Original Article

Nonverbal Behavior in Selection Interviews

Relation to Communion, Agency, and Interview Performance

Marie-Eve Tescari and Adrian Bangerter

Institute of Work and Organizational Psychology, University of Neuchâtel, Switzerland

Abstract: In selection interviews, applicant nonverbal cues elicit impressions that affect evaluations. However, little is known about which micro cues and macro impressions are impactful. The current study measured 21 micro and macro impressions and their influence on interview performance from thin slices of 70 videotaped structured mock interviews. Interview performance was positively associated with six macro impressions and with vocal attractiveness. Performance was negatively related to being anxious and facial attractiveness. Micro cues, overall physical appearance, and overall likability were not correlated with performance. Smiling and hand gestures were associated with macro impressions. Moreover, macro impressions combined into the Big Two dimensions of interpersonal perception, Communion and Agency, which both predicted interview performance.

Keywords: selection interview, communion, agency, nonverbal behavior, interviewer evaluation

Personnel selection involves a series of high-stakes social interactions between an applicant and an organization, where the applicants try to make the right impression (Stevens & Kristof, 1995) to increase their chances of getting a job offer, whereas organizations and their representatives try to evaluate applicants' fit for the position, including their ability and potential commitment to an employment relationship (Bangerter et al., 2012). A crucial moment in this process is the interview (Dipboye et al., 2012). Selection interviews traditionally occur in a face-to-face format, enabling transmission of a rich set of verbal and nonverbal information. Recruiters integrate low-level, micro cues (e.g., "touching one's face") into macro impressions (e.g., "honest") that influence their evaluations of applicants (Frauendorfer & Mast, 2015). However, little is known about how micro and macro cues affect assessments of interview performance. Furthermore, recent research has suggested that the two fundamental dimensions of interpersonal perception, communion and agency (Fiske et al., 2007), may mediate the effects of applicant verbal impression management on interview outcomes (Amaral et al., 2019), but little is known about whether and how nonverbal micro cues and macro impressions are organized into communion and agency perceptions.

To address this gap, in the current study, judges coded nonverbal behavior micro cues and rated macro impressions from 1-min thin slices of behavior selected at random from a sample of videotaped mock interviews, where participants played the role of applicants for a fictitious job. We investigated how these cues and global impressions affect ratings of participants' performance by human resource professionals, whether they are combined into perceptions of communion and agency, and whether communion and agency affect performance ratings. The study contributes to a better understanding of the role of interpersonal perception in selection interviews. In what follows, we review the literature on how applicant nonverbal behavior affects recruiter evaluations and on the fundamental dimensions of communion and agency in selection interviews before describing our study.

Nonverbal Behavior and Recruiter Evaluations

Recruiters infer attributes of applicants from their verbal and nonverbal behavior. In turn, these inferences affect their evaluations of applicants' performance (Barrick et al., 2009). For nonverbal behavior, DeGroot and Gooty (2009) showed that visual (e.g., eye contact) and vocal (e.g., voice pitch) nonverbal cues are used by interviewers to infer applicants' personality traits, and these trait inferences in turn affect recruiters' evaluations of applicants'

interview performance. Not all nonverbal behaviors fuel inferences in the same way, however. On the one hand, "immediacy" nonverbal behaviors (Mehrabian, 1972), such as eye contact and smiling, positively impact personality attributions and the selection interview outcome (for an overview, see Frauendorfer & Mast, 2015). For example, the more expressively (e.g., using eye contact, smiles, and nods) applicants behave, the more positive attributions (e.g., relaxed, enthusiastic, strong, and dominant) interviewers make (N. Anderson & Shackleton, 1990), and the better hiring decisions applicants get (Forbes & Jackson, 1980).

On the other hand, some nonverbal behaviors have negative impacts on interview outcomes. To some extent, negative outcomes may result from decreased frequencies of positive nonverbal behaviors (e.g., smiling, eye contact). But there are also specific behaviors, such as self-touching (Harrigan, 1985) or disfluent speech, that negatively impact outcomes. These behaviors may feed into recruiter inferences of applicant anxiety (Feiler & Powell, 2016).

Furthermore, nonverbal behaviors affect perceptions of physical attractiveness (Raines et al., 1990), which are linked to socially desirable personality traits (e.g., being extraverted, dominant, honest, or warm; Albright et al., 1988; Feingold, 1992), and attractive applicants are more likely to be hired (e.g., Dipboye et al., 1975; Marlowe et al., 1996).

There are several ways of classifying the wide range of nonverbal behavior cues. A common distinction is between visual (e.g., gestures) and vocal (e.g., variability of voice pitch, breaks and pauses) cues (DeGroot & Motowidlo, 1999; Frauendorfer & Mast, 2015). Other classification systems distinguish between molecular or micro cues and molar or macro inferences (e.g., Bellack, 1983; Feiler & Powell, 2016; Tickle-Degnen & Rosenthal, 1990). Micro cues are immediately perceptible (e.g., behaviors such as nodding or smiling), whereas macro inferences are trait judgments based on gestalt impressions (such as "honest" or "confident"). A similar classification (Baesler & Burgoon, 1987) distinguishes between descriptive (e.g., counting objective observations of cues) and inferential (e.g., attributions depending on human interpretation) approaches to measuring nonverbal behavior.

