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The Relationship Between the Use of Hesitations and/or Hedges and Lecture Listening: The Role of Perceived Importance as a Mediating Variable

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A number of investigations have focused on the relationship between powerful and powerless language behaviors and impression formation. Sources who speak in a powerful manner by avoiding such speech features as hesitations, hedges, and tag questions are evaluated as more credible (Erickson, Lind, Johnson, & O'Barr, 1978; O'Barr, 1982; Johnson & Vinson, 1987), more attractive (Erickson et al., 1978; O'Barr, 1982; Bradac, Hemphill, & Tardy, 1981; Bradac & Mulac, 1984b), and more effective (Bradac & Mulac, 1984a). Little attention has been given, however, to the relationship between the use of powerful or powerless speech and retention of the information contained in lecture type messages. This type of lecture recall is often referred to as lecture listening (Bostrom & Waldhart, 1988; Watson & Barker, 1988). To measure lecture listening, recall of information contained in the lecture is tested. If the use of powerless talk lowers lecture listening scores, then instructors, trainers, public speakers and others can be counseled to avoid powerless speech forms in order to enhance lecture listening/recall. Although little research has been done on the connection between powerful and powerless speech and recall, one recent study (Johnson, Vinson, Hackman, & Hardin, 1989) found that listeners recalled significantly less information when an instructor used hesitations in the the delivery of a lecture. While the findings of this study suggest that powerless talk lowers lecture recall scores, this investigation had a number of limitations.

First, only hesitations were used in the stimulus lecture. Use of other forms of powerless speech, such as hedges, may not be detrimental to lecture listening. Second, the combination of hesitations and other powerless features in the same message may have a different impact on lecture recall than the use of hesitations alone. Third, the results of Johnson et al. study alluded to, but did not substantiate, a relationship between the listeners' perceptions of the importance of a message, powerless language use, and lecture recall. The researchers suggested that one's motivation to process a message may be balanced against the effort needed to compensate for powerless language elements. If receivers think that a message is important, they may overcome the distraction of powerless speech by increasing attention. On the other hand, if auditors think that a message is unimportant, they may not compensate for powerless speech interference. The study, however, did not ask participants to rate the importance of the stimulus message in order to determine if this was the case.

The purpose of the present study was to address these limitations and thus to increase our understanding of the relationships between lecture listening, powerless language use, and the importance of the message to the receiver. To do so, the following hypotheses were tested.

Hypothesis 1: The use of either hesitations or hedges in a message will produce lower lecture listening scores than the message without these powerless language forms.

Johnson et al. (1988) found hesitation use to lower listening scores in a lecture situation. This leads to the prediction that hesitation forms will lower lecture recall. Predicting the same effect, on recall, for hedges is made because of the similarities documented between the effects of these two powerless language features. Both forms signal tentativeness and uncertainty and are rated low in power and effectiveness (Bradac & Mulac, 1984a). According to Hosman and Siltanen (1988), messages with hesitations or hedges or both are "relatively indistinguishable" (p. 20). Because of these similarities and considering the finding that hesitation use lowers lecture recall scores, the hypothesis that hedges will also lower lecture recall scores is advanced.

Hypothesis 2: The use of both hesitations and hedges in a lecture will generate credibility ratings that are not significantly different from the ratings generated by hesitations or hedges used separately.

In a series of studies, Hosman and associates (Hosman & Wright, 1987; Hosman, 1987; Hosman & Siltanen, 1988) have measured the evaluational consequences of using combinations of hesitations and hedges. Although some interaction effects have been noted when combining these powerless language features (Hosman, 1987), these

findings have not been consistently duplicated. The presence of either hesitations or hedges is apparently enough to harm the impressions of speakers, but the combination of both does not appear to generate any further negative evaluations (Hosman & Siltanen, 1988).

Hypothesis 3: The use of both hesitations and hedges in a lecture will generate lecture listening scores that are not significantly different from those generated by hesitations or hedges used separately.

If the combination of hesitations and hedges has virtually the same effect on credibility evaluations as the use of one form or the other as predicted in Hypothesis Two (Hosman & Siltanen, 1988), and if credibility effects and lecture recall effects demonstrate similar patterns in powerless language research, then lecture recall scores should be the same for each condition containing powerless language (hesitations only, hedges only, hesitations and hedges).

Hypothesis 4: The importance of the message to the listener mediates the relationship between lecture recall and powerless language such that: (a) lecture recall scores will be positively correlated with ratings of importance; and (b) the strength of the relationship between powerless language and lecture recall, as evidenced by η^2 scores, will be increased by removing the variation caused by the importance variable.

