related attributions in interviews, whether purposefully or not. In this study, we examined whether changing a contextual cue in a videoconference interview (the cleanliness of the room where the interviewee is located) influenced interviewers' ratings of interviewee conscientiousness and interview performance ratings. We conducted a between-subjects experiment (N = 389) and manipulated three factors: background cleanliness (clean vs. messy) x location (office vs. home) x gender of job candidate (man vs. woman). The dependent variables were conscientiousness ratings and interview performance ratings. There was a main effect of cleanliness on conscientiousness and on interview performance ratings; these results were consistent in both the office and the home setting. The findings may inform best practices for participants in videoconference interviews.

Employment interviews are a ubiquitous tool used during the hiring process (Levashina et al., 2014). A key goal of an interview is to assess candidates based on relevant job-related factors that influence job performance, such as knowledge, skills, and abilities. However, interview ratings are often impacted by other factors—factors that may not be deliberately assessed but that affect interview judgments nonetheless (Cook et al., 2000; Huffcutt et al., 2011). One such factor is perceptions of the interviewees' personality; indeed, there is evidence that interviewers' assessments of interviewee personality traits can influence their evaluations of applicant suitability (e.g., DeGroot & Gooty, 2009). Although there is evidence that interviewer assessments of personality affect interview evaluations, it is less clear how interviewers make these personality assessments. One possibility is that visual cues (e.g., smiling, hand gestures) provide interviewers with personality-related information (DeGroot & Gooty, 2009). In the current study, we expand the range of visual cues that might affect personality attributions by investigating the effect of visible background cues displayed during videoconference interviews.

The recent increase in the use of technology-mediated interviews has introduced new types of cues that may influence personality judgements made during employment interviews. Since March of 2020, with many physical workplaces closed, the use of technology-mediated interviews, such as videoconference, asynchronous, or telephone interviews, has become increasingly common. Even prior to March of 2020, the use of technology for interviews was steadily increasing (Blacksmith et al., 2016). With this increase in technology-mediated interviews, job candidates are looking for advice on how to make a good impression (e.g., Weingarten, 2020). Although there is advice available online, little published research has been done to test the effects of different video backgrounds on judgments made during videoconference interviews. One exception is a study by Roulin et al. (2023), which found that a parenthood cue in the background of an asynchronous video interview led to higher ratings of candidate warmth. In the current study, we address the question of whether cues in one's background during videoconference interviews can affect the personality attributions that interviewers form about applicants and the interview ratings they assign to those applicants.

The current investigation uses Brunswik's (1956) lens model to investigate whether interviewers use background cues in making personality attributions of conscientiousness and in making interview ratings. This research has implications for organizations conducting videoconference interviews and for job applicants preparing for these inter-

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views.

Personality Judgments in the Interview

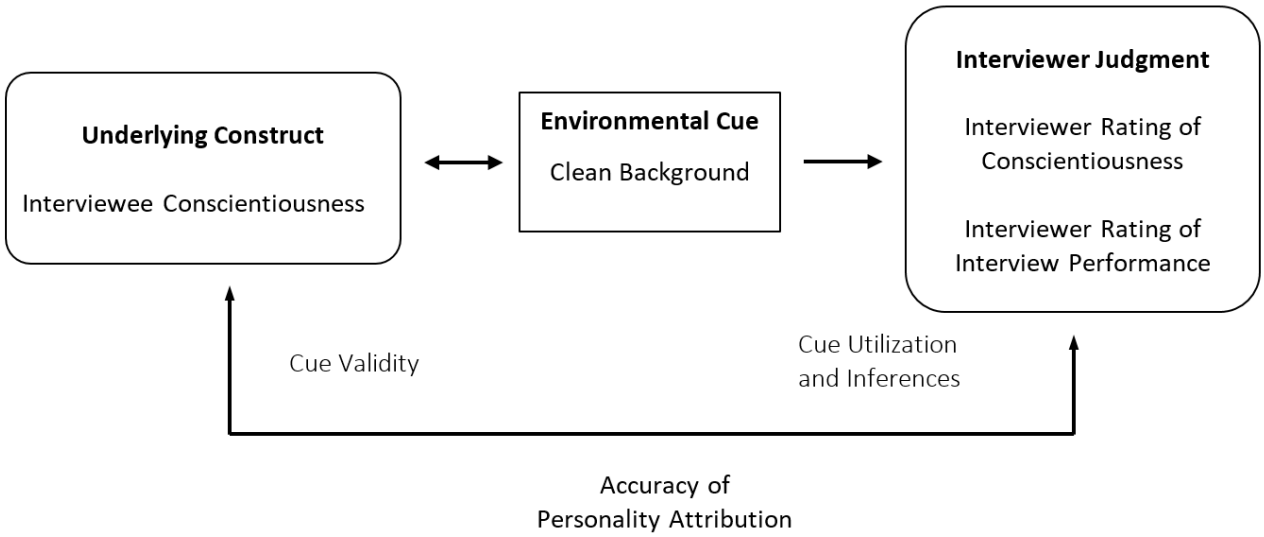
Recruiters and interviewers regularly make personality-related attributions in interviews, whether purposefully or not (Cook et al., 2000; DeGroot & Gooty, 2009). These personality attributions can be examined through Brunswik's (1956) lens model (see Figure 1). In this model, a person's personality trait (e.g., conscientiousness) can be displayed through visible behavior, or cues (e.g., dressing formally). To the extent that the cue is accurate (that is, the extent that formal dress is related to conscientiousness) then the cue is considered a valid cue in this model. The right side of the model illustrates the inferences that observers make about the person based on the cues (that is, does the observer make an attribution of conscientiousness because of the formal dress?). The extent to which observers use cues to make personality attributions is called cue utilization (Borkenau & Liebler, 1992).

