

INTERGENERATIONAL DIFFERENCES IN NONVERBAL
DISCLOSURE OF DECEPTION*¹

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SUMMARY

Nonverbal disclosure of deception was investigated in young and old American men and women. Sixty-two college-aged and 42 older individuals were asked to judge silent videotaped segments showing young and old stimulus persons being truthful or deceptive. An analysis of variance of the judgments showed that the elderly stimulus persons generally were less nonverbally revealing of deception than the younger stimulus persons. In addition, the young and old decoders showed differences in the way in which they decoded the same nonverbal behavior. Results thus show differences in both encoding and decoding of nonverbal behavior between young and old adults.

A. INTRODUCTION

Intergenerational communication and perception has been a topic of considerable interest for some time (1, 2, 3). However, most research has been limited to evaluating results obtained from responses on attitude questionnaires, adjective checklists, and other paper and pencil measures. One mode of communication which has not been explored intergenerationally is nonverbal behavior, in which communication occurs through the use of nonverbal cues such as facial expressions or eye contact.

Although it is well established that nonverbal behavior represents a communication channel distinct and typically independent from what is

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being expressed verbally in young adults (4), no research to date has focused on any generation's nonverbal interaction with the elderly.

The present study was designed to examine two basic questions dealing with the nonverbal channel of communication: (a) are there generational differences in the nature and usage of nonverbal behavior? and (b) are there differences in the understanding and decoding of others' nonverbal behavior as a function of age? There is much evidence from research carried out on young adults that nonverbal behavior is related to an individual's emotional state (7). Facial expressions, in particular, have been shown to be reliable indicators of the emotion an adult is experiencing. Indeed, there are some cross-cultural similarities in the expression of at least basic emotions (5). Thus, the evidence clearly shows that nonverbal behavior gives an indication of an adult's emotional state.

Current evidence shows that nonverbal behavior also may reveal when an adult is being deceptive verbally. For instance, Feldman (8) found that college-age adults, acting as teachers, revealed when they were being untruthful to a student through their facial expressions, and that untrained adult observers could recognize when the Ss were being dishonest simply on the basis of a short sample of their facial expressions. Other research supports the finding that adults tend to disclose when they are being deceptive through their nonverbal behavior (6, 13).

Most research on nonverbal behavior, however, has not dealt with questions of a developmental nature. The work that has been done has usually looked at the development of spontaneous emotional expressions, primarily in infants. Very little research has investigated the question of whether older individuals change in the use of control of their nonverbal behavior. One exception is a study by Feldman, Jenkins, and Popoola (9) who found that young children were less proficient in concealing verbal deception (i.e., revealed more) through their nonverbal behavior than were college-age adults. To our knowledge, though, no studies have been carried out comparing elderly populations with young ones.

In the present study, we examined the nonverbal disclosure of deception in two age groups: college-age adults and elderly individuals. It seems reasonable that there could be differences in the degree of disclosure between the two groups. As individuals advance in age they acquire greater control over the expression of emotions, both at the verbal and nonverbal levels. Such enhanced control, possibly coupled with increased realization of the impact of their nonverbal expressivity on others, may lead to less nonverbal disclosure on the part of the elderly than the young

adults. Thus, we might expect age differences in nonverbal encoding related to being deceptive verbally.

It also seems reasonable that there may be differences in the decoding of the meaning of nonverbal behavior according to the age and sex of the perceiver. Research carried out on nonelderly *Ss* at different developmental stages has shown that patterns in decoding ability typically improved with age, at least up to young adulthood. For instance, Honkevaara (11) found that decoding of facial expressions from photographs improved with age (from 5 years to adulthood). Likewise, some research has suggested that males and females differ in their decoding abilities (10). It was expected that there would be differences in the way in which truthful and dissembling stimulus persons would be encoded, according to age and sex of the judge.

B. METHOD

1. *Preparation of Stimulus Person Samples (Encoders)*

Stimulus persons consisted of 24 individuals from two age groups. Six male and six female college-age persons (mean age = 19.2 years, $SD = 2.63$) were selected from introductory psychology classes at a large urban university and given course credit for their participation. The 12 elderly stimulus persons (five females, seven males; mean age = 79.0, $SD = 5.20$) were selected from an urban metropolitan area. They were paid \$1.50 for their participation. Both groups were required to be in good health and have a minimum of 20/30 corrected vision. Consent from the *Ss* was obtained prior to participation, with the use of statements such as, "Your responses *may* be videotaped." During the experimental session, however, a posttest questionnaire revealed that the *Ss* were *not* aware of videotaping.

2. *Procedure*

Stimulus persons were told that the *E* was interested in having them taste two "new" drinks, and observing how well they could convince someone else that both drinks tasted good by pretending that they liked both drinks regardless of how they tasted. To increase their motivation to be deceptive and increase their involvement with the task, well known television commercials were illustrated to indicate the type of responses desired. The stimulus persons were informed that they would be asked to taste the two new drinks by an interviewer, who reportedly represented the

company that manufactured the drinks, and convince the interviewer that both drinks tasted very good. This ruse was used to ensure that stimulus persons' *verbal* behavior would be similar, whether or not they were being truthful or deceptive. In the truthful conditions, the drink consisted of sweetened grape drink mixed to specification. In the deceptive condition, unsweetened grape drink was used, which tasted quite bitter. Since stimulus persons were instructed to give only positive verbal evaluations to both drinks, the positive verbal responses therefore represented the truth for the "good" drink and a lie for the "bad" drink. Order of presentation of the two drinks was random.

