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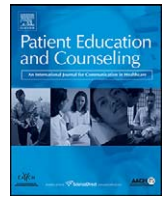
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Communication Study

Perceived dominance in physicians: Are female physicians under scrutiny?

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ABSTRACT

Objective: This research aims at identifying how specific physician verbal and nonverbal behaviors are related to perceived dominance of female and male physicians.

Method: Analogue patients (163 students) watched videotaped excerpts of eight physicians and indicated how dominant they perceived each physician to be.

Results: Female physicians who spoke more, talked more while doing something else, spoke with louder voices, modulated their voices more, were oriented more toward the patients, sat at a smaller interpersonal distance, were more expansive, and had a more open arm position were perceived as more dominant. These relations were significantly more pronounced in female than in male physicians. With respect to verbal behavior, not agreeing with the patient, structuring the discussion, setting the agenda, and asking questions were related to being perceived as significantly more dominant in female than in male physicians.

Conclusion: Patients interpret verbal and nonverbal female and male physicians' cues differently. If a behavior contradicts gender stereotypes regarding women, this behavior is perceived as particularly dominant in female physicians.

Practice implications: To provide optimal care, physicians need to be aware of the expectations their patients harbor toward them—especially expected behavior related to the gender of the physician.

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1. Introduction

The physician–patient interaction is an inherently hierarchical relationship with the physician possessing more power than the patient [1]. The physician's power is characterized by more medical expertise and access to medical information. The physician acts as the gatekeeper controlling the patient's access to further medical testing or treatment. Moreover, the patient is in a weaker position because he or she is looking for help and might feel anxious or uncertain about prognosis and treatment and might additionally suffer pain or discomfort.

Dominance can be defined as control over someone else or privileged access to restricted resources, such as information or medical knowledge [2]. In the physician–patient relationship, it can be defined as non (or insufficient) shared decision making of the physician regarding the visit agenda and treatment choices [3,4]. It can imply asking many questions (and predominantly medical questions), interrupting frequently [5], asking closed-

ended questions, insufficient sharing of information, using medical jargon [3], or giving orders [6]. Patients perceive their physicians as more dominant when physicians interrupt them more [7], when they touch the patients more (if it is perceived as part of the examination procedure “task touch”), when they have indirect body orientations [7], and when they gesture extensively while speaking [8,9]. However, these studies do not rely on a systematic investigation of verbal and nonverbal behaviors related to perceived physician dominance and they do not take into account potential gender differences.

Although there are idiosyncratic differences between patients' preferences for the physician's interaction style [10,11], patients are generally less satisfied when they perceive the physicians' talk [9,12] or behavior [13] as dominant. Patients are less satisfied when the decision process is less collaborative [10], when physicians talk more during the interview (relative to the patient's talking, regardless of the length of the visit), or when the emotional tone of the physician's conversation is dominant [14]. Schmid Mast et al. [15] showed that analogue patients (i.e., observers taking the perspective of the patient) facing a physician whose behavior is dominant (defined as not including the patient in decision making about treatment, setting the visit agenda, emphasizing the physician's superior position in terms of expertise, and stating medical facts without explaining them) speak less, agree more, and

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disclose less medical information, which can be problematic for accurate diagnosis and treatment.

Differences between male and female physicians in dominance behavior have been well documented. Female physicians show less dominance behaviors than male physicians do: they are more likely to include the patients in the decision-making process, they accept more easily their patients' norms and values, they make the treatment rationale more explicit for their patients [16], and they let their patients talk more [17]. Moreover, the same physician behavior is often perceived differently when it is expressed by a female as compared to a male physician. To illustrate, Schmid Mast et al. [18] showed that analogue patients were more satisfied with female physicians who showed female gender role congruent nonverbal behavior such as more gazing, more forward lean, and softer voice whereas patient satisfaction was more pronounced with male physicians who had a louder voice and kept their distance toward the patient.