Personality-related cues can be emitted through behavior, such as style of dress, but also through environments—for example, how a person's space is decorated. If a personality trait is reflected in cues in the environment (e.g., a conscientious person has a clean and organized desk), then that cue is valid. If an observer notices that organized desk and uses that cue as a "lens" to determine that the target person is high on conscientiousness, then that judge has utilized a valid cue and the personality rating will be accurate. Gosling et al. (2002) found evidence that individuals do select and create physical environments that reflect who they are; they found evidence that self-report ratings of personality were correlated with several different environmental cues in offices (e.g., decorated vs. undecorated; cluttered vs. uncluttered). In addition, they found evidence that observers can use the information available in those environments to form reasonably accurate impressions of the occupants. They found that observer ratings of occupants' personality (based only on observations of office environments) correlated significantly with the office occupants' self-ratings of their own personality (e.g., correlation of .24 for the trait of conscientiousness).

There are multiple mechanisms that can link individuals to their environments, including behavioral residue and identity claims (Gosling et al., 2002). Behavioral residue refers to physical traces, or evidence, of certain activities (such as a garbage container full of coffee cups). These types of cues are not purposeful but may nevertheless provide evidence about a person's preferences or typical behaviors. Another mechanism that links people and their environments is identity claims, which are actions someone takes to purposefully make a space their own, such as choosing paint colors or artifacts with personal meaning. When a person chooses to decorate their space in a specific way, the link between their personality and their space is an identity claim. Identity claims can convey a truthful message about a person (e.g., a picture of one's family) or they could be strategic, or even deceptive—intended to portray the individual in a certain light (e.g., displaying specific books). Gosling et al. (2002) argued that personal environments, such as offices, may contain both behavioral residue and identity claims.

There is evidence, therefore, that people leave personality cues in their environments, and these cues can provide personality-relevant information to an observer. However, there may be cases where such cues are not relevant to one's personality or they provide inaccurate information. Funder (1995) argued that the accuracy of personality judgments depends on both the attributes and behavior of the

FIGURE 1.
A Modified Version of Brunswik's Lens Model



person being judged and on the abilities of the judge to both notice and use available cues. If a candidate is interviewed in a location that reflects their true personality, then the observer will get an accurate impression. Alternatively, a candidate could purposely choose to arrange their space in a specific way to provide identity cues (whether accurate or not) to the interviewer. Similarly, the candidate may be in a location that, for a variety of reasons, does not reflect their personality (e.g., a communal living space they did not decorate themselves). Thus, the available cues may or may not be valid. In the case of videoconference interviews, such cues may influence the interview's outcome.

In the current study, we focus only on the right side of the Brunswik's lens model: cue utilization. That is, we are interested in whether background cues are used in making personality ratings and not on whether those personality attributions are accurate. We use an experimental design to manipulate the visible cues in the background of a videoconference interview to test the effects on observers' ratings of interviewee personality and interview performance ratings.

The Current Study

According to Brunswik's (1956) lens model, observers make personality ratings by using available cues. There are cues available in videoconference interviews that weren't previously available in traditional face-to-face interviews; specifically, videoconference interviews allow the interviewer to see cues in a person's physical work environment, whether that is their home or an office. In this research, we manipulated a background cue that can be easily detected in a videoconference interview and that has been linked to personality: the cleanliness of the room. Research suggests that cleanliness can be (but does not necessarily have to be) a valid cue for conscientiousness. For example, in their study, Gosling et al. (2002) found a correlation of .24 between room cleanliness and self-ratings of conscientiousness, suggesting that this cue can be valid. As well, they reported a correlation of .44 between room cleanliness and observer ratings of conscientiousness, suggesting that this cue is utilized. For this study, we manipulated a cue associated with the trait of conscientiousness because it is a personality trait that correlates with job performance across a wide variety of jobs, including managerial jobs (e.g., Dudley et al., 2006; Wilmot & Ones, 2019), and thus would be relevant in an employment interview. Therefore, we manipulated a cue that is visible to observers, is likely to be utilized, and is related to a job-relevant personality trait. Based on the cue utilization side of Brunswik's lens model, we hypothesized that:

> **Hypothesis 1a**: A job candidate in a clean environment will receive higher observer ratings of conscientiousness than will a candidate in a messy environment.

In addition to using cues to make personality ratings, interviewers may also use visible cues to make ratings of how suitable a candidate is for the job. Indeed, DeGroot and Gooty (2009) applied Brunswik's lens model in their study of the correlations between visual cues (e.g., physical attractiveness, smiling) and interviewers' judgments about interviewees' suitability for the job. DeGroot and Motowidlo (1999) argued that interviewers make various attributions based on visual cues (e.g., trust, credibility) and then compare those attributions to a prototype of the ideal candidate when making their interview performance ratings. In the case of a room cleanliness cue, we hypothesize that a candidate in a clean room will be perceived as more similar to the ideal candidate prototype than will a candidate in a messy room, and thus a candidate in a clean room will be rated as more suitable.

> **Hypothesis 1b**: A job candidate in a clean environment will receive higher ratings of interview performance than will a candidate in a messy environment.

