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CREDIBILITY AND ARGUMENT STRENGTH: PERSUASIVE EFFECTS WHEN PROCESSING ABILITY IS IMPAIRED

By

Angela Marie Bunker

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

MASTER OF COMMUNICATION

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ABSTRACT

CREDIBILITY AND ARGUMENT STRENGTH: PERSUASIVE EFFECTS WHEN PROCESSING ABILITY IS IMPAIRED

By

Angela Marie Bunker

The following study uses the Elaboration Likelihood Model to explain the persuasive results when a message is speeded beyond normal speaking rate. Speeding a message beyond normal rate may obstruct the ability to process. When ability to process is obstructed, individuals do not elaborate on the arguments presented. Instead, individuals are forced to use situational and surface cues when deciding whether to support or reject the message. In normal rate conditions, strong argument messages will have the persuasive advantage over weak argument messages because listeners can fully process the strong arguments. In speeded speech conditions however, when message arguments cannot be easily processed, the quality of the arguments will not determine agreement with the message but rather a peripheral cue such as credibility or affect (frustration) will determine amount and direction of attitude This study investigates what people experience on change. cognitive and affect levels when listening to a persuasive message. The study adds new data to the existing speech rate literature and contributes to ELM research by delineating further conditions under which central and peripheral routes operate.

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INTRODUCTION

In 1981 Petty and Cacioppo introduced the Elaboration Likelihood Model (ELM) as a general framework for organizing, categorizing, and understanding the basic processes underlying the effectiveness of persuasive communications (1986a). The model is an attempt to integrate conflicting data in the persuasion literature under one conceptual umbrella by specifying a finite number of ways in which source, message, and other variables have an impact on attitude change (Petty et al., 1987). The Elaboration Likelihood Model of cognitive processing, includes central and peripheral processing routes and the criteria of motivation and ability to process. The model has been used and discussed extensively. Yet, no model is perfect. Arguments against the ELM include the lack of falsifiability, the lack of ability to distinguish when a variable is operating as a central cue or a peripheral cue, and the portrayal of humans as single channel processors. То address these concerns, further research is necessary in order to modify the model and clarify its operation.

The following investigation uses the ELM to explain the effect on persuasion when processing ability is impaired by a speeded speech rate. Generous attention has been given to the motivation criteria for central processing (involvement) however, the ability criteria has been generally neglected.

LITERATURE REVIEW

A few researchers (Reid, 1968; Goldhaber & Weaver, 1968; Wood, 1982; Wood & Kalgren, 1988; Wood, et al., 1985; Petty & Brock, 1981) have investigated ability-to-process barriers like grammatical complexity, distractions, and prior knowledge but in comparison to research conducted on the motivation element, research on processing ability is limited. A careful analysis of the persuasive results when ability is impaired is important because, if a persuasive message cannot be processed then the time, energy, and money that advertisers, parents, and teachers, among others, devote to constructing strong arguments for their message, is wasted effort. Time, energy, and money are such precious commodities that it is absolutely essential to know with at least moderate certainty what will happen when listeners' processing capabilities are impaired. It is the goal of this study to address this problem. In addition, concentration on the ability criteria will fill a gap in persuasion research and supplement related research in describing conditions under which the two processing routes of the ELM will operate.

The study begins with a literature review that includes a summary of ELM operations and three criticisms of the model. An ELM analysis of speech rate and discussion of the Credibility Enhancement explanation are also included. At the

conclusion of the literature review, speech rate and the ELM are linked together producing two formal hypotheses. A full description of the procedures, analysis, and results are reported. A discussion of implications concludes the study. The Elaboration Likelihood Model (ELM)

The ELM is based on the amount and depth of cognitive processing a person engages in when listening to a message. The central and peripheral routes of processing and the motivation and ability to process are the four key concepts that make up the model. When a person is actively listening to and thinking about the content of the message they are processing via the Central route. Peripheral route processing occurs when the listener is not focusing on the content of the message but on situational and surface cues surrounding its When a person engages in a high level of presentation. cognitive processing (message elaboration), the person is processing via the central route. When a person uses a heuristic decision rule such as professional dress equals expertise on the topic, and does not consider the messages arguments carefully, the person is processing via the peripheral route. In order to process via the central route the person must be both motivated and able to process the message. If either of these criteria are not met then the person will process peripherally.

Whether or not persuasion takes place is determined by the cognitive responses that are generated. If a simple

decision rule is used to make the decision then persuasion will depend on whether the person believes in the decision rule. If the message is elaborated on more fully then positively valenced cognitive responses will lead to agreement with the speaker and negatively valenced responses will lead to disagreement with the speaker (no persuasion or a boomerang effect). Attitude change that is the result of central route elaboration is more persistent and stable than peripheral route (heuristic) persuasion due to the more thorough reasoning process that is involved.

The prototypical ELM experiment consists of varying the level of motivation to process a message (usually via involvement) and then observing the effects of a central cue (e.g., argument quality) and a peripheral cue (e.g., source credibility). Typically at levels of low motivation, central route elements have little influence on attitude change but rather, peripheral elements determine persuasion. At levels of high motivation, central route elements dominate attitude change while peripheral cues have little or no impact.

The ELM is fairly parsimonious and straightforward with its assumptions and elements and a good deal of evidence seems to support this model of persuasion. However, some weaknesses still exist.

Criticisms of the ELM

There are three criticisms addressed in this paper: the ambiguity of involvement, the nature of dual processing, and

the lack of study in regard to processing ability.

Involvement ambiguity. Motivation to process has almost message involvement. been manipulated though alwavs Involvement with the message however, means different things to different people. Most recently in persuasion research, involvement has been considered as, "a motivational variable that is presumed to affect persuasion because it instigates more thorough processing of persuasive messages (Johnson and Eagly, 1989, p.135)." This is not to overlook the multidimensional nature of involvement. Johnson and Eagly (1989) and Petty and Cacioppo (1984) disagree about the number of dimensions involvement includes. Johnson and Eagly's meta-analysis outlines value, outcome, and impression-relevant forms of involvement while Petty and Cacioppo claim that value and outcome involvement are simply "issue" involvement so that there are only two dimensions.

It is clear that different forms of involvement exist and that the respective forms may have different affects on persuasion, but it is not completely clear what these forms of involvement are nor how they differ in their impact on persuasion (Endnote 1). Until this issue is settled the best policy appears to be giving a thorough description of the message being used and its intended form of stimulation. This study presents a message topic that will directly effect all students except incoming freshmen on campus. Because the topic will have an impact on each of them personally, it is

likely that the students will want to gather as much information as possible (i.e., process the message arguments centrally). The topic of this message has not been used before however, in order to achieve a uniform high involvement from study participants a topic that is currently relevant to the majority of students at this university was needed. Other researchers have used a similar "adapt to the specific campus" technique (Watts & Holt, 1979) in which the message was constructed such that it addressed a highly relevant issue among study participants as a group. In total, approximately fifteen different topics have been used within attitude change research thus far. Some of the most unique topics include an advocation for compulsory male sterilization (Haslett, 1976), the legalization of marijuana, and favorable promotion of the Ku Klux Klan (Vohs & Garrett, 1968). The most common topics have been increasing tuition and instituting comprehensive exams for graduating seniors (Petty, Ostrom, & Brock, 1981).

Dual processing. A reading of the original ELM might have resulted in an interpretation of humans as single channel information processors. That is, humans process via the central route or peripheral route but do not use both at the same time. Petty and Cacioppo assert that single channel processing was never intended. Stiff (1986) pointed out that the single channel view, whether intended or not on the part of Petty and Cacioppo, "is inconsistent with research on information processing (p. 79)." Stiff suggests Kahneman's

elastic capacity model as a better way of explaining human information processing. In his 1986 meta-analysis Stiff cites the similarity in effect sizes between supporting information (central) and source credibility (peripheral), rho = .19 and .25 respectively, as evidence that "moderately involved message recipients divided their processing capacity between both sets of cues and processed both sets to a similar extent (p. 87)." This evidence suggests that both paths may be in operation at the same time and that motivation to process determines the capacity allocated to each of the paths.

Both models agree that humans engage in primarily central processing under conditions of high ability and motivation. Under conditions of high ability and low or moderate levels of motivation the models disagree about how much peripheral processing humans engage in. The ELM maintains that peripheral processing increases as motivation decreases (an inverse relationship). Stiff argues for a curvilinear pattern in which little of either processing takes place at levels of low motivation, as motivation increases to a moderate level both routes of processing increase also but as motivation grows higher peripheral processing drops off again and central processing takes over.

Motivation only focus. Exactly how humans process messages at low levels of motivation remains undetermined. It is not hard to determine however, that research regarding the ability to process has been neglected. This study will begin

to remedy that neglect and extend our knowledge concerning the ability to process. It will do this by focusing on what cues (central or peripheral) are influential when people have consistently high motivation (involvement) to process centrally but are restricted in their ability to do so.

The ability to process could be impaired by the complexity of the language used in the message (Goldhaber & Weaver, 1968; Reid, 1968; Ernest, 1968), the number or presence of distractions (Petty & Brock, 1981), or prior topic knowledge (Wood et al., 1982, 1985, 1988). A less obvious way ability might be impaired, and one that is more easily controlled than prior topic knowledge or listener distractions, is the rate at which the message is presented. Speech Rate and Credibility Enhancement

Before providing an ELM analysis of speech rate, a definition of the concept and a brief history of its use in social science study is necessary. In addition, prior explanations for its effects on persuasion are noted and will be compared with ELM predictions.

According to past research on the comprehension of speeded speech, rates between 120 and 200 words per minute (wpm) result in little or no reduction in ability to understand the majority of message arguments (Harwood, 1955; Jester & Travers, 1966). Rates as fast as 282 (Fairbanks, Guttman, & Miron, 1957) and 325 (Reid, 1968) also have been recorded with little reduction in ability however, as Foulke

and Sticht (1966) suggest, there is a weighty difference between "intelligibility" (the listener is able to repeat the message) and "comprehension" (the listener is able to show a knowledge of the facts and implications of a message). Rates above 200 wpm seem to be intelligible but not thoroughly comprehended using Foulke and Sticht's (1966) definitions. Therefor, given 140 to 180 wpm as normal conversation range, rates above this range should obstruct central processing.

Speech rate studies began in 1953 with W.D. Garvey, "The intelligibility of speeded speech." Approximately five speech rate studies were published in the fifties dealing with comprehension, recall, and listening rate preferences. Others were published in the mid-fifties and sixties, controlling the mode of delivery (audio, video, live), the way in which speech was speeded (live presenters speaking faster or machine manipulated rates), and further research on comprehension (e.g., the speed at which comprehension drops). In 1971, Wheeless connected speeded speech to increased persuasion. Market researchers (LaBarbara and MacLachlan, 1979; MacLachlan, 1979) and others (Mehrabian and Williams, 1969) also found evidence of this relationship. Other seventies research involving speeded speech rate found that variations in rate clearly affected receivers' impressions of speakers. Gundersen and Hopper (1976), Mehrabian and Williams (1969), Pearce (1971), Pearce and Brommel (1972), Smith, Strong, Brown, and Rencher (1975), and Street and Brady (1982)

associated faster rates with higher ratings of intelligence, objectivity, knowledgeability, and some credibility dimensions. Uniting earlier research, Miller, Maruyama, Beaber, and Valone, (1976) reasoned that faster speech was more persuasive due to an increased credibility rating assigned to the speaker.

