

THE IMPACT OF POWER-OF-SPEECH STYLE, ARGUMENT STRENGTH, AND NEED FOR COGNITION ON IMPRESSION FORMATION, COGNITIVE RESPONSES, AND PERSUASION

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This study investigated the impact of power-of-speech style, need for cognition, and argument quality on participants' perceptions of a speaker, cognitive responses, and attitude toward the topic. Based on the Elaboration Likelihood Model (ELM) of persuasion, it was hypothesized that the three independent variables would interact to affect cognitive responses and attitude toward the topic. The results did not support the hypothesis. Path analysis was also used to analyze the data. The path analysis revealed that power-of-speech style had a small, direct effect on attitude and several, indirect effects mediated by cognitive response categories. Argument quality had a direct effect on attitude toward topic. The results are discussed in terms of their importance for the persuasive effects of power-of-speech style, with specific focus on the role of speech style in an ELM framework.

For a number of years, scholars have investigated the consequences of powerful and powerless speech styles for the evaluations of speakers. Generally, this research has found that across a number of situations, a powerful speech style produces positive speaker attributions and evaluations whereas a powerless speech style results in negative speaker attributions and evaluations (e.g., Adkins & Brashers, 1995; Bradac & Mulac, 1984; Erickson, Lind, Johnson, & O'Barr, 1978; Haleta, 1996). Although a great deal is known about these evaluative consequences, little is known about the persuasive consequences of powerful and powerless speech styles. The research on the evaluative consequences of these styles suggests that they should be related to the

persuasion process. For example, several studies (Bradac, Hemphill, & Tardy, 1981; Erickson et al., 1978; Hosman & Wright, 1987; Wright & Hosman, 1983) found that speakers exhibiting a powerful style were more credible and attractive than speakers exhibiting a powerless style. Thus, it is reasonable to expect that power-of-speech style would be related to the persuasiveness of speakers and their messages. However, the only studies examining the persuasive impact of power-of-speech style have shown mixed results. Gibbons, Busch, and Bradac (1991) found that power-of-speech style did not affect attitude change, whereas Sparks, Areni, and Cox (1998), Smith, Siltanen, and Hosman (1998), and Holtgraves and Lasky (1999) found that power-of-speech style affected attitude change. The purpose of this study is to investigate further the persuasive impact of power-of-speech style.

POWER-OF-SPEECH STYLE AND PERSUASION

Four studies have investigated the persuasive implications of power-of-speech style. Gibbons et al. (1991) investigated the impact of personal relevance, argument strength, and powerful and powerless speech styles on attitude change, impression formation, and cognitive responses within an Elaborated Likelihood Model (ELM) of persuasion. The results of their study reconfirmed the impressions of speakers associated with power-of-speech style, but they did not find that power of style had any persuasive consequences. Argument strength had its expected effects on persuasion—strong arguments were more persuasive than weak arguments. Personal relevance of the topic had a puzzling effect on persuasion and one unpredicted by ELM—low personal-relevance facilitated persuasion.

Sparks et al. (1998) found that power-of-speech style affected attitude change, although this effect was moderated by the mode of message presentation. They found that a high power style produced more attitude change when a message was presented via audiotape than when presented as a written message. There were no significant differences between the audiotape condition and the videotape condition.

Holtgraves and Lasky (1999) manipulated power-of-speech style, distraction, speaker gender, and participant gender. They found that a powerful speech style produced more positive attitudes toward a message than did a powerless speech style. A powerful speech style also produced more positive thoughts about the message than a powerless style did. More important, they also found that the effects of power-of-speech style on attitude were mediated by perceptions of the speaker and argument strength.

Smith et al. (1998) found that speaker expertise interacted with one element of power-of-speech styles—hesitations—to affect attitude change. When speaker expertise was low or moderate, hesitations did not affect attitude change. When speaker expertise was high, a high

level of hesitations produced more negative attitude change than did a low level of hesitations.

Because of these contradictory findings, it is difficult to draw conclusions regarding the persuasive impact of powerful and powerless speech styles. These studies did not explore whether powerful speech plays a central, peripheral, or biasing role in persuasion. From a dual process framework (see Petty & Wegener, 1998) it might be worthwhile to explore how it works. Does powerful speech act as a central cue, informing receivers about the merits of the proposal advocated? Does it act as a peripheral cue, providing information about the speaker? Or does it act as a biasing cue, strengthening only strong arguments, for example? It is plausible to think that it can act as any one of the three.

