VISUAL BEHAVIOR DIFFERENCES IN FEMALES AS A FUNCTION OF SELF-PERCEIVED EXPERTISE

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ABSTRACT: The present study investigated the effects of expert power on subjects' visual behavior while speaking and while listening. Female subjects were selected for dyads on the basis of their areas of expertise. Each pair was matched so that the topic on which one subject felt expert was an area in which the other subject felt inexpert. When discussing an area of expertise, subjects exhibited equivalent rates of look-speak and look-listen behaviors; when discussing areas of inexpertise or neutral topics, subjects looked less while speaking and while listening. Factors contributing to visual dominance behavior were considered.

Based on the importance of visual behavior in maintaining dominance hierarchies in primates and other species (Hall & Devore, 1965), several researchers have investigated interpersonal dominance and visual interaction in man. Exline and his colleagues (Exline, 1963; Exline, Gray, & Schuette, 1965; and Efran, 1968), for example, demonstrated that high status males receive more visual attention than low or equal status males. More recently, a series of studies reported by Exline, Ellyson, and Long (1975) investigated visual patterns exhibited by both high and low power interactants while they were speaking and while they were listening. In one

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study, low power males (ROTC cadets) spent a smaller proportion of time directly looking at their partner (an ROTC officer) while speaking to him than while listening to him. This pattern has been found to be typical among American (Exline et al., 1965) and English (Argyle & Ingham, 1972) samples not involved in power hierarchies. However, high power interactants, ROTC officers, manifested nearly equivalent rates of looking while speaking and while listening to a low power partner, an ROTC cadet. Exline et al. (1975) describe this visual pattern exhibited by high power individuals as visual dominance behavior. In a second study, subjects were selected based on their scores on a personality dimension hypothesized to be related to interpersonal power, the FIRO control orientation subscale (Schutz, 1958). Consistent with the previous study, high control oriented males exhibited visual dominance behavior similar to high power subjects, while low control oriented individuals, like low power subjects, demonstrated significantly more looking while listening than while speaking. Thus, legitimate status and desired status have been shown to affect the visual behavior of males.

Social power in humans, though, is a complex concept and may have a variety of bases (French & Raven, 1959). The present investigation, therefore, was designed to extend previous research and to explore the effects of perceived expert power on visual interaction. In particular, subjects in the present study were selected for dyads on the basis of their responses to a questionnaire on which they were asked to name some areas of expertise and nonexpertise. Each pair of subjects was matched so that the area in which one subject felt expert was an area in which the other subject felt inexpert. Thus, the areas of expertise and non-expertise were complementary within each dyad. The visual behavior of each subject was then observed under three conditions: expert, inexpert, and neutral control.

It was hypothesized that expert power would relate to looking behavior both while speaking and while listening. Exline and Winters (1965), for example, demonstrated that the cognitive difficulty of a task is associated with a decreased proportion of time spent directly looking at another while speaking. Thus, to the extent that expertise is related to feelings of confidence and security when discussing the relevant area, looking while speaking should be facilitated. Conversely, inexpertise should be accompanied by increased difficulty, anxiety, and insecurity, and should therefore inhibit looking while speaking. The research of Exline et

al. (1965) and Efran (1968), cited earlier, also suggests that recognition of expert power should affect the proportion of time spent looking directly at the other while listening; relatively inexpert partners should elicit less visual attention.

The hypothesized increased rate of looking while speaking and decreased rate of looking while listening of relatively expert partners should result in the visual dominance display identified by Exline et al. (1975). That is, subjects high on expert power should show more equivalent rates of looking while speaking and looking while listening than the normative pattern for interacting peers. It is also possible, although the Exline et al. (1975) studies did not explore it, that subjects low in expert power should exhibit an even greater difference in look-speak and look-listen rates. Thus, an Expertise × Mode of Visual Behavior (i.e., look-speak vs. look-listen) interaction was predicted.

METHOD

Subjects

Subjects were 20 female undergraduates selected from a possible pool of 250 females. At the beginning of the semester, introductory psychology and biology students completed "personal history" questionnaires. Two open-ended questions, out of a number presented on the forms, asked students to identify activities, hobbies, or interests in which they felt expert and inexpert, respectively. Dyads were then selected so as to be comprised of members with complementary areas of expertise-inexpertise. That is, the area in which one member felt expert was the area in which the other member felt inexpert.

Design

The experiment employed a 3 × 2 × 2 factorial design. The first independent variable was Expertise Level. Each subject had the opportunity to discuss one topic in which they felt expert, one topic in which they felt inexpert, and one neutral topic. The second factor was the Order of Expertise-Inexpertise Discussion. Within each dyad one subject discussed her area of expertise first, hence the other subject discussed her area of inexpertise first. Finally, as the third independent variable, two theoretically different modes of visual behavior were monitored: (1) looking at the other while the subject is speaking; and (2) looking at the other when the subject is listening.