The Credibility Enhancement Model that Miller et al. (1976) proposed has encountered both support and debate. A credibility enhancement explanation predicts a main effect for speech rate on both credibility and persuasion. Miller, et al.'s (1976) and Gunderson and Hopper's (1976) data were consistent with credibility enhancement predictions. Other studies however, have not detected effects of speeded rate on enhanced source credibility judgments (see O'Keefe, 1990, Still other scholars (Woodall & Burgoon, 1983), **D.135**). believe that only certain dimensions of credibility are enhanced by speeded speech. These authors argue that certain other dimensions of credibility are damaged by speeded speech creating a curvilinear relationship rather than a linear one. Woodall and Burgoon reasoned that "social attractiveness" would not be enhanced because people are attracted to speakers similar to themselves. Since most people speak at a moderate rate, the moderate rate speaker would be seen as more similar and therefore more socially attractive and possibly more persuasive, than a fast rate speaker. Trustworthiness was also thought to be hurt by speeded speech given that slower rates had been associated with being "honest and people oriented" (Addington, 1968; Brown, Strong, & Rencher, 1973; 1974; Pearce & Conklin, 1971; Schweitzer, 1970). In contrast, Miller, et al.'s (1976) experiment two found that trustworthiness was not reduced by speeded speech and that the fast speaker remained more persuasive.

Finally, speaker gender may have an impact on perceived speed of speech, credibility ratings, and attitude change. Unfortunately, many early experiments did not address this issue because female voices raised in pitch when "manually" speeded which almost guaranteed a drop in credibility. Therefore almost universally, male speakers were used to produce the messages. As technology advanced, the use of male speakers became more of a trend than a scientific necessity based on the assumption that no significant differences exist between male and female speakers (when in truth many of the studies reporting no significant differences did not have adequate power to detect small differences, Cohen, 1962). Eagly and Carli (1981) took a closer look at this assumption by meta-analyzing 61 persuasion studies, 64 conformity studies involving group pressure, and 23 conformity studies not involving group pressure. Their investigation considered differences when speaker sex was varied and when message receiver sex was varied. These investigators found that women were more persuadable than men and that women were more conforming than men in group pressure situations. Overall

however, "effect size estimates showed that the sex difference influenceability is small in magnitude (p.1)." Based on this meta-analysis and other information, the sex of message recipient is not expected to influence this investigation (there is no group pressure/influence). The sex of the speaker (message giver) is controlled based on further results from Eagly and Carli (1981). Eagly and Carli concluded that the hypothesis stating previous influence inductions contained a male bias was not supported but the sex of the researcher was a determinant of sex differences in persuasion. Nearly eighty percent of the authors of persuasive messages were male, and male authors obtained larger sex differences in the direction of greater persuasibility and conformity among When the author was a woman, there was no sex vomen. The Eagly and Carli (1981) results are difference. incorporated into this study by using both male and female Using both male and female speakers (separately) speakers. also improves the weak generalizability that afflicted many earlier studies.

The lack of consistency among speech rate's influence on credibility may be due to the unclear dimensions of credibility. Differences between Woodall and Burgoon's "social attractiveness" and "trustworthiness" and Miller et al.'s "trustworthiness" and others' "character," "safety," "personal integrity," or "liking," are small but, if one study includes three dimensions, another four, and another five,

then results are bound to vary. The most frequent factoranalytic produced dimensions are trustworthiness and competence. O'Keefe (1990) defines the competence dimension as, "whether or not the speaker is in a position to know the truth, to know what's right or correct (p. 132)." The trustworthiness dimension refers to the likelihood that the speaker will tell the unbiased truth (endnote 2). Dynamism, or speaker confidence and gregariousness (similar to social attractiveness), is also a frequent dimension of credibility.

Using the common dimensions of trustworthiness, dynamism, and competence, the questions remaining are: 1) What impact does speeded speech have on these dimensions of credibility, 2) what is the impact on overall credibility, and 3) how does the sex of the speaker effect credibility ratings and persuasibility? It is possible that speech rate does not affect credibility at all but rather that speech rate acts as a peripheral cue leading to the use of an alternate heuristic (i.e., a faster message is a stronger message) and therefore an increase in attitude change. O'Keefe's (1990) and most others' credibility dimension conclusions have been based on speech rates kept within normal speaking range. This study will investigate perceptions of credibility when speech rate is speeded beyond that range.

Speech Rate and the ELM

While the traditional Credibility Enhancement Model (CEM) explains speech rate studies through an increase in

credibility ratings, it does not suggest that the ability to process the message will be impaired. The CEM implies substantial dual functioning of both central and peripheral paths. In contrast, the ELM predicts that speeded speech will inhibit the ability to process message arguments. This lack of ability prevents central processing which leaves listeners with only peripheral cues when making decisions. In this project specifically, the speeded rate should force subjects to use a peripheral cue as a determinant of message persuasiveness rather than the central cue, argument strength. Measures of comprehension will confirm whether or not argument processing was possible. If results suggest that speeded rate increases both credibility and persuasion while comprehension is reduced or lost, then greater evidence will be offered for ELM reasoning. If results suggest otherwise then alternate explanations will be necessary and ELM operation, where ability is concerned, will need to be reevaluated.

If ELM predictions are correct, when speech is speeded beyond normal range, central processing ability is blocked and the alternative left for listeners is peripheral processing, such as, the credibility of the speaker. Measures of speaker credibility (using competence, dynamism, and trustworthiness dimensions) will assess credibility's influence under these conditions. This measure is particularly crucial because an increase in persuasion in speeded speech conditions, without similar increases in credibility, will suggest that speech

rate activates some other peripheral cue rather than operating through credibility. In short, results of this nature would question the validity of a credibility enhancement model. Preliminary work with this issue seems to suggest that credibility is not significantly enhanced but rather there is something else about speeded speech that leads individuals to greater agreement with the message. Hopefully this investigation will shed light on the matter.

Whether speeded speech acts as an ability blocker, an expertise enhancer, or a peripheral cue on its own, in speeded speech conditions the central processing characteristic, argument quality, should have little persuasive impact.

There are two different ways to think about the persuasive effects of a speeded message in relation to ability impairment. The first model is strictly cognition based with no consideration of affect. A second model includes an affective dimension and makes slightly different predictions. Both models control speech rate and argument quality and both models seem consistent with the ELM. Involvement (motivation to process) is high in <u>all</u> conditions of both models. Attitudes, cognitive responses, perceptions of argument strength, speaker credibility, speech rate and enjoyment of the activity are measured. A recall list of the speakers arguments will assess the degree of processing impairment. The dependent bariable in both models is amount of attitude change.

The figure below is a model of the purely cognitive design.

	Normal	
		Fast
Strong	high attitude change	high attitude change
Weak	low attitude change	high attitude change
	Strong Weak	Strong high attitude change Weak low attitude change

FIGURE 1: COGNITIVE ONLY DESIGN

The figure suggests that under normal speech rate conditions, subjects will have the ability to process the message. Therefore, high quality arguments will be more persuasive than low quality arguments. Moreover, weak arguments will result in little, if any, attitude change under normal rate conditions. In contrast, under speeded speech conditions, subjects will not have the ability to process the Persuasion in both strong and weak argument message. conditions however, will remain equal to that of the normal rate, strong argument condition due to the use of a processing heuristic (which may be source or message based). This reasoning leads to the first hypothesis.

H1: Significantly more attitude change will occur in the normal rate -- strong argument condition or in either of the speeded rate conditions than in the normal rate -weak argument condition. Attitude change will not differ in the first three conditions.

The figure below is a model of the second, cognitive plus affect, design which generated the second hypothesis.

		Speech Rate		
		Normal	Fast	
Argument Quality	Strong	high attitude change	moderate attitude change	
	Weak _	low attitude change	moderate attitude change	

FIGURE 2: COGNITIVE PLUS AFFECT DESIGN

This model predicts that under normal speech rate conditions, strong arguments will result in significantly more attitude change than any other cell of the design. As before, under normal speech rate conditions, weak arguments will result in little if any, attitude change. In contrast to the first model, this design predicts that under speeded speech conditions, only moderate attitude change will result from either strong or weak argument messages. Although both models predict people in these conditions will use heuristics to process, the second model predicts that listeners will experience frustration (affect) because they are unable despite their best efforts (high involvement) to process the content of speeded speech. This frustration should moderate attitude change. Thus,

H2: Significantly more attitude change will occur in the normal rate -- strong argument condition than in either of the speeded conditions, which in turn will produce more attitude change than in the normal rate -- weak argument condition.

METHODS

<u>Overview</u>

The primary goal of this experiment was to investigate the persuasive effect when speech is speeded beyond a normal rate (impairing the ability to process). Participants listened to an audio recording of a male or female speaker producing a weak or strong persuasive message at a normal or speeded rate. The participants filled out attitude, affect, credibility, and cognitive measures which were coded and analyzed with regard to the research hypotheses and previous speech rate research.

Participants

The initial sample was 166 undergraduates (86 males, 80 females) enrolled in communication courses at a large midwestern university. Twenty-eight of the subjects were seniors, 37 juniors, 69 sophomores, and 32 were freshmen. All subjects participated on a voluntary basis and received extracredit for their participation. For reasons explained below, data from ten participants were not used; hence, final analyses involved $\underline{N} = 156$ (79 males, 77 females: 28 freshmen, 65 sophomores, 35 juniors, 28 seniors).

Tossing Outliers

In order to see the amount that participants had changed their opinion of the semester system, a descriptive analysis of attitude change scores was run. Ten subjects' change scores were beyond two standard deviations of the mean attitude change score. These ten subjects were highlighted as potential outliers. After running several analyses with both a full sample and excluding the outliers, it was clear that leaving the extreme scores in the sample had a nullifying affect, covering significant results that appeared when the extreme scores were excluded. Therefore, all results reported here use only the smaller sample.

Pretests

A pretest was run using the attitude and involvement measures. These tests were necessary to assure room for change (avoid a ceiling effect where students were already very favorable toward the message topic) and to be sure that involvement with the topic was high. Thirty-one students (18 female, 13 male) from an undergraduate psychology class served as the pretest subjects. The involvement scale range was four to twenty with four being the highest involvement rating. Involvement was generally high ($\underline{X} = 7.74$, SD = 3.71). Dropping senior data (5 cases) the lowest involvement scores (little concern for the upcoming year because they would be gone) the involvement mean changes to 5.91, SD = 2.99. Positions were negative toward the semester system ($\underline{X} = 15.61$,

SD = 3.17). Twenty was the greatest possible score reflecting a highly negative attitude toward the change. Generally, students did not want to change to the semester system.

