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TO NOD OR NOT TO NOD: AN OBSERVATIONAL STUDY OF NONVERBAL COMMUNICATION AND STATUS IN FEMALE AND MALE COLLEGE STUDENTS

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Gender studies show that women and men communicate using different styles, but may use either gender style if there are situational status differences. Considering the universal gesture of head nodding as a submissive form of expression, this study investigated head nodding by observing female and male college students in positions of subordinate and equal status. We observed head nodding ($N = 452$) in classroom interactions between professor–student and student–student dyads. Overall, women nodded more than men and students nodded more to professors speaking than peers speaking. In addition, female and male students nodded equally to professors speaking, but men nodded less to peers speaking than did women. Thus, both men and women attended to the status and not the gender of the speaker. Future research using varying contexts should further examine the effects of dominance, context, and gender.

The search for gender differences has historically been a key topic of interest, and although gender differences are generally small and inconsistent, certain areas of research have yielded consistent gender-specific patterns (Tavris, 1992). Communication styles is one particular area that shows consistent gender differences, and research has revealed a greater amount of gender-specific variation in this topic than in any other area of gender studies (Hyde, 1990). This includes gender differences in such verbal aspects as talkativeness, language style, and content of speech (Tannen, 1990) and nonverbal aspects such as personal space, body posture, gaze, facial expression, and amount of touching (Ridgeway, Berger, & Smith, 1985). Generally, research shows that male language works to facilitate hierarchy and dominance. The male style is aggressive, competitive, structured, and includes little intimacy. In contrast, female language works to facilitate interpersonal interactions. The female style is emotional, cooperative, and fosters intimacy (e.g., Tannen, 1990).

These distinct communication differences are expressed in a variety of ways, including the tendency for women to use tag questions—a question at the end of a statement (Goldshmidt & Weller, 2000), have smaller zones of personal space, smile more often, and more frequently use equivocating modifiers such as *sort of* or *maybe* (Tannen, 1990). Women also more frequently use backchannel responses during a conversation. Backchannel responses are short vocal responses that display the attentiveness of the listener and include noninterruptive comments such as "hmmm," "uh-huh," "yeah," or "right" (Mulac et al., 1998). Men employ fewer backchannel responses, more frequently interrupt conversations, make less eye contact, and speak more assertively than women (Goldshmidt & Weller, 2000; Johnson, 1994; Leffler, Gillespie, & Conaty, 1982).

Head nodding is one specific type of backchannel response. Head nodding is thought to be a nearly universal sign of agreement similar to bowing (Morris, 1977). This miniature bow is consistent with submissive body lowering that indicates acceptance and agreement. Thus, head nodding is a ritualized form of submission that affirms the speaker's status in the conversation (Eibl-Eibesfeldt, 1972; Morris, 1977). In the context of gendered communication, head nodding is a well-established backchannel response employed more frequently by women than by men (Dixon & Foster, 1998).

Gender differences in communication exist in part because of the dominant and subordinate social positions of women and men (e.g., Henley, 1977). In general, dominant and powerful people use features of an aggressive male language style whereas subordinate and powerless people use features of a facilitative female language style (Lakoff, 1990;

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Leffler et al., 1982; Mulac et al., 1998). Research shows that people in authoritative and leadership positions, regardless of gender, speak more during conversations, are more likely to interrupt, and elicit more control over the topic of conversation than do their subordinate counterparts (Bogoch, 1997). Men in subordinate positions also smile more than men of higher status (Kirouac & Hess, 1996). Regardless of gender, people with subordinate status tend to foster and encourage conversations by using backchannel responses and interrupting rarely, and only then with positive remarks (Johnson, 1994).

Another example of such nonverbal submissive behaviors was demonstrated in an experimental study in which same-gender or mixed-gender pairs of students were assigned to the high-status role of teacher or the low-status role of student (Leffler et al., 1982). Results demonstrated that teachers (regardless of gender) created more direct personal space for themselves and intruded upon the personal space of others more frequently than did their students. Teachers also talked and interrupted more than did students. However, men (regardless of the assigned position) laughed less and touched more. One conclusion is that some specific behavior (such as smiling) might exhibit consistent gender differences (women smile more than men) yet change as a function of situational constraints (low-status men smile more than high-status men). In sum, communication styles differ between the dominant and the subordinate, and women because of their lower status tend to find themselves more frequently in subordinate positions than men.