According to Brunswik's lens theory, features in a person's environment serve as a kind of lens through which observers can indirectly perceive a target's underlying attributes. Thus, a tidy background, or other behavioral residue, can serve as the lens through which an interviewer perceives an interviewees' level of conscientiousness. Gosling et al. (2002) proposed that observers form impressions about the occupant of an environment through a two-step process. First, according to their model, observers infer behaviors that created the physical evidence (e.g., an observer infers that someone who is in a clean space spent time cleaning). Next, observers infer personality traits that underlie that behavior (e.g., an observer infers the room occupant is conscientiousness because they spent time cleaning). However, it may be the case that behavioral residue, and its implied behaviors, are attributed more to a person's personality when that person is in their own home, as opposed to an office setting—which may not be their own. People generally have the freedom to use their personal living spaces as they please (e.g., choice in the size of desk and the number of bookshelves), but office decor may be more restricted (e.g., a lack of shelving may not be by choice). Because the attribution of visual cues to interviewee personality traits may be stronger in home versus office spaces, we conducted this experiment in both in a home environment (a kitchen) and an office setting. Because people's work environments are now frequently in their own homes, due to the global pandemic, we were interested in the effects of a candidate being interviewed in their own home versus in an office. We chose a kitchen as the home environment because a kitchen is easily recognizable as being in a person's home. Because people may be more likely to leave cues to their personalities in their own homes, we expect the effect of cleanliness

to be stronger in the home environment (kitchen) than the out-of-home environment (office); thus, we propose that:

> **Hypothesis 2**: There will be an interaction between location (home vs. office) and cleanliness, such that the effects of cleanliness on conscientiousness will be stronger in the home environment.

METHODS

Participants

Participants were recruited using Prolific and were compensated £1.88 for the 15-minute task. Each participant was randomly assigned to one of the eight conditions (messy/clean; home/office; man/woman candidate). Individuals were required to reside in the United States, be over the age of 18, and be proficient in English. Within Prolific, we requested a sample that was representative of the demographic distribution of the United States population. The final sample consisted of 389[1] participants (mean age 45.37 years; 46.3% men). The majority of the participants (69.7%) were White/European; other ethnicities included Black/African/Caribbean (11.8%), Southeast Asian (5.9%), South Asian (3.9%), West Asian (1.3%), Arab (0.8%), and other (1.3%). Participants had conducted between 0 and 500 previous interviews as the interviewer, with an average of 17 previous interviews conducted (32.3% of the sample had no previous interview experience as the interviewer). We conducted three different 2 x 2 x 2 ANOVAs to test for differences between experimental groups on age, gender, and interview experience. There were no significant differences among conditions on these variables.

Procedure

Participants completed the study via an online Qualtrics survey. First, participants read a short job description for a general manager position (see Appendix) and then watched three videos (one video per question) of an interview conducted via videoconference software (see Appendix for interview questions). In the video, the interview question was first displayed in text, and then the interviewee (an actor) responded to the question by following a script. Each video was approximately 1 minute in length. Following each video, participants completed a short content check question about the interview response to ensure they were paying attention. Next, the participant rated the candidate's response using a behaviorally anchored rating scale (BARS; see Appendix). This procedure was repeated for the second and third interview question.

After watching all three interview questions, the participants then rated the candidate on overall interview performance. After making the overall interview ratings, participants filled out items about the candidate's personality. Next, participants filled out information about their own demographics. Finally, participants filled out the manipulation check items (about the location of the interview and the cleanliness of the room).

Materials

Interview Scripts

The interview questions were written to assess three managerial competencies, and the responses were written based on interviews with five people with managerial experience (see Appendix for full scripts). Five graduate students in industrial-organizational psychology rated the responses to ensure that they achieved the intended score of approximately 3 (out of 5) on their respective BARS. In writing the scripts, we tried to keep the entire study under 15 minutes to maximize participants' attention (Brosnan et al., 2021). Thus, we tried to balance a reasonable number of interview questions (three) with the overall length of the study. The interview was shorter than a real employment interview, which is typically closer to 30 minutes (e.g., Thorsteinson, 2018). However, research by Frieder et al. (2016) suggests that interviewers may make their decision in the early stages of the interview, and thus we felt that three questions were adequate.

We conducted the study with both a male and a female interview candidate. We had no specific hypotheses about the gender of the candidate, but we were interested in whether the effects of the cleanliness manipulation would be similar for both candidates. The same script was used for both candidates.

Interview Performance

Participants rated the candidate's interview performance in two ways. First, they completed a behaviorally anchored rating scale (BARS) after each question. For each question, the interview question was displayed (e.g., "Tell me about a time you managed to motivate your subordinates") and a 5-point rating scale with descriptive anchors was presented below the question. The reliability of the 3-item BARS was $\alpha = .59$.

Second, a 4-item overall hireability scale (Stevens & Kristof, 1995) was used at the end of the interview. It was a 5-point scale that is anchored in descriptive adjectives. For example, a sample question asked, "How qualified is this applicant for the general manager position?" It was answered by assigning a rating from 1 (*not qualified*) to 5 (*very qualified*). The reliability of the 4-item overall hireability

1 We also tested our hypotheses without dropping cases where participants (a) incorrectly answered the room manipulation check item, or (b) who answered "very messy" or "somewhat messy" in the clean condition or "very tidy" or "somewhat tidy" in the messy condition ($N = 523$). These results are presented in the supplementary material

scale was α = .94.

We conducted a confirmatory factor analysis with all seven of these items loading on a single performance factor. The one-factor model that grouped all seven items onto a single factor had adequate fit (RMSEA = 0.06, CFI = 0.99, factor loadings ranged from .48 to .91). The reliability for the combined 7-item scale was α = .90.

Conscientiousness

Conscientiousness was measured using eight adjectives from Saucier's (1994) Mini-Markers of the Big Five (organized, efficient, systematic, practical, disorganized [reversed], sloppy [reversed], inefficient [reversed], careless [reversed]). Participants were asked to rate the candidate's personality traits from 1 = *very uncharacteristic of him/her* to 5 = *very characteristic of him/her*. The reliability for the 8-item scale was α = .91.