This dialectic between assessing micro cues and macro inferences is well-illustrated by the case of attractiveness and likability. Based on the widespread stereotype according to which "what is beautiful is good" (Cash, 1981; Dion et al., 1972), attractiveness exerts a strong influence on evaluations of applicants. Perception of attractiveness is based on multiple channels involving both static (e.g., face, hair, body type, and overall physical appearance) and dynamic cues (e.g., speech and voice tone; Lowman et al., 2019). A similar construct, likability, is involved in initial attraction (Friedman et al., 1988; Riggio et al., 1991) and also driven by static and dynamic expressive cues. Furthermore, the absence of correlation between physical and vocal attractiveness (Zuckerman et al., 1991) highlights the need for incorporating both visual and auditory channels to comprehensively measure attractiveness and its potential effects on interview performance.

Fundamental Dimensions of Interpersonal Perception

The abovementioned research on how nonverbal micro cues fuel macro inferences has led to several classification systems for distinguishing kinds of nonverbal behavior. On the one hand, how specific cues lead to content-related categories of macro inferences in selection interviews remains poorly understood. On the other hand, in many domains of social cognition and perception, two fundamental dimensions of agency and communion have been identified (Abele et al., 2021; Fiske et al., 2007). Agency (or competence) relates to ability, assertiveness, or more generally, *getting ahead*, and is construed as a *vertical* dimension of social relations. Communion (or warmth) relates to interdependence, likability, or more generally, *getting along*, and is construed as a *horizontal* dimension of social relations (Abele & Yzerbyt, 2021).

The fundamental dimensions of interpersonal perception have been investigated in hiring situations. In one study, communion and agency mediated effects of applicant age on intentions to interview, thus constituting a mechanism for age discrimination in hiring (Krings et al., 2011). In another study, agency (but not communion) mediated the effect of visible body fat on hiring recommendations (Merritt et al., 2018). These studies show how cues related to physical appearance influence hiring recommendations via communion and agency. In yet another study on impression management in real interviews (Amaral et al., 2019), it was hypothesized that perceptions of applicant communion and agency would mediate the effects of ingratiation (an other-focused tactic) and self-promotion (a self-focused tactic), respectively, on interview ratings. The hypotheses were supported for agency but not for communion. These findings suggest that agency plays a role in organizing impressions of applicants in hiring situations, mediating effects of nonverbal and verbal cues on interview-related outcomes. The role of communion seems less clear. It is also unclear what kinds of micro cues contribute to communion and agency perceptions, as in all three abovementioned studies, experimental manipulations were holistic (young vs. old, fat vs.

thin) or self-reports of global impression management tactics. Some research suggests bidirectional links between the fundamental dimensions and micro nonverbal behavior. For example, communion and agency motives may underlie nonverbal immediacy behaviors (Mayor, 2020), or body posture may affect perceptions of communion and agency (Abele & Yzerbyt, 2021).

The Present Study

In the present study, we were interested in investigating (1) whether micro nonverbal behavior cues and macro impressions enhance ratings of participants' interview performance at first impression and (2) whether nonverbal micro cues and macro impressions fuel inferences of the two fundamental dimensions of communion and agency, and whether these inferences affect interview performance.

As described earlier, macro impressions, such as being *attentive*, *dominant*, *enthusiastic*, *honest*, *professional*, and *supportive*, are generally considered as qualities and rated favorably by interviewers (e.g., N. R. Anderson, 1991; Hall et al., 2005). Conversely, applicants perceived as *anxious* are perceived less positively (e.g., Feiler & Powell, 2016; McCarthy & Goffin, 2004). We expected the same in the present study. Thus, we formulate: *Hypothesis 1a (H1a): Interview performance will be positively associated with being perceived as attentive, dominant, enthusiastic, honest, professional, and supportive,* and *Hypothesis 1b (H1b): Interview performance will be negatively associated with being perceived as anxious*.

Past research also found that *smiling*, *using hand gestures* (i.e., when talking), and *gaze* (i.e., maintaining direct eye contact with interviewers) positively affected recruiter attributions of personality traits (Tsai et al., 2012) and ratings (e.g., DeGroot & Gooty, 2009; DeGroot & Motowidlo, 1999; Forbes & Jackson, 1980; Parsons & Liden, 1984). On the contrary, we assume that *looking down* and *self-touch* may be perceived by recruiters as expressing anxiety, thus leading to negative evaluations of performance (Feiler & Powell, 2016). This leads us to formulate: *Hypothesis 2 (H2): Interview performance will be positively associated with using hand gestures and smiles (H2a), and negatively associated with looking down and self-touching (H2b)*.

Consistent with prior findings reviewed in Posthuma et al. (2002), we formulate *Hypothesis 3 (H3): Interview performance will be positively associated with attractiveness* (vocal attractiveness, facial attractiveness and overall physical appearance) and *Hypothesis 4 (H4): Interview performance will be positively associated with likability*.