The purpose of the present study was to examine the interactive effect of gender and status in the nonverbal domain of head nodding. Female and male college students were observed head nodding in the classroom responding to either female or male professors or female or male peers. We expected to replicate prior results showing effects of gender and status. Specifically, we expected that women would nod more than men (because women compared with men exhibit more backchannel responses) and that students would nod more to professors than to peers (because people exhibit more backchannel responses to superiors than to peers). Importantly, we expected that gender of the student and status of the speaker would interact, such that female students would be somewhat more likely than male students to nod to a peer but female students would be much more likely than male students to nod to a professor. We based this prediction on the literature showing that the most powerless (in this case female students) have to attend the most to power differentials (e.g., Johnson, 1994). No other effects were predicted.

METHOD

Participants

Participants were 189 female and male college students. No demographic information was collected due to the observational nature of the study. However, students at the college that semester were an average age of 20 years old, 56% were women, and most were White (92%). Head nodding was observed in female and male students responding to female and male peers, as well as to female and male professors. Observations of head nodding were made in 15 classes (8 taught by male professors and 7 taught by female professors). Thus, the design was a 2 (gender of participants) × 2 (status: high vs. equal) × 2 (gender of speaker) design.

Procedure

Classes were randomly selected using the following method. First, we generated a list of courses from all classes at a small liberal arts college in Pennsylvania. The criteria for inclusion entailed having between 5 and 15 students currently enrolled and a classroom organized in a circular formation. Courses in languages, physical education, art, music, and theatre were excluded because they were thought to be less discussion oriented. From this list we randomly selected and observed a total of 15 courses.

Once observers were in the classroom, they selected at random the first person to be observed in each class. The observations proceeded in a clockwise order around the room as each student was observed for 5 minutes. A head nod was operationalized as at least one distinct and repeated vertical movement of the head. For each opportunity to respond to a peer or professor talking during the 5-minute recording interval, a head nod was recorded as occurring or not occurring. A total of 452 such potential opportunities for head nodding were observed. If no peer or professor talked during the 5-minute period, nothing was recorded. The students who were observed realized they were being observed but were unaware of the purpose of the observations. All participants received a debriefing sheet upon leaving the classroom outlining the study's purposes and hypotheses and contact information should participants have questions about the study or be interested in obtaining the results. The study was approved by the Human Subjects Research Review Committee.

Observations were made by a male and a female undergraduate research assistant that were trained to observe head nodding in students. In the first class observed, both research assistants collected data categorizing the same 29 observations. Interrater reliability was excellent (kappa = .89). In fact, there was only one disagreement that was resolved by using the judgment of the senior student observer. Upon establishing interrater reliability, data were collected by individual observers in all subsequent classes.

RESULTS

The primary analysis goal was to examine head nodding as a result of interactions between status, gender of the speaker, and gender of the participant (in addition to main effects).

Table 1

Percent of Head Nodding in Male and Female Students in Response to the Status and Gender of the Speaker

	Male Speaker		*Female Speaker*	
Gender of Subject	*Peer*	*Professor*	*Peer*	*Professor*
Male	7% (2/30)	57% (27/47)	18% (19/57)	43% (13/30)
Female	40% (20/50)	61% (46/76)	41% (40/98)	58% (37/64)

Note. The percent refers to the number of head nods out of the total possible number of head nods that could have occurred. The numbers in the parentheses refer to the raw counts.

A 2 (gender of participants) × 2 (status: high vs. equal) × 2 (gender of speaker) ANOVA was conducted. The dependent variable was the number of times a person nodded out of the total possible number of head nodding opportunities. Recall that a head nodding opportunity occurred every time a peer or professor spoke in the 5-minute interval in which a given participant was observed. Table 1 shows the raw data and percentages for all categories.

Results revealed a main effect of gender of participant, $F(1, 444) = 15.09$, $p < .001$, $\eta^2 = .03$, such that overall women nodded more (50%) than men (32%). There was also a main effect of status, $F(1, 444) = 35.07$, $p < .001$, $\eta^2 = .07$, such that overall participants nodded more to professors (57%) than to peers (31%). These effects were qualified by a significant Gender of Participant × Status of Speaker interaction, $F(1, 444) = 4.18$, $p < .04$, $\eta^2 = .01$, such that men (52%) and women (59%) nodded equally when the speaker was a professor, $F(1, 215) = 1.09$, $p = .30$, $\eta^2 = .01$. However, men (14%) nodded less than women (41%) when the speaker was a peer, $F(1, 233) = 19.85$, $p < .0401$, $\eta^2 = .08$. There were no other significant effects.