To date, the topic of physician dominance has mostly been addressed from the point of view of what other physicians or experts call dominant physician behavior, but rarely from the perspective of the patients. In the present study, the perspective of the patient is adopted and we ask which verbal and nonverbal physician behaviors, as well as which physician appearance cues (age, attractiveness), and which characteristics of the medical examination room patients perceive as more and less dominant. The literature shows a clear focus on the study of the verbal exchange during the medical visit [3,19]. However, considering nonverbal behavior in the medical conversation is important because nonverbal behavior is linked to patient satisfaction [20–22], patient compliance [23,24], and even patient health outcomes [19,25–27]. In the present research we will thus consider not only verbal, but mostly nonverbal aspects of physician behavior: which verbal and nonverbal physician behaviors are related to the perception of the female and the male physician as dominant by the patient?

2. Method

2.1. Participants

One hundred and sixty-three students from a Swiss university (60 males, 103 females, age: 19–67 years old, $M = 28$) were tested in groups of 10–40. These students served as the analogue patients who would provide the patient's perspective on physician behavior. In order to make the analogue patient sample as similar in background to a real patient population as possible (i.e., diverse and not specialized with regard to the subject matter of the study), we excluded medical students and all psychology students who were past their first year of their bachelor's studies. The students who were included represented a wide range of different areas of study. Participants watched the videos showing physician–patient interactions while imagining themselves to be the patient (analogue patients). The use of so-called analogue patients is common in the study of physician–patient interaction and analogue patients can be students or patients [28–31].

2.2. Procedure

Analogue patients saw 8 different 2-min real physician–patient interactions on videotape. All physicians were general practitioners in their private practice. Excerpts for each physician were composed of the second minute after the beginning and the third minute before the end of the consultation (after the physical examination if there was one). Four of the physician–patient interactions featured a female physician (3 interacted with a female patient and 1 with a male patient) and the other 4 were male physicians with 3 of them interacting with a male patient and 1 interacting with a female

patient. The videotaped medical visits covered a wide variety of different health concerns (for more details about the videos refer to Schmid Mast et al. [18]). Analogue patients were asked to rate each physician after the observed interaction on two adjectives measuring physician dominance, interspersed with distractor adjectives. Also, we asked the analogue patients to report their satisfaction with each of the physicians by imagining being the patient of each of the doctors. Participants had 1 min to respond between two videotaped interactions.

Video excerpts were assembled in a random order. The doctors were viewed by all analogue patients in the same order. From the videotapes, we coded 17 physician nonverbal behaviors, 1 patient nonverbal behavior, 7 physician verbal behaviors, 3 physician appearance cues, and 2 characteristics of the examination room.

2.3. Measures

2.3.1. Perceived dominance

Analogue patients indicated for each physician how dominant they perceived him or her on a Likert scale from 0 (not at all) to 9 (very much) using two items (“dominant” and “assertive”). Cronbach's alpha for the two items was calculated for each physician separately and varied between .70 and .85. The two items were averaged and higher values indicate more perceived dominance ($M = 5.51$, $SD = 1.01$).

2.3.2. Videotape coding

Two trained coders each coded all participants on all categories and inter-rater reliability (r) ranged between .64 and .99 ($Mdn = .90$). We focused on nonverbal behaviors usually measured in social interactions. Nonverbal behavior is defined as behavior without linguistic content [20] and we group the nonverbal behaviors according to the following labels: vocal, gaze, territorial, and reinforcing behavior.

The 17 physician *nonverbal* behaviors were: speaking time (duration, $r = .98$), talking while doing something else (duration, $r = .85$), loudness of voice (rating: 10 = very loud, 1 = very soft, $r = .88$), and modulation of voice (rating: 10 = high modulation, 1 = low modulation, $r = .93$) as *vocal* behaviors; gazing (duration, $r = .98$), looking at computer/patient chart (duration, $r = .94$), and frowning (duration, $r = .88$) as *gaze* behaviors; body orientation (rating: 10 = upper body part frontal to patient, 1 = 90 degree away from patient, $r = .95$), expansiveness (openness of posture rating: 10 = very open, 1 = very closed, $r = .93$), closed arm position (duration, $r = .89$), distance (rating: 10 = 150 cm, 1 = a couple of cm, $r = .99$), gesturing (frequency, $r = .91$), forward lean (duration, $r = .87$, and self-touching (frequency, $r = .87$) as *territorial* behavior; and smiling (frequency, $r = .74$), nodding (frequency, $r = .96$), and back channels (frequency, $r = .90$) as *reinforcing* behavior. The only patient behavior that was coded was patient speaking time (duration, $r = .97$).