Power of style could act as a central cue in at least two different ways. First, power-of-speech style could act as a central cue to the extent that it provides information relevant to assessing the merits of the position being advocated. A low power style, particularly one containing hedges, may suggest that a communicator is uncertain about the position he or she is advocating, causing a receiver to scrutinize message arguments more carefully. Thus, a strong argument presented in such a way that a speaker appears to be uncertain may affect message processing differently than an argument with the same strength but presented in a way suggesting speaker certainty.

Second, at least one component of power-of-speech style—hedges—has been included in models of argument. Toulmin (1969) argues that qualifiers are an important element of arguments. They provide information about “the degree of force which our data confer on our claim in virtue of our warrant” (p. 101). Some research (e.g., Maronick & Andrews, 1999) suggests that qualifiers encourage listeners to process a message more extensively. It is reasonable to expect that style elements could affect the processing of arguments.

Power of speech could also function as a peripheral cue by being unrelated to the merits of the position being taken. A powerless style could be attributed to speaker uncertainty (Berger & Bradac, 1982), lack of self-control, or lack of control of others (Hosman & Siltanen, 1994), none of which would entail argument-relevant thinking. The converse would be true of a powerful speech style. As Petty and Wegener (1998) suggest, a receiver could agree with a speaker simply because they are powerful.

Third, power of speech could act as a biasing cue, affecting the processing of some message elements more or less than others. Powerful speech might, for example, affect the processing of only strong arguments. Or, conversely, if as some contend powerless speech is a marked linguistic form (Ng & Bradac, 1993), it may affect the processing of only weak arguments, producing predominantly negative thoughts.

An additional factor may be related to the persuasiveness of powerful and powerless speech styles—need for cognition. Need for cognition

is an individual difference variable that reflects the extent to which individuals enjoy thinking. Low need for cognition individuals do not particularly enjoy thinking and are therefore protective of how they use their cognitive resources, whereas high need for cognition individuals enjoy thinking and are less protective of their use of their cognitive resources. Priester and Petty (1995) hypothesized that if low need for cognition receivers can determine message accuracy by inferring it from a source's perceived honesty, message processing is unnecessary. Low need for cognition receivers scrutinize message arguments only when a source provides little or no information about his or her honesty. High need for cognition receivers will scrutinize message arguments regardless of the perceived honesty of the source. Three studies confirmed these hypotheses.

It seems reasonable to think that low need for cognition individuals may engage in less argument processing when the message is delivered with a powerful speech style than when it uses powerless language. A powerful style may provide low need for cognition receivers with sufficient information about the message that they need not scrutinize message arguments or be sensitive to argument strength differences. Conversely, high need for cognition receivers may scrutinize arguments regardless of whether they are delivered with a powerful or powerless speech style.

Based on the previous rationale, the following hypothesis is advanced:

Hypothesis 1: There will be a three-way interaction among power-of-speech style, argument quality, and need for cognition.

The form of the interaction will vary depending on whether power-of-speech style acts as a central, peripheral, or biasing cue. If power-of-speech style acts as a central cue, then low need for cognition receivers will not distinguish between any power-of-speech style and argument quality conditions. High need for cognition receivers, however, will distinguish between the power-of-speech style and argument quality conditions (such that low argument quality / low power-of-speech style < low argument quality / high power-of-speech style = high argument quality / low power-of-speech style < high argument quality / high power-of-speech style).

If power-of-speech style works as a peripheral cue, then low need for cognition receivers will evaluate high power-of-speech style messages more positively than low power-of-speech style messages, regardless of argument quality level. Receivers high in need for cognition will evaluate high-quality arguments more positively than low-quality arguments, regardless of the level of power-of-speech style.

If power-of-speech style operates as a biasing cue, then low need for cognition receivers will not differentiate significantly among any argu-

ment quality / power-of-speech style condition. High need for cognition receivers, on the other hand, will distinguish among argument quality / power-of-speech style conditions in the following way: low power-of-speech style / low argument quality < high power-of-speech style / low argument quality < low power-of-speech style / high argument quality < high power-of-speech style / high argument quality.

METHOD

PARTICIPANTS

A total of 115 student volunteers in speech communication courses at a southern university participated in the study. Of these, 53 were men, 62 were women, and the sample's mean age was 21.1.

PROCEDURE

The participants were randomly assigned to a power-of-speech style and argument strength condition. The design was a 2 (power-of-speech style—low versus high) \times 2 (argument strength—low versus high) \times 2 (need for cognition—low versus high) between participants factorial. Participants were classified as low or high in need for cognition by a median split on the short Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984).

Participants received an experimental booklet. The first page contained directions explaining that the study was concerned with the processes people use to form impressions of public speakers. Following the instruction page, the booklet contained a speech supporting a \$100 per year increase in parking fees at an unspecified university, sheets on which to write their thoughts about the message, dependent measures assessing participants' attitudes toward the topic, dependent measures assessing participants' impressions of the speaker, and the Need for Cognition Scale.