Attention Checks

Participants answered a content question based on the candidate's response to each interview question before advancing to the rating scales. Participants who failed to answer the content questions correctly were prematurely exited from the survey.

Manipulation Checks

To assess whether the participants noticed the room cleanliness cue, we asked participants to rate "How would you rate the cleanliness of the room in the person's background?" (1 = *very messy* to 5 = *very tidy*). A second manipulation check asked the participants if they noticed where the applicant was located. This was a multiple-choice question with the answer options "office," "kitchen," "bedroom," and "not able to tell."

Data Sharing

The data for this study are available at the Open Science Framework at the following link: https://osf.io/pabx-9/?view_only=454f04605a854b6688df1c96b5c1df6d

RESULTS

Manipulation Checks

A manipulation check was included at the end of the survey that asked the participants if they noticed where the applicant was located. In the office condition, 86.4% answered this question correctly, and in the home condition 84.9% answered this question correctly. Participants who incorrectly answered the manipulation check were excluded from the analysis. We also asked participants to rate "How would you rate the cleanliness of the room in the person's background?" (1 = *very messy* to 5 = *very tidy*). The mean was 2.67 (*SD* =1.19) in the messy condition and 4.39 (*SD* = 0.81) in the clean conditions, $t(521) = 19.31$, $p < .01$, indicating that the messy condition was perceived as being messier. We excluded participants who answered "very messy" or "somewhat messy" in the clean condition or "very tidy" or "somewhat tidy" in the messy condition. Results for all participants (including those who failed manipulation checks) are included in the supplementary analyses.

Hypothesis Tests

Means, standard deviations and intercorrelations are in Table 1.

To analyze our data, we conducted a 2 (clean vs. messy) x 2 (office vs. home) x 2 (male vs. female candidate) ANOVA with both conscientiousness ratings and interview performance as dependent variables. Cell means are presented in Tables 2 and 3, and full ANOVA results are presented in Tables 4 and 5.

Our first hypothesis (1a) was that a job candidate in a clean environment would receive higher ratings of conscientiousness than would a candidate in a messy environment. To test this hypothesis, we looked at the main effect of cleanliness. There was a main effect of cleanliness, with the clean condition ($M = 4.48$; $SD = 0.47$) being rated as more conscientious than the messy condition ($M = 4.07$; $SD = 0.81$), $F(1, 381) = 40.30$, partial $\eta^2 = .10$, $p < .001$.

Hypothesis 1b was that a job candidate in a clean environment would receive higher interview performance ratings than would a candidate in a messy environment. To test this hypothesis, we looked at the main effect of cleanliness on interview performance ratings. There was a main effect of cleanliness; the clean condition ($M = 3.74$; $SD = 0.61$) received higher performance ratings than did the messy condition ($M = 3.60$; $SD = 0.70$), $F(1, 381) = 4.96$, partial $\eta^2 = .013$, $p = .026$.

Our second hypothesis was that there would be an interaction between location (home vs. office) and cleanliness, such that the effects of cleanliness on personality ratings will be stronger in the home environment. However, that interaction effect was not statistically significant, $F(1, 381) = 0.12$, partial $\eta^2 = .004$, $p = .73$.

Additional Analyses

Although we did not hypothesize an interaction between gender and background condition, we did explore whether the effects were the same for the male and female candidate. Interestingly, there is some evidence that the effect of cleanliness on conscientiousness ratings may be stronger for the female candidate than for the male, although that interaction term was not statistically significant, $F(1, 381) = 3.36$, $p = .07$. For the male candidate, the drop in conscientiousness went from clean ($M = 4.37$, $SD = 0.51$) to messy ($M = 4.07$, $SD = 0.79$); the standardized effect size for the male candidate was $d = 0.44$, $t(198) = 3.19$, $p = .002$. For the female candidate, the mean conscientiousness

TABLE 1.

Descriptive Statistics and Correlations for Study Variables

	M	*SD*	1	2	3	4	5	6
1. Age	45.37	16.24						
2. Gender	1.55	0.52	.003					
3. Interview experience	17.31	53.74	.16*	-.07				
4. Clean condition	-	-	-.001	.04	-.03			
5. Conscientiousness	4.30	0.67	-.009	.08	-.05	.31**	(*.91*)	
6. Performance	3.68	0.65	-.006	.10*	-.15**	.11*	.57**	(*.89*)

Note. N =389, *= $p < .05$; ** = $p < .01$. Reliabilities (Cronbach's alpha) are reported on the diagonal. Gender is coded as male = 1 and female = 2. Clean condition is coded as messy = 0 and clean = 1.

TABLE 2.

Conscientious Ratings–Cell Means for the Eight Conditions

Candidate gender	Location	Messy/clean	*n*	*M*	*SD*
Man	Office	Clean	59	4.39	0.51
Man	Office	Messy	45	4.07	0.83
Man	Home	Clean	53	4.35	0.51
Man	Home	Messy	43	4.08	0.77
Woman	Office	Clean	59	4.61	0.34
Woman	Office	Messy	45	4.06	0.91
Woman	Home	Clean	51	4.58	0.44
Woman	Home	Messy	34	4.06	0.71

TABLE 3.