Finally, we investigated *Research Question 1 (RQ1): Are evaluations of behavioral cues combined into fundamental dimensions of interpersonal perception (communion and agency)? What are their effects on interview performance?*

We investigated these hypotheses and the research question using a sample of videotaped mock interviews from a previous experiment (Tescari et al., 2023), where participants played the role of applicants. Participants were either students (<6 months of work experience) or professionals (>2 years of work experience). We extracted 1-min thin slices of video (Carney et al., 2007) from a subsample of the interviews. Several judges rated micro nonverbal cues, while others provided separate judgments of macro impressions, attractiveness, and likability. Finally, ratings of participants' performance were provided by human resource professionals from the same previous study who viewed the entire interviews.

Method

Participants

There were 91 French-speaking participants. As the video recording quality varied, we selected thin slices from 70 participants (35 men, 35 women, M_{age} = 24.96, SD_{age} = 5.05).

These participants had been recruited from the University of Neuchâtel and contacts of the experimenters. As compensation, participants received feedback on a personality test and advice for future selection interviews after the experiment.

Judges

Thirty-seven judges provided ratings. Eleven judges rated macro impressions, four judges (including the first author) coded micro visual cues, 12 rated attractiveness, and 12 rated likability (see Table 1). Two of the judges who rated macro impressions also coded a subset of micro visual cues.

Procedure

Participants were interviewed for a fictitious job offer tailored to their interests and level of experience. All participants responded to the same interview questions (two warm-up questions followed by four past-behavior questions on four different competencies).

Interviews lasted between 3 and 20 min. Participants in the video were seated at approximately 45° to the camera, facing the recruiter. From each interview, we created clips of a 1-min thin slice of nonverbal behavior (i.e., watching the video without audio for judges rating facial attractiveness, likability, physical appearance, and macro impressions or coding micro visual cues; or listening to the

Table 1. Reliabilities of judges' ratings of nonverbal cues

Macro impressions	ICC	Micro visual cues	*r*	Attractiveness	ICC	Likability	ICC
Attentive	.56	Looking down	.81	Vocal attractiveness	.62	As a friend	.64
Anxious	.42	Smile	.69	Facial attractiveness	.69	As a coworker	.43
Honest	.42	Using hand gestures	.87	Overall physical appearance	.65		
Dominant	.68	Self-touch	.86				
Professional	.67	Closed body	1.00				
Enthusiastic	.76	Lick lips	.79				
Supportive	.62	Rub hands	.82				
		Touch body	.86				
		Touch face	.92				

audio for judges rating vocal attractiveness). Thin slice clips were chosen pseudorandomly, with a preference for video sections offering an optimal view of participants and the possibility to hide interviewers, to focus judges' attention only on participants' behavior. After signing an informed consent form, judges received a brief introduction and viewed or listened to the materials as many times as needed to complete their task, in as many sessions as they deemed necessary.

Measures

When not otherwise specified, interrater agreement was computed via the intraclass correlation coefficient (ICC; ICC model = one-way, type = agreement, unit = average). This was the case for all ratings involving more than two judges. All measures were retained using the criteria proposed by Cicchetti and Sparrow (1981), whereby ICC > .40 indicates fair or higher reliability.

In the previous study, various other data about education, intelligence, personality, and self-reported competencies were collected. Because these data are not relevant for this study, they are not reported here.

Interview Performance

In a previous study (Tescari et al., 2023), participants answered past-behavior questions (Bangerter et al., 2014) about four different competencies. Nine human resource professionals (6 women, mean age 44.2 years, *SD* = 9.3 years) viewed the entire video (with audio) and evaluated participants' performance and competencies. They answered five questions: "*Do you think this applicant demonstrates the competency described?*" [respectively: interpersonal communication, autonomy, organization, and adaptation] and "*Would you hire him/her for the job?*." They made ratings on a 4-point scale (1 = *not at all*, 2 = *rather no*, 3 = *rather yes*, 4 = *absolutely*). Each applicant was evaluated by three human resource professionals. ICC for the average of the five questions was high (.88), but the score for each question was low (varying between .49 and .69). We averaged all the ratings to compute a global interview performance score from 1 to 4 (*M* = 2.62, *SD* = 0.55). Human resource professionals received 100 CHF compensation.

Professional Experience

In the previous study, participants were students (*n* = 46) or professionals (*n* = 45).

Macro Impressions

Each applicant was initially rated by nine lay judges on seven dimensions (*attentive*, *anxious*, *dominant*, *enthusiastic*, *honest*, *professional*, and *supportive*) on a 5-point scale adapted from Schneider et al. (2015), where 1 = *not at all*, 2 = *slightly agree*, 3 = *somewhat agree*, 4 = *agree*, and 5 = *strongly agree*. ICCs are reported in Table 1. As *attentive*, *honest*, and *supportive* variables had low initial reliability, we subsequently added two judges to increase the reliability. These variables were thus coded by 11 judges. This issue has emerged in other studies on the reliability of nonverbal dimensions (Baesler & Burgoon, 1987; Schneider et al., 2015). Of the 11 judges, five were male (M_{age} 34 years, *SD* = 9.1).