INDEPENDENT VARIABLES

Argument strength. Participants read a persuasive message supporting a \$100 increase in yearly parking fees at a university. This topic was used because it had not been used in previous research and would help generalize the results beyond the speech topic used in many prior studies using ELM as a theoretical base (comprehensive exams for undergraduates). Argument strength was manipulated such that participants in the low strength condition read three weak arguments in favor of the thesis, whereas those in the high strength

condition read three strong arguments for the thesis. The high strength argument message contained 323 words, whereas the low strength argument contained 322 words.

The three weak arguments were selected from a pool generated by students, and argued that a fee increase was needed because (a) the revenue generated could be used to hire more faculty members, (b) the revenue would allow for an increase in library holdings, and (c) the fee increase would free cramped parking facilities because fewer students would bring cars to campus. The sources used to support these arguments were an instructor's opinion, a quotation from a graduate student in philosophy, and an informal poll conducted among friends.

The three strong arguments were also selected from a student-generated poll, and argued that (a) fees would improve or upgrade existing facilities, (b) fees would allow a new parking facility to be built, and (c) the fee increase would provide reserved spaces for faculty, staff, and students. The sources cited to support these arguments were a quotation from a professor of campus development published in a journal, a pool of administrators conducted by the unspecified university's Office of Institutional Planning, and evidence from the *Journal of Institutional Development*.

Power-of-speech style. Powerful and powerless speech style versions of the strong and weak-argument messages were constructed. The powerless version was constructed by inserting 15 to 16 hedges, hesitations, and tag questions in the messages. These three forms had been used by Gibbons et al. (1991), and the number inserted was consistent with prior research in the area (Erickson et al., 1978; Hosman, 1989; Hosman & Wright, 1987). The powerful version represented the absence of the forms inserted in the powerless message.

Following are excerpts from the four power-of-speech style and argument quality manipulations:

High argument strength / powerful style. A need exists to raise parking fees to \$100 per year. Accordingly, the evidence suggests that there are valid reasons in support of such an increase. Initially, as reported in the December 1995 issue of *Campus Issues*, Dr. James Carnahan, Professor of campus development at Yale University's College of Higher Education, observed that "in virtually every case there was a significant correlation between parking fee and condition of parking facilities; higher fees produced better facilities. One hundred dollars is a fair amount for any college to charge." Simply, an increase in parking fees is necessary because it would enable existing facilities to be paved and repaired.

High argument strength / powerless style. A need exists to raise parking fees to \$100 per year. Accordingly, the evidence sort of suggests

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Low argument strength / powerful style. A need exists to raise parking fees to \$100 per year. Accordingly, the evidence suggests that there are valid reasons in support of such an increase. Initially, the money can be used to increase the number of existing university faculty members. As one instructor noted, "I believe that any additional funds secured by this institution ought to go into increasing the overall size of the faculty—this will have a positive impact on the student body." Likewise, in a poll conducted 3 years ago, the majority of faculty members indicated that they believed the university needed to hire more teachers.

Low argument strength / powerless style. A need exists to raise parking fees to \$100 per year. Accordingly, the evidence sort of suggests that there are valid reasons in support of such an increase. . . . Uh . . . Initially, the money can be used to increase the number of existing university faculty members. As one instructor noted, "I believe that any additional funds secured by this institution ought to go into increasing the overall size of the faculty—this might have a positive impact on the student body." Likewise, in a poll conducted 3 years ago, the majority of faculty members indicated . . . um . . . that they kind of believed the university needed to hire more teachers.

Need for cognition. Participants completed the short version of the Need for Cognition Scale and were classified as high or low in need for cognition by a median-split on the Need for Cognition Scale. The median score in this study was 62, with the scores ranging from 22 to 86. The reliability of the scale was .88.

