Effects of Nonverbal Behavior on Perceptions of Power Bases

HERMAN AGUINIS MELISSA M. SIMONSEN Department of Psychology University of Colorado at Denver

> CHARLES A. PIERCE Department of Psychology Montana State University

ABSTRACT. Among a sample of U.S. students, the effects of 3 forms of nonverbal behavior (facial expression, visual behavior, and body posture) on perceptions of power bases (reward, coercive, legitimate, referent, expert, and credibility) were investigated. In contrast to previous investigations of nonverbal behavior and power, a precise construct definition and reliable and valid operational definitions of power were used, and specific perceptions of power bases were examined. A relaxed facial expression, compared with a nervous facial expression, increased the ratings for referent, reward, legitimate, expert, and credibility power bases. Also, direct eye contact yielded higher credibility ratings than indirect eye contact.

SOCIAL PSYCHOLOGISTS have recognized that the effective use of power and the perceptions of power by subordinates, peers, and supervisors are critical determinants of managerial success and organizational advancement (Aguinis & Adams, in press; Aguinis, Nesler, Hosoda, & Tedeschi, 1994; Pfeffer, 1981; Ragins & Sundstrom, 1989; Yukl, 1994; Yukl, Falbe, & Youn, 1993; Yukl, Kim, & Falbe, 1996; Yukl & Tracey, 1992). Perceptions of a person's power are antecedents of important outcomes such as managerial effectiveness and upward mobility (Bass, 1960; Pfeffer, 1981; Yukl, 1994). For instance, in a longitudinal investigation of power in organizations, Ragins and Sundstrom (1989) posited a

A previous version of this article was presented at the meeting of the American Psychological Society, New York, NY, June 1995.

Address correspondence to Herman Aguinis, College of Business and Administration, University of Colorado at Denver, Campus Box 165, P.O. Box 173364, Denver, CO 80217-3364; e-mail: haguinis@castle.cudenver.edu; World Wide Web: http://www.cudenver.

"path to power" directly linking managerial organizational advancement to the development, use, and acquisition of power. Moreover, recent work on power and influence by U.S. researchers reflects an increased interest in the impact of various personal and situational characteristics on perceptions of specific power bases, as defined by French and Raven (1959).

Because the construct of power is multidimensional, French and Raven (1959) proposed a taxonomy of power bases. Their classification is perhaps the model most frequently used in social and industrial/organizational (I/O) psychology as well as in management power research on dyadic relationships (Barry & Watson, 1996; Carson, Carson, & Roe, 1993; Podsakoff & Schriesheim, 1985; Raven, 1992, 1993; Rodrigues, 1995). French and Raven defined power as the ability or potential of an agent to alter a target's behavior, intentions, attitudes, beliefs, emotions, or values. They also distinguished five sources, or bases, of power, which contribute to the agent's overall ability to influence a target:

- 1. Reward power is based on the target's perceptions that the agent has the ability to provide him or her with desired tangible or intangible objects.
- 2. *Coercive power* is based on the target's perceptions that the agent has the ability to punish him or her.
- 3. *Legitimate power* is based on the target's perceptions that the agent has the right to influence the target, who is obligated to comply.
- 4. *Referent power* is based on the target's identification with or desire to be associated with the agent.
- 5. *Expert power* is based on the target's perceptions that the agent can provide him or her with special knowledge.

Credibility is a sixth power base that some researchers have incorporated into the French and Raven (1959) taxonomy (Aguinis & Adams, in press; Nesler, Aguinis, Quigley, & Tedeschi, 1993). The construct of credibility is defined as the objectively determined truthfulness, follow-through, and accuracy of a power source (Tedeschi & Lindskold, 1976). Credibility is often considered an additional power base because several researchers have concluded that it enhances a source's power, or ability to influence others (Horai & Tedeschi, 1969). Heilman (1974) ascertained that targets of an influence attempt are more likely to comply with requests from high-credibility communicators than with requests from low-credibility communicators. More recently, Nesler et al. (1993) gathered additional support for credibility as a power base: Managers with high credibility were perceived as more powerful (i.e., having referent, expert, legitimate and reward power) than managers with low credibility.

The considerable interest in the use of the French and Raven (1959) power taxonomy to investigate specific perceptions of power bases is reflected in a review of the use of that taxonomy in 18 studies (Podsakoff & Schriesheim, 1985). Two additional illustrations of the interest in how various personal and situational characteristics affect those perceptions of power are (a) a report by

Gioia and Sims (1983, Experiment 1) that information about managerial reputation for effectiveness influenced perceptions of legitimate, referent, and expert power and (b) a more recent experiment by Aguinis and Adams (in press) showing that managers with a direct/assertive influence style are perceived to have more reward, coercive, legitimate, and expert power and to be more credible than managers with an indirect/unassertive style. The overall purpose of this body of research was to identify an exhaustive taxonomy of variables that affect perceptions of power bases. Independent variables that have been examined include gender (Ragins, 1989), compliance strategies (Stahelski & Patch, 1993), clothing (Temple & Loewen, 1993), and cognitive schemata (Aguinis, Nesler, Quigley, & Tedeschi, 1994).

