



Non-Verbal Communication Between Primary Care Physicians and Older Patients: How Does Race Matter?

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BACKGROUND: Non-verbal communication is an important aspect of the diagnostic and therapeutic process, especially with older patients. It is unknown how non-verbal communication varies with physician and patient race.

OBJECTIVE: To examine the joint influence of physician race and patient race on non-verbal communication displayed by primary care physicians during medical interviews with patients 65 years or older.

DESIGN, SETTING, AND PARTICIPANTS: Video-recordings of visits of 209 patients 65 years old or older to 30 primary care physicians at three clinics located in the Midwest and Southwest.

MAIN MEASURES: Duration of physicians' open body position, eye contact, smile, and non-task touch, coded using an adaption of the Nonverbal Communication in Doctor-Elderly Patient Transactions form.

KEY RESULTS: African American physicians with African American patients used more open body position, smile, and touch, compared to the average across other dyads (adjusted mean difference for open body position=16.55, $p<0.001$; smile=2.35, $p=0.048$; touch=1.33, $p<0.001$). African American physicians with white patients spent less time in open body position compared to the average across other dyads, but they also used more smile and eye gaze (adjusted mean difference for open body position=27.25, $p<0.001$; smile=3.16, $p=0.005$; eye gaze=17.05, $p<0.001$). There were no differences between white physicians' behavior toward African American vs. white patients.

CONCLUSION: Race plays a role in physicians' non-verbal communication with older patients. Its influence is best understood when physician race and patient race are considered jointly.

KEY WORDS: communication; race; aging.

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BACKGROUND

Non-verbal communication is an important aspect of the diagnostic and therapeutic process.¹⁻⁵ It qualifies verbal messages, regulates interaction, and communicates attitudes such as liking, warmth, supportiveness, agreement, and interest.^{1,3,6,7} Non-verbal communication is linked to rapport, patient-physician trust, satisfaction, recall, compliance, symptom resolution, long-term improvements in health, and malpractice litigation.^{2-4,8-11}

In interaction with older patients, skillful non-verbal communication plays an especially important role.^{12,13} Many older patients suffer from hearing impairment and must rely more heavily on non-verbal communication channels.¹⁴ A decline in social networks heightens the importance of psycho-social care,¹⁵ which has important non-verbal components. Yet, physicians express affiliation and attentiveness by proximity and direct body orientation less often when treating older patients compared to younger patients.¹⁶

The effects of race on non-verbal communication in medical settings are poorly understood. Broader scholarship on racial relations suggests that in the interactions with whites, minority individuals often face non-verbal bias expressed in facial expressions, tone of voice, or body language.¹⁷⁻¹⁹ These broader social patterns can filter into physician-patient interactions.²⁰⁻²² In studies of verbal communication, physicians are more dominant, less patient-centered, and less positive toward African American (AA) patients compared to white patients.²³ AA patients rate their visits as less participatory.²⁴

Because of the two-way communication process between patients and physicians, it is important to consider patient race jointly with physician race when studying physician-patient interaction. We know, for instance, that the negative effects of minority patient race are mitigated when patients see a physician of the same racial background. Racially concordant visits are more participatory.²⁴ They produce higher levels of patient satisfaction²⁵⁻²⁷ and trust,²⁸ possibly because of cultural similarities that facilitate positive communication.^{24,29}

Less is known about the interaction of AA physicians with white patients. Due to the underrepresentation of minority

physicians in work force, these dyads are relatively uncommon, but their numbers are expected to grow as medical schools now actively recruit minorities. Studies of gender provide clues guiding our reasoning about the communicative processes in these dyads. Gender, much like race, is linked to widely held cultural beliefs about competence³⁰ that can affect professional life.^{31,32} Like female physicians, who constitute a minority in a male-dominated profession, AA physicians are greatly outnumbered by their white colleagues. Similarly to female physicians treating male patients,³³ AA physicians sometimes encounter white patients who doubt their professional competence and challenge their authority. White patients, for instance, are more likely to report medical errors when treated by minority doctors.³⁴ When faced with such challenges, minority physicians may work extra hard to prove their professional competence, but at the same time use status-equalizing tactics, such as social talk and partnership-building statements to “appease” patients who are uncomfortable with their authority.³⁵ For instance, female physicians with male patients use positive non-verbal cues (e.g., smiling) but combine them with a negative tone of voice and non-verbal expressions of anxiety.³⁵ This conflicting pattern of communication may reveal emotional ambivalence (i.e., coexistence of positive and negative feelings) created by conflicting role demands.³⁵