Pretests of the manipulations. One pretest was conducted to assess the argument strength and power-of-speech style manipulations. A total of 29 participants, drawn from the same population as the main study, read one of the four argument strength / power of style messages, and evaluated it on four 7-interval dependent measures. Two scales assessed power-of-speech style and two assessed argument strength. A 2 (power-of-speech style—low versus high) \times 2 (argument strength—low versus high) MANOVA was used to analyze this data. There was no

significant interaction between argument strength and power-of-speech style, suggesting that the two variables could be manipulated orthogonally. There was a significant MANOVA main effect for argument strength ($F(4, 22) = 3.64, p < .02$) and for power-of-speech style ($F(4, 22) = 3.58, p < .02$). The argument strength effect was significant only for the two scales assessing argument strength: strong ($F(1, 25) = 6.01, p < .02, \eta^2 = .19$) and sound ($F(1, 25) = 15.87, p < .001, \eta^2 = .39$). The high strength argument was perceived to be sounder ($M = 4.71$) and stronger ($M = 4.56$) than the low strength argument ($M_s = 3.10$ and 2.80 , respectively). The power-of-speech style effect was only significant for the two scales assessing power-of-speech style: powerful ($F(1, 25) = 11.63, p < .002, \eta^2 = .32$) and authoritative ($F(1, 25) = 5.91, p < .02, \eta^2 = .19$). The high power condition was perceived as more powerful ($M = 4.46$) than the low power condition ($M = 2.86$) and the high power condition was perceived as more authoritative ($M = 4.23$) than the low power condition ($M = 2.76$). Thus, these two manipulations differed in the expected ways.

Because we were attempting to make personal relevance moderate or ambiguous, a separate sample of students ($n = 14$) read one of the four above messages and assessed the extent to which the message was relevant and important to them on seven-interval scales. The mean for the scale assessing the topic's importance to the participants was 4.21, and the mean for the scale assessing the topic's relevance to them was 4.1. Both means fell around the mid-point of the scale, suggesting that the messages were perceived as having moderate or ambiguous personal importance to the participants.

DEPENDENT VARIABLES

Five sets of dependent variables were used. Five 7-interval items were used to measure participants' attitudes toward an increase in campus parking fees. Four assessed whether the proposal was beneficial, wise, good, and favorable. The last asked the extent of a participant's agreement or disagreement with the proposal. All five items had been used previously in several studies to assess attitude change (e.g., Gibbon et al., 1991).

Three sets assessed perceptions of control of others and self and speaker evaluation scales. Six items were used to measure control of self—appropriate, planned, confident, self-controlled, composed, and certain. Four items measured control of others—an effective leader, influential, domineering, and powerful. These scales were selected based on other studies using items to reflect control of self and others (Gibbons et al., 1991; Hosman & Siltanen, 1994). The evaluative scales assessed a speaker's competence (intelligent, competent, authoritative), sociability (pleasant, likable, sociable, and friendly), and

dynamism (strong, aggressive). These latter scales were selected based on Bradac and Street's (1989/1990) recommendations.

The final set was participants' cognitive responses to a message. In each of the experimental conditions respondents were given 3 minutes to write any thoughts regarding the speech they had just read. They were instructed to write one thought per line and each thought-unit was content-analyzed using a scheme developed specifically for this study. The content-analytic scheme categorized participants' thoughts relating to speaker, message, and situation. Speaker-related categories included physical delivery, verbal delivery, personal attributes, and gender. Comments such as "I think the speaker probably didn't use many gestures," are examples of references to physical delivery as were assessments of posture, movement, and the like. Verbal delivery included comments making reference to words the speaker used as well as nonverbal aspects of verbal delivery. Specifically, coders were to look for references to pitch, rate, tone, volume, verbal slips, verbal mannerisms, and pauses, as well as anything else that seemed to suggest assessment of verbal delivery. For example, individuals who received a powerless speech style message might note the number of "umms and uhs" in the text. Personal attributes included those responses in which the subject may have inferred levels of nervousness, motive, dress, and personality, such as "This speaker seems like a good person." Finally, we thought that respondents might draw conclusions about the speaker's gender. Gender attributions might be detectable as references to the speaker as "he," "she," or "he/she," but other comments, such as "the speaker was dressed in a business suit with a power tie" might suggest gender as well.

The second set of concepts that the content-analytic scheme attempted to identify included message-related variables such as content-oriented comments, structure/organization/style comments, and use of supporting material. If the respondent appeared to take issue with something the speaker said, such as "I think it's ridiculous to raise parking fees so much," then it was coded under content. Structure/organization/style comments included observations about speech length ("this speech was way too long"), speaking style ("it wasn't clear what this speech was trying to say"), or speech structure ("this speech definitely had a logical structure"). Finally, use of supporting material was coded as well. Anytime a participant made reference to the use of support, such as "I don't think the speech was well documented," then it was coded in this category.

The last major section included items that might be classified as those that make reference to the situation. Situation-oriented comments include assessments of audience, context, or surroundings. Examples include "The audience probably wasn't paying attention" and "I'll bet this took place in a big auditorium."

In each category, with the exception of gender, comments were coded as positive, negative, or neutral.