Micro Visual Cues

A first set of four micro visual cues (*looking down*, *smile*, *using hand gestures*, and *self-touch*, as suggested, e.g., in N. A. Murphy et al., 2015; Schneider et al., 2015) were coded by one set of judges. We counted the frequency of looking down, smiling, and self-touching. We measured the duration of hand gestures, controlling for participants' speaking time. As the positioning of the video camera limited the view of participants' hands, we only counted hand gestures and self-touch above the table. To assess interjudge reliability, the first author (female, age 34 years) and one other lay judge (male, age 58 years) were trained. Interrater agreement based on a double coding of 20 videos was high (correlations varied between .69 and .87; see Table 1). A second set of five micro visual cues (closed

body (duration), lick lips (frequency), rub hands (duration), touch body (frequency), touch face (frequency); Feiler & Powell, 2016) was added to investigate a more comprehensive range of cues. It was coded by two other lay judges (both male, aged 24 and 27 years), with high interrater agreement (based on double-coding of the whole data set, correlations varied between .79 and 1.0; see Table 1).

Attractiveness

Attractiveness is "the degree to which one's physical appearance elicits favorable reactions from others" (Lowman et al., 2019, p. 59; Morrow, 1990). As previously mentioned, we assessed three dimensions of attractiveness: vocal attractiveness, facial attractiveness, and overall physical appearance. To avoid cross-channel effects described by Zuckerman et al. (1991), six lay judges rated vocal attractiveness by listening to audio without video and six other lay judges rated facial attractiveness and physical appearance with video but no audio. Three male judges rated female participants and three female judges rated male participants on a 5-point scale (1 = *not at all* to 5 = *very much*; Tsai et al., 2012). ICCs are reported in Table 1.

Likability

Likability was defined as liking as a friend or as a coworker (as suggested in Riggio et al., 1991). Six lay judges (five female, one male) evaluated how much they would like to have each applicant as a friend, and six other lay judges (five female, one male) rated how much they would like to have each applicant as a coworker on a 5-point scale (1 = *not at all* to 5 = *very much*). We computed the average of the two scores (they correlate at .56, $p < .001$), creating an overall likability score, which was used in further analyses (see, e.g., correlations in Table 2).

Results

Descriptive results are reported in Table 2. Of note, we found significant correlations between *interview performance* and *gender* ($r = -.34$, $p = .004$; women performed better than men) and *professional experience* ($r = .46$, $p < .001$; experienced applicants performed better than students). Furthermore, smiling and hand gestures were the micro cues that correlated most with macro impressions (smiling correlated significantly with *attentive*, *enthusiastic*, *honest and supportive*, and *hand gestures* correlated significantly with *honest* and *supportive*). Finally, we note that overall likability correlated with a range of micro cues (*smile*, *touch body*), macro impressions (*attentive*, *honest*, *professional*, *enthusiastic and supportive*) and all attractiveness variables.

Consistent with H1a, interview performance was positively related to *attentive* ($r = .25$, $p = .041$), *dominant* ($r = .40$, $p = .001$), *enthusiastic* ($r = .42$, $p < .001$), *honest* ($r = .32$, $p = .006$), *professional* ($r = .56$, $p < .001$), and *supportive* ($r = .29$, $p = .016$). Consistent with H1b, interview performance was negatively related to *anxious* ($r = -.64$, $p < .001$). No visual cues were significantly related to interview performance. Thus, H2 was not supported. Interview performance was positively related to vocal attractiveness ($r = .28$, $p = .02$), consistent with H3. However, interview performance was unexpectedly negatively related to facial attractiveness ($r = -.25$, *ns*) and was not associated with overall physical appearance ($r = .14$, *ns*). Thus, H3 is only partly supported. Interview performance was not correlated with overall likability ($r = .23$, *ns*). Thus, H4 was not supported.

To assess RQ1, we conducted an exploratory factor analysis (varimax rotation) on all variables in Table 1 (except the two likability scores that were aggregated into overall likability). Six factors with eigenvalue > 1 explained > 67% of variance. However, parallel analysis (O'Connor, 2000) suggested retaining the first four factors (see Table 3), explaining 56% of variance (Table 3). We used loadings ≥.60 to interpret the factors. Factor 1 loadings ≥.60 are honest, supportive, attentive and enthusiastic, smile, and overall likability, which can be interpreted as "Communion." Factor 2 loadings ≥ .60 were facial attractiveness and overall physical appearance, which can be interpreted as "Attractiveness." Factor 3 loadings ≥ .60 were dominance and anxiety (negative), which can be interpreted as "Agency." Factor 4 loadings ≥. 60 were touch face and self-touch, which can be interpreted as "Touch." The key finding from the factor analysis is that two factors emerged that correspond to agency and communion.

We used hierarchical multiple regression to predict interview performance from the factorial scores of agency and communion. In Model 1, we first entered control variables (i.e., gender and professional experience) as predictors of interview performance (Table 4). The model explained a significant proportion of variance. In Model 2, we entered agency and communion as predictors. This significantly increased the proportion of variance explained. The results of Model 2 showed that gender (women received better evaluations than men), communion, and agency significantly predicted variance in interview performance. Overall then, participants perceived as communal or agentic by lay judges were evaluated positively by human resource specialists, providing an answer to Research Question 1.