Johnson et al. (1988) suggested that the listener's perception of the message's importance mediates the effects of powerless language use. Research into the effects of motivation on listening scores supports this position. Prior research has demonstrated that auditors who are motivated to listen to the content of a message recall more of the message's content than those who are not motivated (Matter, 1968; Shellen, 1989). In the present experiment, those participants that find the message important should be more motivated to listen than those who find the message unimportant. In line with this reasoning, a positive correlation between lecture recall and importance should exist. Further, by removing the variation in the analysis of variance equation attributable to importance (a demonstration of importance's mediating effect), the strength of the relationship between powerless language use and lecture recall should be enhanced.

Research Question 1: Will the use of one form of powerless language during a lecture increase the receivers' perceptions of the frequency of usage of the other (not used) powerless form? (e.g., in the hesitation only condition, will the participants believe that hedges were also present?)

Hypotheses Two and Three predict that while hesitations or hedges will lower credibility ratings and lecture recall, combining them (hesi-

tations and hedges in the same message) will have no additive effect. One explanation for this effect is that the presence of one powerless form creates the impression that other powerless forms are also present. Research into how the mind evaluates provides one model for conceptualizing such an effect.

Cognitive theories of information processing indicate that information is stored in neurally connected networks of modules. Pavitt and Haight (1987) refer to groups of modules used in evaluational processes as Implicit Prototypes. These prototypes are said to be comprised of physical (a powerful communicator looks like...), mental (a powerful communicator believes ...), and behavioral (a powerful communicator behaves like ...) modules. If any of these modules are activated, the other modules comprising the prototype are also partially activated (e.g., Green & Geddes, 1988). This activation not only effects the evaluation of incoming stimuli, it also effects one's perception of what stimuli are present. For example, when confronted with a gun, witnesses recall seeing a person that meets their expectation of "a person that does armed robberies" (e.g., Block, 1976). The modules containing the information defining an armed robber are activated and they (the modules) significantly affect perception.

In the present experiment, it may be that the use of one powerless form activates related modules containing information further defining a poor communicator (e.g., uses hedges, makes speech errors, etc.). Thus, when a communicator uses hesitations, he/she is also perceived as doing other things that a poor communicator does (e.g., using hedges).

These four hypotheses and the research question were tested in the following experiment.

METHOD

Participants

Two hundred and forty students enrolled in introductory communication or psychology courses at a small northwestern college and a mid-sized southern university participated in this research.

Stimulus Materials

The stimulus materials for this experiment centered around an 800 word transcript of an original lecture covering four theories of human emotion. Powerless language forms were inserted creating four conditions: (a) Condition One included 40 hesitation forms ("uh", "um," and "ah," "Well," or "Okay") placed to mimic natural speech (Erickson, et al., 1978); (b) Condition Two included 20 hedges ("I guess", "I think",

"kind of"). These expressions were also placed to model natural speech (Bradac & Mulac, 1984a; Warfel, 1984); (c) Condition Three combined the hesitation forms and hedges used in conditions one and two; (d) Condition Four used no hesitations or hedges. It is referred to as the powerful condition. The concentrations of hesitation forms and hedges used in this experiment (5% in Conditions 1 & 2 and 10% in Condition 3) are similar to concentrations often used in this type of research (Erickson et al., 1978; Johnson & Vinson, 1987).

Dependent Variables

Four dependent variables were employed. Participants' lecture recall was measured by a 25-item test which asked participants to match certain statements, concepts, or names with the appropriate theories. Lecturer credibility was measured within the dimensions of authority, character (McCroskey & Young, 1981) and dynamism (Berlo, Lemert, & Mertz, 1969). The participants' perceptions of how important learning the material was, was measured using two seven-interval, Likert-type scales. Finally, participants were asked to estimate the number of hesitation forms and hedges used by the lecturer (0-50; Vinson & Johnson, 1989).

Procedure

Written transcripts representing the four treatment conditions were randomly ordered and administered to intact classes. Participants were asked to read and follow the directions. After reading the lecture, written instructions requested that the transcript be returned to the experimenter. At that time participants were given a packet (coded as to the condition that each was in) containing the dependent measures.

The use of written transcripts to study an oral interactive process is addressed here. Written transcripts are useful not only because they allow the researcher to more easily collect the data but, as Bradac and Mulac (1984a) note, they also allow for better experimental control:

In studies of lexical variation, transcribed messages eliminate "noise" which is produced by idiosyncratic aspects of voice quality, intonation, etc. and by variations in vocal presentation from one message version to another (Bradac, Konsky, & Davies, 1976; Bradac & Mulac, 1984b; O'Barr, 1982). In other words, the internal validity of transcribed message experiments is potentially relatively high (Bradac, 1983; Cook & Campbell, 1979).

Not only do transcribed messages provide good control, they also generate results that mirror those produced when oral messages are employed. Previous studies of powerless language effects have consis-

tently obtained nearly identical outcomes across written and oral conditions (Bradac et al., 1981; Erickson et al., 1978; Vinson & Johnson, 1989; O'Barr, 1982).