Interview Performance Ratings–Cell Means for the Eight Conditions

Candidate gender	Location	Messy/clean	*n*	*M*	*SD*
Man	Office	Clean	59	3.75	0.64
Man	Office	Messy	45	3.51	0.73
Man	Home	Clean	53	3.56	0.57
Man	Home	Messy	43	3.37	0.63
Woman	Office	Clean	59	3.86	0.56
Woman	Office	Messy	45	3.94	0.59
Woman	Home	Clean	51	3.79	0.67
Woman	Home	Messy	34	3.56	0.71

TABLE 4.
Fixed-Effects ANOVA Results Using Conscientiousness Rating as the Dependent Variable

Predictor	F (1, 381)	p	$_{\text{partial}}\ \eta^2$
Cleanliness	40.30	<.001	.096
Location	0.05	.83	.000
Gender	2.71	.10	.007
Cleanliness x Location	0.115	.73	.000
Cleanliness x Gender	3.36	.07	.009
Gender x Location	0.001	.97	.000
Cleanliness x Location x Gender	0.005	.94	.000

Note. $N = 389$.

TABLE 5.
Fixed-Effects ANOVA Results Using Interview Performance Rating as the Dependent Variable

Predictor	F (1, 381)	p	$_{\text{partial}}\ \eta^2$
Cleanliness	4.96	.026	.013
Location	8.61	.004	.022
Gender	13.26	<.001	.034
Cleanliness x Location	1.05	.31	.003
Cleanliness x Gender	1.16	.28	.003
Gender x Location	0.24	.62	.001
Cleanliness x Location x Gender	1.90	.17	.005

Note. $N = 389$.

rating went from clean ($M = 4.60$, $SD = 0.39$) to messy ($M = 4.06$, $SD = 0.82$) for a standardized effect size of $d = 0.84$, $t(187) = 5.98$, $p < .001$. Thus, although the interaction term in the ANOVA was not statistically significant, the effect size for the female candidate was larger than that for the male candidate.

We were also interested in the effect of cleanliness on interview performance when controlling for conscientiousness ratings. To do this, we compared the correlation between the room cleanliness rating (the item used as the manipulation check) and interview performance, $r = .19$, $p < .001$, with the partial correlation when controlling for conscientiousness, $r_{xy.z} = -.07$, $p = .18$. The small partial correlation between room cleanliness rating and interview performance when controlling for conscientiousness suggests that the relation between room cleanliness and interview performance may be partly accounted for by conscientiousness.

DISCUSSION

In this study, we manipulated the cleanliness of both an office and a home videoconference background to determine whether interviewers use cleanliness as a cue to make judgments of the job applicant's personality and interview performance. We found evidence that candidates in a messy environment received lower ratings on conscientiousness relative to candidates in the clean condition; this effect was consistent in both office and home settings. Our study supports Brunswik's (1956) lens model, suggesting that interviewers do use visual cues in a person's environment to make inferences about that person's personality, in this case the trait of conscientiousness. As well, the visual cue of cleanliness affected the performance rating the candidates received. We do note that there was a strong correlation between conscientiousness ratings and interview performance ratings ($r = .57$). It may be the case that the interviewers' impressions of conscientiousness partly accounted for the relation between cleanliness and performance ratings; however, because we had participants rate interview performance before conscientiousness, we cannot test a mediation model. Based on the partial correlation, it appears that conscientiousness may partly account for the shared variance between cleanliness ratings and interview performance ratings.

Interestingly, there is some evidence that the effect of cleanliness on conscientiousness ratings may be stronger for the female candidate than for the male, although that interaction term was not statistically significant. However, the effect size for the female candidate was larger than that for the male candidate. The implication of this unexpected finding is that effects of background cues on personality attributions may not be consistent for all candidates. The larger effect size for the female candidate could be related to female candidate's overall higher interview performance score. Specifically, we found an unexpected main effect such that the female candidate received higher interview performance scores overall. This performance effect may be driven by an attractiveness effect. There is evidence of rather strong effects of physical attractiveness on interview ratings. For example, Barrick et al. (2009) found a sample-weighted mean correlation of .54 between physical attractiveness and interview ratings; Torres and Gregory (2018) found a similarly large effect in the context of video interviews. To test this possibility, we conducted a post-hoc study on Prolific, in which we had the male and female candidate rated on perceived age, attractiveness, voice attractiveness, likeability, and confidence. The participants for this post-hoc study

watched just one interview question and only in the clean office condition. We conducted a between-subjects design; 100 people rated the female candidate and 97 people rated the man. The female candidate was rated as significantly higher than the male candidate on attractiveness, voice attractiveness, likeability, and confidence—suggesting that the main effect of gender may have been due to differences in attractiveness (see Table 6 for results). Thus, it is unclear if the female candidate's higher interview performance rating was due to gender or whether it was an attractiveness effect. In future research, candidates should be matched on physical attractiveness so that the conditions can be more directly compared.

Another issue that arose in this study was the large number of people who failed the manipulation check items. We used attention check items (multiple choice questions about the content of each interview question) to ensure that participants paid attention, and we only collected data from people who answered all three attention checks correctly; an incorrect response automatically ended the survey. However, the manipulation check items—asking about the location and the cleanliness of the room—were used to ensure that participants noticed the manipulation. Twenty-six percent of our participants were removed for getting one or both incorrect. The reason for removing these participants was to make sure that the analyses reflect participants who noticed the interviewee's background. However, we note that removing participants who fail a manipulation check can lead to biased estimates of effect sizes (in either direction), because dropping participants can lead to asymmetry across the different conditions (Aronow et al., 2019; Montgomery et al., 2018). For this reason, we also present the results (in supplementary analyses) with the full sample of 523 participants, without removing participants who failed the manipulation check. The results with that larger sample are similar to the reported results with respect to conscientiousness ratings; however, with this larger sample there was no main effect of cleanliness condition on interview performance ratings. In the case of videoconference backgrounds, it may be the case that some interviewers paid attention to the content of the interview (and thus got the content questions correct) yet did not pay close attention to the interviewee's background. Ignoring, or not noticing, the interviewee's background may reflect how some real interviewers would approach this task. Therefore, we report both the results for only participants who noticed the background (in the results section), and for the full sample, some of whom did not attend to the background conditions (in the supplementary analysis section). The results with people who did not pass the manipulation check (supplementary results) may be a conservative estimate of the effects, as they reflect a combination of both people who did and did not attend to the background cues.