The goal of this study is to examine non-verbal communication in encounters between patients 65 years old or older and primary care physicians with special attention to the role of race in the physicians’ *positive non-verbal communication*. Behaviors such as open body position, eye contact, smile, and touch express positive affect, involvement, availability, attention, warmth, encouragement, respect, understanding, empathy, and affiliation with the patient.^{10,11,16,36–39} They are considered building blocks of physician–patient relationships.^{4,6,9,35,40–45} Building on the arguments outlined above, we hypothesized that white physicians would show less positive non-verbal communication when treating AA patients compared to white patients. We further hypothesized that AA patients with AA physicians would receive more positive non-verbal communication compared to other patients. Our final hypothesis concerned AA physician–white patient dyads. We expected that in these dyads, the pattern of communication would be conflicted because of conflicting role demands. Compared to other racial combinations, AA physicians treating white patients would be more positive on at least one dimension of non-verbal communication, but they also would be less positive on at least one other dimension of non-verbal communication.

METHODS

Participants and Data

Our study analyzed video-recordings of patient visits collected for another study, Assessment of Doctor-Elderly

Patient Encounters.⁴⁶ Four hundred and thirty-five visits of patients ≥ 65 years old to their primary care physicians were videotaped between 1998 and 2000. The practices were selected to represent diverse organizational settings and to maximize racial diversity.⁴⁷ They included a university-based geriatric center in an urban area in the Southwest, a private managed care group in a Midwest suburb, and an Independent Practice Association in a Midwestern inner city. Physicians were recruited by letters and through individual contact with researchers. Patients were recruited in waiting rooms before their visits. During the consent process, participants were informed that they would be recorded and that the data would be used to study physician–patient interaction and for teaching and further research. There is some possibility that the awareness of the study purposes shaped communicative behaviors but there is no reason to believe that this influence was any stronger than in similar studies using video-recordings of physician–patient interaction or that it would be stronger for race concordant vs. race-discordant dyads. More detailed description of data collection procedures is available elsewhere.^{47–50}

We used videotapes that met two inclusion criteria: (1) showed both the physician and patient clearly enough to code non-verbal behaviors of interest and (2) included at least three minutes of a medical interview (48% of the original sample). We further limited our focus to participants who self-identified as white or AA. Other racial/ethnic groups, represented by two physicians and 13 patients, were too small for meaningful statistical analysis. After list-wise deletion of missing data (2.3% missing on physician age; 0.5% missing on patient age), we obtained the final sample of 30 physicians and 209 patients.

Each videotape was divided into three parts of equal length to represent the beginning, middle, and end of medical interview. A one-minute segment was sampled from each part, yielding the total of 627 segments. This method of segment extraction is known as “thin slicing.”^{51,52} The segments were silenced for coding purposes to prevent contamination by verbal clues.

Measures of Non-Verbal Behaviors. We use an adaptation of Nonverbal Communication in Doctor–Elderly Patient Transactions (NDEPT) form.¹³ NDEPT was developed specifically for interactions with elderly patients. We focus on physician body language, including (1) *open body position* (“stance” in NDEPT) defined as “physicians’ bearing with respect to hands, arms and legs” (2) *eye contact* (i.e., doctor making and maintaining gaze with patient), (3) facial expressions limited to *smiles*, which we defined more precisely as drawing back of corners the mouth, with or without teeth exposed and (4) non-task *touch*, which excludes touch in the context of physical examination and unintentional touch (i.e., accidental brushing of shoulders). NDEPT asks raters to estimate the

percentage of time for each behavior (never, 1–24%, 25–49%, 50–74%, 75–100%). Our adaptation involved using computer software to track more precisely the duration of each behavior in seconds. This approach is less prone to error compared to raters' estimates and thus represents an improvement in precision.