PROCEDURE

As subjects arrived, they were escorted into the experimental room and were seated at opposite sides of a table (88.9 cm × 104.1 cm). The experimenter then informed the subjects that the experiment was designed to study first impressions and the acquaintance process. Subjects were also told that to promote interaction necessary in getting to know one another they would be asked to arrive at a mutually agreeable solution to each of three 3-minute discussion tasks. The tasks were introduced individually by the experimenter, and subjects were told to record their mutual answer at the end of each discussion session. After introducing each task, the experimenter answered the subjects' questions, if any, and then left the room, signalling the beginning and end of each session with a buzzer.

Two of the three discussion tasks were designed to address subjects' areas of expertise and inexpertise. In the first and the third period, subjects were asked to consider: "Many college students spend much of their time [activity]. What are the benefits and rewards of [activity]?" The activity that completed the statement was selected from the list of activities, hobbies, and interests solicited from subjects at the beginning of the semester and was an area of expertise for one subject and an area of inexpertise for the other member of the dyad. A sample of activities includes art, basketball, piano and sewing. During the study, each subject discussed one area in which they felt expert and one area in which they felt inexpert. The second task was always the neutral task, unrelated to either subject's area of expertise. It involved a discussion of human nature (i.e., how many people would stop to pick up what they thought was a quarter?) and had been demonstrated in previous research (Exline et al., 1975) to promote interaction.

Two assistants, blind to subjects' areas of expertise, viewed the interaction through one-way mirrors and recorded the visual behavior of the subjects by use of microswitches connected to an Esterline Angus (model 190M) event recorder. The assistants were positioned such that each could observe when one of the subjects was looking at the other subject. Reliability ratings for recording visual behavior were determined prior to testing subjects. Using the method suggested by Exline (1963), each assistant viewed the visual behavior of a confederate engaged in three 4-minute discussions with another confederate in a situation that paralleled the experimental conditions. A comparison was made between the eye contact recording of the assistant and a similar recording made by the confederate whose visual behavior was being monitored. Both the observer and the observed activated microswitches that deflected pens on the event recorder. Reliability was based on the proportion of agreement between the two recorders. Reliablity ratings for the two assistants were .98 and .92, respectively. Also, behind a one-way mirror the experimenter, employing two microswitches also connected to the Esterline

Angus, recorded when each subject was speaking. The reliability coefficient for this type of speech recording, obtained in a similar way as above, was .93. Subsequent checks at the conclusion of the study revealed that raters maintained their high level of reliability. At the conclusion of the study, all subjects were thoroughly debriefed.

RESULTS

The dyad was selected as the basic unit of analysis, rather than the individual, given the interdependence of speaking and visual behaviors between interacting members. A 3 (Expertise Level) × 2 (Order of Expert-Inexpert Discussion) analysis of variance on the proportion of interacting time that the subject held the floor revealed a main effect for Expertise, $F(2,18) = 3.29$, $p = .059$. The pattern of means indicated, as expected, that subjects spoke most when they felt expert (54.2%), least when they felt inexpert (45.9%), and an intermediate amount when discussing the neutral task (50.0%).

To analyze the proportion of time subjects spent looking at their partner, a 3 (Expertise Level) × 2 (Order of Expert-Inexpert Discussion) × 2 (Mode of Visual Behavior) repeated measures analysis of variance was performed. The analysis revealed a main effect for visual mode, $F(1,9) = 35.02$, $p < .001$. Consistent with a large body of previous research, a greater proportion of time in general was spent looking while listening than while speaking, 58.4% vs. 42.8%. In addition, the predicted Expertise × Mode interaction was obtained, $F(2,18) = 23.44$, $p < .0001$. As illustrated in Figure 1, the visual behavior of subjects in the inexpert and neutral conditions was similar. Subjects looked more while listening than while speaking in both the inexpert condition, 63.1% vs. 36.4%, $F(1,9) = 46.81$, $p < .001$, and the neutral condition, 62.6% vs. 42.8%, $F(1,9) = 94.57$, $p < .001$. Subjects in the expert condition, however, demonstrated nearly equivalent proportions of look-listen and look-speak behaviors (see Figure 1), 49.6% vs. 49.2%, $F < 1$. This was similar to the visual dominance pattern exhibited by high power subjects in the Exline et al. (1975) investigations. The overall analysis of variance revealed no other main effects or interactions. In addition, an analysis of overall proportions of looking showed no significant effects.