A trained RIAS [32] (Roter Interaction Coding System)-coder rated 7 physician *verbal* behaviors. However, due to the shortness of the video excerpts (2 min of each physician's interaction) not all categories were used. We excluded categories that applied to 4 or fewer of the 8 physicians and we merged similar RIAS categories. The remaining final 7 categories were: agreement (shows agreement or understanding), emotionality (shows empathy, concern, or worry), transition words (such as “oh well” or “let's see”), orientation (instructs the patient on what is going to happen next), checks for understanding (physician paraphrases or makes sure he/she understood correctly), asks questions (medical or therapeutic), and gives information (medical or therapeutic). We also assessed 3 physician appearance cues: formal medical dress ($r = .90$), physician age ($r = .75$), and physician attractiveness ($r = .64$). Additionally, we coded 2 characteristics of the examination room: warmth ($r = .92$) and medical atmosphere ($r = .77$).

2.3.3. Patient satisfaction

How satisfied analogue patients imagined having been with each of the consulting physicians was measured after each of the 8 interactions with one item (1 = not satisfied at all, 9 = very satisfied) ($M = 5.49$, $SD = 1.97$).

2.3.4. Characteristics associated with perceived physician dominance

Associations between perceived physician dominance and the coded behaviors and cues were assessed at the analogue patient level. For each analogue patient separately and for each of the cues separately, we correlated perceived physician dominance with the measured cue across the 8 physician targets. This provides an indicator for each analogue patient of how much he or she associated the given cue with physician dominance. To give an illustration, if the behavior was speaking time, a positive correlation would indicate that the more physicians spoke, the more they were perceived as being dominant by a specific analogue patient. These correlations indicating the association between the cues and perceived dominance were used in subsequent analyses as dependent variables measured at the analogue patient level. Once normalized using the Fisher z transformation, correlation coefficients can serve legitimately as data points in any statistical analysis. It is not uncommon to treat correlations calculated for individuals as scores to indicate individual-level characteristics (e.g., the perceiver's individual associations between the nonverbal behavior of target stimuli and their perceived meanings). Research in physician–patient communication has already used this approach to analyze the relation between physician nonverbal behavior and patient satisfaction [18]. These indicators describe each analogue patient's judgment policies, that is, how he or she attributed dominance to cues. Thus, to continue with the example, one analogue patient might consider speaking a lot as a strong indicator of dominance, while another analogue patient might not, as reflected in large or small correlations.

We also calculated these correlations separately for female ($N = 4$) and male physicians ($N = 4$), in order to examine whether the coded characteristic had different associations with perceived dominance depending on the gender of the physician. Thus, each analogue patient received scores (correlations) indicating how he or she attributed dominance to cues for female physicians, and a corresponding set of scores indicating how he or she attributed dominance to cues for male physicians. The correlations were transformed into Fisher z (for normalization) in all analyses, and were back-transformed into the correlation metric for presentation in Section 3.

3. Results

3.1. Indicators of perceived physician dominance

To investigate whether and to what extent the different behaviors and cues were used by analogue patients to judge physician dominance, one-sample t -tests were calculated against the null value of 0. If a specific cue is not used to judge dominance, we would expect the correlation to be 0. Table 1 shows the correlations (averaged across analogue patients), indicating how much each cue was associated with perceived dominance for female and male physicians separately (columns 1 and 2) and whether the correlation for that cue was significantly different from 0. We used the Bonferroni correction ($\alpha = .002$) to adjust for multiple comparisons. If the relation was significantly different from 0 an asterisk is added to columns 1 and 2 of Table 1. Many of the cues were significantly associated with dominance. For example, the correlation of $r = .81$ between female physicians' speaking time and perceived dominance showed that analogue

patients significantly associated speaking more with dominance in female physicians.