Coding of participants' thoughts took place in two phases. In the first phase, two coders reviewed each participant's thoughts and indicated the number of thought-units. There was a 90% agreement among the coders with all disagreements resolved. In Phase 2, three coders were initially trained in a 1-hour session. The training material included thought-listing data collected from 10 participants who did not fully complete other parts of the questionnaire. Overall reliability (Scott's Pi) for the training session was .94. Differences were discussed and definitions of each of the content analytic categories were clarified. The reliability was considered high enough to continue with coding of the study material.

After training, coders were given a packet that included the thought-listing responses of 30 participants. They were to assign each thought to one of the categories and to assign its valence. The overall reliability for assigning thoughts to the various categories was .94 (Scott's Pi). The overall reliability for coding valence of thoughts was .98 (Scott's Pi). The intercoder reliability for attribution of gender was .99. These reliabilities were considered acceptable, and the remaining cognitive responses were distributed equally among the three coders and content analyzed.

RESULTS

FACTOR ANALYSIS OF THE DEPENDENT VARIABLES

The items reflecting the control of others, control-of-self, and evaluative scales were analyzed as one group, separate from the attitude change measures, because they were considered conceptually distinct from the attitude measures. A principal components analysis was conducted using an eigenvalue extraction criterion of 1.0 and a varimax rotation. An item loaded on a factor if its primary loading was at least .60 and no secondary loading exceeded .40. This analysis produced three factors. The first factor represented a control of others factor, with the following items and their loadings defining the factor: strong (.83), domineering (.79), authoritative (.77), powerful (.71), certain (.70), and aggressive (.63). The second factor was a sociability factor and was defined by the following items: friendly (.84), likable (.81), pleasant (.79), and sociable (.69). The third factor was a control-of-self factor, containing two items: self-controlled (.78) and composed (.78).

The attitude change items were factor analyzed using the above criteria and one factor was extracted, with all five items loading on the factor.

The items loading on each factor were summed and averaged and used in subsequent analyses. The standardized alpha reliabilities for each scale were as follows: control of others (.89), sociability (.83), control of self (.82), and attitude toward topic (.90).

EVALUATIVE AND ATTITUDE CHANGE MEASURES

Bartlett's test of sphericity indicated that a multivariate test was warranted ($\text{Chi-square} = 54.47, df = 6, p < .0001$). Multivariate analysis of variance on the evaluative scales and attitude measure revealed two significant effects. One was a main effect for power-of-speech style ($F [4, 104] = 13.74, p < .0001$) and the other was a main effect for argument strength ($F [4, 104] = 6.50, p < .0001$). No other effects were significant (power, medium effect size = .74).

The main effect for power-of-speech style was significant at the univariate level on two dependent measures. There was a significant effect on the control of others scale ($F [1, 107] = 37.26, p < .0001, \eta^2 = .26$), with a low-power style indicating significantly less control over others ($M = 3.53$) than a high-power style ($M = 4.90$). A significant effect was also found for the control-of-self measure ($F [1, 107] = 34.43, p < .0001, \eta^2 = .24$), with a low-power style exhibiting significantly less self-control ($M = 4.21$) than a high-power style ($M = 5.74$).

The argument strength main effect was significant on two dependent measures. First, it was significant on the sociability measure ($F [1, 107] = 12.52, p < .001, \eta^2 = .10$), with a low-strength argument being perceived as less sociable ($M = 4.14$) than a high-strength argument ($M = 4.92$). This effect was also significant on the attitude measure ($F [1, 105] = 15.53, p < .0001, \eta^2 = .13$), where a low-strength argument message resulted in a less positive attitude ($M = 3.36$) than a high-strength argument message ($M = 4.43$).

COGNITIVE RESPONSE DATA

To analyze the cognitive response data, the net valence of a category was computed by subtracting the negative thoughts from the positive thoughts per participant. A positive net valence means that the number of positive thoughts exceeded the number of negative thoughts. A negative net valence means that the number of negative thoughts exceeded the number of positive thoughts. Bartlett's test of sphericity indicated that a multivariate analysis was not warranted ($\chi^2 = 26.58, df = 21, p = .185$). Univariate analyses of variance produced five significant effects.

Significant power-of-speech-style main effects were found for three cognitive-response categories—style/organization/structure ($F [1, 107] = 4.28, p < .05, \eta^2 = .04$), verbal delivery ($F [1, 107] = 41.97, p < .0001, \eta^2 = .28$), and personal attributes ($F [1, 107] = 6.44, p < .02, \eta^2 = .05$).