Discussion

How applicant nonverbal behavior cues in the selection interview affect recruiter impressions and interview

Table 2. *M*, *SD*, and correlations for main study variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Gender	.5	.50	—																					
2. Professional experience	.47	.50	−.03	—																				
3. Interview performance	2.62	.54	−.34**	.46**	—																			
4. Overall likability	2.90	.51	−.34**	.03	.23	—																		
5. Vocal attractiveness	2.82	.95	−.03	.28*	.28*	.37**	—																	
6. Facial attractiveness	2.65	.87	.26*	.03	−.25*	.37**	.30*	—																
7. Overall physical appearance	2.79	.80	−.20	.29*	.14	.47**	.21	.61**	—															
8. Looking down	8.26	4.05	.11	.21	.18	.01	.06	.22	.30*	—														
9. Smile	.76	.97	−.25*	−.06	.05	.37**	.26*	.16	.16	−.07	—													
10. Using hand gestures	14.63	12.67	.32**	.05	.01	.11	−.05	.03	−.07	.14	−.05	—												
11. Self-touch	.91	1.56	−.07	−.06	−.08	.11	.20	.04	.05	.07	−.00	.03	—											
12. Closed body	1.34	7.69	.09	.19	−.11	−.05	.03	.19	.23	.21	−.02	−.04	.00	—										
13. Lick lips	1.20	1.20	.31**	−.00	−.20	−.04	−.01	.27*	.06	.21	−.17	−.09	.00	.20	—									
14. Rub hands	6.63	10.32	.07	−.13	−.19	−.08	−.27*	−.06	−.08	−.29*	.01	.07	−.18	.05	−.10	—								
15. Touch body	.19	.49	.04	−.14	−.08	.25*	.25*	.16	.17	.26*	−.02	−.04	.42**	−.07	.04	−.13	—							
16. Touch face	.44	.89	−.08	.09	−.04	−.00	.13	.05	.18	.09	.04	−.09	.74**	.07	−.04	−.13	.08	—						
17. Attentive	3.57	.38	−.26*	.19	.25*	.40**	.15	.02	.22	−.07	.44**	.15	−.07	−.10	−.11	.11	−.13	.03	—					
18. Anxious	2.74	.58	.20	−.53**	−.64**	−.19	−.21	.22	−.03	−.06	−.12	−.03	.08	.01	.23	.23	.18	.06	−.36**	—				
19. Dominant	2.51	.55	.16	.41**	.40**	−.04	.22	−.07	.01	.18	−.2	.17	.00	.11	−.03	−.07	−.04	.04	.24*	−.60**	—			
20. Enthusiastic	2.88	.58	−.29*	.14	.42**	.59**	.19	.02	.25*	.07	.38**	.20	−.02	−.17	−.19	.05	.01	.07	−.65**	−.45**	.31**	—		
21. Honest	3.30	.32	−.21	.11	.32**	.42**	.20	−.06	−.03	.01	.41**	.24*	−.1	−.09	−.12	.09	−.05	−.04	.59**	−.24*	.02	.57**	—	
22. Professional	3.21	.51	−.21	.40**	.56**	.35**	.13	.14	.39**	.25*	.23	.23	−.20	−.13	−.04	−.07	−.23	−.07	.61**	−.47**	.36**	.54**	.47**	—
23. Supportive	3.41	.42	−.24*	.09	.29*	.59**	.21	.10	.22	.08	.42**	.29*	−.08	−.14	−.05	.016	−.02	.01	.75**	−.27*	.19	.85**	.71**	−.58**

Note. Gender: 0 = female, 1 = male. Professional experience: 0 = student, 1 = experienced.
*$p < .05$. **$p < .01$. ***$p < .001$

Table 3. Factor loadings for exploratory factor analysis (varimax rotation) of nonverbal behaviors, attractiveness, and likability

	Component			
Cues	Factor 1	Factor 2	Factor 3	Factor 4
Rub hands	.15	−.06	−.32	−.02
Closed body	−.19	.59	.20	.14
Lick lips	−.21	.48	−.09	−.12
Touch body	−.03	.05	−.33	.24
Touch face	.01	.08	.06	**.92**
Looking down	−.05	.49	.26	.04
Smile	**.60**	.03	−.16	.04
Self touch	−.06	−.04	−.10	**.89**
Using hand gestures	.28	−.05	.05	.01
Honest	**.77**	−.15	.02	−.06
Supportive	**.90**	.03	.09	−.02
Attentive	**.82**	−.01	.21	.02
Anxious	−.30	.18	**−.80**	.08
Dominant	.09	.01	**.81**	.06
Professional	.65	.22	.44	−.20
Enthusiastic	**.84**	−.05	.23	.07
Overall likability	**.69**	.23	−.16	.01
Vocal attractiveness	.26	.13	.13	.12
Facial attractiveness	.15	**.76**	−.27	−.03
Overall physical appearance	.30	**.75**	.00	.10
Percent of variance	24.12%	13.22%	9.40%	9.12%
Cumulative percent of variance				55.86%

Note. Loadings ≥.60 in bold.

Table 4. Summary of hierarchical multiple regression predicting interview performance

	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Intercept	2.60***	.10	2.69***	.09
Gender	−.37**	.11	−.28**	.10
Professional experience	.47***	.11	.17	.12
Factor 1: communion			.12*	.05
Factor 3: agency			.24***	.06
Adjusted R^2		.30		.46
F for R^2 change		15.38***		10.79***

Note: N = 70. Gender coded as 0 = female, 1 = male.
*p < .05. **p < .01. ***p < .001

performance remains poorly understood. Twenty-one nonverbal micro cues and macro impressions were reliably coded or rated from 1-min thin slices of videotaped mock interviews. We assessed whether these cues and impressions correlate with interview performance, whether they are combined into the Big Two factors of communion and agency, and whether these factors predict interview performance.