An important antecedent of power perceptions that has also received attention is nonverbal behavior (Ellyson & Dovidio, 1985b). Nonverbal behaviors are pervasive in organizational and other social settings (Brown, Dovidio, & Ellyson, 1990; Burgoon, 1985; Carli, LaFleur, & Loeber, 1995; Dovidio, Brown, Heltman, Ellyson, & Keating, 1988; Dovidio, Ellyson, Keating, Heltman, & Brown, 1988; Hall, 1966; Sommer, 1969). Nonverbal behaviors are also relevant to interpersonal processes such as deception, impression formation, attraction, social influence, and emotional expression (Patterson, 1983). Communication researchers have established that functions of nonverbal behaviors include (a) providing information, (b) expressing intimacy, and (c) exercising social control (e.g., Argyle, 1972; Argyle & Dean, 1965; Argyle, Lalljee, & Cook, 1968; Harrison, 1973; Kendon, 1967; Patterson, 1983). Examples of nonverbal behaviors are gaze direction, facial expression, hand and body gestures, posture, and postural adjustments. Although nonverbal cues are often isolated for experimental purposes (e.g., Summerhayes & Suchner, 1978), most nonverbal behaviors occur in patterns (Burgoon, 1991; Harper, 1985).

During the past two decades, there has been a noticeable increase in studies of nonverbal behavior as a means of establishing and communicating power relationships (Ellyson & Dovidio, 1985a). Nevertheless, despite those examinations of hypothesized relationships between nonverbal behaviors and overall power perceptions (e.g., Brown et al., 1990; Burgoon, 1991; Dovidio, Brown, et al., 1988; Exline, Ellyson, & Long, 1975; Zimmerman, 1977), the research has three limitations. First, no research to date has investigated the relationship between specific nonverbal behaviors and specific perceptions of power bases. Burgoon (1991) ascertained that touch influences attributions regarding whether individual "A was more powerful than B" (p. 242); however, no dimensions were specified for the multidimensional construct of power. Dovidio and Ellyson (1982) manipulated visual behaviors in videotapes and asked viewers to rate how powerful (not at all to very much) the actor was. Again, no reference was made to specific power bases; the multidimensional concept of power was treated as a unidimensional construct. Thus, despite numerous acknowledgments of a relationship between the expression of nonverbal behavior and the perception of power (e.g., Burgoon, Coker, & Coker, 1986; Clairborn, 1979; Harper, 1985), the nature of the relationship between nonverbal behaviors and specific power bases has not yet been investigated.

A second limitation of research on nonverbal behavior as an antecedent of power perceptions is that the definition of power is problematic. More specifically, researchers have typically relied on implicit or ambiguous definitions of the construct of power. As a consequence of the lack of a clear definition, three distinct constructs—dominance (which implies force and coercion), status (which underrepresents the multidimensional power construct), and power (ability to influence)—are often incorrectly used interchangeably. Summerhayes and Suchner (1978) measured the effect of touch on a dependent variable labeled "perceived dominance"; however, they referred to their results in terms of "perceived power" (p. 109) rather than perceived dominance, as they had originally defined the construct (p. 106). As a second illustration of researchers' confusion about dominance, status, and power, Burgoon (1991) used two items, one of which was "A acts like A is more powerful than B" (p. 243), to measure dominance. A third, and perhaps more conclusive, illustration is that of Ellyson and Dovidio (1985a), who noted that major reviews of nonverbal behavior (Harper, Wiens, & Matarazzo, 1978; Siegman & Feldstein, 1978) do not list power and dominance under separate headings in their subject indices. In sum, previous investigators of nonverbal behaviors and power have not clearly delineated the construct of power; rather, they have generally used power interchangeably with related, yet distinct, constructs such as dominance and status.

A third limitation is that as a consequence of questions about the definition of power, assessments of power are often problematic and confusing: They not only include items about strength/weakness (Summerhayes & Suchner, 1978) and influence (Dovidio & Ellyson, 1982) but often allow respondents to define the words "power" and "powerful" subjectively (Burgoon, 1991). In addition, some researchers have measured power by using scales having one or two items (cf. Ellyson & Dovidio, 1985a). Strong criticisms have been raised against this practice (Podsakoff & Schriesheim, 1985; Schriesheim, Hinkin, & Podsakoff, 1991) because one item may be insufficient to capture the complexity of the power construct in question and thus poses a serious threat ("construct underrepresentation") to the validity of the results (Cook & Campbell, 1979, p. 64). We should emphasize that we do not intend to devalue any of the aforementioned studies; we cite them only as examples. The three limitations of the research on nonverbal behavior and power are pervasive; numerous other illustrations could be supplied (cf. Ellyson & Dovidio, 1985a; Podsakoff & Schriesheim, 1985).

Our purpose in the present study was to overcome the three aforementioned limitations and to extend previous research on the impact of nonverbal behaviors on power perceptions. In contrast to earlier research, in the present study we (a) adopted a taxonomy of power bases clearly defined and consen-

sually accepted (French & Raven, 1959) in fields such as social psychology (e.g., Nesler et al., 1993), I/O psychology (e.g., Podsakoff & Schriesheim, 1985), management (Yukl, 1994), and others (Aguinis, Nesler, Quigley, Lee, & Tedeschi, 1996; Feld, 1987; Gaski, 1986; Raven, 1988; Rodin & Janis, 1982); (b) used assessments of power bases (i.e., scales) with demonstrated psychometric properties (Aguinis, Nesler, Quigley, & Tedeschi, 1994; Hinkin & Schriesheim, 1989; Nesler et al., 1993); and (c) investigated the effects of experimentally manipulating varying patterns of three specific nonverbal behaviors on perceptions of specific power bases.