3.2. Effects of physician and analogue patient gender on indicators of physician dominance

To investigate how the relations between the cues and perceived dominance varied with physician and analogue patient gender, we calculated, for each cue, a 2 (physician gender) by 2 (analogue patient gender) analysis of variance (ANOVA) with analogue patients as the units of analysis, physician gender as a within-analogue patients factor, and analogue patient gender as a between-analogue patients factor. Dependent variables in these ANOVAs were the correlations described in the preceding section. For none of the 30 cues was there a main effect of analogue patient gender nor an interaction effect between-analogue patient gender and physician gender. However, physician gender influenced whether and how the cues were perceived as expressions of dominance. Table 1 shows the F -values for the physician gender main effect and the corresponding p -value, resulting from the aforementioned ANOVA. For 23 out of 30 cues there was a significant physician gender difference, even after Bonferroni adjustment of the significance level.

Physician gender differences emerged with respect to vocal, gaze, territorial, and reinforcing nonverbal behavior and with respect to verbal behavior, appearance cues, and characteristics of the examination room. In terms of *vocal behavior*, the female physicians who spoke more, talked more while doing something else, spoke with a loud voice, and modulated their voice were perceived to be more dominant and these relations were significantly more pronounced for female than for male physicians. Note that all of these behaviors were indicative of dominance in female doctors whereas only modulation of voice was significantly related to perceived physician dominance in male doctors (Table 1).

Concerning *gaze behavior*, female physicians who did not look much at the patient, who looked more at the computer or the patient chart, and who frowned more were perceived to be more dominant and these relations were significantly more pronounced for female than for male physicians. None of the three behaviors was related to perceived dominance in male physicians.

With respect to *territorial behavior*, female physicians who were oriented toward the patient, who used up a lot of territory by being expansive and by seldom closing their arms in front of their bodies were perceived as more dominant and these relations were significantly more pronounced for female than for male physicians. In male physicians, being oriented toward the patient and being not expansive was related to perceived dominance. Closed arm position was not related to being perceived as dominant in male physicians. Interpersonal distance and gesturing were not related to perceived dominance for female physicians. However, for male physicians, greater interpersonal distance and more gesturing were related to being perceived as more dominant.

Reinforcing behavior such as smiling and back channels of female physicians were perceived as non-dominant, significantly more so for female than for male physicians.

When a patient spoke more when consulting a female physician, the female physician was perceived as non-dominant whereas this relation was significantly less pronounced for male physicians.

There were also gender differences with respect to *verbal behavior*. Not agreeing with the patient, setting the agenda (orientation), and asking medical and therapeutic questions were related to being perceived as dominant in female physicians but significantly less so in male physicians; orientation and asking questions were even perceived as non-dominant in male physicians.

Increased age and unattractiveness were indicators of dominance in female physicians, significantly more so than in male

Table 1
Physician gender main effects in the use of cues as indicators of perceived physician dominance.

Coded characteristics	Female physician	Male physician	F	p
Physician nonverbal behavior				
Vocal behavior				
Speaking time physician	.81*	.19	102.31	.001
Talking while doing something else	.58*	.14	43.31	.001
Loudness of voice	.69*	.10	71.96	.001
Modulation of voice	.76*	.31*	49.03	.001
Gaze behavior				
Gazing	-.61*	-.10	46.71	.001
Looking at computer/patient chart	.50*	.09	36.83	.001
Frowning	.52*	-.12	69.15	.001
Territorial behavior				
Body orientation	.72*	.53*	223.20	.001
Expansiveness	.16*	-.43*	48.83	.001
Closed arm position	-.52*	.08	39.39	.001
Distance	-.41	.43*	113.64	.001
Gesturing	.09	.52*	31.22	.001
Forward lean	.12	.21*	1.31	.25
Self-touching	-.35*	-.24*	1.55	.21
Reinforcing behavior				
Smiling	-.74*	-.15	26.48	.001
Nodding	-.45*	-.35*	2.00	.16
Back channels	-.87*	-.18	146.61	.001
Patient nonverbal behavior				
Speaking time	-.79*	-.30*	73.09	.001
Physician verbal behavior				
Agreement	-.59*	-.32*	18.27	.001
Emotionality	-.10*	-.23	0.84	.36
Transition words	.61*	.55*	1.40	.24
Orientation	.57*	-.39*	209.25	.001
Check for understanding	-.02	-.02	0.08	.78
Asks questions	.19*	-.49*	69.97	.001
Gives information	.55*	.45*	4.24	.04
Physician appearance cues				
Age	.79*	-.31*	223.85	.001
Attractiveness	-.78*	.23*	200.19	.001
Formal medical dress	-.83*	-.11	135.59	.001
Characteristics of the physician examination room				
Medical atmosphere	-.82*	-.47*	57.81	.001
Warmth	.11	.60*	48.41	.001