Another limitation of our study is that the cleanliness cue was manipulated; therefore, we could only investigate the right side of Brunswik's lens model: cue utilization. Although we can conclude that interviewers do appear to use background cues in making personality attributions and performance ratings of interviewees, we cannot conclude whether background cues are, what Funder (1995) calls, "good information" or valid information about personality. Although it is not clear from this study whether background cues provide valid personality information, organizations can still benefit from knowing that background cues, which were not tied to any changes in actual interview performance, do affect perceptions of applicants. It would be interesting in future studies to use a set of real selection interviews where candidates have chosen their own background. Such a study could collect self-report ratings of candidate personality and could then correlate natural (rather than manipulated) background cues with personality ratings to study the cue validity side of Brunswik's model. A potentially important area for future investigation is whether visual background cues in videoconference interviews could provide valid information about underlying traits.

Background cues in a videoconference interview could potentially also provide valid information about an interviewee that would relate to their success after being hired. For example, a clean background might be a valid cue about candidates' knowledge of how to present themselves

TABLE 6.

Post Hoc Ratings of the Two Candidates

Variable	Man mean (*SD*)	Woman mean (*SD*)	*d*	*t*	*p*
Apparant age	35.17 (5.92)	33.89 (4.02)	0.25	-1.76	.08
Attractiveness	3.36 (0.88)	3.95 (0.58)	-0.79	5.58	<.001
Voice attractiveness	3.53 (0.84)	3.88 (0.72)	-0.45	3.18	.002
Likeable	3.84 (0.75)	4.08 (0.72)	-0.33	2.34	.02
Confident	3.72 (0.93)	4.27 (0.58)	-0.71	4.93	<.001

Note. N = 197 (122 men, 72 women, 3 other gender identities); 97 people rated the man candidate and 100 people rated the woman candidate.

professionally in an online setting, whereas a messy background could be a cue of inadequate preparation or time management. Future research is needed to demonstrate whether background cues, such as cleanliness, not only affect interview outcomes but also future job performance. If cleanliness affects interview ratings but is unrelated to future job performance, then such cues might be a source of bias and perhaps interviewers should be trained to ignore background cues. Alternatively, if such cues are related to future job performance, then they might be an important part of interview performance ratings.

Another area for future research may be whether candidates can purposively use their background to intentionally manage impressions. Impression management has typically been studied as either verbal (e.g., statements the applicants make about themselves) or nonverbal (e.g., smiling, making eye contact). In the case of videoconference interviews, setting up one's background in a particular way might be an additional type of nonverbal impression management tactic. For example, a candidate could create an environment that reflects how they would like to appear, such as placing specific books behind them to appear knowledgeable or intelligent. That is, the use of strategic background cues could be a type of impression management in videoconference interviews. It could be interesting, in future studies on impression management in videoconference interviews, to ask candidates whether they considered how their background would appear to the interviewer. From an organization's perspective, it is not yet clear whether a clean background is a valid cue to conscientiousness or whether it might be a purposeful impression management strategy on the part of the candidate.

Our results suggest that interviewers use room cleanliness as a cue to a candidate's personality during a videoconference interview, and that room cleanliness can influence interview performance ratings. This research suggests that interviewers should be made aware that background cues, which may not be tied to a candidate's level of competence, can affect their perceptions of applicants. Furthermore, from a candidate's perspective, whether their clean background is true behavioral residue based on their typical behavior or a deceptive identity claim to appear conscientious, interviewees would be wise to tidy up before turning on the camera. Given that videoconference interviews are likely to continue being a part of the selection process, both interviewers and applicants should be aware of the potential for background cues to affect the outcome of the interview.

REFERENCES

Aronow, P. M., Baron, J., & Pinson, L. (2019). A note on dropping experimental subjects who fail a manipulation check. Political Analysis, 27(4), 572–589. https://doi.org/10.1017/pan.2019.5

Barrick, M. R., Shaffer, J. A., & DeGrassi, S. W. (2009). What you see may not be what you get: Relationships among self-presentation tactics and ratings of interview and job performance. Journal of Applied Psychology, 94(6), 1394-1411. https://doi.org/10.1037/a0016532

Blacksmith, N., Willford, J. C., & Behrend, T. S. (2016). Technology in the employment interview: A meta-analysis and future research agenda. Personnel Assessment and Decisions, 2(1), 12-20. https://doi.org/10.25035/pad.2016.002

Borkenau, P., & Liebler, A. (1992). Trait inferences: Sources of validity at zero acquaintance. Journal of Personality and Social Psychology, 62(4), 645-657. https://doi.org/10.1037/0022-3514.62.4.645

Brosnan, K., Kemperman, A., & Dolnicar, S. (2021). Maximizing participation from online survey panel members. International Journal of Market Research, 63(4), 416-435. https://doi.org/10.1177/1470785319880704

Brunswik, E. (1956). Perception and the representative design of psychological experiments (2nd ed.). University of California Press.