Experimental procedures

Subjects were pretested for involvement with, and attitudes toward the issue of their university converting from a quarter to a semester system. The persuasive message they were exposed to advocated the benefits of switching systems. The message was constructed to change negative, or moderately favorable positions to a favorable anticipation toward the The pilot and experimental tests for semester switch. involvement used Petty and Cacioppo's (1979b) items. The pilot and experimental tests of attitude used Fishbein's (1967c) four items (alpha = .95). Prior to listening to the persuasive message all subjects completed an initial attitude measure toward the upcoming change from the quarter system to Other bogus data was also collected to prevent semesters. subjects from focusing specifically on their attitude toward the semester switch before listening to the message. Student identification numbers were used to match pre-message and post-message attitudes. The experimental sample was randomly assigned to one of the eight cells of the design. Efforts were made to secure equal distribution of subjects across the various cells. The groups then listened to a tape recorded message with the qualities respective to their cell (e.g., male speaker, normal rate, strong arguments). After

listening to the message the subjects responded to the conceptual and dependent measures. Upon completion of these measures, materials were collected, the group was debriefed, thanked for their participation, and excused.

Independent Variables

There were four independent variables in the current study, sex of speaker, rate of speech, argument quality, and subject sex.

Speech rate. The messages were originally recorded at 150 words per minute (wpm) by one male and one female speaker. Both speakers were communication majors and the speakers held influential positions within social and professional organizations which required proficient presentation skills. The messages were recorded using a uni-directional dynamic microphone (DM-300B 500 Ohms) and a Sony LBT-D107R stereo system for a studio quality recording. Technicians then speeded the messages to 1.5 times their recorded rate or 225 words per minute.

Previous comprehension research suggests that 225 wpm is fast enough to impair processing ability yet is not fast enough to result in total unintelligibility. Message pitch was mechanically controlled in speeded conditions. The tapes were played back in classrooms using a Sony stereo cassette recorder.

Argument guality. Both messages advocated the benefits of switching to a semester system. One version contained

strong arguments in favor of the semester system, the other contained weak arguments. The messages modeled those created by Petty, Harkins, and Williams (1980). The weak message generated low quality rating by subjects ($\underline{X} = 2.68$, SD = .62) on a scale of one to five with one being the lowest quality rating. The strong message generated higher quality ratings from subjects (\underline{X} = 3.67, SD = .60) using the same scale as the weak argument message. A oneway analysis of variance produced a significant $F(1, 165) = 26.69, p < .001, eta^2 = .25$. These values suggest that the messages are producing significantly different judgments of quality. The messages were pretested for the percentage of positive and negative responses that were generated from each message version (for positive cognitive responses; strong = .342, weak = .236, diff. = .113). A z score of 2.33 was statistically significant for a two-tailed test suggesting that there are differences in the positive and negative responses generated by the strong and weak quality messages (\underline{z} (166) = .94, \underline{p} <.01). The original messages each contained six arguments. These six arguments were pretested individually for quality by asking pretest subjects to evaluate each of the arguments in the message. The final messages contained four of the original six arguments. The "strong" quality message was created by taking the four highest quality-ratings from the strong message. The weak version was created by taking the four weakest rated arguments from the original weak version. Both versions of

the message began with an introduction and brief description of the topic. Following this statement, the four strongest or four weakest arguments were presented.

<u>Subject sex.</u> Even though past research suggests only small differences, subject sex was included as an independent variable. This variable can show differences in persuasion when a female listener hears a speeded female speaker vs. a male listener hearing a female speaker, etc.

Dependant Variable: Post Attitude

A specific section of the response booklet asked participants to complete a second attitude measure identical to the earlier pretest with approximately 20 minutes elapsed time between the measures. Post message attitude was used as the dependent variable with premessage attitude entered as a covariate. Using the post message score avoids the problem of the change score relationship being affected by the product of the scales' reliabilities and also eliminates the appearance of low initial scores changing more, due to mean regression.

Attitude change (posttest minus pretest) was also regarded as a dependent variable. These values allowed for the expulsion of outliers from the data sample. These scores also provided a picture of how much change in attitude subjects' were reporting and the distribution of this change. In addition, this information was useful when looking at data patterns across all of the dependent variables.

Conceptual Variables

Seven variables were measured. Four measures served as manipulation checks (perceived involvement level, perceived speech rate, perceived sex of speaker, and perceived argument strength), one assessed the perceived credibility of the speaker, and two investigated the hypotheses (impaired processing via cognitive responses, and affect).

Perceived involvement level. Subjects were asked how personally relevant the semester switch topic was. Incoming freshman whose involvement with the message was low, were originally dropped from the investigation. However, a closer look at their responses suggested that they were still processing the message and offered a number of cognitive responses both to the message, the speaker, and their enjoyment of the task. For these reasons, the freshman were re-entered into the appropriate cell data. This involvement with the project, regardless of involvement with the topic suggests future questions that might be considered in motivation (involvement) studies. The four items included in the involvement measure were originally used and validated by Petty and Cacioppo, (1979b).

<u>Perceived speech rate</u>. Three items asked subjects how fast participants perceived the speaker to be talking.

<u>Perceived speaker sex</u>. A single item asked listeners if they thought the speaker was a male or a female.

<u>Perceived argument strength</u>. As a manipulation check, four items asked subjects to estimate the strength of the arguments they heard. A semantic differential with poles from very weak to very strong, highly believable to not very plausible, convincing to questionable, and high quality to low quality, measured the perceived quality of the arguments.

Perceived credibility. Twelve items in the response booklet asked participants to rate the speaker's competence, dynamism, and trustworthiness as indicators of credibility. The items were taken directly (or modified slightly) from Miller, et al.'s (1976) credibility scale which was originally factor analyzed by Berlo and Lemert (1961). The original factor analysis showed items loading strongly on their respective dimensions (.75 smallest loading). This loading may have been reduced due to one new item being added to each dimension in an attempt to customize the scale to the present The speaker of the message was introduced as "a message. public speaking student who had conducted research on the topic" - an intentionally moderate credibility speaker whose credibility rating would vary depending on the perceptions of the subjects in response to speeded speech rate and argument quality. The credibility measure was used to measure listeners tendency to use credibility as a decision-making heuristic.

<u>Cognitive responses</u>. The first page of the booklet asked participants to list, by number, all of the arguments that they could remember from the message and any other thoughts

they had while listening to the message. They were assured that all responses were valid and that they could write down exactly what they were thinking. The number of arguments recalled and additional thoughts listed were totalled as a measure of processing ability. Subjects were asked to number their responses in order to simplify unitizing when coding the data. Any responses that were not numbered were unitized by sentence or complete thought which usually coincided.

<u>Affect</u>. Four items were constructed to assess participant affect toward the experiment. The items were created specifically to determine the amount of enjoyment the subjects felt while participating. One item dealt with frustration, one with tension, and two with enjoyment and learning from the task. Variations in subject affect due to their speech rate exposure, the sex of the speaker, or the quality of the argument, may more clearly explain what people experience when being exposed to a speeded message.

<u>Processing ability</u>. The final page of the response packet asked participants to list all of the SPEAKERS arguments that they could remember. This measure was included to check the assumption that processing ability was impaired in the speeded speech conditions.

All response measures are included in the appendices. <u>Manipulation Checks</u>

Manipulation checks were conducted for participant involvement level, perceived argument quality, perceived

speaker sex, and perceived speech rate.

Given a range of 4 to 20, with 20 being the highest possible involvement, mean involvement at 13.72 (SD = 4.01), confirmed participant desire to process the message (high motivation). These figures are similar to Petty and Cacioppo (1984) who used a 1 to 11 scale and listed 6.78 as the "high involvement" mean. If their scale were doubled (to be similar to the current 4 to 20 scale) the 13.72 mean obtained in this experiment would fall within their "high involvement" category. Furthermore, Stiff (1986) separated his subjects into high, moderate, and low involvement coding all involvement. Using this approach, a mean score of 13.72 puts this study's mean at 86%, qualifying it by Stiff's criteria as high involvement.

A 2 (argument quality) x 2 (speaker sex) x 2 (rate) x 2 (subject sex) ANOVA on subjects, perceptions of argument quality showed a significant main effect for manipulated argument quality (\underline{F} (1, 155) = 45.22, \underline{p} <.0001, eta² = .22. The mean scores for the male speaker giving a strong message in the fast and normal conditions were 61.67 and 62.1 respectively, compared to 47.84 and 48.40 when the male speaker gave a weak message first fast and then at a normal rate. The pattern is the same for the female speaker, 62.57 and 55.41 for the strong message given at a speeded rate and at normal speed, compared to 49.17 and 42.14 in the weak

argument conditions.

A marginally significant speech rate X speaker sex interaction (p < .059) on perceived argument quality did not seem meaningful at first. However, separating the interaction by speaker sex reveals only a significant speech rate influence on perceptions of argument quality when the speaker is female (speech rate fast $\underline{X} = 55.24$, normal $\underline{X} = 47.79$, p <.013). When the speaker is male, reports of argument quality are not significantly different based on rate (speech rate fast $\underline{X} = 54.76$, normal $\underline{X} = 55.61$, p < .71). The influence of speaker sex becomes notable as a distinct pattern of similar results are reported throughout the data.

In addition to the <u>amount</u> of perceived argument quality difference between the male and female speaker, the <u>direction</u> is also different. When the speaker is male, subjects rate the normal speed message as generally higher in quality. The opposite is true when the speaker is female. Briefly, there are a couple different reasons why speech rate, combined with speaker sex would produce varying perceptions of argument quality. The best explanation has to do with the general perceptions of males and females in our society. The stereotyped "fast talking salesman" may create a slightly negative image in listeners such that when they hear this rapid speech from a male they are suspicious of the message and give it a lower rating of quality. On the other hand, when a female speaker produces a speeded message she may be
perceived as very organized and well-read on the presented topic thus receiving a higher rating of quality than her normal speech rate counterpart. This reasoning is in line with the higher credibility rating assigned to the fast speaking female ($\underline{X} = 33.51$) in comparison to the normal speech rate female ($\underline{X} = 30.21$). The difference between the two ratings is significant, $\underline{F} = 4.73$, $\underline{p} < .03$ for the female speaker but it is not when the speaker is male (fast $\underline{X} = 31.65$, normal $\underline{X} = 31.54$).

Agreement between controlled and perceived speaker sex was 100% after dropping one subject who did not complete the perceived speaker sex item in the response booklet.

A 2 (manipulated rate) x 2 (speaker sex) x 2 (argument quality) x 2 (subject sex) ANOVA on subjects' perceptions of the speakers speech rate produced a significant main effect for manipulated rate $\underline{F}(1, 155) = 29.75$, $\underline{p} <.0001$, $\underline{eta}^2 = .12$. This would suggest the successful manipulation of rate. However, an even greater main effect for speaker sex (\underline{F} (1, 155) = 55.82, $\underline{p} <.0001$, $\underline{eta}^2 = .22$), and a significant rate x speaker sex interaction ($\underline{F}(1, 155) = 7.0$, $\underline{p} <.009$, $\underline{eta}^2 = .03$) indicate that despite identicle objective rates (controlled mechanically) the sex of the speaker has a substantial influence on perceptions of speech rate. Simple main effects for speech rate were computed for each speaker sex. These tests reveal that the female speaker is perceived as speaking faster in the speeded speech condition ($\underline{X} = 10.46$) than in the normal rate condition ($\underline{X} = 7.95$, $\underline{F} = 36.05$, $\underline{p} <.00001$). The male speaker is perceived as speaking at about the same rate in both the speeded ($\underline{X} = 7.32$) and normal rate conditions ($\underline{X} = 6.56$, $\underline{F} = 3.12$, $\underline{p} < .08$). Thus, the manipulation of speech speed was only successful for the female speaker. Furthermore, this pattern is the same as the pattern found with perceived argument quality; there is a significant main effect for the dependent variable but a breakdown of the speaker sex by dependent variable interaction shows the significant difference to be from the female speaker.

