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ABSTRACT

Whether judgments made by complete strangers as to the intelligence of subjects are accurate or merely illusory was studied in Germany. Target subjects were 50 female and 50 male adults recruited through a newspaper article. Eighteen judges, who did not know the subjects, were recruited from a university community. Videorecordings of the subjects, with and without a sound recording of the subject reading a weather forecast, were shown to the judges, who estimated how intelligent the subjects were. Ratings by judges were only related to measured intelligence when sound was available, indicating that some acoustic information is crucial for stranger perceptions of intelligence to be accurate and that only verbal intelligence quotient is related to stranger ratings. Strangers tended to rate attractive subjects as intelligent. Although this judgment was illusory, judgment based on fluid reading was fairly accurate. Four tables present study findings. (Contains 7 references.) (SLD)

How Accurate are Judgments of Intelligence by Strangers?

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In daily life, individuals routinely form impressions of the personality and intelligence of other people. Sometimes, such impressions are based on minimal information, may be the observation of others' visible behavior for a few seconds only. This raises the issue whether impressions of complete strangers are illusory, or whether they possess some validity. If they were illusory, they might nevertheless furnish the illusion of predictability and thus satisfy a need for perceived control. If they were accurate, however, they might also contribute to more appropriate and useful decisions concerning social interactions.

There are several studies that compared ratings of personality by strangers (Albright, Kenny, & Malloy, 1988; Borkenau & Liebler, 1992; Norman & Goldberg, 1966; Paulhus & Bruce, 1992; Watson, 1989) to the target persons' self-reports, showing that self-stranger agreement is substantial for extraversion and conscientiousness. I am not aware of any previous study, however, that compared stranger ratings of intelligence to the targets' measured IQ.

Method

Subjects

For the study that I'm going to report, it was crucial that the observers who judged the intelligence of strangers had never met the targets before. Targets and judges were therefore recruited at different places. Whereas the judges were students, there were no students among the targets. Targets were 50 female and 50 male persons having been recruited by an article in a local newspaper. In contrast, 18 judges were recruited by flyers inside our university. Moreover, after having watched videotapes of a target, the judges were asked whether

they had ever seen this target before. If a judge endorsed this item, his or her ratings were treated as missing data.

Procedure

The targets' were videotaped while entering a room, walking around a table to a chair behind the table, sitting down, looking into the camera, reading a standard text (actually a weather forecast), standing up, and walking around the table again to leave the room. This procedure took about 90 seconds per target.

After this videotaping, the targets were led to a neighboring room where they were administered eight subscales of the Leistungsprüfsystem by Horn (1983), a German IQ-test. Four of these subscales measured aspects of verbal IQ, whereas the four other subscales measured aspects of non-verbal IQ.

The 18 judges were randomly assigned to three panels of six independent observers. The judges of Panel 1 watched a sound-film of the targets and rated their intelligence on 7-point rating scales. The judges of Panel 2 rated the targets' intelligence on the same scales, but after watching the videotapes with the sound turned off. Finally, the judges of Panel 3 watched the sound-film, but they rated 48 observable attributes of the targets from which observers might infer the intelligence of strangers. Of these 48 attributes, 39 were visual and 9 were acoustic.

The judges sat alone in a room with a video recorder and a monitor. After having watched a video sequence showing one target, they filled out a rating sheet that referred to that particular target. Then they restarted the video recorder to watch the next target, and so on, until each judge had provided ratings of all 100 targets.

Results

Reliabilities

The agreement among the judges how intelligent the targets were was independent of the extent of information, that is, whether judges watched a sound-film or a silent film of the targets. In both panels, coefficient alpha for the composite score of the six judges was .69. Because judges in the same panel were exposed to identical information, this finding supports a general model of consensus in interpersonal perception by David Kenny (1991).

Accuracy of Stranger Ratings

Here Table 1

Table 1 reports the correlations between measured IQ and stranger ratings of intelligence. When comparing the two columns, you see that only ratings of intelligence by judges in the sound-film condition were significantly related to measured IQ. Thus some acoustic information was crucial for stranger perceptions of intelligence to be accurate. Moreover, when comparing the rows of Table 1, you see that stranger ratings of intelligence were more highly related to the verbal subscales than to the non-verbal subscales of the IQ-test.

Note that because verbal and non-verbal IQ were positively correlated, the low correlations in the sound-film condition between non-verbal subscales and stranger ratings of intelligence may be mediated by the targets' verbal IQ. Thus a multiple regression analysis was run. The stranger ratings of intelligence in the sound-film condition were predicted from four variables: (a) target age, (b) target sex, (c) verbal IQ, and (d) non-verbal IQ.

Here Table 2

Table 2 reports the beta-coefficients. Whereas verbal IQ predicted stranger ratings of intelligence, no independent contribution of the non-verbal subscales was found.