Coders were trained graduate students. Initial training took about five hours. Each behavior was coded independently by two coders. After the initial training, the coding by the two coders was compared. In weekly meetings, the team watched the parts of the tapes where discrepancies between coders existed to determine whether the discrepancies were caused by ambiguity in the coding protocol. If so, the coding protocol was amended for better clarity. An example is a physician who accidentally brushes his shoulder against the patient. Since our interest was limited to intentional touch because of its communicative functions, we revised the coding protocol to clarify that apparent accidental touch should be excluded.

To assess inter-rater reliability, we computed intra-class correlation coefficients (ICC) using two-way ANOVA with random effects, as recommended for continuous variables such as ours.⁵³ ICCs ranged from 0.83 to 0.95, indicating very high inter-rater reliability.

Measures of Race and Background Characteristics. Race, gender, age, and education were extracted from questionnaires. Patient questionnaires were collected before the video-recorded visit. Physicians returned their questionnaires throughout the data collection period.

Analytic Methods

We first estimated unadjusted means by physician race and patient race and used bivariate tests to compare them. Then we formally evaluated our hypotheses using generalized linear latent and mixed multilevel models (GLLAMM). GLLAMM are appropriate for discrete, continuous, and duration responses.⁵⁴ Since interview segments are clustered in patients and patients are clustered in physicians, we used multi-level modeling. Gender, age, and education were entered as covariates, since they predicted non-verbal communication in prior research.¹⁶ We also controlled for a companion's presence since companions have an important role in the interactional dynamics.^{15,55,56}

RESULTS

Table 1 shows characteristic of participants. Physicians were mostly white and male. On average, they were 50 years old. Approximately a quarter had some geriatric training (required course in medical school: 9%, elective course in

Table 1. Characteristics of Participants

Physicians: N=30				
Female	28%			
White race	91%			
Geriatric training	24%			
Age in years ^a	49.74		(10.84)	
Patients: N=209				
Female	69%			
White race	91%			
Age in years ^b	74.54		(6.82)	
Highest education: Some college or more	50%			
Companion present	21%			

Percentages for discrete variables and means for continuous variables are shown. Standard deviations appear in parentheses. ^aRange=32–82 ^bRange=65–95

medical school: 5%, continuing medical education: 11%, certification: 2%, residency block rotation: 5%, residency longitudinal rotation: 5%, fellowship: 5%, other: 2%). Patients were on average 74 years old. Most of them were white and female. Half had college education. Companions were present at 21% of visits.

Table 2 provides descriptive statistics for physician non-verbal behaviors. Open body position had the longest average duration (36 seconds) but eye contact was the most common behavior, displayed in 99 percent of segments. Physicians spend half of the observation time (31 seconds) gazing at patients. Smile was relatively common (48%) but typically had short durations (mean=2 seconds). Touch was infrequent with mean duration of less than a second.

Table 3 shows little difference in white physicians' behavior toward AA vs. white patients before adjusting for covariates. The difference in white physicians' eye contact with AA vs. white patients, however, approached statistical significance ($p=0.08$, two-tailed test) and was in the expected direction, i.e., white physicians gazed at their white patients more compared to their AA patients. AA physicians interviewing AA patients displayed higher levels of positive non-verbal communication compared to other racial combinations. They showed more open body position, smiled more, and touched their patients more. AA physicians with white patients spent less time in open body position but they maintained more eye contact and smiled more.

Table 2. Physician Non-Verbal Behaviors in One-Minute Segments of Patient Interviews

Duration (seconds)				
Non-verbal behavior	Mean	SD	Range	Segments in which behavior occurred
Open body position	35.90	26.02	0–60	75%
Eye contact	30.73	17.58	0–60	99%
Smile	1.74	3.83	0–30	48%
Non-task touch	0.20	1.13	0–17	8%

SD = standard deviation. N=627

The adjustment for covariates did not substantially change the pattern of results (see Table 3). We found no support for our first hypothesis—there were no differences in white physicians’ communication with white vs. AA patients. AA physicians with AA patients displayed relatively high levels of positive non-verbal communication. These dyads were characterized by more smile, touch, and open body position compared to the average across other dyads. These results are consistent with our second hypothesis, which argues that AA physicians with AA patients engage in more positive non-verbal communication compared to other racial combinations.