Out of curiosity, comparing the means of all four groups with a Tukey test for significant differences (p < .05) shows the fast female speaker as significantly different from all other groups. The normal rate female speaker is perceived as speaking faster than the male in the speeded speech condition. Finding the speaker sex X subject sex interaction (DV =perceived speech rate) insignificant indicates that both male and female listeners perceived the female as speaking fast. Analyses

The design was a 2 (sex of speaker: male or female) X 2 (speech rate: normal or fast) X 2 (quality of arguments: weak or strong) X 2 (sex of subject: male or female) factorial. Hypothesis 1 predicted that when speeded speech impairs processing such that the quality of arguments cannot be thoroughly assessed, speeded messages regardless of the quality of their arguments, will remain persuasive due to a cognitive heuristic like enhanced speaker credibility (Millers et al's Credibility Enhancement hypothesis). Hypothesis 2 predicts that in an attempt to process the speeded message listeners will experience some form of affect, perhaps frustration or anger and that this affect will reduce attitude change. The hypotheses were evaluated using a 2 X 2 X 2 X 2 ANOVA incorporating the variables outlined above and applying contrast weights to test the predicted data patterns.

Assuming <u>N</u> = 156 and alpha = .05, power for detecting main effects of medium size was .87 (Cohen, 1977). Power for detecting a two-way interaction was .60, a three-way interaction, .33, and a four-way interaction, .18.

Results

The following section begins by addressing the research hypotheses using post attitude and attitude change as dependent variables and then highlights other significant results that display a consistent pattern in the data. Briefly, the pattern suggests that when the speaker is male argument quality exerts a fairly consistent effect on the dependent variables however, when the speaker is female the combination of argument quality and speech rate exert a more significant and complex pattern of effects. Typically this pattern is found regardless of subject sex. Descriptive statistics for each variable are reported in Table 1. Insert Table 1 about here

Hypothesis 1

The first hypothesis predicted that significantly more attitude change would occur in the normal rate, strong argument condition or in either of the speeded rate conditions than in the normal rate, weak argument condition. It also predicted that attitude change in the first three conditions would not differ. To test this prediction, contrast weights of 1 -3 1 1 were assigned first with post attitude as the dependent variable then with attitude change as the dependent variable.

With post attitude as the dependent variable results imply that the data fit the predicted hypothesis one pattern \underline{t} (1, 155) = -2.30, $\underline{p} < .023$. When attitude change is the dependent variable, the pattern of means is identicle to post attitude but the t is not significant \underline{t} (1, 155) = -1.73, $\underline{p} <$ < .08. The weaker effect of attitude change is not surprising given that the change scores are limited by the product of the scales' reliabilities and regression to the mean is included in the lower and higher initial scores which prevents an estimate of true change from being obtained. Tables 2 and 3 list contrast weights and the corresponding means.

Insert Tables 2 and 3 about here

Hypothesis 2

The second hypothesis predicted that significantly more attitude change would occur in the normal rate, strong argument condition than in either of the speeded conditions, which in turn would produce more attitude change than in the normal rate, weak argument condition. To test this pattern, contrast weights of 0 -1 0 1 were assigned. With post attitude as the dependent variable, combining argument quality and speech rate as the independent variable, and post attitude as the dependent variable, a larger t value suggests that the data fit the pattern predicted by hypothesis two better than the pattern predicted by hypothesis one \underline{t} (1, 155) = -2.95, p < .004. However, this difference is small (.65). When attitude change is the dependent variable t approaches significance \underline{t} (1, 155) = -1.90, \underline{p} < .059 but change score restrictions again limit effect size. Refer to Tables 2 and 3 for hypothesis two contrasts and relevant means.

Other Effects: Attitude Change

A frequency graph of post - pre positions showed that 35 of 166 subjects did not change their attitude. Twenty-five subjects changed one point in favor of the speaker's position and 58 changed two to four points in favor of the position. With attitude change as the dependent variable, a four way

ANOVA (speaker sex X rate X argument quality X subject sex) reveals a significant main effect for argument quality \underline{F} (1, 155) = 4.491, \underline{p} < .036, eta² = .03. No significant interactions were detected. Interpreting the argument quality main effect, the high quality message produced more attitude change than the low quality message (mean change 2.46 and 1.65 strong and weak messages respectively). Speech rate, speaker sex, perceived credibility, affect, and subject sex had no statistically significant impact on attitude change.

Other Effects: Post attitude

When post attitude is the dependent variable, the same four way ANOVA imparts a stronger main effect for argument quality <u>F</u> (1, 155) = 6.19, p < .014, eta² = .04, and reveals a significant four way interaction between the four independent variables (<u>F</u> (1, 155) = 4.0, p < .047, eta² = .02. To interpret the interaction a series of ANOVA tests were run in which one level of each independent variable was held constant. Means for the interaction separated by male and female speaker, are listed in Table 4.

When the speaker was female, there was a significant main effect for argument quality \underline{F} (1, 77) = 4.0, p < .05, eta² = .22, qualified by a significant two-way interaction speech rate X argument quality \underline{f} (1, 77) = 4.22, p < .044, eta² = .22. The interaction is such that in the strong argument condition, normal rate speech produces a higher opinion of (agreement with) the message but in the weak argument condition a speeded rate is not connected to greater agreement with the message. This pattern of results is logical. In speeded conditions subjects are spending part of their processing time just deciphering the message rather than considering the high quality argument. Therefore, post attitude in the speeded speech condition is hindered. When the argument is weak it is beneficial not to give listeners too much time to think about and counterargue the message. Therefore, post attitude is higher for weak arguments in the speeded speech condition.

Cognitive processing

A high correlation (r = .91) between cognitive response totals and the ability to process responses led to the use of only cognitive responses as a dependent variable. The high correlation could be due to the measures being too close to one another in the data collection process. Regardless, when total cognitive response was the dependent variable, a 2 (argument quality) x 2 (speech rate) x 2 (speaker sex) x 2 (subject sex) ANOVA produced a significant main effect for argument quality F (1, 155) = 15.08, p<.0001, eta² = .30, and a significant three-way interaction between argument quality x rate x speaker sex \underline{F} (1, 155) = 3.97, p<.048. The cognitive response means in Table 1 display that the weak argument message, whether speeded or at normal rate, prompted more cognitive responses than the strong argument message. The interaction was interpreted with two-way ANOVAs that were run

holding one level of the third variable constant. There were significant argument guality main effects both when the speaker was male F (1, 77) = 11.04, p < .001, eta² = .36, and when the speaker was female F (1, 77) = 5.51, p < .02, eta² = There was also a near significant interaction between .26. speech rate and argument guality for only the female speaker, F(1, 77) = 3.0, p < .087. The difference between the male and female speakers' significance levels and the peripheral two-way interaction for the female speaker is important because these numbers display the more intricate interaction between speech rate and argument quality when the speaker is female. This repeats the pattern noted for perceived speech rate, perceived argument guality, post attitude, now cognitive responses and later in perceived credibility - five of the seven dependent variables. Specifically with cognitive responses, the eta^2 of .36 when the speaker is male suggests that argument quality does a good job of explaining the difference in results. That is, when the arguments are weak more cognitive responses are submitted. The smaller eta when the speaker is female suggests that argument quality if not as clear a predictor but that the rate of speech must also be considered. For example, under normal processing conditions the difference in cognitive responses given between weak and strong arguments is large (2.03 responses), F(1, 77) = 10.15, p < .003. When speech is speeded the difference is very small (.31 responses), F (1, 77) = .17, p < .069. When the speaker is male the differences between argument quality conditions do not depend on speech rate (1.45 normal rate, 2.04 speeded rate). This unusual result may indicate that listeners are paying particularly close attention to the female speaker when she speaks at a normal rate but when processing is hindered by speeded speech they do not attend to the message arguments as carefully. The similar "difference amounts" when the speaker is male is understandable given that listeners did not perceive the speeded speech male as speaking faster than the normal rate male.

Speaker Credibility.

In general, moderate credibility ratings were given to the speakers (\underline{X} = 31.88, range 12 - 60). The initial four-way ANOVA suggested that perceived speaker credibility was not influenced significantly by speeded speech, speaker sex, or argument quality (no main effects or interactions). But, given the pattern that emerged with other dependent variables, a post-hoc two-way ANOVA argument guality x speech rate, with perceived credibility as the dependent variable run separately for speaker sex resulted in a significant main effect for speech rate when the speaker was female \underline{F} (1, 77) = 4.73, \underline{p} < .03. When the speaker was female the mean credibility rating in the speeded speech condition was 33.51. In the normal speech rate condition the mean credibility rating was 30.21. When the speaker was male no significant differences in credibility rating were assigned (31.65 speeded speech, 31.54

normal rate speech). The pattern repeats with a significant interaction between speech rate and argument quality when the speaker is female \underline{F} (1, 77) = 3.73, \underline{p} < .057. These numbers suggest that when the speaker is female speeded speech enhances credibility but this is qualified slightly by the quality of the message.

Affect.

The affect measure was included to test hypothesis two (cognitive plus affect model). Affect toward the processing experiment was not significantly influenced by argument quality, speaker sex, or speed of speech.

<u>Subject sex.</u>

The sex of the listener had little to no impact on perceptions of credibility, perceived speech rate, perceived argument quality, affect toward the processing exercise, nor any impact on the total number of cognitive responses reported. Attitude change was not different for male vs. female listeners but subject sex did appear in one interaction with the other three independent variables when post attitude was the dependent variable.

Summary

Contrast weights tested the data patterns to investigate the two hypotheses. According to these results, the data best fit the hypothesis that predicted no attitude change in the speeded speech conditions, slight negative change (boomerang) in the normal rate, weak argument condition, and positive attitude change in the normal rate, strong argument condition (p < .004). The other pattern, predicting equal attitude change in the speeded conditions and in the normal rate, strong argument condition and a negative change in the normal rate, weak argument condition was also suitable (p < .023). Given that the predicted data patterns are only slightly different for the cognitive and cognitive plus affect models, it is not surprising that the data fit both patterns.

Taking a closer look at the means and patterns in the data, the quality of the message and the sex of the speaker have the greatest influence on listener perceptions and attitudes though in different ways. The consistent influence of argument quality is not surprising given that the topic is highly involving thus listeners are alert to less than convincing arguments and recognize well supported claims. The impact of speaker sex and the combination of argument quality and speech rate when the speaker is female is more complex. Possible explanations for the unique influence of speaker sex will be discussed in the concluding section of this analysis.