Table 1
Means, Standard Deviations, and Cell Counts for the Power-of-Speech Style by Argument Strength Interaction for Net Valenced Supporting Material Cognitive Responses

Power of style	Argument Strength	
	Low	High
Powerless		
<i>M</i>	-.69 _a	.07 _b
<i>SD</i>	1.14	.98
<i>n</i>	29	30
Powerful		
<i>M</i>	-.18 _b	-.18 _b
<i>SD</i>	.61	.77
<i>n</i>	28	28

Note. Means with common subscripts do not differ significantly, $p < .05$. A positive mean indicates that the number of positively valenced thoughts about supporting material exceeded the number of negative thoughts. A negative mean indicates that the number of negatively valenced thoughts about supporting material exceeded the number of positive thoughts.

.06). A low-power style produced more net negative thoughts about message structure, organization, and style ($M = -.63$), message delivery ($M = -.76$) and the speaker's personal attributes ($M = -.46$) than a high-power message did (M s = $-.09$, $-.07$, and $-.11$, respectively).

Two effects involving the category of thoughts about supporting material were statistically significant. A main effect was found for argument strength ($F [1, 107] = 4.88$, $p < .03$, $\eta^2 = .04$), which was qualified by a significant interaction between argument strength and power-of-speech style ($F [1, 107] = 4.44$, $p < .04$, $\eta^2 = .04$). The means for this interaction are in Table 1. Follow-up tests showed that when the argument strength of a message was high, a low- or high-power speech style did not significantly affect the net positive thoughts generated by the message. However, when the argument strength of a message was low, a high-power style produced significantly more net positive thoughts about supporting material than a low power message did.

RELATIONSHIPS AMONG POWER-OF-SPEECH-STYLE, ARGUMENT QUALITY, COGNITIVE RESPONSES, CONTROL-OF-OTHERS, CONTROL-OF-SELF, SOCIABILITY, AND ATTITUDE MEASURES

The previous analyses examined the direct relationships between the independent variables and either the evaluative, attitude, or cognitive-response measures. These analyses are unable to assess whether a particular independent variable might affect a cognitive response variable that in turn, affects an evaluative measure or the

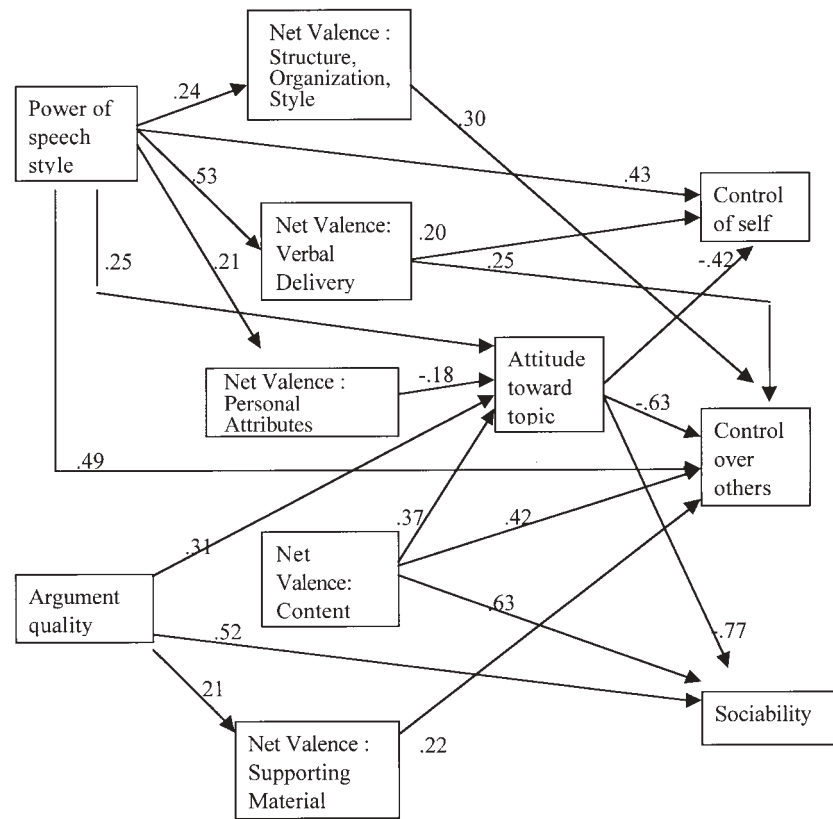


Figure 1: Structural Equation Model of the Relationships Among Power-of-Speech Style, Argument Quality, Cognitive Response Categories, Impression Formation Categories, and Attitude.

Note. The path diagram shows standardized estimates that were significant, $p < .05$.

attitude measure. To explore the possible indirect relationships among these variables, structural-equation modeling was used.