Observable Correlates of Intelligence

The findings reported thus far suggest that the accuracy of stranger ratings of intelligence is mediated by voice and language cues, and that it is verbal IQ only that is expressed by these cues. Fortunately, we had data to identify some of the mediating cues more directly, by relying on the ratings of 48 observable attributes having been provided by the judges in Panel 3. Table 3 reports the correlations of 26 observable attributes with the targets' measured IQ and with stranger ratings of their intelligence. Note that target age and sex were partialed, and that those observable attributes are omitted in Table 3 that were neither significantly related to measured IQ nor to stranger ratings of intelligence.

Here Table 3

I will first focus on the first column that reports correlations of observable attributes with measured IQ. The correlations with visual attributes tend to be low, only three of them being significant. This indicates that measured IQ is hardly expressed visually. In contrast, the correlations with acoustic attributes tend to be higher and significant, indicating that measured IQ is clearly expressed by voice and language cues. Thus IQ was mostly expressed by acoustic cues.

Here Table 4

Remember that the multiple regression analysis indicated that it is verbal IQ only that is related to stranger ratings of intelligence. Table 4 therefore reports the relations of the six acoustic cues to the verbal and the non-verbal subscales of the IQ-test. These coefficients are third-order partial correlations, controlling for target age, target sex, and performance in the other intelligence domain. Whereas five of the six correlations with verbal IQ are significant, the highest one being $r = .55$, none of the correlations with non-verbal IQ differs significantly from zero. This indicates why stranger ratings of intelligence reflected differences in verbal IQ only.

Here Table 3

Finally, I would like to emphasize that the strangers in the silent-film condition relied on shared illusory stereotypes. The last column of Table 3 reports 18 significant correlations between visual observable attributes and ratings of target intelligence by the strangers in the silent-film condition. Note that 16 of these 18 perceived relations between IQ and visible attributes do not reflect actual relations. For example, the correlation between attractiveness ratings and ratings of intelligence is .63, whereas the actual correlation between attractiveness and IQ is -.01. Thus two stereotypes on the covariation of intelligence with observable attributes were operating: First, "who looks beautiful is intelligent", and second, "who reads fluently is intelligent". Whereas the first of these stereotypes is illusory, however, the second one seems to be pretty accurate.

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Table 1

Second-Order Correlations Between Measured Intelligence and Stranger Ratings of Intelligence.

Intelligence subscales	Available information	
	Sound-film	Silent film
All subscales	.38**	.12
verbal subscales	.43**	.18
non-verbal subscales	.14	-.02

Note: N=100.
The correlations are partial correlations that control for target age and sex.
* p < .05; ** p < .01.

Table 2

Beta-coefficients in a multiple-regression analysis, predicting stranger ratings of intelligence from four predictors.

Predictor	beta
Target age	-.10
Target sex (females = 1, males = 2)	.19
Composite of 4 verbal subscales	.46**
Composite of 4 non-verbal subscales	.00

Note: N=100.
** p < .01.

Table 3

Partial Correlations of 26 Observable Attributes With Measured Intelligence and With Stranger Ratings of Intelligence

External attribute	Measured Intelligence	Stranger rating Sound-film	Silent film
Visual attributes			
Attractive	-.01	.28**	.63**
Unrefined appearance	.06	-.20*	-.46**
Stylish hair	-.10	.09	.18*
Showy dress	-.20*	-.10	.13
Informal dress	.09	-.16	-.18*
Unfashionable dress	.04	-.13	-.33**
Stout physique	.00	-.41**	-.40**
Tall stature	.05	.22*	.14
Less muscular physique	.07	-.05	-.34**
Well-proportioned body	-.01	.36**	.49**
Round face	-.01	-.17*	-.28**
Friendly expression	-.06	.12	.39**
Indifferent expression	-.09	-.30**	-.48**
Self-assured expression	.34**	.26**	.44**
Extent of smiling	-.04	.08	.30**
Closed arms while sitting	-.02	-.14	-.25**
Fast movements	-.02	.01	.18*
Lifts feet while walking	-.10	.14	.25**
Stiff walking	-.20*	-.08	-.19*
Avoids the camera	-.17	-.12	-.26**
Acoustic attributes			
Effortful reading	.19*	.32**	
Unpleasant voice	-.29**	-.29**	
Haltingly speaking	-.53**	-.32**	
Easy to understand	.44**	.22*	
Hectic speaking	-.29**	-.38**	
Standard language	.36**	06	

Note: Correlations are partialled for target age and sex

* $p < .05$; ** $p < .01$.

Table 4

Third-Order Correlations of 6 Acoustic Attributes With Verbal and Non-Verbal Intelligence

External attribute	Verbal intelligence	Non-verbal intelligence
Effortful reading	.11	.06
Unpleasant voice	-.25**	-.06
Haltingly speaking	-.55**	-.05
Easy to understand	.42**	.02
Hectic speaking	-.24*	-.05
Standard language	.31**	.05

Note: Correlations are partialled for target age and sex and performance in the other intelligence domain.
* $p < .05$; ** $p < .01$.