DISCUSSION

The final chapter of this thesis has been broken into five sections. The first is a brief outline of the project, the second sets this study in relation to past research, the third offers an explanation for the pattern of results while

the fourth section features implications for the Elaboration Likelihood Model and the Credibility Enhancement Hypothesis. The final section notes potential limitations in the study. Areas for future research are blended within the last chapter at logical points rather than clumped into a separate section. Project Summary

Interest in this project originally stemmed from the lack of attention given to the <u>ability</u> to process in comparison to research conducted concerning the motivation to process. Given the growing use of speeded speech as a technique to save time and money it seemed fitting to join these two concerns and investigate the persuasive and processing affects when ability is impaired by speeded speech. The quality of the argument and the sex of the speaker were also varied in order to confirm or refute past research and to more fully evaluate the impact of these variables when combined with speeded speech. Drawing largely from Petty and Cacioppo's research and their Elaboration Likelihood Model two hypotheses were put forth. The first hypothesis predicted that significantly more attitude change would occur in the normal rate strong argument condition or in either of the speeded speech rate conditions than in the normal rate weak argument condition but that attitude change will not differ in the first three conditions. The first hypothesis is cognitive only, meaning that when processing is impaired in the speeded conditions listeners refer to a peripheral processing cue such as credibility to

determine their reaction to the message. The second hypothesis predicted that significantly more attitude change would occur in the normal rate strong argument condition than in either of the speeded conditions, which in turn would produce more attitude change than in the normal rate weak argument condition. The second hypothesis is a cognitive plus affect version where an emotional reaction to the challenge of processing at a rushed pace hinders attitude change. The responses collected fit both patterns of predictions with slightly greater significance for hypothesis two. The difference between the hypotheses was small however and there were no significant differences in ratings of emotions (frustration) when processing the speeded message. Thus, if affect is playing a role as predicted in hypothesis two, frustration is probably not the emotion listeners are experiencing. Given that hypothesis two was more fitting though, future research might investigate other emotions like anxiety, enrollment, or anger experienced when listening to the speeded message.

Some results were not surprising given past research. For example, Smith and Shaffer's (1991) investigation of the relationship between speeded speech and persuasion via impact on elaboration finds that subject sex has little influence on the results. Like their findings, subject sex only appeared in one four-way interaction in this investigation. Another consistency with past research is the tendency for weak

arguments to draw more cognitive responses than strong argument messages in high involvement conditions (Petty & Cacioppo, 1979a, 1979b, 1984). Petty and Cacioppo posit that when listeners are involved in the topic and hear low quality arguments they are ready to sabotage the message thus listing more cognitive responses to defend their position.

A third similarity to prior research is the limited influence of credibility. Like Addington (1971) there was no significant relationship between speeded speech and higher ratings of credibility. Only when suspecting that data pertaining to the female speaker conditions might produce different results was significance found in an interaction between speech rate and argument quality (p < .057). While the current results do not concur with Miller, et al. (1976), Woodall and Burgoon (1983) offer an explanation for the discrepancy. They point out that speeded speech may boost some dimensions of credibility like dynamism (aggressiveness, energy, and extroversion). Adapting their explanation slightly, perhaps the female speaker, while speaking at the exact rate and producing the same exact message as the male, was perceived as more dynamic or outgoing which led to the boosted credibility rating. Future research might investigate the impact that speeded speech has on particular personality characteristics like perceived dynamism, friendliness, optimism, or perceptions of organization - all of which might then be tested for a link to persuasiveness.

The connection between credibility and persuasion is vaque. Some hypothesize that speeded speech boosts credibility which in turn boosts persuasion (Miller, et al., 1976). Others predict that speeded speech distracts listeners so that they cannot counterargue the positions in the message and are therefore more susceptible to persuasion (Osterhouse & Brock, 1970). The distraction rationale poses a problem for the current study for although credibility was generally not boosted by speeded speech, neither were cognitive responses significantly hindered. This result may simply indicate that the speeded rate (225 wpm) was still comprehendible. Referring back to the literature review, cases have been recorded where interpretability held even at speeds of 282 wpm (Fairbanks, Guttman, & Miron, 1957) and 325 wpm (Reid, 1968). 80, comprehension could be possible at 225 (although the above Cases do point out a notable distinction between intelligibility of the message and comprehension of the message).

The lack of credibility enhancement and the fact that cognitive responses were not restrained is perplexing given past research. If a Credibility Enhancement Model is not useful for explaining the current results, and distraction from processing does not apply, then some other explanation is necessary. A closer look at the influence of speaker sex and consideration of the expected behaviors of male and female speakers may lead to a plausible explanation.

Speaker Sex Pattern

When the speaker was male argument quality main effects were present for perceived argument quality, cognitive responses, attitude change, and post attitude as dependent variables. The high quality message elicits perceptions of high quality, nonsignificantly boosts credibility, downplays cognitive response generation, and leads to higher post attitude and slightly more change toward agreement with the position advocated. This pattern is logical. The arguments are well supported thus the perception of a strong message. Since the speaker is delivering an organized, high quality message credibility scores are slightly enhanced. There is also less refutation (cognitive responses) when the message is well organized and substantiated, and greater agreement with the message is understandable given the high quality message.

When the speaker is female the results are not as straightforward and easily rationalized. The combination of argument quality and speech rate exerts a more complex pattern of effects with significant two-way interactions in four, nearly five of the seven dependent variables. The nature of these interactions was such that there is not only a significant difference between the strong and weak arguments on the DVs (like there is for the male speaker) but the rate of speech mixes with the quality of the arguments to produce some unusual results. For example, when perceived argument quality was the dependent variable, not only was the strong

message perceived as stronger than the weak message but the speeded message was perceived as higher in quality due to the lack of time to counterargue, but the strong message was also perceived as "stronger" when it was speeded.

In a similar pattern, when perceived rate is the DV, There is not only the perception of the speeded message being faster but when argument quality is added the pattern becomes more complex. In this case the speeded strong arguments were perceived as faster than the speeded weak arguments and the normal rate strong arguments were perceived as faster than the normal rate weak arguments. Thus, when the speaker is female a high quality message is perceived as being delivered at a faster rate than a low quality message regardless of <u>actual</u> speech rate.

A third example of the complex pattern between argument quality and speech rate for the female speaker is in the generation of cognitive responses. As expected, there were more responses offered when the argument was of poor rather than high quality. But when speech rate is considered, the speeded rate high quality condition elicited more responses than the normal rate high quality condition - opposite of the direction for the low quality message.

Finally, a unique interaction between argument quality and speech rate appeared when the dependent variable was post attitude. When the speaker was female the pattern of means fit hypothesis two exactly. That is, the highest post

attitude was in the normal rate strong argument condition, the lowest in the normal rate weak argument condition, and the speeded conditions fell in between but were not different from one another. There was a significant two-way interaction (rate X argument quality) when the speaker was female, p <.018. However, when the speaker was male not only did the interaction disappear (p < .13) but the difference in means was much smaller and the normal rate, weak message received a slightly higher post attitude rating (13.76) than the weak message delivered at a fast rate (13.61) - a mean pattern not predicted by either hypothesis.

Given neither Credibility Enhancement that nor distraction proposals can explain the overall pattern of results, particularly when the speaker is female, a gender specific explanation that includes reasons why the results would be different for male and female speakers is needed. Expectancy theory may be just what is called for in this investigation. Expectancy theory is a language based theory of persuasion that assumes that language is a rule-governed system and that people develop expectations and preferences concerning language and message strategies employed by others in persuasive attempts (Burgoon, 1990). Expectancy violation hypotheses state that when delivering a persuasive message a speaker who violates language expectations can either facilitate or inhibit persuasion (Burgoon & Miller, 1985). Specifically focusing on gender differences and expectations,

Burgoon et al. (1974) find that females have a much narrower range of socially acceptable persuasive behaviors. Female speakers must be very cautious when choosing persuasive strategies to avoid violating language norms thus reducing their effectiveness as persuaders. Burgoon et al. (1991) posit that even relatively trivial changes from the expected roles of females can result in negative norm violation (hurting persuasiveness). Assuming that speeded speech is a norm violation for a female speaker, this could explain the complex interactions detected with the female speaker. It is reasonable to assume that the speeded speech rate is a norm violation for females given the conventional portrait of a male speaker as aggressive, dynamic, independent and outspoken and the female speaker being his complement; submissive, dependent, domestic, less aggressive and intense (Bem & Bem, 1970). Furthermore, Burgoon and Stewart (1975) found that most people expect women to advocate positions less intensely and women were in fact, more persuasive when they used less intense language i.e., conformed to expected behavior. In an investigation dealing with patient compliance and satisfaction Burgoon, Birk, and Hall (1991) found that female physicians are expected to use instrumentally unaggressive strategies while male physicians are expected to use strategies that fall in the mid-range of a verbal aggression continuum. Then, in a follow up study, the research team found that when male physicians violated expected behavior by being more

affiliative or more aggressive, compliance increased. When the female violated the nonaggressive norm (by being more aggressive), patient compliance decreased. In terms of satisfaction and perceptions of the physician, expectancy violations in the part of the male physician resulted in greater satisfaction when the violation was toward the nonaggressive end of the continuum with little to no decrease in satisfaction when the male physician was highly aggressive (Comply or find another doctor). The person perception of the female doctor followed an inverse linear trend such that as verbal aggression increased, perceptions became more negative.

While the patterns detected in this investigation do not refer to the male speaker gaining more compliance with a speech rate violation or to a significant decrease in credibility of the violating female speaker, expectancy violation concepts do offer an explanation for the varying results based on speaker sex. Uniting expectancy violation with the ELM framework, it may be the case that the male speaker is triggering Central Route processing only. That is, the speeded speech rate is still within the range of normal behaviors coming from a male thus little attention is given to his peripheral cues. Instead, attention is focused on the message itself thus argument quality is the sole deciding factor for the male speaker leading to the prominent main effect detected. For the female speaker (violating a rate norm for females), dual processing is necessary with partial

cognitive attention given to the Peripheral cue (rate) because it is a norm violation, and partial attention given to the quality of the argument thus the repeating rate X argument quality interactions.

The problem with using an ELM framework is that there is very little discussion of norms and expectations within the The ELM portrays processing routes and outcomes but model. the role of societal norms and expectations are explanatory concepts that the ELM does not address. Chaiken et al. (1989) propose a model titled the Heuristic-Systematic Model whose systematic mode is much like the analytical ELM Central route but the heuristic portion of their model fits much better with the expectancy violations that seem to be occurring in the present research study. Heuristics are like norms and expectations because they are processing short-cuts that are learned in the basis of people's past experiences and observations. They are represented in memory like other sorts of knowledge structures like guidelines for appropriate behavior (Higgins, 1989; Smith 1984). Heuristics differ from the ELM Peripheral route which suggests that peripheral cues are used for persuasion "in place of argument scrutiny (Petty & Cacioppo, 1986a)." Heuristics, on the other hand, while still less cognitively taxing, may concern some argument scrutiny ie., the first statement the speaker made was valid therefore the entire message is probably valid. The unique feature of the Systematic-Heuristic Model (Chaiken, 1980) is

that under conditions of at least some motivation and ability, both forms of processing are assumed to occur. The <u>concurrent</u> <u>processing</u> assumption is not part of the ELM framework. Given the interaction between speech rate and argument quality (female speaker) it is likely that both forms of processing are co-occurring. Thus, the Systematic-Heuristic model is more appropriate. It may even be the case that heuristic processing is occurring in the male speaker conditions but the greater degree of systematic processing is <u>attenuating</u> the judgmental impact of heuristics thus the appearance of single channel processing in the form of only main effects.