The nonrecursive model was computed by including paths between the independent variables and all of the dependent measures. Independent variables were treated as exogenous, whereas dependent variables were treated as endogenous. Paths between the cognitive response categories and the dependent measures were also included. In addition, paths between the control-of-other, control-of-self, and sociability measures and attitude change were computed. Paths were not included between the control-of-other, control-of-self, and sociability measures. All paths with t values of 1.96 ($p < .05$) were retained. The resulting model produced a nonsignificant chi-square ($\chi^2 = 26.55$; $df = 22$, $p = .23$) and fit the data well (Root Mean Square Error of Approx-

mation = .04, p -close = .55; Goodness-of-Fit Index = .97; Comparative Fit Index = .98) (see Figure 1).

The path model reveals that power-of-speech style had direct positive paths leading to net polarity of thoughts about verbal delivery, thoughts about structure, organization, and style, thoughts about personal attributes, perceptions of speaker self-control and control of others, and attitude toward the topic. Argument quality had direct positive links to net polarity of thoughts about supporting material, perceived speaker sociability, and attitude toward the topic. Need for cognition produced no significant paths.

Five cognitive response categories had direct positive links with other variables. Net polarity of thoughts about verbal delivery, structure, organization, and style, content, and supporting material were all linked to perceived control of others. Net polarity of thoughts about content was related to perceived speaker sociability and control of others. Also, net polarity of thoughts about content was positively linked with attitude toward the topic, whereas net polarity of thoughts about personal attributes was negatively linked with attitude toward the topic. Attitude toward the topic had direct, negative paths to perceived speaker control of others, self-control, and sociability.

These findings are interesting for three reasons. First, argument quality and power-of-speech style had direct, positive effects on attitude toward the topic. The direct effect of argument quality was consistent with the analysis of variance results. The direct effect of power-of-speech style was not revealed in the analysis of variance results. The difference between these findings and those of the analysis of variance is best explained by the smaller direct effect of power-of-speech style on attitudes (.25) than the effect of argument quality (.31). Analysis of variance may be unable to detect this smaller effect. At the same time, analysis of variance is insensitive to the possible mediating role that the cognitive responses may play, whereas path analysis is sensitive to these relationships. As the path analysis shows, the persuasive effect of power-of-speech style was mediated by a negative path between net valence of thoughts about speaker attributes and attitude toward the topic. This path from power-of-speech style through personal attributes to attitude toward the topic may reduce the total persuasive effect of power-of-speech style, making it more difficult to detect by means of analysis of variance.

Second, two cognitive-response categories, personal attributes and content, had effects on attitude toward the topic. Power-of-speech style generates positive thoughts about speaker personal attributes that in turn, negatively affect attitude toward the topic. It is possible that as listeners thought positively about a speaker exhibiting a high-power style, they also became concerned or threatened by it. A speaker having such positive personal attributes might be successful in persuading someone to accept his or her proposal. Although listeners would not be

specifically affected by the proposal in the message, they might be able to imagine others having to endure an increase in parking fees and evaluate the proposal negatively.

Content had a simple direct effect on attitude toward the topic. Listeners who generated more positive thoughts about the content of the message were also more positive toward the topic. This is consistent with most theoretical and practical advice about persuasion.

Third, several cognitive-response categories served a mediating role between power-of-speech style and the impression-formation measures. A high-power style was linked to positive thoughts about a speaker's message organization and delivery that in turn, positively affected listeners' perceptions of the speaker's control of self and control over others. Speech style causes listeners to generate thoughts about noncontent aspects of a message that affect their impression of a speaker. In contrast, argument quality does not have this array of cognitive responses affecting speaker perceptions. Argument quality's effects appear to be limited primarily to those thoughts focusing on content or supporting material and the attitude toward the topic.

DISCUSSION

This article began with the hypothesis that power-of-speech style, argument strength, and need for cognition would interact to affect the persuasiveness of a message, perceptions of a speaker's control of others and control of self, evaluations of a speaker, and cognitive responses. The results of the analysis of variance did not support the hypothesis. Instead, the results reaffirmed high argument strength's persuasive impact. A message with strong arguments was more persuasive than a message with weak arguments. These results did not find that power-of-speech style had an overall direct effect on persuasion. This is consistent with two other studies failing to find any direct effects for power-of-speech style on persuasion (Clepper, 1992; Gibbons et al., 1991).

The path analysis revealed, however, a more subtle and complex relationship between power-of-speech style and persuasive effects. This analysis showed that power-of-speech style had a significant, direct path to attitude toward the topic. The effect of speech style was not as strong as the effect of argument quality, and its effect was diminished by its indirect effects through other variables. This suggests that the persuasive effects of power-of-speech style will be small, particularly when compared to the effects of a variable such as argument quality.