Regarding Hypotheses 1 and 2, participants perceived as being attentive, honest, dominant, professional, enthusiastic, supportive, and not anxious by lay judges got higher performance ratings by human resource specialists. Conversely, looking down, smiles, self-touching, and hand gestures did not influence performance. Macro impressions were more strongly associated with interview performance than micro cues (consistent with Ambady & Rosenthal, 1993; Feiler & Powell, 2016). However, the macro impressions were significantly correlated, which might constitute a halo effect (K. R. Murphy et al., 1993). Despite the lack of relations between micro cues and performance, two micro cues, smiling and hand gestures, were significantly associated with several macro impressions. These cues can be construed as potentially more intentionally produced than the other cues and thus may be more attended to by judges.

One reason why previous studies and the current study failed to find consistent links between micro cues and macro impressions is that some macro impressions are also, and perhaps primarily, constructed from applicants' verbal or paraverbal behaviors. This may be particularly

the case for impressions like *dominant* (e.g., applicants may tell a story about how they succeeded in a difficult negotiation) or *professional* (e.g., applicants may describe their values). Yet, other macro impressions such as *enthusiastic* may be constructed from paraverbal behaviors like tone of voice. Finally, some macro impressions such as *anxious* (Feiler & Powell, 2016) or *attentive* may be relatively more constructed from micro nonverbal cues.

Regarding Hypothesis 3, interview performance correlated positively with vocal attractiveness (consistent with Zuckerman & Driver, 1989) and, surprisingly, negatively with facial attractiveness. The positive correlation with vocal attractiveness may be due in part to the effect of listening to content when evaluating the audio for vocal attractiveness.

Moreover, contrary to expectations, we found no relation between overall physical appearance and performance. There are several possible explanations for these results. First, it may be due to the camera position, which may not have allowed a good appreciation of participants' faces and overall appearance. Second, using videos instead of photographs to rate physical attractiveness could have reduced its influence on interview performance (Ambady & Rosenthal, 1993). Regarding Hypothesis 4, interview performance was not associated with overall likability. This finding shows that *liking* applicants in an interview context does not affect how they are evaluated in terms of suitability for a job.

With Research Question 1, we investigated whether nonverbal cues can be combined into two fundamental dimensions of interpersonal perception, i.e., agency and communion, and whether these predict interview performance. First, our results showed that macro impressions can be combined into agency and communion factors. Second, agency and communion significantly predicted interview performance. These findings confirm previous research (Amaral et al., 2019; Krings et al., 2011) of the role of the Big Two in selection interviews. However, more research is needed to elucidate the pathways by which micro cues, macro impressions, and the Big Two are determined, and how these transmit the effects of social categories such as age (Krings et al., 2011) or behaviors such as impression management (Amaral et al., 2019).

Our study is not without limitations. First, the reliability of some of the nonverbal behavior coding was low, although low reliability of certain trait judgments is a persistent issue in nonverbal behavior research (Ambady & Rosenthal, 1992). Second, our format of mock structured interviews may limit generalizability. Structured interviews may constitute strong situations (Blackman, 2002) relative to unstructured interviews, which may limit the expression of nonverbal behaviors. This may be further compounded by the fact that the high-stakes nature of real selection interviews does not necessarily extend to mock interviews. Third, our measure of overall physical appearance may have been affected by the nature of the available data, such as the camera position and the participants' clothing. For example, students may have worn more casual clothes than experienced participants. Future research might extend the measure of overall physical attractiveness to other components of appearance (as suggested in Lowman et al., 2019). Fourth, we used judges and human resource specialists who observed interactions without participating in them. Future research should explore the effects of nonverbal behaviors on interaction participants, especially since some applicant nonverbal behaviors may reflect mimicry (Bavelas, 1992) of recruiters' behavior.

Despite these limitations, the present study contributes to a growing body of work on nonverbal behavior in selection interview. We have shown that macro nonverbal impressions are related to interview performance, whereas micro cues are not (although some cues are related to macro impressions). Furthermore, we have shown that macro perceptions are organized into the fundamental dimensions of communion and agency, which predict interview performance.

References

Abele, A. E., Ellemers, N., Fiske, S. T., Koch, A., & Yzerbyt, V. (2021). Navigating the social world: Toward an integrated framework for evaluating self, individuals, and groups. *Psychological Review*, *128*(2), 290–314. https://doi.org/10.1037/rev0000262

Abele, A. E., & Yzerbyt, V. (2021). Body posture and interpersonal perception in a dyadic interaction: A Big Two analysis. *European Journal of Social Psychology*, *51*(1), 23–39. https://doi.org/10.1002/ejsp.2711

Albright, L., Kenny, D. A., & Malloy, T. E. (1988). Consensus in personality judgments at zero acquaintance. *Journal of Personality and Social Psychology*, *55*(3), 387–395. https://doi.org/10.1037/0022-3514.55.3.387

Amaral, A. A., Powell, D. M., & Ho, J. L. (2019). Why does impression management positively influence interview ratings? The mediating role of competence and warmth. *International Journal of Selection and Assessment*, *27*(4), 315–327. https://doi.org/10.1111/ijsa.12260

Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin*, *111*(2), 256–274. https://doi.org/10.1037/0033-2909.111.2.256

Ambady, N., & Rosenthal, R. (1993). Half a minute: Predicting teacher evaluations from thin slices of nonverbal behavior and physical attractiveness. *Journal of Personality and Social Psychology*, *64*(3), 431–441. https://doi.org/10.1037/0022-3514.64.3.431

Anderson, N., & Shackleton, V. (1990). Decision making in the graduate selection interview: A field study. *Journal of Occupational Psychology*, *63*(1), 63–76. https://doi.org/10.1111/j.2044-8325.1990.tb00510.x

Anderson, N. R. (1991). Decision making in the graduate selection interview: An experimental investigation. *Human Relations*, *44*(4), 403–417. https://doi.org/10.1177/001872679104400407

Baesler, E. J., & Burgoon, J. K. (1987). Measurement and reliability of nonverbal behavior. *Journal of Nonverbal Behavior*, *11*(4), 205–233. https://doi.org/10.1007/BF00987254

Bangerter, A., Corvalan, P., & Cavin, C. (2014). Storytelling in the selection interview? How applicants respond to past behavior questions. *Journal of Business and Psychology*, *29*(4), 593–604. https://doi.org/10.1007/s10869-014-9350-0

Bangerter, A., Roulin, N., & König, C. J. (2012). Personnel selection as a signaling game. *Journal of Applied Psychology*, *97*(4), 719–738. https://doi.org/10.1037/a0026078

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

Bavelas, J. B. (1992). Research into the pragmatics of human communication. *Journal of Strategic and Systemic Therapy*, *11*(2), 15–29. https://doi.org/10.1521/jsst.1992.11.2.15

Bellack, A. S. (1983). Recurrent problems in the behavioral assessment of social skill. *Behaviour Research and Therapy*, *21*(1), 29–41. https://doi.org/10.1016/0005-7967(83)90123-7

Blackman, M. C. (2002). Personality judgment and the utility of the unstructured employment interview. *Basic and Applied Social Psychology*, *24*(3), 241–250. https://doi.org/10.1207/S15324834BASP2403_6

Carney, D. R., Colvin, C. R. & Hall, J. A. (2007). A thin slice perspective on the accuracy of first impressions. *Journal of Research in Personality*, *41*(5), 1054–1072. https://doi.org/10.1016/j.jrp.2007.01.004

Cash, T. F. (1981). *Physical attractiveness: An annotated bibliography of theory and research in the behavioral sciences*. American Psychological Association.

Cicchetti, D. V., & Sparrow, S. A. (1981). Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency*, *86*(2), 127–137.

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

Dion, K., Berscheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology*, *24*(3), 285–290. https://doi.org/10.1037/h0033731

Dipboye, R. L., Fromkin, H. L., & Wiback, K. (1975). Relative importance of applicant sex, attractiveness, and scholastic standing in evaluation of job applicant resumes. *Journal of Applied Psychology*, *60*(1), 39–43. https://doi.org/10.1037/h0076352

Dipboye, R. L., Macan, T., & Shahani-Denning, C. (2012). The selection interview from the interviewer and applicant perspectives: Can't have one without the other. In N. Schmitt (Ed.), *The Oxford handbook of personnel assessment and selection* (pp. 323–352). Oxford University Press.https://doi.org/10.1093/oxfordhb/9780199732579.013.0015

Feiler, A. R., & Powell, D. M. (2016). Behavioral expression of job interview anxiety. *Journal of Business and Psychology*, *31*(1), 155–171. https://doi.org/10.1007/s10869-015-9403-z

Feingold, A. (1992). Good-looking people are not what we think. *Psychological Bulletin*, *111*(2), 304–341. https://doi.org/10.1037/0033-2909.111.2.304

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*(2), 77–83. https://doi.org/10.1016/j.tics.2006.11.005

Forbes, R. J., & Jackson, P. R. (1980). Non-verbal behaviour and the outcome of selection interviews. *Journal of Occupational Psychology*, *53*(1), 65–72. https://doi.org/10.1111/j.2044-8325.1980.tb00007.x

Frauendorfer, D., & Mast, M. S. (2015). The impact of nonverbal behavior in the job interview. In A. Kostic & D. Chadee (Eds.), *The social psychology of nonverbal communication* (pp. 220–247). Palgrave Macmillan.

Friedman, H. S., Riggio, R. E., & Casella, D. F. (1988). Nonverbal skill, personal charisma, and initial attraction. *Personality and Social Psychology Bulletin*, *14*(1), 203–211. https://doi.org/10.1177/0146167288141020

Hall, J. A., Coats, E. J., & LeBeau, L. S. (2005). Nonverbal behavior and the vertical dimension of social relations: A meta-analysis. *Psychological bulletin*, *131*(6), 898–924. https://doi.org/10.1037/0033-2909.131.6.898

Harrigan, J. A. (1985). Self-touching as an indicator of underlying affect and language processes. *Social Science and Medicine*, *20*(11), 1161–1168. https://doi.org/10.1016/0277-9536(85)90193-5

Krings, F., Sczesny, S., & Kluge, A. (2011). Stereotypical inferences as mediators of age discrimination: The role of competence and warmth. *British Journal of Management*, *22*(2), 187–201. https://doi.org/10.1111/j.1467-8551.2010.00721.x