The concurrent processing feature of the Systematic-Heuristic Model is especially valuable because a wider array of explanatory patterns can be offered. For instance, systematic and heuristic processing could exert independent (ie., additive) effects as in the case of the male speakers in this experiment. That is, the male speakers' argument is valid AND the speaker is a male which traditionally equals validity (heuristic) therefore the message is valid. Or, systematic and heuristic processing may exert interactive effects on judgment which would explain the female speakers results ie., her message seems to be valid however, she is violating a norm of behavior for females with her speeded rate therefore both of these pieces of information must be considered when judging the message which could explain the rate X quality interaction on the dependent variable perceived

argument quality. For this variable, the strong arguments were clearly perceived as better than the weak arguments but when adding rate of speech into the equation, the female speaker elicits a stronger perception of the message when it is speeded (see Table 1). This effect is not present when the speaker is male.

Given the logic underlying expectancy violations coupled with concurrent processing discussed in the Systematic-Heuristic Model, the results of this study may not be as complicated as they first appeared. In short, interactions detected when the speaker is female may be the result of violations of <u>expected</u> speech rate and presentation norms. This norm violation leads to less systematic processing of the message itself (although message scrutiny is certainly occurring as evidenced by the influence of argument quality throughout the data) and greater attention is allotted to heuristic processing to guide judgment of the message.Given the norms of our society it makes sense that the speeded rate was more unexpected from the female speaker, a linguistic violation which triggered a number of interactions with argument quality.

The lack of interactions in the male speaker condition is probably due to a wider variety of expected behaviors from male speakers (Burgoon & Miller, 1985). The missing <u>perception</u> of a faster than normal speech rate in the speeded conditions would explain why speeded speech as an independent

variable did not exert much influence. In terms of the Systematic-Heuristic Model, subjects may have subconsciously recognized the different rate of the male in the speeded speech condition but simply did not give any attention to this feature given that it fit with heuristics already in place in their cognitive structures (that men tend to talk fast and forceful).

The notable impact of the speech rate manipulation for the female speaker but not for the male speaker suggests that future research may need to delineate a "normal" speech rate for males and a separate "normal" rate for females. Future studies might also investigate the width of these estimations. For example, a "normal" rate for a female speaker falls between 100-140 wpm while a male speaker's "normal" range is 125-175 wpm with speeds below 125 classified as "slow" for a male speaker but "normal" for a female speaker. The wider band allotted the male speaker fits with more general expectations about male speech behavior.

Before fully considering the importance of gender norms and expectations the Elaboration Likelihood Model (ELM) was chosen as a processing framework for this research because it outlines ways that speeded speech can influence persuasion. The ELM also addresses what might be happening cognitively when listeners are exposed to a speeded message. The Credibility Enhancement Model (CEM) was also considered due to its testable explanation of the relationship between speeded

speech and persuasion. Looking back, the importance of Expectancy Theory, norm violations, and heuristics should probably have been considered much earlier in the development of the research. The combined results of this study and the additional explanatory models incorporated after the results were compiled both extend implications to the Elaboration Likelihood and Credibility Enhancement models.

Implications for the ELM and CEM

First, the varying perceptions of speech rate based on speaker sex suggest that the ELM add clarification in the area of speaker sex in order to account for and explain the different results found for male and female speakers. The present piece of research clearly shows that we cannot talk about the impact of impaired processing via speeded speech without considering speaker sex. Recognition of, and potential explanations for the differences based on speaker sex are necessary if the ELM is to remain useful.

In terms of Central and Peripheral routes of processing, again this piece of research implies that speaker sex must be considered in order to accurately explain results and make predictions. For example, when considering credibility as a peripheral cue, it may operate most successfully when the speaker is female. It is possible that other peripheral cues (attractiveness, environment, dynamism) are the same ie., they have more influence when the speaker is female - particularly if she is violating a norm of the variable. Furthermore, it appears that despite efforts to impair processing so that a peripheral cue would be necessary for decision-making, listeners who heard a male speaker appeared to be influenced only by argument quality. The point if this implication os that further delineations are necessary with respect to speaker sex in order to predict the impact of factors like message quality, speech rate, or credibility. Future hypotheses like the following could examine some of these combinations and offer this information to the ELM.

H1: Female speakers who violate expected linguistic norms (rate, intensity, length of message) will be less/more persuasive than those who conform to expectations. H2: Female speakers who violate norms of speech rate, attractiveness, credibility, etc. will elicit broader cognitive response lists from listeners regarding their presentation skills and message quality than will male speakers due to their sex not being as free with their H3: Subjects will rate a wider band of speech rates a "normal" for male speakers than they will for female

The main implication for a Credibility Enhancement Model is added provisions based on speaker sex. With speaker sex combined there was no indication of a relationship between speeded speech and an enhanced rating of credibility. However, when only the female speaker was evaluated, speeded speech was connected to higher ratings of credibility. The

use of the variable "credibility" is questionable as well as the use of combined speaker sex. Woodall and Burgoon (1983) suggest that if credibility were to be split into component parts (dynamism, trustworthiness, expertise) then certain dimensions may be enhanced while others are hindered or left unaffected. Their suggestion, when combined with the results of this project, invite future research to look into the specific dimensions of credibility and their individual impacts for male and female speakers. For example, it would be interesting to know if females were perceived as experts when speech was speeded but males were perceived as sheisters (not trustworthy) when speeding their speech due to a number of "fast-talking" salesmen that have been portrayed in television, movies and radio. The stereotype of men as "smooth talkers" may influence perceptions of trustworthiness but not affect a dynamism rating. The female speaker may be perceived as trustworthy, dynamic, and an expert - as long as she stays within acceptable presentational norms for speaking. If she was too expressive or offered too many numbers and technical talk she might damage an overall credibility rating because she violated norms of presentation.

The need for intense gender differences research in this area is great. When speech rate studies were first conducted all male speakers were used. The female voice was too high in pitch and was not useful in speeded speech situations. Furthermore, it was the "norm" to use a male speaker thus

Burgoon and Miller (1985) state,

"Generalizations concerning the use of fear arousing appeals and opinionated language are largely limited to male speakers, as are most of the conclusions that can be drawn for the language intensity literature, and must be based upon the expectations receivers have about appropriate communication behavior for males (209)."

Other research areas are similar in their use of male speakers, confederates and laboratory leaders. The time has come to seriously consider the impacts of males vs. female speakers and the resulting differences in compliance, satisfaction, and cognitive processing that stem from gender differences.

Study Limitations

Three potential limitations are examined.

The first possible limitation to the study was the decision to audio record the messages. Without a live speaker the audience may have had a hard time drawing conclusions about the speakers credibility. Furthermore, Chaiken and Eagly (1983) and Frandsen (1963) find differences in amount of persuasion for messages that were written, audiotaped or videotaped. They found that other factors were involved like the likability of the speaker and the comprehensibility of the message. These studies suggest that exclusively audiotaping a message can have an effect on the amount of persuasion that results and on whether particular heuristics get used. For

example, the attractive speaker equals a valid message heuristic would not be used when a message is audiotaped. A significant number of other studies however, find no difference in persuasion as a function of modality (McGinnies, 1965; Tannenbaum & Kerrick, 1954; Worchel, Andreoli, & Eason, 1975; Werner, 1978). Given that persuasion was not the only dependent variable, the audio channel was chosen in order to focus on cognitive processing without the added distraction of It was also much easier to control the a live speaker. consistency of message production with the use of an audio tape in several different data collection sessions. In addition it should be recognized that a large proportion of persuasive messages are aired via the radio, a setting similar to the experimental one.

The "lab setting" if the investigation is a limitation. It is not that the surroundings are artificial of the procedures especially unusual but that there is no way to know precisely what each subject knows about the issue and exactly how (and in what ways) the issue is relevant to each listener. The lack of information presents a few problems. Petty and Cacioppo (1986) point out that in the "real world" there is likely to be a natural confounding between the personal relevance of an issue and the amount of <u>prior thinking</u> a person has done about the pool of issue-relevant arguments. There are two potentially important consequences of this prior thinking. First, because of this prior consideration, people may have a greater ability or may be more practiced in defending their beliefs. This would reduce susceptibility to counter-attitudinal appeals. Second, if a person has considered an issue many times in the past, it may be more difficult to motivate the person to think about another message in the same topic because the person may feel that all arguments have already been evaluated. This would make it less likely that new compelling arguments would be processed.

A third limitation to the study is that participant need for cognition was not measured. Looking back, it may have been useful to know if these subjects were a group that would enjoy an effortful task regardless of the fact that there was no reward for processing. Cacioppo and Petty (1982; experiment 4) found this to be the case when, even in the absence of feedback about performance, certain management individuals labored to perform well on difficult tasks. Petty, Cacioppo, and Kasmer (1985) also found that subjects high in need for cognition resisted "social loafing." This implies that if this studys' subjects were high in need for cognition they would struggle to respond to the message regardless of how difficult it was for them to process it. if this is the case, earlier statements about the speed not being enough to impair processing would be incorrect. That is, processing might have been impaired but exceptional effort was given to participate successfully in the experiment and offer as many cognitive responses as possible.

listed above could be viewed as The limitations weaknesses or reconceptualized as directions for future work, but they do point to places where problems could surface. This project serves as evidence that the connection between speeded speech and persuasion is a complex one. The relationship must consider the sex of the speaker and general assumption made about that sex, the quality of the argument, prior topic knowledge, current standards for speech rate (separately for male and female speakers), and a host of other elements in order to explain and predict the influence of speeded speech. Future research in this area will add to the ELM by further delineating the circumstances under which certain independent variables operate as Central or Peripheral cues, their impact on elaboration (via cognitive responses or other methods) and ultimately, their impact on attitude change.