Finally, we obtained support for our third hypothesis in models of open body position, smile, and eye contact. AA physicians with white patients spent less time in open body position compared to the average across other dyads, but they also used more smile and eye gaze. This conflicting pattern of communication indicates that compared to other racial combinations, AA physicians with white patients are more positive on some dimensions of non-verbal communication but less positive on other dimensions.

DISCUSSION

This study examined the joint influence of physician race and patient race on non-verbal communication in physician–older-patient interactions. Two results are key. First, non-verbal communication in AA–AA dyads was more positive, as indicated by more smile, touch, and open body position, compared to communication in any other racial combination. Second, AA physicians with white patients combined positive non-verbal communication indicated by the highest use of smile and gaze with negative non-verbal communication indicated by the lowest use of open body position.

The first finding adds important information to literature on racial concordance. One explanation proposed earlier for

positive outcomes in racially concordant dyads is that many AA patients prefer to see a same-race doctor.^{57–59} When this preference is met, patients may have better subjective experiences, regardless of the objective quality of care. Our results, however, suggest that subjective processes cannot be the sole explanation for more positive outcomes in AA–AA dyads. In these dyads, physician non-verbal communication measured objectively using video-recordings (as opposed to subjective patient reports) is still highly positive.

The second finding of special note concerns AA physician–white patient dyads. AA physicians with white patients showed a conflicted pattern of communication, reminiscent of female doctors with male patients.³⁵ They delivered highly positive non-verbal messages using smile and gaze but at the same time, their body position was more closed, suggesting the lack of social ease.⁶⁰ This study was not designed to evaluate psychological processes underlying the conflicting patterns of communication in these dyads. Yet, it appears clear that in contrast to AA–AA dyads, which boasted overwhelmingly positive communication, communication in AA physician–white patient dyads was more complicated. Cultural differences may contribute to this pattern since they are sources of communication difficulties in racially discordant physician–patient relationships.^{24,29,61} More recently, racial bias has been discussed as another potential source of communication problems in racially discordant dyads, especially in those including AA patients. Yet, white physicians interviewing AA patients in our study showed no less positive pattern of non-verbal communication compared to other dyads. This finding is unexpected and suggests that minority patients may be less disadvantaged in the realm of non-verbal communication than in other aspects of physician–patient interaction investigated earlier. Further research, however, is needed to understand whether this finding is specific to encounters

Table 3. Mean Durations (Seconds) of Physician Non-Verbal Behaviors by Physician Race and Patient Race

	AA physician		White physician					
	AA patient	White patient	AA patient	White patient	AA patient	White patient		
Open body position								
Unadjusted ^{*, †}	51.14	(3.02)	18.72	(6.48)	37.39	(6.41)	36.98	(1.09)
Adjusted ^{*, †}	47.28	(0.92)	11.22	(0.43)	34.82	(1.09)	35.03	(0.25)
Eye contact								
Unadjusted [†]	30.38	(3.14)	39.56	(4.46)	24.42	(3.78)	30.09	(0.72)
Adjusted [†]	26.61	(0.49)	43.23	(0.23)	22.21	(0.63)	28.83	(0.13)
Smile								
Unadjusted ^{*, †}	1.35	(5.10)	4.28	(1.57)	1.47	(1.08)	1.45	(0.14)
Adjusted ^{*, †}	4.13	(0.12)	5.45	(0.08)	1.62	(0.14)	1.51	(0.02)
Non-task touch								
Unadjusted [*]	1.60	(0.78)	0.14	(0.11)	0.11	(0.08)	0.19	(0.04)
Adjusted [*]	1.60	(0.04)	0.14	(0.03)	0.11	(0.04)	0.19	(0.01)

N = 627. AA = African American. Adjusted means are based on generalized linear latent and mixed multilevel models (GLLAMM) adjusting for the following covariates: physician gender and age, patients’ gender, age, education (some college or more vs. other), and the presence of a companion during the visit. Standard deviations for unadjusted means and standard errors for adjusted means appear in parentheses.