Because of the ease of data collection, the enhancement of experimental control, and the similarity of noted effects between oral and written messages, the majority of studies on powerless language use have used transcripts to operationalize powerless language (Bradac & Mulac, 1984a).

Design and Data Analyses

This experiment used a one factor randomized design¹. Data were analyzed using the SPSSX (Norusis, 1983) programs Frequencies, Reliability (alpha), Regression (Stepwise), Ancova, Manova, and Newman-Keuls range tests. A demarcation of .05 was set for rejection of the null. Power was set at .90 with a .25 effect size requiring a per cell n of 58 (Cohen, 1977). This study had an n of 60 per cell.

RESULTS

Data Preparation

Data were checked for coding errors using the SPSSX program Frequencies (Norusis, 1983). The reliabilities of the three credibility dimensions were determined by computing alpha coefficients. Final alpha coefficients, using all six items for each dimension, of .79 (Authority), .70 (Character), and .83 (Dynamism) were considered adequate. Therefore, the items representing each dimension were averaged and used in subsequent analyses.

Manipulation Checks

If the powerless language manipulations worked one would expect: (a) credibility ratings to be higher for those participants exposed to the powerful language condition than for those exposed to the powerless conditions, and (b) the number of powerless language forms identified as existing in the powerful language condition to be lower than for the powerless conditions. Univariate oneway analyses of variance and Newman-Keuls range tests supported the validity of the manipulations. The powerful language condition generated higher ratings of authority ($F(3,236)=11, P<.00001, \eta^2=12.1\%$), character ($F(3,236)=6.9, P<.0002, \eta^2=8.4\%$), and dynamism ($F(3,236)=21, P<.00001, \eta^2=21\%$), while generating lower ratings of hesitation or hedge use than the three conditions containing powerless language (hesitations- $F(3,236)=73, P<.00001, \eta^2=49\%$; Hedges- $F(3,236)=11, P<.00001,$

$\eta^2=12.4\%$). (See Tables 1 & 2 for means, standard deviations and contrasts.)

Multivariate Test

A multivariate oneway analysis of variance demonstrated significant multivariate effects (Pillais=.79, $P<.0001$; Hotellings=1.5, $P<.0001$). Univariate analyses of variance and Newman-Keuls range tests were used to test the hypotheses and address the research question.

Hypotheses 1 & 3

Hypothesis One predicted that the use of hesitations and or hedges would lower lecture recall scores while Hypothesis Three predicted that the effects, on retention scores, of the three conditions containing powerless language would be equivalent (i.e., would not be significantly different from each other).

A univariate analysis of variance and Newman-Keuls range tests supported Hypothesis One for two of the three conditions ($F(3,236)=4.2$ $P<.0006$, $\eta^2=5.1\%$). (See Table 1). Data analyses did not support Hypothesis Three. Specifically, participants exposed to the powerful language lecture or the one containing both hesitations and hedges generated the highest (equivalent) mean recall scores (11.0-No powerless language ; 11.2-hedges and hesitations). Those participants exposed to the lecture containing hesitations or the lecture containing hedges generated lower mean recall scores (9.4-hedges; 9.5-hesitations) than those exposed to the powerful lecture or those exposed to the lecture containing hedges and hesitations.

TABLE 1. MEANS, STANDARD DEVIATIONS, AND CONTRASTS FOR RECALL, IMPORTANCE, ESTIMATED HESITATION USE, AND ESTIMATED USE OF HEDGES.

	<i>Retention</i> Mean (SD)	<i>Importance</i> Mean (SD)	<i>Hesitations</i> Mean (SD)	<i>Hedges</i> Mean(SD)
Powerful	11.0(3.1)a	4.3 (1.7)a	5.6 (6.9)a	6.8 (9.8)a
Hesitations/ Hedges	11.2 (4.7)a	4.0 (1.6)a	29.2 (10.2)c	18.2(10.2)b
Hedges	9.4 (3.2)b	3.2 (1.4)b	16.0 (13.0)b	15.0(11.6)b
Hesitations	9.5 (3.1)b	3.6 (1.7)b	32.0 (12.8)c	14.4(12.4)b

* means in columns with common superscripts are not significantly different (.05).

Hypothesis 2

Hypothesis Two was supported. It predicted that the three conditions containing powerless language would generate equivalent credibility ratings (Power = .90). Newman-Keuls range tests supported this prediction. For each credibility dimension, the condition containing no powerless language produced the highest credibility ratings while the other three conditions (hesitations only, hedges only, hesitations and hedges) produced equivalent credibility ratings (See Table 2).

TABLE 2. MEANS, STANDARD DEVIATIONS, AND CONTRASTS FOR CREDIBILITY MEASURES.