LIST OF TABLES

Table 1

Descriptive statistics

Male speaker Female speaker

*A	STRON	G	WEAK		STR	DNG	WE	AK .
*B	Fast	NORM	Fast	NORM	Fast	NORM	Fast	NORM

Perceived rate

7.22	6.52	7.42	6.60	10.86	8.47	10.0	7.55
(2.02)(1.54)	(1.92)	(2.21)	(2.08)	(1.88)	(1.68)(1.60)

Perceived credibility

31.72 32.0	31.58 31.05	32.29 32.0	33.94	28.82
(5.98)(5.24)	(6.50)(6.70)	(6.71)(7.69)	(6.32)	(5.93)

Perceived argument guality

61.67 62.10 47.84 48.40 62.57 55.41 49.17 42.14 (11.23)(10.83)(14.55)(15.36)(8.65)(12.38)(15.52)(9.72)

Affect

13.89 14.48 13.00 14.00 13.76 13.77 13.89 13.55 (2.22) (3.50) (3.40) (3.63) (2.68) (3.21) (2.70) (1.99)

Cognitive responses per subject

5.28	6.10	7.32	7.55	6.86 5.88	7.17	7.91
(1.81)	(1.55)	(2.31)	(2.19)	(2.71)(1.65)	(1.89)	(2.18)

Attitude change

2.33 1.57	2.26	1.80	1.43 1.94	2.33	2.78
(1.68) (2.38)	(2.64)	(2.44)	(2.06) (2.49)	(1.91)	(3.09)

Post attitude

14.79 15.3	13.61	13.76	14.72	16.05	14.76	12.0
(4.05) (4.34)	(2.83)	(4.83)	(4.66)	(4.01)	(4.21)	(4.69)

***A** = argument quality

***B** = rate of speech

<u>Note</u>. <u>N</u> = 156, 18 - 24 subjects per cell. Numbers outside of parentheses are mean scores; numbers inside parentheses are standard deviation. Perceived rate = 3 - 15; 15 = fastest perception of rate. Perceived credibility = 12 - 60; 60 = most credibility. Perceived argument quality = 16 - 80; 80 = highest quality rating. Affect = 4 - 20; 20 = most enjoyment of task. Cognitive responses per subject = 3 - 14 responses. Attitude change = -4 to 9 units, excluding outliers. Post attitude = 4 - 20, 20 = most favorable attitude toward the semester system. Table 2

•

Post Attitude means for Hypthesis 1 (H1) and Hypothesis 2 (H2) Contrast Weights (CW)

	Speech rate		
	Normal	Fast	
Argument Quality			
	H1CW = 1	H1CW = 1	
Strong	H2CW = 1	H2CW = 0	
-	$\underline{X} = 15.76$	<u>X</u> = 14.76	
	H1CW = -3	H1CW = 1	
Weak	H2CW = -1	H2CW = 0	
	$\underline{X} = 12.97$	<u>X</u> = 14.23	

<u>Note</u>. <u>N</u> = 156, higher mean = more favorable attitude.

Table 3

Attitude change means for Hypothesis 1 (H1) and Hypothesis 2

(H2) Contrast weights (CW)

	Speech	rate
	Normal	Fast
Argument Quality		
	H1CW = 1	H1CW = 1
Strong	H2CW = 1	H2CW = 0
-	<u>X</u> = 2.61	$\underline{X} = 2.30$
	H1CW = -3	H1CW = 1
Weak	H2CW = -1	H2CW = 0
	$\underline{X} = 1.62$	$\underline{X} = 1.69$

<u>Note</u>. <u>N</u> = 156, higher scores = more attitude change.
Table 4

Post Attitude Interaction means

SPEAKER SEX = FEMALE

DV = Post attitude

Subject sex	M	ale	Fei	Female		
<u>Speech rate</u>	Fast	<u>Normal</u>	Fast	<u>Normal</u>		
Argument Qual	ity					
Strong	15.00	14.64	14.38	17.45		
Weak	15.30	14.14	14.27	10.50		

SPEAKER SEX = MALE

	D,	V = Post attitud	e 	
Subject sex	bject sex <u>Male</u>		Fei	nale
<u>Speech rate</u>	<u>Fast</u>	<u>Normal</u>	Fast	Normal
Argument Qual	ity			
Strong	13.78	16.78	15.70	14.20
Weak	14.00	14.00	13.00	13.40

<u>Note</u>. <u>N</u> = 156, higher score = more favorable attitude.

Table 5

Cognitive Response Interaction Means

SPEAKER SEX = FEMALE

DV =	total	cognitive	responses

Speech rate	Fast	Normal
Argument Quality		
Strong	6.86	5.88
Weak	7.17	7.91

SPEAKER SEX = MALE

DV = total cognitive responses

<u>Speech rate</u>	Fast	Normal
Argument Quality		
Strong	5.28	6.10
Weak	7.32	7.55

<u>Note</u>. <u>N</u> = 156, higher score = more cognitive responses given.

APPENDICES

Appendix A: Coding Manual

Coding Manual: Speech rate effects

Item 1. If the number is below 100 use 0's as space holders.

ex. 004, 047, etc. so each case has three numbers in its code.

Items 2-5. These are self explanatory on the coding form.

Item 6. refer to model response form for inserting numbers.

ex. If they check the middle slot this is coded with a 3. For other slots refer to coding model (reverse scored items).

<u>Item 7.</u> Responses should be numbered. If they are not (and as a double check) one response is usually a sentence or complete thought unit. ex. Semesters are awful. I hate the new system. The argument about gaining prestige from being on the semester system is stupid.

Do not include parentheses statements as a separate response unless a complete thought is included inside.

<u>Item 8.</u> Code each response three ways: Target, Polarity, Origin.

TARGET. The target of a response is generally the topic of the response. Target codes range from 1 to 4.

A $\underline{1}$ target code represents a message oriented response. The response says something about the content, style or quality of the message that was presented.

ex. The credit conversion argument stinks. The way the arguments were organized confused me.

A $\underline{2}$ target code represents a source oriented response. This is a response that says something about the author/speaker of the message. This could be speech patterns, references to their writing ability, or anything referring to the source of the message.

ex. That guys voice drove me crazy! She really seemed to have done her homework on this topic.

A $\underline{3}$ target code represents an audience oriented response. This could be a noise in the audience, something someone said or a reference to the research assistant collecting the data.

ex. When my neighbor sneezed on me I missed part of the

message. The person running the tape recorder kept tapping a pencil.

A $\underline{4}$ target code represents a channel related response. This would have something to do with the quality of the recording, the stereo equipment, or the response instrument.

ex. The tape was hissing too loudly for me to understand some of the words. The tape player kept fading in and out. The questionnaire asked some bizarre questions.

POLARITY. The polarity of a response is the evaluation element. It may be positive, negative or neutral with respective codes ranging from 1 to 3.

A $\underline{1}$ polarity code represents a response that is favorable in nature toward the semester system. It may be pertaining to the message, speaker, or the experience of participating in general but it is favorable toward its respective topic.

ex. It was fun listening to the message. The message made me think of things I hadn't before. The author seemed to be friendly and knowledgeable. The argument about being on the same time schedule as other schools was great!

A $\underline{2}$ polarity code represents a response that is unfavorable or negative toward the message, the speaker, or participating in the experiment in general. It is negative or critical in nature. Responses that express doubt or confusion should also be coded as unfavorable.

ex. The argument about prestige could have been improved. I was really lost trying to keep up with what the speaker was saying.

A $\underline{3}$ polarity code represents a response that is neutral in nature. It may be a statement of fact or opinion that has no indication of feelings (good or bad). If the response is a direct restatement from the message then consider it neutral.

ex. I could understand the message. The author stated three arguments. I could not hear the arguments because I was thinking about lunch.

ORIGIN. The origin dimension is concerned with the extent to which a thought is initiated by the message itself versus the message recipient. The dimension runs from internal to external with corresponding codes of 1 or 2.

A <u>1</u> origin code represents a response that is internal to the message recipient. It is an idea or opinion the subject has

thought of on their own that is not repeating part of the message. It may elaborate on the message or critique the exercise.

ex. I did not think the speaker was organized. Being on the same time schedule would allow my sister and I to take our spring breaks together. An argument that the speaker missed was...

A $\underline{2}$ origin code represents a response that is external to the message. That is, a response that the subject has repeated or restated directly from the message content. It may be an argument presented, a persons name, or other information that was stated in the message.

ex. Changing to semesters will be nice because we will only have to take exams twice instead of three times as on the quarter system.

<u>Items 9-15.</u> Refer to the model responses sheets for coding numbers as in item 6. Use caution, many items are reverse coded.

<u>Item 16.</u> Again count the number of arguments recorded. These should be numbered, if not, count the number of separate arguments that are discussed.

For part two of item 16 count the number of recalled arguments that were actual arguments from the message. The main arguments are listed below but also keep the original messages nearby.

FOR STRONG MESSAGE, SPEAKERS ARGUMENTS WERE

- 1. Same time schedule (calendar) as other universities and community colleges.
- 2. Semesters will not hurt students in terms of the number of credits they need to graduate.
- 3. Semesters will allow MSU students to get out of school in late may allowing for a better chance in summer job hunting.
- 4. Two final exams per year instead of three.

FOR WEAK MESSAGE, SPEAKERS ARGUMENTS WERE

- 1. Semesters will convey prestige on MSU as a university.
- 2. Better prepared for career and higher test scores on the semester system.
- 3. Graduate schools enroll more semester students due to easier credit conversion.
- 4. Semester system will hush pleas from parents and community pushing for the semester change.

Appendix B: Coding Form

Coding form: Speech rate effects

1.	CASE 🛊	<u></u>	(RANGE 1-1	.65)
2.	SPEAKER SEX	<u></u>	(1=MALE, 2	=FEMALE)
3.	SPEECH SPEED		(1=FAST, 2	=NORMAL)
4.	ARG. STRENGTH		(1=WEAK, 2	=STRONG)
5.	CLASS LEVEL		_ (1-4, FR= 	1, 80=2, JR=3,
6.	PRE-ATTITUDE M	EASURE	(1-5 FOR F	ACH ITEM)
			(20= (4=M]	MAX POSITIVE ATT To semesters) In negative ATT)
7.	Total # of Responses		_ (Complete Thoug	SENTENCE OR HT UNIT)
8. Co	ode each respon	se three w	ays: Target, Pol	arity, Origin.
Targo	et: message = 1 Polarity: favo Origin: intern	<pre>, source = rable = 1, al = 1, ex</pre>	2, audience = 3 unfavorable = 2 ternal = 2	; channel = 4 ; neutral = 3
respo	onse 1 Targ	et	Polarity	Origin
respo	onse 2			
respo	onse 3			
respo	onse 4			
respo	onse 5			
respo	onse 6			
respo	onse 7			
respo				
respo	DISC Y			
respo	JURG IV			

add more lines if needed

.

Argument Quality Evaluation 9. (1 TO 5 FOR EACH ITEM, ARG. 1 ARG. 2 20 = STRONGEST RATING 4 = WEAKEST OVERALL ARG. 3 ARG. 4 RATING) 10. Perceived speech rate: 1 to 5 for each item, 3 = slowest overall rating, 15 = fastest overall 11. Credibility - each item range 1 to 5 * Overall highest cred = 55 ____ ___ * Overall lowest cred = 11 _ _ _ ___ ---___ _ _ _ ---____ ------12. Affective response - range 1 to 5 each item overall 20 = enjoyed the experience 4= hated participating 13. general feeling toward the semester change after hearing the message. 1= disagree that the message relieved fears 5= agree that the message eased anxiety about the change. 14. POST ATTITUDE MEASURE (1 TO 5 RANGE EACH ITEM, TOTAL 20 = POSITIVE TOWARD THE CHANGE 4 = NEGATIVE TOWARD THE CHANGE 15. Topic Involvement: 1 to 5 each item;

20 = highest involvement with topic, 4 = lowest

16. TOTAL NUMBER OF ARGUMENTS RECALLED TIME 2 = _____ TOTAL NUMBER THAT WERE THE SPEAKERS = _____

APPENDIX C: Coding Model

CODING MODEL

Please write in your student number

Please circle your class level.

Freshman Sophomore Junior Senior

The following questions ask for your feelings regarding the upcoming switch to the semester system at MSU. Please check the position which most closely represents your position.