^{*}AA physician-AA patient dyad significantly differs from the average across other dyads (*p* < 0.05, two-tailed test)

[†]AA physician-white patient dyad significantly differs from the average across other dyads (*p* < 0.05, two-tailed test)

with older patients. It is conceivable that compared to their younger counterparts, older AA patients behave differently in clinical encounters, altering the interactional dynamic. An investigation of the racial patterns of non-verbal communication in different age groups would be informative.

This study has several limitations. Participants were a non-random sample of patients who agreed to participate. Data over-represent AA patients (9% AA patients in our sample vs. 8% in the population ≥ 65 years old according to 2000 U.S. Census) and AA physicians (9% AA physician in our sample vs. 4% nationwide according to the Center for Studying Health System Change 2000). The minority over-representation is of benefit for the purposes of our study, since it improves the power to detect racial differences. Still, as in most studies of race, some cells are small ($N=18$ both in the AA physician-AA patient cell and in AA physician-white patient cell). To put this limitation in perspective, previous studies grappled with a similar (and sometimes more severe) problem. For instance, in a study published in JAMA,²⁴ AA physician-white patient cell contained 13 (0.6%) observations. Another study in JHSB²⁷ had 14 (1.5%) observations in this cell. Nevertheless, the small cell sizes and the small number of AA physicians ($N=4$) in this sample are a limitation and warrant caution in the interpretation of results. It would be important to confirm these findings in a larger, diverse, sample of physicians. Such investigation is especially important when we consider the increasing minority representation in physician workforce, which is likely to make AA physician-white patient dyads more common in the future.

Second, we focused on a limited number of non-verbal behaviors and coded them outside of verbal context, as did a number of prior studies of non-verbal behavior. This approach increases the objectivity of measurement but necessarily prevents the detection of subtle meanings that may manifest against the backdrop of verbal content. An instrument objectively quantifying non-verbal behaviors while at the same time precisely detecting the richness of their meanings is currently not available but its development would be a worthwhile area of future methodological work.

These limitations notwithstanding, several implications for clinical education and practice can be drawn. In past years, we witnessed a proliferation of education programs to improve physician-patient communication. Yet, few of them address non-verbal components. Despite robust evidence on the importance of non-verbal communication for patient outcomes, medical students and physicians typically view non-verbal communication as a non-critical aspect of care and at best pay it lip service.⁹ Consequently, it is desirable to specifically incorporate non-verbal skills into communication training programs, especially into those that have cultural sensitivity components. Our study revealed that white physicians displayed less positive non-verbal communication compared to their AA colleagues. These physicians may benefit from

non-verbal training as a means of improving their ability to deliver high-quality care to diverse patient populations.

The implications of findings for AA physicians are more complex. Notably, when these physicians interacted with AA patients, they outperformed white physicians in terms of positive non-verbal communication. This evidence reinforces the need to continue the efforts to recruit minorities into physician workforce, since minority physicians provide care to minority patients that is objectively superior on interpersonal aspects, including non-verbal communication, and that generates higher subjective ratings, as documented earlier.^{24,25,27,28} On the other hand, AA physicians' non-verbal communication with white patients revealed conflicting patterns suggestive of the lack of emotional ease. This finding is of a concern, especially against the backdrop of evidence that minority healthcare professionals face a range of challenges in their professional lives that are related to their racial status.^{31,32} Diversifying physician workforce is a laudable goal, but it is also desirable to support and empower minority physicians who already are a part of the workforce. Cross-cultural competency training for minority physicians may need to feature specific content, precisely because in cross-cultural communication with patients, minority physicians face a different set of challenges compared to their white colleagues.

To conclude, our study adds to a broader body of research on the effects of race on physician-patient communication in an aging and diversifying society. It suggests that even when we account for physician- and patient-level factors, race plays a role in physicians' non-verbal communication with older patients. Its influence is best understood when physician and patient race are considered jointly.

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