Importantly, there was no main effect of gender of the speaker, and this variable did not interact with the other variables. That is, male speakers did not receive more head nods than female speakers. In sum, male students and female students nodded more to professors (of both genders) than they nodded to peers (of both genders). Similarly, when the speaker was a peer, male students nodded less to peers (of both genders) than women nodded to peers (of both genders). In sum, the status of the speaker was important whereas the gender of the speaker was not.

DISCUSSION

As predicted, women nodded more than men and students nodded more to professors than to peers. Gender of the head-nodding student and status of the speaker interacted but not exactly as predicted. We predicted that female students compared with male students would nod somewhat more to peers but a great deal more to professors. Contrary to this prediction, we found that male students compared with female students nodded less to their peers but equally frequently to professors. It is possible that the classroom situation is one in which the status of the professor is so powerful that other factors such as the gender of the professor or the gender of the student are dwarfed by comparison. Therefore, gender differences might appear in other "safer" domains such as in interactions with peers. Perhaps students felt that they had to nod to their professors but could elect to nod (or not to nod) to their peers. This finding is consistent with gender differences in communication styles. Men might have failed to nod to their peers because it established their dominance ("I don't need to nod when you speak"), whereas women might have nodded to their peers because it greased the social wheels of communication. A similar pattern is found in other nonverbal behavior such as smiling where women smile more to peers than do men (LaFrance & Hecht, 1999; LaFrance, Hecht, & Paluck, 2003).

The finding that students nodded to professors more than to peers is consistent with research showing that such communication is the hallmark of a lower-status participant in a conversational dyad (Leffler et al., 1982) and that relative status is one of the most important aspects of a conversation (Johnson, 1994). However, nonverbal communication is also dependent on the specific situation and the roles held. Because this research only examined a single situation (classroom behavior) it is not possible to identify to what extent the head nodding was a result of the greater power of the professor or simply the result of clearly delineated norms for the classroom behavior of students and professors.

Other research with college students also shows that context is more important than the gender of the speaker. Dixon and Foster (1998) examined backchannel responses among South African college students and found that context was important (backchanneling was more frequent in the competitive than in noncompetitive conditions) but gender of the speaker did not influence backchanneling. Similarly, Johnson (1994) found that status (subordinate or superordinate) was more important for verbal behaviors. However, for nonverbal behaviors (in this study smiling and laughing) women distinguished less between women and men than did men. This is similar to the present results in which women nodded the same to female and male peers, whereas men nodded less to male than female peers.

There were several limitations in this study. First, an observational study cannot directly examine the causes of the head nodding or the exact motivations the head nodding student might have had. However, what we can tell from this observational study is that head nodding varies as a function of the status of the speaker and the gender of the student nodding. In our culture head nodding is generally interpreted as a sign of understanding and agreement. Critically, these results suggest that gender and status influence how much people signal by nodding their head that they are listening, understanding, and agreeing with the speaker.

Second, observation may in itself influence behavior. Gender expressive behaviors such as smiling are more likely when people know that they are being observed (LaFrance et al., 2003). In the present study, students in the class knew that they were being observed but did not know what was being observed. However, it is still possible that the research assistant's presence influenced the behavior being observed. More likely, however, is that the structure and expectations of the classroom setting (students were already being observed by peers and the professor) is what influenced their behavior more so than the presence of an additional student sitting in on the class.

Third, it is important to note the limitation of this particular population of college students who were relatively similar in age, ethnicity, and expected classroom behavior. Head nodding could serve other functions or show different relations with power and context in other populations. For example, in this particular population gender of the speaker (the professor) might have been less important than in more gender-typed situations (for example, a female CEO speaking to a group of male clients).

Future studies should examine communication styles across gender, situational context, and roles. Examining the content of the conversations, as well as the presence of competitiveness in the environment, may also determine what kinds of situations are more likely to evoke a submissive response gesture. Although there is an abundance of research comparing the language styles of women and men, there is relatively less examining the language styles within genders while examining context and power. This research could also examine the effects of culture. Although head nodding appears to be a near universal gesture, there are clearly important cultural influences on nonverbal communication (e.g., Kupperbusch et al., 1999) which would be fascinating to explore.

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