Notes. Entries in columns 1 and 2 are average correlation coefficients (Pearson r) indicating how much a specific cue was used as an indicator of perceived physician dominance by analogue patients. F is the statistics for the physician gender main effect with p as the corresponding significance level.

* Cue is used by analogue patients to judge perceived physician dominance after adjusting for multiple comparisons (meaning the t -test against 0 was significant at least at $p < .002$).

physicians (in which the relation was reversed: younger age and attractiveness were perceived to be indicators of dominance). Not wearing a medical outfit (such as a lab coat) was perceived as an indicator of dominance in female physicians whereas in male physicians, formal medical dress was unrelated to perceived physician dominance; this was also a significant physician gender difference. In the same vein, the less medical the atmosphere in the consultation room of a female physician, the more dominant she was perceived whereas this relation was significantly less pronounced in male physicians. Warmth of the consultation room also showed a significant physician gender difference in that it was significantly more associated with perceived dominance for male physicians but irrelevant for perceived dominance of female physicians.

3.3. Relation between perceived physician dominance and patient satisfaction

We calculated the relation between perceived physician dominance and patient satisfaction for each analogue patient separately (range: $-.95$ to $.95$; $M = -0.36$, $SD = 0.54$). We also calculated the perceived dominance–satisfaction association for

each physician gender separately (female physicians: range: $-.99$ to $.99$, $M = -0.42$, $SD = 0.81$; male physicians: range: $-.99$ to $.99$; $M = -0.05$, $SD = 0.75$). This variance shows that perceived dominance is not just the opposite of patient satisfaction and that perceived dominance sometimes is related to satisfaction and sometimes to dissatisfaction with the physician. However, these results also show that analogue patients generally disliked dominant female physicians, while they generally did not dislike dominant male physicians.

4. Discussion and conclusion

4.1. Discussion

We set out to test whether and how different physician nonverbal and verbal behaviors were used as indicators of physician dominance by analogue patients. Results showed that many of the physician's nonverbal and some of the verbal behaviors were perceived as dominant by analogue patients. Moreover, the same verbal or nonverbal behavior was perceived differently depending on whether the physician was a man or a woman. When a physician showed behaviors that are generally

seen as dominant (e.g., speak much; [33]), he or she was perceived as dominant; however, these perceptions were stronger for female physicians than for male physicians. Furthermore, dominance in female physicians was generally negatively perceived, whereas this was much less so the case for dominance in male physicians.

Stereotypically, women are seen as being more communal and less agentic than men [34]. Thus if a woman shows agentic and non-communal behavior, she disconfirms the stereotypical gender role expectations. This non-fit or non-match results in a negative perception as predicted by Heilman's Lack-of-Fit Model [35]. In the present study, when female physicians show behaviors that are stereotypically related to dominance, this is perceived negatively because it contradicts the gender stereotype. Dominant-behaving female physicians may be seen as acting like men, which may be disliked. In addition, showing a behavior that is not expected makes that behavior salient, maybe explaining why the relation between an expressed dominance behavior and perceived dominance was, in most cases, significantly stronger for female than for male physicians.

