Relationship of Status and Sex to Nonverbal Behaviors
By: Dianna M. Rogers

Abstract
Seventy-four male and female students, tutors/peer advisors, and faculty members were photographed candidly while in conversation and again while they faced the camera in a posed photograph. Participants then filled out a concern for social appropriateness scale. Five nonverbal behaviors were coded from the photographs (smiling, leaning, posture, head tilt, and raised or lowered eyebrows). Sex differences were found in smiling, while status differences were found in leaning. Candid versus posed differences were found for all five nonverbal behaviors. An interaction between a score of cross-situational variability and type of photograph (candid vs. posed) was also found. These results support the hypothesis that females tend to smile more when it is expected, as in the posed photographs.

Purpose
Research has found nonverbal behaviors such as smiling, head tilt, and posture to indicate specific traits such as dominance or confidence and also nurturing, empathy, and sensitivity. In her book, Body Politics (1977), Henley found that nonverbal behavior acts as a tool for social control and interpersonal dominance. In addition, partners in unequal power relationships tend to display different nonverbal behavior relative to the other, unlike an equal power relationship in which nonverbal behaviors are reciprocated and symmetrical.

As Henly (1977, 1995) examined the relationships between status and nonverbal behavior and also sex and nonverbal behavior, she found behaviors expressing dominance and subordination between those not of equal status parallel those used by males and females in a mixed sex dyad.

In Hall, Smith LeBeau, Gordon Reinoso, and Thayer's study (2001), status and sex differences produced parallel nonverbal behavior differences. Lower status members tended to tilt their heads up more while higher status members tilted their heads down. Lower status was also associated with more forward lean and erect posture. Similarly, sex differences included females smiling, sitting erect, leaning forward, and raising eyebrows more than males. Smiling differences, however, where only seen in posed photographs and were not significant in candid photographs.

Shor (1971) stated "a smile is a result of a combination of a spontaneous reflexive expression of pleasure...and voluntary...control and monitoring exercised by the smiler" (as cited in Morese, 1982). Research in this area, however, has found that sex differences in smiling may refute this definition. Goffman (as cited in Ragan, 1982) describes the smile as "a ritual of subordination." Several studies have found that females smile more frequently than males in posed pictures (Hall, Smith LeBeau, Gordon Reinoso, & Thayer,
2001; Lafrance & Henley, 1997; Ragan 1982; Morse1982). These studies support Henley's (1977; 1995) hypothesis that females' nonverbal behavior tends to parallel that of lower status individuals.

Arguments have been made, however, regarding whether females display similar nonverbal behaviors because of their lower status or perhaps the greater ability of sending messages appropriate for the situation. Evidence supporting this social appropriateness hypothesis includes Halberstadt, Hayes, and Pike study (1988) of sex and smiling in conversations. In their study, females smiled more during sad conversations, showing more empathy and emotion than males. This made for smooth interactions helping to facilitate the study. These behaviors were congruent with the expectations of both females and males in similar situations. Brennan-Parks, Goddard, Wilson and Kinnear's study (1991) supported this hypothesis by finding no significant difference between males and females when the photograph was for a facial perception study rather than a situation in which smiling was expected.

This study expanded on Hall et. al.'s study (2001) entitled "Status, Gender, and Nonverbal Behavior in Candid/Posed Photographs." Hall et. al.'s study examined the relationships of status, sex, and nonverbal behavior by photographing dyad members of both unequal status and sex in candid and posed photographs. The present study uses similar methods, while providing more clearly defined levels of status including professors, tutor/peer advisors, and students at the University of Wisconsin-Platteville. While women were significantly under-represented in the higher status dyads of Hall et. al.'s study (2001), in this replication of the study, women and men are more equally represented. Consequently, it provides information by which better generalizations can be made. This study attempted to answer the question of whether social status or social appropriateness influences smiling by administering a Concern for Social Appropriateness questionnaire (Lennox & Wolfe, 1984) to each subject.

Method

Participants
Eight female and 9 male faculty members, 10 female and 10 male peer advisors/tutors, and 18 female and 19 male students volunteered to participate in this study. Participants were from a small midwestern university. Ninety-six percent of the students are Caucasian and 95% of the students are under the age of 25. Participants were assigned conditions of the 3 (Status) X 2 (Sex) factorial design based on their status at the university. For faculty-student dyads, there were 5 male faculty-male student dyads, 4 male faculty-female student dyads, 4 female faculty-male student dyads, and 4 female faculty-female student dyads, 5 male tutor/advisor-male student dyads, 5 female tutor/advisor-male student dyads, 5 female tutor/advisor-male student dyads, and 5 female tutor/advisors-female student dyads.