After the interview, the stimulus person was given a Likert-type rating scale to indicate his or her true opinions about the drinks. The rating scale ranged from 1 (very bad) to 5 (very good). This was used as the manipulation check. At the conclusion of the experiment stimulus persons were thoroughly and systematically debriefed, and the reasons for the deception were explained.

3. *Preparation of Stimulus Materials for Judges (Decoders)*

The facial expressions of stimulus persons being verbally truthful or deceptive were secretly videotaped. Permission was obtained to use videotapes following the experimental session. A 15-20 minute segment of each stimulus person's nonverbal responses was transcribed to a new tape in a random order, to be shown to judges. Since the encoding sessions employed 24 stimulus persons responding to both the truthful and deceptive conditions, 48 samples of nonverbal behavior were obtained. These 48 nonverbal segments were randomly arranged on a new tape, subject to restrictions that no four serial segments could consist of stimulus persons in the same sex, age, or truthfulness conditions.

4. *Judging Procedure*

Judges were selected to reflect the two age groups employed in the encoding session. Sixty-two adult judges (37 females and 25 males; mean age = 19.1, $SD = 2.16$) were drawn from introductory psychology classes at an urban university. Forty-two old judges (27 females and 15 males; mean age = 72.1, $SD = 6.16$) were selected from the same metropolitan area as were the stimulus persons. Visual acuity and health were the same as those required of the encoders. Stimulus persons who had participated in the encoding sessions were not used in the decoding process and were not known to the decoders.

5. Procedure

The nonverbal behavior of Ss being either truthful or deceptive was then shown to the naive raters who were blind to the experimental hypotheses. The decoders were informed that the rationale for this research was that we were interested in how well people were able to understand nonverbal communication. The decoders were told to rate the nonverbal behavior of persons tasting two new drinks, and were informed that the stimulus persons were being truthful in some cases and deceptive in other cases. They were told to rate each of the 48 segments on a seven-point Likert-type scale asking how much they thought the *S* really liked the drink, where 1 = did not like at all and 7 = liked very much.

Of the 48 segments, 24 were from each age group, and half of these showed people being truthful or deceptive. In addition, about half were male and half were female. The basic design thus consisted of an age of stimulus person \times sex of stimulus person \times veridicality of stimulus person factorial. Within each of these eight cells, the individual scores accorded the stimulus persons were averaged for each observer and treated as contributions to a within-Ss analysis. There were also two between-Ss factors relating to the judges: age and sex of decoder. Hence, the analysis performed on the data ultimately was a five-way 2 (age of decoder) \times 2 (sex of decoder) \times 2 (age of stimulus person) \times 2 (sex of stimulus person) \times 2 (veridicality of stimulus person) mixed design analysis of variance, with the first two factors being between-Ss and the last three within-Ss factors.

C. RESULTS

A manipulation check showed that both the older and younger stimulus persons rated the drinks as tasting significantly better in the truth condition than when dissembling ($p < .001$). Thus stimulus persons were aware of being either truthful or deceptive (dissembling) in the appropriate condition. This check was performed separately for old and young Ss, ensuring that differences in taste sensitivity was not an influencing factor.

The five-way analysis of variance yielded a number of significant main effects and interactions. However, the most definitive information comes from the significant, highest-order four-way interaction between age of decoder, age of stimulus person, sex of stimulus person, and stimulus person veridicality, $F(1, 100) = 3.98, p < .05$. The means involved in this interaction are displayed in Table 1.

Comparisons using Duncan's tests were made between the truthful and

deceptive condition means under each of the age \times sex of stimulus person combinations within the decoder age groups. Considering the ratings made by the young decoders, it appears that there were significant differences between ratings of truthful and dissembling young female stimulus persons, and truthful and dissembling elderly male stimulus persons. The young female stimulus persons were rated as being significantly ($p < .05$) more pleased when being truthful than when lying; thus, young decoders could tell when young females were lying. The college-age decoders also rated the elderly male stimulus persons as differing significantly when being truthful *versus* deceptive, but the direction of this difference was opposite to that displayed by the young female stimulus persons ($p < .05$). In this case, the elderly male stimulus persons were rated as being *more* pleased when dissembling than when being truthful, a reversal of what would be expected. Thus, the elderly male can be considered to be successfully deceptive.

Turning to the ratings made by the elderly judges, we find a very different pattern of responses. They perceived no difference between either male or female elderly stimulus persons who were being truthful or lying. Both groups were successfully deceptive. However, there were significant differences in ratings between the truthful and dissembling *younger* stimulus persons. The young male stimulus persons were rated as being significantly more pleased when being truthful than when lying ($p < .01$); thus, that group of stimulus persons revealed themselves when dissembling. There was also a difference in ratings between truthful and dissembling young females, but here the dissembling stimulus persons were rated more positively than the truthful stimulus persons; i.e., they were successfully deceptive ($p < .05$).