Another issue raised at the outset was whether power-of-speech style acts as an argument or a peripheral cue. There is no evidence in this study that power-of-speech style acts as an argument. The path

analysis suggests that power-of-speech style may act as a peripheral cue, influencing cognitive responses about a speaker's personal attributes that in turn, affect attitude toward the topic.

The significant interaction between argument quality and power-of-speech style for thoughts about supporting material suggests a third possibility. With a strong argument, differences between powerful and powerless speech styles did not significantly affect thoughts about supporting material. When a message contained weak arguments, a powerless style produced more net negative thoughts about supporting material than a powerful style did. This finding may suggest that power-of-speech style operates as a cue that biases processing. In this case, a powerless speech style negatively biases message processing when argument quality is low but does not have such an effect when argument quality is high.

For the judgments of perceived control over others, self-control, and sociability, this study also resupported the positive impact of power-of-speech style on perceptions of self-control and control of others. A speaker exhibiting a powerful speech style was perceived as having greater control of others and self-control than was a speaker exhibiting a powerless speech style.

The cognitive-response data revealed several important findings. Speakers exhibiting a low-power speech style generated more negative thoughts regarding the style/organization/structure of their message, their verbal delivery, and their personal attributes. One who communicates with a powerless style is more likely to be considered less organized, less credible, and less adept at public speaking. Their style directs the attention of listeners away from the substance of the message and toward the speaker and his or her delivery and personal characteristics. Argument strength was related to thoughts about use of supporting material. This is consistent with ELM in that a strong argument would be expected to generate more thoughts about some aspect of it, such as the use of supporting material, than other aspects of the message, such as the style of delivery.

At the same time, the path model revealed that several cognitive-response categories mediated impressions of the speaker. Thoughts about the organization of a message and a speaker's delivery mediated the effects of power-of-speech style on impression of speaker self-control. Thoughts about the supporting material in a message mediated argument quality's effect on perceived speaker control over others. The path model also suggests that control over others may be the most viable explanation for the effects of power-of-speech style because more significant paths are associated with it than control of self.

Disappointing was the lack of any significant findings involving need for cognition. A post-hoc analysis compared the total number of cognitive responses generated by high and low need for cognition participants. The analysis revealed no significant difference ($t = .789$; $df =$

113; $p = .16$, one-tailed). There are two possible explanations. The first is that the design may have lacked sufficient statistical power to find such effects, particularly if they are small. The second is that the personal relevance manipulation may have caused high and low need for cognition participants to process the message similarly. Not knowing whether the proposal would affect them may have motivated both groups of participants either to use their cognitive resources sparingly or to use their resources extensively and thus moderate the differences between those high and low in need for cognition (Cacioppo, Petty, Feinstein, & Jarvis, 1996).

There are three limitations to this study. First, the messages were presented via a written modality. Sparks et al. (1998) suggested that the modality of message presentation affects whether power-of-speech style has a persuasive effect. Although they found that power-of-speech style did not affect attitude change when the message was written, a finding consistent with our analysis of variance results, our path model found a small direct effect. This effect might be stronger if the messages were presented via a different modality such as videotape. Second, the structural-equation model may be limited to the data generated in this study. The model may not fit data generated in other studies as well. Third, the results of this study are limited to the particular messages used. This limitation is most applicable to the cognitive response data because only one other study (Gibbons et al., 1991) has used such an approach for power-of-speech style research. The impression-formation results are more immune from this limitation because the findings are consistent with other studies using different messages.

We think that there are two directions for future research. One direction is to explore the persuasive impact of particular components of a powerless speech style. Previous research has found that the individual components do not have the same evaluative consequences as they do when combined in a powerless message, and it would be reasonable to think that the persuasive consequences might differ as well. For example, a component such as hedges may have an interesting effect in relation to variables such as argument quality and need for cognition. Hedges could affect argument quality by reducing the force or certainty of an argument, they could operate as a peripheral cue providing information about the speaker rather than the substance of the argument, or they could bias message processing.

A second direction for future research is to explore more fully the cognitive consequences of powerful and powerless speech. Although we know a considerable amount about the impression-formation consequences of these styles, very little is known about other cognitive consequences of these styles. For instance, do we remember a message delivered with a powerful style more or less than a message delivered

with a powerless style? These memory differences might have important consequences for the persuasive effects of both styles.

In conclusion, we found that argument quality had strong direct effects on persuasive outcomes, whereas the effects of power-of-speech style were more subtle. We also found that power-of-speech style affected the thoughts generated about a message, with a powerless speech style message generally producing more negative thoughts.

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