	<i>Authority</i>	<i>Character</i>	<i>Dynamism</i>
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>
Powerful	6.0 (1.2)a	5.8 (.77)a	5.5 (.91)a
Hesitations& Hedges	4.7 (1.4)b	5.2 (.96)b	3.8 (1.4)b
Hedges	5.2 (1.3)b	5.2 (.62)b	4.2 (1.5)b
Hesitations	4.9 (1.6)b	5.4 (.91)b	3.8 (1.6)b

* means in columns with common superscripts are not significantly different (.05).

Hypothesis 4

Both parts of Hypothesis Four were supported. Part (a) predicted that lecture recall scores and ratings of importance would be positively correlated. That is, the more important a participant believed the information was, the more that he/she would recall. Regression analyses, dichotomized for experimental condition, were used to test this portion of Hypothesis Four. Results found significant correlations between lecture recall and importance in each condition: (a) no powerless language $r=.76$, $r^2=58\%$; (b) hesitations and hedges $r=.75$, $r^2=56\%$; (c) hesitations only $r=.75$, $r^2=56\%$; and (d) hedges only $r=.78$, $r^2=61\%$.

Part (b) predicted that by removing the variance due to importance the relationship between powerless language use and lecture recall would be strengthened. An analysis of covariance, entering the importance score as the covariate, generated support for this prediction. Specifically, the analysis of variance conducted without importance as a covariate explained 5.1% of the variance in lecture recall scores ($F(3,236)=4.2$ $P<.0006$, $\eta^2=5.1\%$). When the variation attributable to importance was removed through an analysis of covariance, however, both the size of the F ratio as well as the amount of variance explained

by the powerless language manipulations rose substantially (Importance- $F(1,232) = 320, P < .0001$; Power- $F(3,232) = 9.5, P < .0001$; $\eta^2 = 60.1\%$).

Research Question

The research question focused on the participants' predictions of the number of hesitations and hedges used in the lecture. It asked if the use of one powerless language form would cause the participants to perceive the existence of the other powerless language form. If a message contained hedges but no hesitations, would the presence of the hedges make the receiver perceive that hesitation forms were indeed present (and vice versa)? Mean contrasts indicated that they did. When only hesitations were used, participants perceived (on average) the existence of 14.4 hedges. When only hedges were used, participants indicated (on average) that 16 hesitations were present. These frequency reports are significantly higher than the reports in the powerful condition (see Table 1).

DISCUSSION

This study adds two significant pieces of knowledge to our understanding of how powerless speech influences information recall. First, the use of hedges or hesitations may lower lecture recall. This result replicates the findings of Johnson et al. (1988) and extends those findings to hedges. Apparently, instructors and speakers should avoid either language feature if they want receivers to recall their messages.

Second, there appears to be a relationship between the perceived importance of a message, powerless language use and lecture recall. Lecture recall scores were positively correlated with level of importance scores. Participants who recalled more of the lecture's content also reported that they thought the message was more important. Further, by taking out the variation attributable to importance, the effect of powerless language on lecture recall was increased. This suggests that receivers can concentrate their attention on the content of a message and mitigate the distraction of the powerless speech if they feel they need to do so. This finding indicates that the impact of perceived importance is more powerful than that of powerless language use in a lecture situation. In sum, these data support that level of importance is a mediating variable in powerless/powerful language processing.

Future research should pay closer attention to the content of the messages used as stimulus materials. Perhaps some of the effects attributed to powerless language use by earlier studies are exaggerated. Participants may have been more influenced by the presence of powerless speech than they would have been if they had taken the stimulus

materials more seriously. Thus, powerless language may be harmful in only a limited scope of situations; situations in which the message's content is relatively unimportant to the listeners. While it is true that the present study focused on recall while most powerless language research focuses on persuasive scenarios, we believe that this issue is important enough to call for further exploration.

The results of this investigation also indicate that the presence of either hesitations or hedges or both features make a speaker less credible and her/his message less memorable. However, the effects of combining hesitations with hedges in messages are less clear. As expected, credibility scores were significantly lower when either powerless feature was added and the combination of hedges and hesitations did not generate lower evaluations than the use of one feature or the other. However, lecture recall scores were not identical in all three powerless conditions. The condition in which hesitations and hedges were employed generated lecture recall scores equal to the powerful condition. In answering the research question, data analyses indicated that when one powerless language form was used the receivers perceived that other forms were also present. While these findings are not inconsistent with the modular prototype model discussed earlier in this paper, research needs to explore the extent of this model's explanatory power within the powerless language construct.

NOTES

1. We attempted to manipulate involvement in this study by informing the participants that they would or would not be tested on the material. Manipulation checks showed that this manipulation was not successful. Participants did not perceive any consistent differences in involvement between groups. The data were therefore collapsed and the analyses planned for that part of the study were abandoned.

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