There were a number of other significant interactions and main effects, but these must be interpreted cautiously in view of the significant, higher-order four-way interaction. There was a main effect for age of stimulus person, $F(1, 100) = 12.51$, $p < .001$. The elderly stimulus persons were rated as liking the drink most ($M = 4.13$, where 1 = did not like at all and 7 = liked very much), while the college-aged stimulus persons liked it the least ($M = 3.88$). In addition, a significant interaction between sex of stimulus person and age of decoder was revealed, $F(1, 100) = 4.99$, $p < .03$. An analysis of the means using Duncan's Multiple Range Test showed that, as a group, the older sample rated females as favoring the drink more than the younger group ($M = 4.13$ and 3.95, respectively). Furthermore, a two-way interaction of age of stimulus person \times sex of stimulus person was

also significant, $F(1, 100) = 13.42, p < .001$. The young males, therefore, were rated as liking the drink least ($M = 3.75$), while the older males preferred it the most ($M = 4.25$).

There was also significant two-way interaction between age of stimulus person and stimulus person veridicality, $F(1, 100) = 3.94, p < .05$, and a significant three-way interaction involving age of decoder, sex of stimulus person, and veridicality of stimulus person, $F(1, 100) = 14.39, p < .001$. However, examination of the means involved in the interactions showed that in no case were there any significant differences (as determined by Duncan's Multiple Range Test) between truthful and dissembling stimulus persons. Moreover, both of these interactions were modified in the significant four-way interaction which provides the most definitive information.

D. DISCUSSION

In considering the evidence for differential encoding between the elderly and young stimulus persons, the most definitive information comes from the means contained in the significant four-way interaction between age of decoder, age of stimulus person, sex of stimulus person, and veridicality of stimulus person. Examination of the pattern of significant differences between the truthful and dissembling stimulus persons (Table 1) shows the elderly being generally less decodable than the young stimulus persons. In three of the cells pertaining to the elderly stimulus persons, there was no significant difference between the truth and dissembling conditions. In the one exception (the elderly male stimulus persons), the difference was in the direction of the dissemblers being rated as more pleased than the truthful stimulus persons, thus in one sense being more successful at deceptive behavior. In contrast, ratings of the young stimulus persons show that in three of the four cases there was a significant difference between truthful and dissembling stimulus persons, with two of the cases revealing that the stimulus persons were less pleased when dissembling than when being truthful. In general, then, it appears the elderly stimulus persons were less revealing nonverbally when they were lying than were the younger stimulus persons. These results are compatible with the notion that with increased experience in social interaction the elderly become more cognizant of the necessity to control nonverbal behavior and exercise their abilities accordingly.

Regarding the question of differential decoder performance, comparison of the judgments made by the elderly and young decoders in Table 1

TABLE 1
 MEANS INVOLVED IN AGE OF DECODER \times AGE OF STIMULUS PERSON \times SEX OF STIMULUS
 PERSON \times STIMULUS PERSON VERIDICALITY INTERACTION

Stimulus person	Veridicality condition	Age of decoder	
		Young	Elderly
Young male	Truth	3.66	4.08
	Lie	3.69	3.56
	Difference	-.03	+.52**
Young female	Truth	4.13	3.92
	Lie	3.79	4.32
	Difference	+.34*	-.40*
Elderly male	Truth	4.16	4.17
	Lie	4.52	4.09
	Difference	-.36*	+.08
Elderly female	Truth	3.89	4.15
	Lie	3.98	4.11
	Difference	-.09	+.04

Note: Higher numbers indicate higher ratings of how pleased stimulus persons were.

* $p < .05$.

** $p < .01$.

reveals more *differences* in ratings than similarities. In fact, only the elderly female stimulus persons were rated similarly by the young and elderly decoders: both sets of decoders found no difference between the truthful and dissembling elderly female stimulus persons. Moreover, in all cases there was a reversal in direction of the differences between truthful and dissembling stimulus persons for the two groups of judges: i.e., when the young judges rated a particular group as being more pleased when being truthful than when lying, the elderly judges rated truthful and dissembling in the opposite pattern. Thus, the young and elderly judges definitely showed differential decoding when viewing the same stimuli. This result is compatible with evidence demonstrating the existence of greater social distance between more disparate age groups (12), as well as evidence pointing to cross-generational misperception (1). Such differences in the encoding and decoding of nonverbal behavior may be, at first, one source of intergenerational miscommunication.

The locus of the encoding and decoding differences between the young and old groups cannot be unequivocally determined. It is possible that, in some absolute sense, the stimulus persons were betraying systematically when they were dissembling, but that the decoders were inattentive or misperceived the appropriate cues. It is also possible that differential weighting is made by young and old decoders to particular cues, according

to the age of the encoder. If so, this would give further credibility to the notion of "cohort centrism."

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