We focused on the simultaneous effects of three specific nonverbal behaviors—facial expression, visual behavior, and body posture—because they receive consistent attention in communication research (e.g., Harper, 1985). Furthermore, they correspond to three of the five major categories (i.e., facial expressions, eye and visual behavior, kinesics, paralanguage, and proxemics) typically used to classify nonverbal behavior (Ellyson & Dovidio, 1985a).

Nonverbal cues communicated through facial expressions lead to several important attributions such as emotional states (Ekman, 1982, 1994; Izard, 1994). In addition, facial expressions are related to perceptions of dominance and status (Henley, 1977; Henley & LaFrance, 1984; Leffler, Gillespie, & Conaty, 1982). A lowered brow and a nonsmiling mouth increased perceptions of dominance (Keating, Mazur, & Segall, 1977), and certain physiognomic facial characteristics such as receding hairline and thin lips were also associated with attributions of dominance (Keating, Mazur, & Segall, 1981). In the present study, therefore, we examined whether facial expression (nervous vs. relaxed) affected perceptions of specific power bases.

Previous researchers (Patterson, Churchill, Burger, & Powell, 1992) have investigated and described several forms of visual behavior such as blinking and gaze shifts (e.g., indirect vs. direct eye contact). In several investigations of interacting pairs, participants who gazed more at their partners were perceived as more potent or dominant (Thayer, 1969; Zimmerman, 1977). These findings, however, contradict those of others (Exline, 1972; Exline et al., 1975), who reported that the dyad member with higher status gazes less at the partner with lower status. Prior work (Brown et al., 1990; Dovidio, Ellyson, et al., 1988) clarified the controversy: High status is communicated by looking more while speaking and looking less while listening (i.e., high "visual dominance behavior"). Accordingly, we examined whether eye contact (direct vs. indirect) influences perceptions of power bases.

Goffman (1961) noted that in the United States, people of high status tend to sit in relaxed positions, putting their feet on the table or slumping in their seats. He also determined that people of lower status sit more formally and straight in their chairs. Thus, in the present study, we investigated whether body posture (sitting on the edge of the seat vs. sitting back in the seat with legs crossed) affects perceptions of each of the power bases.

Method

Participants

A sample of 170 nontraditional U.S. undergraduate students ($n_{\rm men}=72$, $n_{\rm women}=98$) participated in the present study in partial fulfillment of a course requirement. Similar to Aguinis and Adams (in press) and Murphy, Thornton, and Prue (1991), we defined *nontraditional students* as those with a mean age of at least 23 years and considerable work experience. The mean age of the present participants was 22.98 years (SD=5.55); 97% had work experience (M=5.94 years, SD=4.56); and 41% of those who had work experience held supervisory positions with a mean tenure of 2.57 years (SD=1.91).

Procedure, Design, and Materials

Independent variables. Consistent with Kudoh and Matsumoto (1985) and Matsumoto and Kudoh (1987), we manipulated nonverbal behaviors in vignettes. After being randomly assigned to one of eight experimental conditions, each participant read a description of an interaction between two men, "John" and "Greg," and responded to various questions about the description.

In the vignettes, the two men were seated in two chairs in the office of a bank (Denver Mile High Bank); they were discussing the recent decrease of profits resulting from the decline in sales of such services as automatic teller machine (ATM) cards, Visa debit cards, and savings accounts. No other information was given about John or Greg. Because there is some evidence that the actors' gender may have an impact on reactions to nonverbal behaviors (e.g., Burgoon, Buller, Hale, & deTurck, 1984), we held gender constant across actors and conditions.

In each of the eight vignettes, John was described as combining three types of nonverbal behavior. Thus, our design was a $2 \times 2 \times 2$ full factorial combining (a) facial expression (nervous vs. relaxed), (b) eye contact (looking directly at Greg vs. looking around the room with an occasional glance at Greg), and (c) body posture (sitting on the edge of the seat vs. sitting back with his legs crossed).

Although the use of vignettes has potential limitations, addressed in the Discussion section, alternative methodologies also present difficulties. For instance, videotapes and live enactments may reflect the dynamism of nonverbal behavior more effectively than written descriptions do, but such procedures are used at the expense of researchers' ability to remove the potential systematic confounds and extraneous sources of variance for which the more realistic methodologies are frequently criticized (e.g., Burgoon, 1991). Alternatively, a clear advantage of vignettes is that nonverbal behaviors can be manipulated with precision and a high degree of experimental control.

¹Copies of the vignettes can be obtained by writing to the senior author.

Manipulation check. As a manipulation check, we interviewed an additional sample of 36 participants from the same population about the content of the vignettes. With 1 exception, none of the 36 participants had difficulty in understanding or imagining the nonverbal behaviors depicted in the vignettes.