Cook, K. W., Vance, C. A., & Spector, P. E. (2000). The relation of candidate personality with selection-interview outcomes. Journal of Applied Social Psychology, 30(4), 867-885. https://doi.org/10.1111/j.1559-1816.2000.tb02828.x

DeGroot, T., & Gooty, J. (2009). Can nonverbal cues be used to make meaningful personality attributions in employment interviews? Journal of Business and Psychology, 24(2), 179-192. https://doi.org/10.1007/s10869-009-9098-0

DeGroot, T., & Motowidlo, S. J. (1999). Why visual and vocal interview cues can affect interviewers' judgments and predict job performance. Journal of Applied Psychology, 84(6), 986-993. https://doi.org/10.1037/0021-9010.84.6.986

Dudley, N. M., Orvis, K. A., Lebiecki, J. E., & Cortina, J. M. (2006). A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits. Journal of Applied Psychology, 91(1), 40-57. https://doi.org/10.1037/0021-9010.91.1.40

Frieder, R. E., Van Iddekinge, C. H., & Raymark, P. H. (2016). How quickly do interviewers reach decisions? An examination of interviewers' decision-making time across applicants. Journal of Occupational and Organizational Psychology, 89(2), 223-248. https://doi.org/10.1111/joop.12118

Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. Psychological Review, 102(4), 652-670. https://doi.org/10.1037/0033-295X.102.4.652

Gosling, S. D., Ko, S. J., Mannarelli, T., & Morris, M. E. (2002). A room with a cue: Personality judgments based on offices and bedrooms. Journal of Personality and Social Psychology, 82(3), 379-398. https://doi.org/10.1037/0022-3514.82.3.379

Huffcutt, A. I., Van Iddekinge, C. H., & Roth, P. L. (2011). Understanding applicant behavior in employment interviews: A theoretical model of interviewee performance. Human Resource Management Review, 21(4), 353-367. https://doi.org/10.1016/j.hrmr.2011.05.003

Levashina, J., Hartwell, C. J., Morgeson, F. P., & Campion, M. A. (2014). The structured employment interview: Narrative and quantitative review of the research literature. Person-

nel Psychology, 67(1), 241-293. https://doi.org/10.1111/peps.12052

Montgomery, J. M., Nyhan, B., & Torres, M. (2018). How conditioning on posttreatment variables can ruin your experiment and what to do about it. American Journal of Political Science, 62(3), 760-775. https://doi.org/10.1111/ajps.12357

Roulin, N., Lukacik, E. R., Bourdage, J. S., Clow, L., Bakour, H., & Diaz, P. (2023). Bias in the background? The role of background information in asynchronous video interviews. Journal of Organizational Behavior, 44(3), 458-475.

Saucier, G. (1994). Mini-markers: A brief version of Goldberg's unipolar Big-Five markers. Journal of Personality Assessment, 63(3), 506-516. https://doi.org/10.1207/s15327752jpa6303_8

Stevens, C. K., & Kristof, A. L. (1995). Making the right impression: A field study of applicant impression management during job interviews. Journal of Applied Psychology, 80(5), 587-606. https://doi.org/10.1037/0021-9010.80.5.587

Thorsteinson, T. J. (2018). A meta-analysis of interview length on reliability and validity. Journal of Occupational and Organizational Psychology, 91(1), 1-32. https://doi.org/10.1111/joop.12186

Torres, E. N., & Gregory, A. (2018). Hiring manager's evaluations of asynchronous video interviews: The role of candidate competencies, aesthetics, and resume placement. International Journal of Hospitality Management, 75, 86-93. https://doi.org/10.1016/j.ijhm.2018.03.011

Weingarten, R. (2020, August 6). How to make your space look better before your next Zoom meeting or interview. Ladders. https://www.theladders.com/career-advice/how-to-make-your-space-look-better-before-your-next-zoom-meeting-or-interview

Wilmot, M. P., & Ones, D. S. (2019). A century of research on conscientiousness at work. Proceedings of the National Academy of Sciences, 116(46), 23004-23010. https://doi.org/10.1073/pnas.1908430116

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Appendix

Job Description General Manager–BAM Sports and Entertainment

As the general manager, you will be responsible for consistently seeking new, innovative, and efficient business processes that save time and money. This person has solid leadership skills, proven business experience and a track record of performance. The general manager exhibits drive and is deeply committed to supporting the growth and greater levels of success of BAM Sports and Entertainment. This person will also be committed to growing his/her own skills and developing into a supportive leader within the organization.

Interview Script

Interview Q1: Tell me about a time you managed to motivate your subordinates.
Response

In my previous job I was a manager, and so I lead a small team for various important projects and such—and so my team needed to be motivated so that they did a good job, they did the job on budget, and they did the job on time. And so it wouldn't be for all of my subordinates, but for some of them, they just weren't motivated to put their best effort forward—so for the few that didn't, I would try to watch while they were working, and then kind of call them aside afterward and give tips or tricks or suggestions for certain things that they might have been struggling with. Or if I noticed they had a difficult task, then maybe we'd bond over it and I'd say something like, "Oh yeah that circumstance or that task can be tricky to figure out—you could try something like this" to kind of show I had been there and I understand that it's hard at times—and then just kind of giving praise when praise was due. Other than that, I would just try to have conversations with them, and those helped motivate them to improve and get them engaged and involved.