The Concern for Social Appropriateness questionnaire (Lennox & Wolfe, 1984) includes 20 items and employs on a 6-point Likert scale with high scores indicating high concern for appropriateness: 5 = certainly, always true; 4 = generally true; 3 = somewhat true, but with exception; 2 = somewhat false, but with exception; 1= generally false; 0 = certainly, always false (weights were reversed for negatively worded items). Statements 1, 4, 7, 10,
13, 16, and 19 measure cross-situational variability while the remaining statements measure attention to social comparison information. Participants scoring above the median were classified as high on CAS, and those scoring below the median were classified as low on CAS. The participants also indicated their sex and actual status (student, tutor/peer advisor or professor). A Kodak EasyShare DX4900 digital camera was used to photograph dyad members.

**Design & Procedure**

Participants were first asked to complete a consent form. Participants then posed for a photograph and were photographed again candidly while in natural conversation. Photographs were taken in the Student Support Service's tutoring rooms, the student center during freshman registration or professors' offices or classrooms. The researcher did not give instructions on whether or not to smile.

The participants were then asked to complete the "Concern for Social Appropriateness" questionnaire (Lennox & Wolfe, 1984). The participants were debriefed after the session was completed.

Before coding nonverbal behaviors, background and dyad partners were eliminated to control for bias. Two research assistants (one male and one female), unaware of the hypotheses, coded the nonverbal behaviors of smiling, head tilt, posture, leaning, and raised eyebrows. Each nonverbal behavior was rated on a five-point scale. Ratings were averaged for each nonverbal behavior.

**Results**

The nonverbal behaviors were each analyzed in a 2(CAS) x 2 (Type of Photograph) x 2 (Sex of Subject) x 3 (Status) multivariate analysis of variance with CAS, status, and sex as between-subjects variables and type of photograph (candid or posed) as a within-subjects variable.

**Nonverbal behaviors**. Table 1 shows the means for both males and females for each nonverbal behavior. Table 2 shows means for each status group for all nonverbal behaviors.

Table 1

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Males</th>
<th>Females</th>
<th>F (2,62)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head tilt</td>
<td>2.737</td>
<td>2.851</td>
<td>2.820</td>
</tr>
<tr>
<td>Erect posture</td>
<td>2.682</td>
<td>2.574</td>
<td>.878</td>
</tr>
<tr>
<td>Raised eyebrows</td>
<td>3.101</td>
<td>3.155</td>
<td>1.479</td>
</tr>
<tr>
<td>Forward lean</td>
<td>3.473</td>
<td>3.487</td>
<td>.000</td>
</tr>
<tr>
<td>Smiling</td>
<td>2.396</td>
<td>2.885</td>
<td>6.177*</td>
</tr>
</tbody>
</table>

*Note: A higher score in each nonverbal behavior indicated lower status. *p<.05
Table 2
Mean Ratings of Nonverbal Behaviors for Faculty, Tutors, and Students with higher scores indicating a more extreme position

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Student</th>
<th>Tutor</th>
<th>Faculty</th>
<th>F (2, 62)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head tilt</td>
<td>2.777</td>
<td>2.713</td>
<td>2.926</td>
<td>1.509</td>
</tr>
<tr>
<td>Erect posture</td>
<td>2.649</td>
<td>2.500</td>
<td>2.721</td>
<td>.630</td>
</tr>
<tr>
<td>Eyebrows</td>
<td>3.081</td>
<td>3.255</td>
<td>3.118</td>
<td>1.362</td>
</tr>
<tr>
<td>Forward lean</td>
<td>3.426</td>
<td>3.900</td>
<td>3.103</td>
<td>6.598**</td>
</tr>
<tr>
<td>Smiling</td>
<td>2.730</td>
<td>2.713</td>
<td>2.426</td>
<td>.669</td>
</tr>
</tbody>
</table>

*Note: A higher score in each nonverbal behavior indicated lower status.*

**p.01.

**Leaning.** A significant main effect was found between professor, tutors/peer advisors, and students in leaning, F (2, 62) = 6.598, p = .003, n = .418. Tutors/peer advisors (M = 3.9000) tended to lean forward more than both professors (M = 3.1030) and students (M = 3.4257).