Dependent variables. After randomly assigning the participants to one of the eight descriptions of John and Greg, we asked them to evaluate John's power by responding to a questionnaire. We measured the five French and Raven (1959) bases of power (reward, coercive, legitimate, expert, and referent) by using a modified version of Hinkin and Schriesheim's (1989) power scales as adapted by Nesler et al. (1993). We measured credibility by using five items also developed by Nesler et al. (1993). All responses were provided on Likert-type scales ranging from 1 (agree) to 9 (disagree). To facilitate the interpretation of results, we recoded the scores so that high ratings represent greater item endorsement (i.e., 1 = disagree; 9 = agree).

Consistent with previous investigations of nonverbal behaviors/power relationships (e.g., Burgoon, 1991), the participants in the present study were observers rather than actors in the nonverbal communication situation. That choice was guided by our assumption that because nonverbal behaviors and power are related in a consensually shared manner within a social community, observers and participators are likely to make similar attributions regarding nonverbal behaviors. An illustration of empirical support for that assumption is a study by Burgoon and Newton (1991), who found congruence between observers' and participators' interpretations of conversational involvement.

Results

In replication of previous findings (Aguinis & Adams, in press; Aguinis, Nesler, Quigley, & Tedeschi, 1994; Hinkin & Schriesheim, 1989; Nesler et al., 1993), the six scales measuring the five French and Raven power bases and the credibility power base had adequate reliability estimates ranging from .86 to .90 (Table 1).

We used multiple analyses of variance (ANOVAs; cf. Huberty & Morris, 1989) to test the main and interactive effects of facial expression, visual behavior, and body posture on perceptions of reward power, coercive power, legitimate power, referent power, expert power, and credibility. In each ANOVA, the main and interactive (second and third order) effects of the three nonverbal behaviors were independent variables, and one of the power bases was the dependent variable. Because none of the two- and three-way interactions were statistically significant (ps > .05), we examined the main effects.

²We initially conducted ANOVAs with respondents' gender as an additional independent variable. Because results were not affected by respondents' gender, we conducted all subsequent analyses collapsing across this variable.

TABLE 1 Scales, Items, and Cronbach's Alpha Reliability Estimates

Scale/item	α
Reward power ^a	.88
John can increase Greg's pay level. John can influence Greg's getting a pay raise. John can provide Greg with special benefits. John can influence Greg's getting a promotion.	
Coercive power ^b	.86
John can give Greg undesirable job assignments. John can make Greg's work difficult for him. John can make things unpleasant on the job. John can make being at work difficult.	
Legimate power ^a	.86
John can make Greg feel that he (Greg) has a commitment to meet. John can make Greg feel that he (Greg) should satisfy his (Greg's) job requirements.	
John can give Greg the feeling that he (Greg) has responsibilities to fulfill.	
John can make Greg recognize that he (Greg) has tasks to accomplish.	
Expert power ^a	.88
John can give Greg good technical suggestions. John can share with Greg his (John's) considerable experience and/or training. John can provide Greg with sound job-related advice.	
John can provide Greg with needed technical knowledge.	
Referent power ^a	.90
John can make Greg feel valued. John can make Greg feel like he (John) approves of him (Greg). John can make Greg feel personally accepted. John can make Greg feel important.	
Credibility ^b	.88
John is a man who keeps his word. John does what he says he will do. John follows up on what he says. John matches words with deeds. John tells the truth.	

Note. Items are grouped for presentation purposes. The questionnaire included the items in random order. Individual items were rated on scales ranging from 1 (*agree*) to 9 (*disagree*). Lower scores represented greater endorsement of the items. However, to be consistent with previous research and to facilitate the interpretations of results, we recoded all responses reported in this article so that higher ratings represent greater item endorsement (i.e., 1 = disagree and 9 = agree). average NN = 169. average NN = 170.

The significant effect of facial expression was consistent across five of the six power bases. Facial expression affected ratings of referent power, F(1, 161) = 21.49, p < .001, $\eta^2 = .12$; reward power, F(1, 161) = 11.21, p < .01, $\eta^2 = .07$; legitimate power, F(1, 161) = 12.85, p < .001, $\eta^2 = .07$; expert power, F(1, 161) = 16.59, p < .001, $\eta^2 = .09$; and credibility, F(1, 161) = 8.92, p < .01, $\eta^2 = .05$. Facial expression, however, did not affect ratings of coercive power, F(1, 161) = 3.17, p > .05. When John's facial expression was described as relaxed, he was given higher referent (M = 6.33), reward (M = 5.50), legitimate (M = 6.06), expert (M = 5.96), and credibility (M = 5.26) ratings than when his facial expression was described as nervous (Ms = 4.93, 4.52, 5.08, 4.88, and 4.59, respectively).

Eye contact had a statistically significant effect only on the power base of credibility, F(1, 161) = 7.09, p < .01, $\eta^2 = .04$. Direct eye contact was associated with a mean credibility rating of 5.23, whereas indirect eye contact was associated with a mean credibility rating of 4.63.

Body posture did not have a main effect on any of the power bases, ps > .05.