Interview Q2: Tell me how you contributed to the company's success in your previous position.
Response

In my previous role, we were under poor leadership in which we had a bad time with organizing tasks, and so a lot of tasks fell to the side and were not completed well or on time. We just had a hard time communicating within our team and to other teams, and it was hard to get everyone on the same page. This was a problem because missing client deadlines due to being disorganized does not look good on the company or the employees. It was important that we improved organization not only through delegation but also communication, creativity, and collaboration. We wanted to change the environment that the team worked in to foster communication and collaboration within and between teams. In order to do this, I proposed to my teams that we use a collaborative online platform where we could have virtual chats and share information, calendars, and documents online. The proposal was approved, and we implemented the use of this online platform in all of the teams I was on. Although this seems like a minor implementation, it helped the teams organize our tasks and keep track of deadlines.

Interview Q3: Describe a time you developed a new policy. What did you do to make it work successfully?
Response

One example of when I developed and implemented a new policy was during the COVID-19 situation. So amid the COVID-19 situation, we had to come up with a policy of working from home rather than being at the office and being seated together because of the new government rules and guidelines. So in order to create the new policy, we had a town hall meeting and everyone gave their input. In the meeting we came up with strategies for people to work efficiently from home. When implementing the new policies, one of the things that I did was have everybody, meaning my whole staff, working from home through different technologies so that they would be safe. It was important that I effectively communicated with my team to explain the new policies and why they were necessary to implement. We had regular meetings every other day to understand where we were at, not just

Behaviorally Anchored Rating Scales

1. Tell me about a time you managed to motivate your subordinates
Competency: leadership and social perceptiveness

	Behaviorally Anchored Rating Scale
1	Has **no experience** motivating subordinates, or provides an example where the **did not really manage to motivate** their subordiates
2	Provides an example where they motivated a group of subordinates, but the group **was very small** or had **no real objective to achieve**.
3	Provides an example where they **successfully** motivated a relatively **small but important** group of subordinates. They demonstrated **some** leadership skills.
4	Provides an example where they **successfully** motivated a **large and important** group of subordinates, demonstrated leadership skills.
5	Provides an example where they **successfully** motivated a **large and important** group of subordinates, demonstrated leadership skills; clearly **understood why** subordinates were not motivated.

2. Tell me how you contributed to the company's success in your previous position
Competency: initiative and competence

	Behaviorally Anchored Rating Scale
1	Has **no experience** contributing to their workplace.
2	Provides an example where they were involved in **one contribution** to the workplace but had a **minor role** or **did not see results**.
3	Provides an example where they had a role in **one contribution** and the result was **minor but successful**; **not really clear why** they were successful for what skills were demonstrated.
4	Provides an example where they had a **major role** in one contribution result was major and successful; demonstrated skills by completing tasks effectively.
5	Provides and **elaborates** on an **outstanding example** where they demonstrated **strong leadership**; the result was **major** and **successful**; they **sought out opportunities** to excel.

3. Describe a time you developed a new policy. What did you do to make it work successfully?
Competency: problem solving and effective communication

	Behaviorally Anchored Rating Scale
1	Has no experience developing a new policy, provides an example where the new policy was unsuccessful, or used an existing solution
2	Provides an example where they developed a new policy, but there was only one relatively easy solution.
3	Provides an example where they developed a new policy and achieved good results.
4	Provides an example where they developed a new policy and achieved very good results and explained why it was optimal; demonstrated good problem solving and communication.
5	Provides an example where they developed a new policy, which achieved excellent results, and explained why it was optimal; demonstrated outstanding problem solving and communication.

Overall Hireability Items

1. How qualified is this application for the "general manager" position?
2. In your opinion, how attractive would this applicant be to the hiring organization?
3. How well did this applicant do in the interview?
4. If you were the hiring organization, how likely would you be to offer the candidate the job?

Attention Check Items (presented after each interview question)

1. Which of the following best describes the strategy that the applicant used to motivate their subordinates?

- o Providing monetary rewards for good behavior
- o Offering tips and suggestions
- o Encouraging a healthy work–life balance

2. Which of the following best describes how the candidate contributed to the company's success in their previous position?

- o By creating an innovative product
- o By implementing a new communication strategy
- o By proposing weekly meetings

3. Which of the following best describes the new policy the candidate implemented?

- o Work from home policy
- o Diversity and inclusion policy
- o Safety training policy

Manipulation Check Items

Did you notice where the candidate was located?

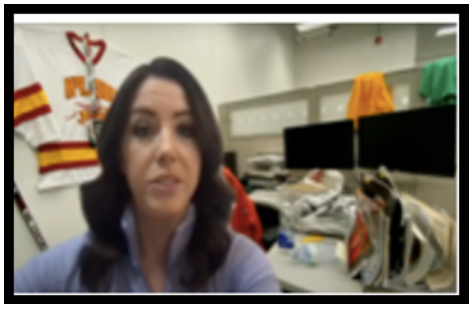
- o Office
- o Kitchen
- o Bedroom
- o Not able to tell

How would you rate the cleanliness of the room in the person's background?

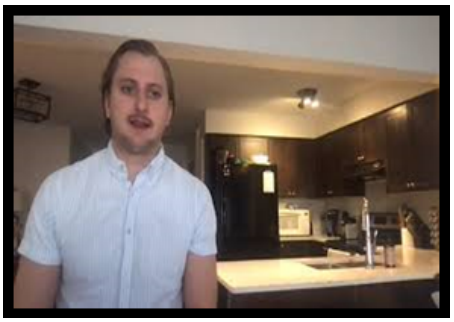
- o Very messy
- o Somewhat messy
- o Neither messy nor clean
- o Somewhat tidy
- o Very tidy

Pictures of the Eight Study Conditions

Location: Office

	Clean Versus Messy	
Gender	**Clean**	**Messy**
Male		
Female		

Location: Kitchen

	Clean Versus Messy	
Gender	**Clean**	**Messy**
Male		
Female