**Smiling.** A significant main effect was found between males and females in smiling, F(1, 62) = 6.177, p = .016, n = .0548. Females tended to smile more than males (M = 2.885; M = 2.396, respectively). A significant interaction was found between type of photograph and the cross-situational variability in the CAS questionnaire, F (1, 62) = 5.045, p = .028, n = .274. Those scoring low on cross-situational variability smiled more in the candid photos (M = 1.763, SD = .876) than those scoring high (M = 1.417, SD = 6.381); this is a near significant difference, F (1, 72) = 3.750, p = .057. While those scoring low on cross-situational variability smiled less in posed (M = 3.684, SD = 1.0617) than those scoring high (M = 3.75, SD = 1.137), there were no significant difference, F (1, 73) = .066, p = .798.

**Posture, head tilt, eyebrow lift.** Neither status nor sex were significantly related to posture, head tilt, or eyebrows.

**Candid vs. posed.** A significant main effects was found between candid and posed photographs in leaning, posture, and head tilt, F (1, 62) = 8.450, p = .005, n = 346; F (1, 62) = 6.071, p = .017, n = .298; F (1, 62) = 22.222, p <.001, n = .514, respectively. In addition, candid and posed photographs significantly differed in whether or not the participants' eyebrows were raised or lowered, F (1, 62) = 6.403, p = .014, n = .307. A significant main effect was also found between candid and posed photographs in smiling, F (1, 62) = 181.760, p <.001, n = .864. Participants smiled much more in the posed photographs than in the candid photographs.

Discussion

This study involved students in conversation with either a tutor/peer advisor or a professor. A posed photograph and then a candid photograph were taken while the participants were in conversation. The questionnaire that measured concern for appropriateness (Lennox & Wolfe, 1984) was used to see if sex differences were due to actual status differences or to concern for social appropriateness.
Nonverbal behaviors were coded in the candid and posed photographs. Extreme scores in smiling, forward leaning, erect posture, upward head tilt, and raised eyebrows indicate lower status, whereas less smiling and leaning, relaxed posture, downward head tilt and lowered eyebrows are more consistent with higher status members (Hall, Smith LeBeau, Gordon Reinoso, & Thayer, 2001).

As in the previous studies (Hall, Smith LeBeau, Gordon Reinoso, & Thayer, 2001; Lafrance & Henley, 1997; Ragan 1982; Morse 1982), sex differences were found in smiling. Females tended to smiling more than males in the posed photographs. However, significant differences were not found in the candid photographs. This supports the idea that sex differences in nonverbal behaviors are due to sex role expectancies and situational demands rather than actual status.

When analyzing the CAS scores, only the cross-situational variability scores tended to relate to the nonverbal behaviors. Those scoring low on cross-situational variability smiled more in the candid photographs than those scoring high, while there was little difference in the posed photographs. This is expected considering those who score high on concern for appropriateness would only be mindful of smiling in the posed rather than in the candid photographs. This is consistent with the hypothesis that smiling in posed photographs is due to expectations and not status differences.

Unexpected results were found with leaning. Leaning is a sign of lower status, as one may adjust oneself to accommodate their conversation partner. Tutors were found to lean significantly more than students and faculty members. This behavior may be the result of the tutor attempting to make their student feel more comfortable in order to learn. Professors leaned the least which is what our hypothesis predicted. Surprisingly, no other status related differences were found.

Participants tended to lean forward, have a relaxed posture, and tilt their heads more in candid photographs rather than posed photographs; this may be a result of the need for more body language in conversations than just looking at a camera in the posed photographs.

In summary, this study supported previous studies in finding females smile more than males in posed photographs (Hall, Smith LeBeau, Gordon Reinoso, & Thayer, 2001; Lafrance & Henley, 1997; Ragan 1982; Morse 1982). However, status and sex differences were not parallel to those found in previous studies (Henley, 1977; 1995; Lafrance & Henley, 1997; Ragan 1982; Morse 1982). The different settings of each dyad and experimenter bias may have confounded this study. Replications of this study are needed in order to better generalize these results.

Reference