Discussion

In the present experiment, we manipulated three types of nonverbal behavior and examined their effects on perceptions of power bases. In contrast to previous research on the impact of nonverbal behavior on power perceptions, we adopted a consensually accepted taxonomy of power bases, used appropriate measurements (i.e., reliable and valid scales) of those power bases, and examined the effects of specific nonverbal behaviors on specific power bases. One specific nonverbal behavior, facial expression, had an impact on perceptions of five power bases: reward, legitimate, expert, referent, and credibility. A relaxed, as opposed to nervous, facial expression increased ratings on all the power bases except coercive. Also, direct eye contact increased ratings on credibility.

Two conclusions can be drawn when the results are considered in light of the relevant literature. First, Ellyson and his colleagues (e.g., Dovidio & Ellyson, 1982) have found that visual behavior and, more precisely, the visual dominance ratio, is related to overall power. In the present study, we extended their conclusions. In contrast to previous investigations, nonverbal behaviors were independent variables, power-bases ratings were dependent variables, and direct eye contact affected the specific power base of credibility but not the other power bases.

Second, the null findings regarding interactive effects are in agreement with a study by Schwartz, Tesser, and Powell (1982) in which they ascertained that nonverbal behaviors do not have interactive effects on ratings of dominance. Thus, despite the argument that nonverbal behaviors should be examined in patterns rather than in isolation (Harper, 1985), we provide further evidence that even when various nonverbal behaviors concur, they have only additive (i.e., non-interactive) effects on power perceptions. The isolation of nonverbal behaviors for experimentation may be artificial and create an unrealistic situation (Bur-

goon, 1991). Nevertheless, given the present findings and those reported by Schwartz et al. regarding the lack of interactive (i.e., multiplicative) effects, results of future experimental manipulations of individual nonverbal behaviors could be easily aggregated because the effects of nonverbal behaviors on perceptions of power bases seem to be merely additive.

Taken jointly, the present results suggest that some nonverbal behaviors have a direct impact on how people attribute specific bases of power. Consistent with previous research (Aguinis, Nesler, Quigley, & Tedeschi, 1994; Berger, Wagner, & Zelditch, 1985; Dovidio, Ellyson, et al., 1988; Schank & Abelson, 1977), the present findings suggest the existence of schemata, or expectations, linking the display of nonverbal behaviors and attributions of power. Thus, perhaps as a consequence of socialization practices, in the absence of other information about the actors, high or low ratings of power bases are consistently attributed depending on the nonverbal behavior displayed.

Last, this study also helps to clarify the distinction between dominance and power. In previous research, assessments of the power construct included the term "powerful." Consequently, respondents were likely to use their own subjective definitions of power, which is typically associated with force, dominance, and control (Nesler, Aguinis, Quigley, Lee, & Tedeschi, in press) and, therefore, does not correctly represent power as "ability to influence" (cf. French & Raven, 1959). Because of their assessments of power, previous researchers have often not distinguished between ratings of dominance and ratings of power. With the present measurements of power, however, more precise distinctions are possible (a) among the various power bases and dominance and (b) among the effects of nonverbal behaviors on each power base.

A limitation of this study is our use of vignettes to manipulate nonverbal behaviors; it can be argued that the null findings regarding body posture are an artifact of our manipulation. However, we do not consider that possibility a severe threat to the present conclusions. First, several articles illustrate that nonverbal behavior in general, and body postures in particular, have been successfully manipulated by the use of written descriptions (e.g., Kudoh & Matsumoto, 1985; Matsumoto & Kudoh, 1987). Second, as part of our manipulation check, the participants indicated that they understood and could visualize the nonverbal behaviors described in the vignettes. Nevertheless, future researchers could investigate the replication of the present results via other methodologies such as videotapes (cf. Streeck, 1993), photographs (cf. Fernández-Dols, Wallbott, & Sanchez, 1991), or virtual reality technology (Pierce & Aguinis, 1997). As noted in the Method section, however, videotapes and live enactments carry their own limitations because those methodologies can result in the researchers' inability to remove potential systematic confounds and extraneous sources of variance. Because of their limitations, videotapes and other more "realistic" methodologies have been criticized (Burgoon, 1991). Nonetheless, our position on this issue is that researchers need multiple methodologies to ascertain more confidently the

effects of nonverbal behavior on perceptions of specific power bases. In the present study, we used one of several available methods, and we encourage future researchers to use additional procedures.

The present results open at least three additional avenues for future research. First, not all nonverbal behaviors have an impact on all power bases. Recent research has revealed that attributions based on nonverbal behaviors (e.g., Masters, 1991) and perceptions of power bases vary across cultures (Aguinis et al., 1995). Thus, the present results, based on U.S. undergraduate students, may not generalize to other cultural contexts. In consequence, it is necessary that this study be replicated in other countries before any cross-cultural generalizations can be made.

Second, consideration of the present results in light of a cognitive approach to perceptions of power bases suggests that as the amount of information about the actors increases, attributions of power based on nonverbal behaviors may not be as relevant as those based on other situation-specific information (Berger et al., 1985; Wood & Karten, 1986). Thus, a second possibility for future investigations is the determination of whether attributions of the power bases change as the amount and quality of information about the actors vary.

Finally, Ambady and Rosenthal (1992) have ascertained that short observations of expressive behavior ("thin slices of behavior") lead to extremely accurate predictions of various objective outcomes. Accordingly, future researchers could investigate whether the display of nonverbal behaviors in natural settings leads to power-bases attributions that accurately correspond to objective power.