Past research shows that people perceive the following behaviors as indicators of dominance (only behaviors measured in the present study): extended amounts of speaking time, loud voice, modulated voice, gazing, raised eyebrows (frowning), close interpersonal distance, expansiveness, gesturing much, not smiling much, not much self-touch, and nodding [36]. With the exception of gazing and nodding, this is also how these behaviors were perceived in physicians (Table 1). Physicians who gazed *less* and who nodded *less* were perceived as dominant while in the general population *more* gazing and *more* nodding are perceived as being more dominant. In medical encounters, the doctor might be expected to be attentive (looks at the patient) and reinforcing (nods). The lack of these behaviors may be perceived as a lack of interest and thus as dominance.

Three verbal behaviors showed a significant gender difference: less agreement, more orientation, and more questions were perceived as dominance behaviors when exhibited by a female physician and less agreement, less orientation, and fewer questions were perceived as dominance behaviors when exhibited by a male physician. When behaviors that would commonly be perceived as dominant (not agreeing, structuring the interaction, and asking many questions) are shown by women physicians, these behaviors are perceived as particularly dominant, again significantly more so than for male physicians. A dominance behavior exhibited by a female physician is probably perceived as particularly dominant because it violates the gender stereotypical expectations that patients harbor toward female doctors.

Moreover, the less "medical" the female physician's clothing and her examination room, the more dominant she was perceived and although the relations went in the same direction for male physicians, they were significantly less pronounced. Schmid Mast et al. [18] found that for female physicians, formal clothing and a medical atmosphere in the examination room were related to patient *satisfaction*, whereas for male physicians, this association was weaker and inverse, respectively. Maybe not wearing a lab coat and receiving in a less medical atmosphere is related to less satisfaction in female physicians because it is perceived as dominant, as we showed in the present research, which is not appreciated. It might be perceived as female physicians taking too much liberty.

Limitations of the present study include the fact that this research used analogue patients who took the perspective of real patients instead of using real patients. We thus measured stereotyped expectations patients harbor toward physicians. The importance of stereotyped perception for interpersonal interactions is documented in a plethora of research: stereotypes we harbor affect not only our perception of others but also how we

behave toward them [37,38]. Note that using participants adopting the perspective of real patients all seeing and judging the same videotaped physicians had the advantage of maximally standardizing the physician.

Students might have less experience with doctors than the typical patient has. Most of our participants did not suffer from any illnesses, nor did they experience the emotional intensity of a real medical encounter, and they were mostly young adults. We therefore do not know how older and/or sicker patients would have perceived different aspects of the doctor's verbal or nonverbal behavior. Moreover, students were typically upper middle class in terms of socioeconomic status. Because we measured gender stereotypical beliefs that are culturally shared, we do not think that our results are specific to the student population.

Our study possesses high external validity because (a) it shows real general practitioners in their practice while interacting with their real patients seeing the doctor for various reasons and (b) the participants judging dominance of the physician are potential patients of general practitioners with the limitation that their age distribution is not representative.

The selection of verbal and nonverbal behaviors is not exhaustive. Although we selected behaviors generally assessed in research on nonverbal behavior, there is no guarantee that we did not miss some behaviors that patients use as indicators of physician dominance. Because the excerpts were relatively short, not all RIAS categories could be used and longer excerpts might have revealed other verbal markers of physician dominance.

4.2. Conclusion

When judging physician dominance, analogue patients used the same nonverbal and verbal indicators of dominance that people use in general when they judge a behavior to be dominant or not outside the medical context. However, we showed that to what extent a behavior or physician characteristic is used to judge dominance depends on the gender of the physician. When a female physician exhibits dominance behavior, this behavior is perceived as particularly dominant and in general as more dominant than the same behavior expressed by a male physician.

4.3. Practice implications

How a physician's communication style is perceived by patients is important for physicians to know in order to be able to deliver optimal care. If physicians want to avoid being perceived as dominant, they should leave enough room for the patient to express him- or herself, look at the patient rather than at the computer or the patient chart, keep their distance to the patient and not use up too much space, and express support and agreement. Interestingly, wearing formal medical attire and having a very medical-looking examination room are perceived as non-dominant. Because many of these relations were more pronounced for female than for male physicians, female physicians' dominance behavior might be under particular scrutiny by patients.

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