Further analysis demonstrated that, as expected, changes in both look-listen and look-speak behaviors contributed to the expert's manifestation of the visual dominance display. The pro-

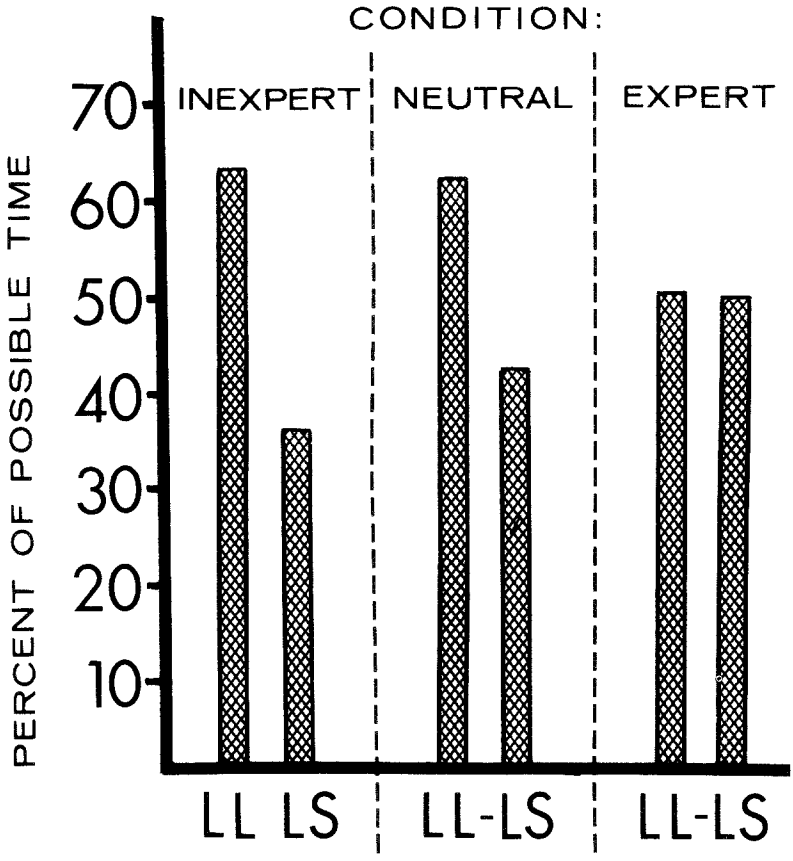

Figure 1. Subjects' look-listen (LL) and look-speak (LS) as a function of expertise

portion of time spent looking while listening to the partner was significantly less in the expert condition than in either the neutral condition, $F(1,9) = 10.98$, $p < .009$, or the inexpert condition, $F(1,9) = 36.28$, $p < .0004$. The proportion of time spent looking while speaking, on the other hand, was greater in the expert condition than in either the neutral condition, $F(1,9) = 4.40$, $p < .063$, or the inexpert condition, $F(1,9) = 34.66$, $p < .0004$. This pattern, then, is strongly supportive of the predictions.

DISCUSSION

The results of the present study conceptually replicate the findings of Exline et al. (1975). Subjects high in expert power, like individuals high on legitimate power and desire to control others, exhibit visual dominance patterns (i.e., equivalent rates of look-speak and look-listen behaviors) rather than the typical pattern for interacting peers of looking more while listening than while speaking. The findings relating to a visual submissive display, on the other hand, are more equivocal. The difference between rates of looking while speaking and while listening was only slightly more pronounced for inexpert discussants (26.7%) than for discussants of a neutral task (19.8%). As suggested by recent research on biased attribution (Miller, 1976), though, feelings of relative competence are more readily accepted by subjects than feelings of relative incompetence. Thus, although objectively the expert and inexpert manipulations were equivalent, it is likely that the inexpert manipulation had less psychological impact on subjects. Data bearing directly on this issue are unfortunately unavailable in the present investigation.

The findings of the present study also extend previous research in this area in two important ways. First, the visual dominance display is not necessarily a stable, dispositional pattern of behavior. Instead, certain circumstances elicited in the same subjects the typical pattern of visual behavior. That is, over the relatively brief experimental session, subjects systematically demonstrated both types of visual patterns. Second, the present research also demonstrated a reliable relationship between power and visual behavior in females. Although several previous studies have revealed relationships between visual behavior and status, these studies have been conducted exclusively with male subjects. Perhaps this is because, as suggested by Ellsworth and Ludwig (1972), the visual behavior of females is often more variable than the visual behavior of males, thus making conclusive findings less likely. More likely, however, investigators in search of "significant" differences may simply have felt more confident, based on cultural stereotypes (Broverman, Vogel, Broverman, Clarkson, & Rosencrantz, 1973), investigating power-related behaviors in males. Nevertheless, the present study provides strong evidence that visual dominance behavior is dynamically similar across the sexes.

Given the replicability and the generalizability of the visual dominance phenomenon, future researchers might consider more

explicitly the processes underlying this behavior. Clearly, the patterns of both looking while speaking and looking while listening are important. As evidenced in the present research, increases in looking while speaking and decreases in looking while listening can both contribute to the visual dominance display. Although looking while speaking is hypothesized to relate to cognitive factors (difficulty) and looking while listening to relate to social factors (the importance of the other), more careful and direct delineation of how different kinds of power and how additional situational factors independently affect look-speak and look-listen behaviors is needed. Additional attention can also be given to the communicative function of power-related visual displays. Since these patterns can be reliably encoded by individuals, it is also possible that people can decode these behaviors, although this is not necessarily so. Little direct evidence with humans, however, addresses whether or not individuals can recognize and respond to visual dominance or even visual submissive displays. Research exploring this possibility is currently underway.

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