REFERENCES

- Aguinis, H., & Adams, S. R. (in press). Social-role versus structural models of gender and influence use in organizations: A strong inference approach. *Group and Organization Management*.
- Aguinis, H., Lee, S., Nesler, M. S., Quigley, B. M., Boczcowski, P. J., Aguinis-Szyferman, L., García-Cueto, E., & Tedeschi, J. T. (1995, July). Cultural differences as antecedents of power perceptions: An examination across four countries. Paper presented at the meeting of the American Psychological Society, New York.
- Aguinis, H., Nesler, M. S., Hosoda, M., & Tedeschi, J. T. (1994). The use of influence tactics in persuasion. *The Journal of Social Psychology*, 134, 429–438.
- Aguinis, H., Nesler, M. S., Quigley, B. M., Lee, S., & Tedeschi, J. T. (1996). Power bases of faculty supervisors and educational outcomes for graduate students. *Journal of Higher Education*, 67, 267–297.
- Aguinis, H., Nesler, M. S., Quigley, B. M., & Tedeschi, J. T. (1994). Perceptions of power: A cognitive perspective. *Social Behavior and Personality*, 22, 377–384.
- Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin*, 111, 256–274.
- Argyle, M. (1972). The psychology of interpersonal behavior. London: Penguin.
- Argyle, M., & Dean, J. (1965). Eye-contact, distance, and affiliation. *Sociometry*, 28, 289–304.
- Argyle, M., Lalljee, M., & Cook, M. (1968). The effects of visibility on interaction in a

- dyad. Human Relations, 21, 3-17.
- Barry, B., & Watson, M. R. (1996). Communication aspects of dyadic social influence: A review and integration of conceptual and empirical developments. In B. R. Burleson (Ed.), *Communication yearbook* (Vol. 19, pp. 269–317). Thousand Oaks, CA: Sage.
- Bass, B. M. (1960). Leadership, psychology, and organizational behavior. New York: Harper.
- Berger, J., Wagner, D. G., & Zelditch, M., Jr. (1985). Introduction: Expectation states theory. In J. Berger & M. Zelditch, Jr. (Eds.), *Status, rewards, and influence* (pp. 1–172). San Francisco: Jossey-Bass.
- Brown, C., Dovidio, J. F., & Ellyson, S. L. (1990). Reducing sex differences in visual displays of dominance. *Personality and Social Psychology Bulletin*, 16, 358–368.
- Burgoon, J. K. (1985). Nonverbal signals. In M. L. Knapp & G. R. Miller (Eds.), *Handbook of interpersonal communication* (pp. 344–390). Beverly Hills, CA: Sage.
- Burgoon, J. K. (1991). Relational message interpretations of touch, conversational distance, and posture. *Journal of Nonverbal Behavior*, 15, 233–259.
- Burgoon, J. K., Buller, D. B., Hale, J. L., & deTurck, M. A. (1984). Relational messages associated with nonverbal behaviors. *Human Communication Research*, 10, 351-378.
- Burgoon, J. K., Coker, D. A., & Coker, R. A. (1986). Communicative effects of gaze behavior: A test of two contrasting explanations. *Human Communication Research*. 12, 495–524.
- Burgoon, J. K., & Newton, D. A. (1991). Applying a social meaning model to relationship message interpretations of conversational involvement: Comparing observer and participant perspectives. *Southern Communication Journal*, 56, 96–113.
- Carli, L. L., LaFleur, S. J., & Loeber, C. C. (1995). Nonverbal behavior, gender, and influence. *Journal of Personality and Social Psychology*, 68, 1030–1041.
- Carson, P. P., Carson, K. D., & Roe, C. W. (1993). Social power bases: A meta-analytic examination of interrelationships and outcomes. *Journal of Applied Social Psychology*, 23, 1150–1169.
- Clairborn, C. D. (1979). Counselor verbal intervention, nonverbal behavior, and social power. *Journal of Counseling Psychology*, 26, 378–383.
- Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Boston: Houghton Mifflin.
- Dovidio, J. F., Brown, C., Heltman, K., Ellyson, S. L., & Keating, C. (1988). Power displays between women and men in gender-linked tasks: A multichannel study. *Journal of Personality and Social Psychology*, 55, 580–587.
- Dovidio, J. F., & Ellyson, S. L. (1982). Decoding visual dominance: Attributions of power based on relative percentages of looking while speaking and looking while listening. Social Psychology Quarterly, 45, 106–113.
- Dovidio, J. F., Ellyson, S. L., Keating, C., Heltman, K., & Brown, C. (1988). The relationship of social power to visual displays of dominance between men and women. *Journal of Personality and Social Psychology*, 54, 233–242.
- Ekman, P. (Ed.). (1982). Emotion in the human face. New York: Cambridge University Press.
- Ekman, P. (1994). Strong evidence for universals in facial expressions: A reply to Russell's mistaken critique. *Psychological Bulletin*, 115, 268–287.
- Ellyson, S. L., & Dovidio, J. F. (1985a). Power, dominance, and nonverbal behavior: Basic concepts and issues. In S. L. Ellyson & J. F. Dovidio (Eds.), *Power, dominance, and nonverbal behavior* (pp. 1–27). New York: Springer-Verlag.
- Ellyson, S. L., & Dovidio, J. F. (Eds.). (1985b). Power, dominance, and nonverbal behavior. New York: Springer-Verlag.
- Exline, R. V. (1972). Visual interaction: The glances of power and preference. In J. K.