Lowman, G. H., Harms, P. D., & Mills, M. J. (2019). The influence of job candidates' physical appearance on interview evaluations. *Journal of Personnel Psychology*, *18*(2), 55–70. https://doi.org/10.1027/1866-5888/a000223

Marlowe, C. M., Schneider, S. L., & Nelson, C. E. (1996). Gender and attractiveness biases in hiring decisions: Are more experienced managers less biased? *Journal of Applied Psychology*, *81*(1), 11–21. https://doi.org/10.1037/0021-9010.81.1.11

Mayor, E. (2020). Nonverbal immediacy mediates the relationship between interpersonal motives and belongingness. *Frontiers in Sociology*, *5*, Article 108. https://doi.org/10.3389/fsoc.2020.596429

McCarthy, J., & Goffin, R. (2004). Measuring job interview anxiety: Beyond weak knees and sweaty palms. *Personnel Psychology*, *57*(3), 607–637. https://doi.org/10.1111/j.1744-6570.2004.00002.x

Mehrabian, A. (1972). *Nonverbal communication*. Aldine-Atherton

Merritt, S., Gardner, C., Huber, K., Wexler, B., Banister, C., & Staley, A. (2018). Imagine Me and You, I Do: Effects of imagined intergroup contact on anti-fat bias in the context of job interviews. *Journal of Applied Social Psychology*, *48*(2), 80–89. https://doi.org/10.1111/jasp.12492

Morrow, P. C. (1990). Physical attractiveness and selection decision making. *Journal of Management*, *16*(1), 45–60. https://doi.org/10.1177/014920639001600104

Murphy, K. R., Jako, R. A., & Anhalt, R. L. (1993). Nature and consequences of halo error: A critical analysis. *Journal of Applied Psychology*, *78*(2), 218–225. https://doi.org/10.1037/0021-9010.78.2.218

Murphy, N. A., Hall, J. A., Mast, M. S., Ruben, M. A., Frauendorfer, D., Blanch-Hartigan, D., & Nguyen, L. (2015). Reliability and validity of nonverbal thin slices in social interactions. *Personality and Social Psychology Bulletin*, *41*(2), 199–213. https://doi.org/10.1177/0146167214559902

O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instruments, and Computers*, *32*(3), 396–402. https://doi.org/10.3758/bf03200807

Parsons, C. K., & Liden, R. C. (1984). Interviewer perceptions of applicant qualifications: A multivariate field study of demographic characteristics and nonverbal cues. *Journal of Applied*

Psychology, *69*(4), 557–568. https://doi.org/10.1037/0021-9010.69.4.557

Posthuma, R. A., Morgeson, F. P., & Campion, M. A. (2002). Beyond employment interview validity: A comprehensive narrative review of recent research and trends over time. *Personnel Psychology*, *55*(1), 1–81. https://doi.org/10.1111/j.1744-6570.2002.tb00103.x

Raines, R. S., Hechtman, S. B., & Rosenthal, R. (1990). Nonverbal behavior and gender as determinants of physical attractiveness. *Journal of Nonverbal Behavior*, *14*(4), 253–267. https://doi.org/10.1007/BF00989319

Riggio, R. E., Widaman, K. F., Tucker, J. S., & Salinas, C. (1991). Beauty is more than skin deep: Components of attractiveness. *Basic and Applied Social Psychology*, *12*(4), 423–439. https://doi.org/10.1207/s15324834basp1204_4

Schneider, L., Powell, D. M., & Roulin, N. (2015). Cues to deception in the employment interview. *International Journal of Selection and Assessment*, *23*(2), 182–190. https://doi.org/10.1111/ijsa.12106

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

Tescari, M.-E., Bangerter, A., Györkös, C., Padoan, C., Fasel, S., Nicolier, L., Hondius, L., & Hitz, K. (2023). *Investigating effects of providing information and professional experience on production of stories in response to past-behavior questions* (Unpublished manuscript).

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

Tsai, W. C., Huang, T. C., & Yu, H. H. (2012). Investigating the unique predictability and boundary conditions of applicant physical attractiveness and non-verbal behaviours on interviewer evaluations in job interviews. *Journal of Occupational and Organizational Psychology*, *85*(1), 60–79. https://doi.org/10.1348/2044-8325.002003

Zuckerman, M., & Driver, R. E. (1989). What sounds beautiful is good: The vocal attractiveness stereotype. *Journal of Nonverbal Behavior*, *13*(2), 67–82. https://doi.org/10.1007/BF00990791

Zuckerman, M., Miyake, K., & Hodgins, H. S. (1991). Cross-channel effects of vocal and physical attractiveness and their implications for interpersonal perception. *Journal of Personality and Social Psychology*, *60*(4), 545–554. https://doi.org/10.1037/0022-3514.60.4.545

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ORCID
Marie-Eve Tescari
https://orcid.org/0000-0002-7972-3978
Adrian Bangerter
https://orcid.org/0000-0001-6989-8654

Marie-Eve Tescari
Institute of Work and Organizational Psychology
University of Neuchâtel
Rue Emile-Argand 11
2000 Neuchâtel
Switzerland
marieeve.tescari@gmail.com