- Cole (Ed.), Nebraska symposium on motivation (Vol. 19, pp. 162–205). Lincoln: University of Nebraska Press.
- Exline, R. V., Ellyson, S. L., & Long, B. (1975). Visual behavior as an aspect of power role relationships. In P. Pliner, L. Krames, & T. Alloway (Eds.), *Advances in the study of communication and affect* (Vol. 2, pp. 21–52). New York: Plenum.
- Feld, A. (1987). Self-perceptions of power: Do social work and business students differ? Social Work, 32, 225-230.
- Fernández-Dols, J. M., Wallbott, H., & Sanchez, F. (1991). Emotion category accessibility and the decoding of emotion from facial expression and context. *Journal of Nonverbal Behavior*, 15, 107–123.
- French, J. R. P., & Raven, B. H. (1959). The bases of social power. In D. Cartwright (Ed.), Studies in social power (pp. 150–167). Ann Arbor, MI: Institute for Social Research.
- Gaski, J. F. (1986). Interrelations among a channel entity's power sources: Impact of exercise of reward and coercion on expert, referent, and legitimate sources. *Journal of Marketing Research*, 23, 62–77.
- Gioia, D. A., & Sims, H. P. (1983). Perceptions of managerial power as a consequence of managerial behavior and reputation. *Journal of Management*, 9, 1-26.
- Goffman, E. (1961). Encounters. New York: Bobbs-Merrill.
- Hall, E. T. (1966). The hidden dimension. Garden City, NY: Doubleday.
- Harper, R. G. (1985). Power, dominance, and nonverbal behavior: An overview. In S. L. Ellyson & J. F. Dovidio (Eds.), *Power, dominance, and nonverbal behavior* (pp. 29–48). New York: Springer-Verlag.
- Harper, R. G., Wiens, A. N., & Matarazzo, J. D. (1978). Nonverbal communication: The state of the art. New York: Wiley.
- Harrison, R. P. (1973). Nonverbal communication. In I. S. Pool, W. Schramm, N. Maccoby, F. Fry, E. Parker, & J. L. Fern (Eds.), *Handbook of communication* (pp. 93–115). Chicago: Rand McNally.
- Heilman, M. E. (1974). Threats and promises: Reputational consequences and transfer of credibility. *Journal of Experimental Social Psychology*, 10, 310–324.
- Henley, N. M. (1977). Body politics: Power, sex, and nonverbal communication. Englewood Cliffs, NJ: Prentice-Hall.
- Henley, N. M., & LaFrance, M. (1984). Gender as culture: Difference and dominance in nonverbal behavior. In A. Wolfgang (Ed.), Nonverbal behavior: Perspectives, applications, intercultural insights (pp. 351-371). Lewiston, NY: C. J. Hogrefe.
- Hinkin, T. R., & Schriesheim, C. A. (1989). Development and application of new scales to measure the French and Raven (1959) bases of social power. *Journal of Applied Psychology*, 74, 561–567.
- Horai, J., & Tedeschi, J. T. (1969). Effects of credibility and magnitude of punishment on compliance to threats. *Journal of Personality and Social Psychology*, 12, 164–169.
- Huberty, C. J., & Morris, J. D. (1989). Multivariate analysis versus multiple univariate analyses. *Psychological Bulletin*, 105, 302–308.
- Izard, C. E. (1994). Innate and universal facial expressions: Evidence from developmental and cross-cultural research. *Psychological Bulletin*, 115, 288–299.
- Keating, C. F., Mazur, A., & Segall, M. H. (1977). Facial gestures which influence the perception of status. Sociometry, 40, 171–176.
- Keating, C. F., Mazur, A., & Segall, M. H. (1981). A cross cultural exploration of physiognomic traits of dominance and happiness. Ethology and Sociobiology, 2, 41–48.
- Kendon, A. (1967). Some functions of gaze-direction in social interaction. Acta Psychologica, 26, 22-63.
- Kudoh, T., & Matsumoto, D. (1985). Cross-cultural examination of semantic dimensions of body postures. *Journal of Personality and Social Psychology*, 48, 1440–1446.

- Leffler, A., Gillespie, D. L., & Conaty, J. C. (1982). The effects of status differentiation on nonverbal behavior. *Social Psychology Quarterly*, 45, 153–161.
- Masters, R. D. (1991). Individual and cultural differences in response to leaders' nonverbal displays. *Journal of Social Issues*, 47, 151-165.
- Matsumoto, D., & Kudoh, T. (1987). Cultural similarities and differences in the semantic dimensions of body postures. *Journal of Nonverbal Behavior*, 11, 166–180.
- Murphy, K. R., Thornton, G. C., & Prue, K. (1991). Influence of job characteristics on the acceptability of employee drug testing. *Journal of Applied Psychology*, 76, 447–453.
- Nesler, M. S., Aguinis, H., Quigley, B. M., Lee, S., & Tedeschi, J. T. (in press). The development and validation of a scale measuring global social power based on French and Raven's (1959) power taxonomy. *Journal of Applied Social Psychology*.
- Nesler, M. S., Aguinis, H., Quigley, B. M., & Tedeschi, J. T. (1993). The effect of credibility on perceived power. *Journal of Applied Social Psychology*, 23, 1407–1425.
- Patterson, M. L. (1983). *Nonverbal behavior: A functional perspective*. New York: Springer-Verlag.
- Patterson, M. L., Churchill, M. E., Burger, G. K., & Powell, J. L. (1992). Verbal and non-verbal modality effects on impression of political candidates: Analysis from the 1984 presidential debates. *Communication Monographs*, 59, 231–242.
- Pfeffer, J. (1981). Power in organizations. Marshfield, MA: Pitman.
- Pierce, C. A., & Aguinis, H. (1997). Using virtual reality technology in organizational behavior research. *Journal of Organizational Behavior*, 18, 407–410.
- Podsakoff, P. M., & Schriesheim, C. A. (1985). Field studies of French and Raven's bases of power: Critique, reanalysis, and suggestions for further research. *Psychological Bulletin*, 97, 387–411.
- Ragins, B. R. (1989). Power and gender congruency effects in evaluations of male and female managers. *Journal of Management*, 15, 65-76.
- Ragins, B. R., & Sundstrom, E. (1989). Gender and power in organizations: A longitudinal perspective. *Psychological Bulletin*, 105, 51–88.
- Raven, B. H. (1988). Social power and compliance in health care. In S. Mais, C. D. Spielberger, P. B. Defares, & I. G. Sarason (Eds.), *Topics in health care* (pp. 229–244). New York: Wiley.
- Raven, B. H. (1992). A power/interaction model of interpersonal influence: French and Raven thirty years later. *Journal of Social Behavior and Personality*, 7, 217–244.
- Raven, B. H. (1993). The bases of power: Origins and recent developments. *Journal of Social Issues*, 49, 227–251.
- Rodin, J., & Janis, I. L. (1982). The social influence of physicians and other health care practitioners as agents of change. In H. S. Friedman & R. M. DiMatteo (Eds.), *Interpersonal issues in health care* (pp. 33–50). San Diego, CA: Academic Press.
- Rodrigues, A. (1995). Attribution and social influence. Journal of Applied Social Psychology, 25, 1567–1577.
- Schank, R., & Abelson, R. (1977). Scripts, plans, goals and understanding. Hillsdale, NJ: Erlbaum.
- Schriesheim, C. A., Hinkin, T. R., & Podsakoff, P. M. (1991). Can ipsative and single-item measures produce erroneous results in field studies of French and Raven's (1959) five bases of power? An empirical investigation. *Journal of Applied Psychology*, 76, 106–114.
- Schwartz, B., Tesser, A., & Powell, E. (1982). Dominance cues in nonverbal behavior. Social Psychology Quarterly, 45, 114–120.
- Siegman, A. W., & Feldstein, S. (Eds.). (1978). Nonverbal behavior and communication. Hillsdale, NJ: Erlbaum.
- Sommer, R. (1969). *Personal space*. Englewood Cliffs, NJ: Prentice Hall.

- Stahelski, A., & Patch, M. E. (1993). The effect of the compliance strategy choice upon perception of power. *The Journal of Social Psychology*, 133, 693–698.
- Streeck, J. (1993). Gesture as communication: I. Its coordination with gaze and speech. *Communication Monographs*, 60, 275–299.
- Summerhayes, D. L., & Suchner, R. W. (1978). Power implications of touch in malefemale relationships. Sex Roles, 4, 103-110.
- Tedeschi, J. T., & Lindskold, S. (1976). Social psychology: Interdependence, interaction, and influence. New York: Wiley.
- Temple, L. E., & Loewen, K. R. (1993). Perceptions of power: First impressions of a woman wearing a jacket. *Perceptual and Motor Skills*, 76, 339-348.
- Thayer, S. (1969). The effect of interpersonal looking duration on dominance judgements. *The Journal of Social Psychology*, 79, 285–286.
- Wood, W., & Karten, S. J. (1986). Sex differences in interaction style as a product of perceived sex differences in competence. *Journal of Personality and Social Psychology*, 50, 341–347.
- Yukl, G. (1994). Leadership in organizations (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Yukl, G., Falbe, C. M., & Youn, J. Y. (1993). Patterns of influence behavior for managers. Group and Organization Management, 18, 5-28.
- Yukl, G., Kim, H., & Falbe, C. M. (1996). Antecedents of influence outcomes. *Journal of Applied Psychology*, 81, 309–317.
- Yukl, G., & Tracey, J. B. (1992). Consequences of influence tactics used with subordinates, peers, and the boss. *Journal of Applied Psychology*, 77, 525-535.
- Zimmerman, L. E. S. (1977). First impressions as influenced by eye-contact, sex, and demographic background (Doctoral dissertation, University of Nevada-Reno, 1976). *Dissertation Abstracts International*, 37, 6414B-6415B (University Microfilms No. 77-12, 9787).

Received February 13, 1997