Changing from the quarter to the semester system is...

good	 	 	 bad
undesirable	 	 	 desirable
positive	 	 	 negative
harmful	 	 	 beneficial

Student number

While the material is still fresh in your mind, list below all of the arguments that you can remember from the message and any other thoughts you had while listening to the message. The research assistant will allow five minutes for this task and then will collect your responses and administer the remainder of the survey materials. Thank you for participating. I would like your input on each of the arguments used in the message. Each argument will be restated then please check your assessment of that argument.

Argument 1: Semesters convey prestige - like other universities in the big ten.

This argument is ...

very weak highly believable	 	 	 very strong not very
questionable high quality	 	 	 plausible convincing low quality

Argument 2: Better prepared for career and higher test scores on semester system.

This argument is ...

very weak highly believable	—	 	 	very strong not very
questionable high quality		 	 	plausible convincing low quality

Argument 3: Graduate schools enroll more semester students.

This argument is

very weak highly believable	 	 	`	very strong not very
questionable high quality	 _	 		plausible convincing low quality

Argument 4: The new system will hush pleas from parents and community pushing for the semester change.

This argument is ...

very weak highly believable		 			very strong not very
questionable high quality	_	 			plausible convincing low quality

student number	• 						
The sex o	f the	speake	r was	(plea	se che	ck one)	
	Male				Fema:	le	
The rate/spe	ed at	which	the me	ssage	was pro	esented w	15
very fast						very slo	W
100 words per minute minute						500 WO	rds per
rushed beyond was						so slow	that I
comprehension						day-drea	ming

Please evaluate the speaker by marking the slot that represents your opinion of the speaker.

The speaker of the message seemed...

manipulative			 	 ethical
reserved			 	 dynamic
b elieva ble			 	 deceptive
competent			 	 incompetent
extroverted			 	 introverted
fair			 	 biased
outgoing			 	 reticent
experienced			 	 untrained
honest			 	 dishonest
uninformed			 	 expert
organized			 	 unorganized

Participating in this perception research...

was	frustrating	 	 	 was relaxing
was	enjoyable	 	 	 was a waste of time
was	irritating	 	 	 Was pleasurable
taug	ght me something	 	 	 was stupid

After listening to the message the student put together, how do you feel now about the recent switch to the semester system at MSU? Please check the position which most closely represents your position.

Overall I feel better about the semester change after hearing the message just presented.

strongly	 	 	 strongly	disagree
agree				

Now I feel that changing from the quarter to the semester system was...

harmful	 	 	 beneficial
positive	 	 	 negative
undesirable	 	 	 desirable
good	 	 	 bad

Changing to the semester system ...

had a great impact on me	had no impact on me
was a personally relevant topic	was not personally relevant
concerned me	did not concern me at all
is an issue I care much about	is an issue that I don't care very much about

Student Number

Your final task is to recall and list below, as many of the SPEAKERS argument that you can remember. Do not look back in the booklet just try and remember as many as you can. When you are finished, turn your packet over and the research assistant will collect it.

.

WEAK MESSAGE

As all of you know, MSU switched from the quarter system to the semester system this fall. The topic has been talked about frequently in the campus paper and around East Lansing. A part of the story that you might not have heard however, is that there are many benefits as well as the drawbacks to the switch. The following information was constructed to give you an overall picture of what's happened in the past months when the switch took place and, it will hopefully make you more comfortable with, and maybe even looking forward to, life on the semester system here at MSU.

It is my opinion that the semester system is better for students for several reasons. First, most other prestigious universities operate on a semester system. For MSU to get the recognition and distinction that it deserves, we needed to be on the semester system too. If we, as MSU students, want to graduate with the dignity of other big ten universities, changing to their same calendar system is a good place to start. Furthermore, there is a greater chance of alumni giving money to the university if it maintains high status and prestige so that they can proudly say, "I graduated from MSU" and give generous donations.

Grant Alexander, a candidate for public office, said that students on the semester system are, "better prepared for their careers, they achieve higher scores on exams, and ultimately get better positions and more pay." He cites the tendency for instructors to skim over material under the quarter system as the cause of this difference. One of my friends said that she was able to memorize most of the class material for the final exam but really didn't have a chance to learn it or discuss her feelings on the topics due to the short, ten week quarter system.

I, myself am having a hard time getting into graduate school because the schools that I have applied to are on the semester system and I graduated last spring under the quarter system. The schools I have applied to are converting my credits and coursework to their system but are running into difficulties due to my quarter system undergraduate program. I cannot begin graduate school until this matter is cleared up. Being on the semester system will make it much easier to apply for, and probably to get into, the better graduate schools across the country.

A fourth reason why the switch to semesters was beneficial is that it made the parents who have written to faculty and administrators happy. When parents are happy they are more supportive of their children and the school system (university) they are attending. The parents were pushing MSU to make the switch so that their other kids, who go to other schools, and those still in high school will be on the same schedule for vacations. They also want their kids to finish in four years instead of five or six so that they do not have to pay as many tuition bills. Parents can be quite persuasive when they want to, especially when there are a lot of them. Another reason parents pushed for the change was because they themselves graduated under the semester system and they felt that students get more out of longer semesters as opposed to shorter quarters.

In conclusion, don't be worried or angry about the switch, it happened and we can't go back so we might as well have a positive attitude! Besides, you should actually be excited about the switch to semesters because of the many benefits like the ones I have brought up plus others. In the long run, you will be better off on the semester system instead of the quarter system. Thank you for listening.

APPENDIX E: Strong Message

STRONG MESSAGE

As all of you know, MSU switched from the quarter system to the semester system this fall. The topic has been talked about frequently in the campus paper and around East Lansing. A part of the story that you might not have heard however, is that there are many benefits as well as the drawbacks to the switch. The following information was constructed to give you an overall picture of what's happened in the past months when the switch took place and, it will hopefully make you more comfortable with, and maybe even looking forward to, the semester system here at MSU.

The MSU administration has been tossing around the idea of switching to semesters since 1990. They reasoned that MSU students, faculty, and administration would benefit from the semester system because it would put MSU on the same time schedule as many other community colleges and universities in Michigan. This would make it easier for transfer students or students who wanted to transfer to other schools or even students who just wanted to coordinate their spring breaks to do so.

UGC, the University Graduate Council discussed switching from quarters to semesters in great depth and decided that the semester system would be a positive move for the university as long as it did not HURT any students in the process. Students caught in the middle of the switch were very concerned about the credit conversion from guarters to semesters. UGC was assured by the administration (and this is confirmed in "The Green Book,") that there is a specific policy that states that the semester system WILL NOT hurt students in terms of the credits they need to graduate. In short, students who needed to take five more classes to graduate will still need to take five classes - granted the five classes are now under the semester system so they three weeks longer in duration. However, no additional courses will be required. Faculty and staff advisors are being trained to help students caught in the middle to get into the right classes and convert their credits properly so that they graduate at the same time they would have on the past schedule.

MSU placement services is very happy about the semester switch because they estimate that 10% of students they worked with last year in setting up summer jobs, lost or missed out on the job because they could not start until school ended in mid to late June - almost three weeks after semester system students were finished. The placement center says switching to the semester system will at least give MSU students the same amount of time to apply and interview for summer positions.

On a less serious note, a survey of students at a

community college in South Florida (who recently made the switch) reported that 82% of the students liked the semester system better simply because they only had to take final exams twice! The reasoning does seem silly but, if you think about the stress and worry and late, sleepless nights that we sometimes go through around final exam week, it will be nice to only have to go through it twice instead of three times like we had to on the quarter system.

To sum the arguments up, there are some problems associated with the change. Specifically with the confusion for students caught in the middle who have to convert their quarter system credits to semester credits, and the confusion and hassle of trying to figure WHEN to register and WHAT to register for now because many of the classes are titled differently and coded by different numbers, but advisors and extra workshops and information sessions are helping to reduce the apprehension about making the semester switch. In the long rum, MSU students, faculty and administration will benefit from making the semester switch. Thanks for listening.

APPENDIX F: Weak Message Response Packet

WEAK MESSAGE RESPONSE PACKET

Informed Consent Form

This project examines human processing capabilities. You will listen to a message related to the semester change at MSU and will be asked to respond to the message on a brief questionnaire. The entire process will take about twenty minutes. It is worth extra credit points toward your grade.

You will be asked to record your student number (no names) on the response sheets for tracking and data calculation purposes. The researcher and data input assistants are the only people who will have access to this information. Absolutely no attempt will be made to attach names with reported student numbers and under no circumstances will individual data be reported.

If at any time you do not feel comfortable completing the research project simply express this to the research assistant and you are free to exit the project without penalty.

"I am participating in this study voluntarily. The purpose and procedures of the research have been explained to me."

signature

printed name

instructors name

course enrolled in

Please write in your student number ______ Please circle your class level.

Freshman Sophomore Junior Senior

The following questions ask for your feelings regarding the upcoming switch to the semester system at MSU. Please check the position which most closely represents your position.

Changing from the quarter to the semester system is...

good	 	 	 bad	
undesirable	 	 	 desirable	
positive	 	 	 negative	
harmful	 	 	 beneficial	

Student number

While the material is still fresh in your mind, list below all of the arguments that you can remember from the message and any other thoughts you had while listening to the message. The research assistant will allow five minutes for this task and then will collect your responses and administer the remainder of the survey materials.

Thank you for participating. I would like your input on each of the arguments used in the message. Each argument will be restated then please check your assessment of that argument.

Argument 1: Semesters convey prestige - like other universities in the big ten.

This argument is ...

very weak highly believable	 	 	 very strong not very
questionable	 	 	 plausible convincing
high quality	 	 	 low quality

Argument 2: Better prepared for career and higher test scores on semester system. This argument is ... ______very strong ______not very very weak _____not very plausible highly believable _____ convincing ______ low quality questionable ____ high quality Argument 3: Graduate schools enroll more semester students. This argument is _____ very strong _____ very strong _____ not ver very weak highly believable ____ not very _____plausible _____ ___ ___ ___ convincing _____ low quality questionable high quality Argument 4: The new system will hush pleas from parents and community pushing for the semester change. This argument is very strong very weak _____not very _____plausible highly believable _____ ___ ___ convincing _____ low quality questionable high quality The rate/speed at which the message was presented was... ____ very slow very fast ____ 500 words per 100 words per ____ minute minute rushed beyond _____ so slow that I comprehension _____ was day-dreaming

Please evaluate the speaker by marking the slot that represents your opinion of the speaker.

The speaker of the message seemed...

manipulative						ethical
reserved						dynamic
believable						deceptive
competent				<u> </u>		incompetent
extroverted						introverted
fair						biased
outgoing						reticent
experienced						untrained
honest						dishonest
uninformed						expert
organized						unorganized
Parti	cipati	ng in (this p	ercept	lon rea	search
was frustrati:	ng					was relaxing
was enjoyable					·	was a waste
was irritating	q					of time was
taught me som	- ething					pleasurable was stupid

After listening to the message the student put together, how do you feel now about the recent switch to the semester system at MSU? Please check the position which most closely represents your position.

Overall I feel better about the semester change after hearing the message just presented.

strongly ____ strongly disagree agree

Now I feel that changing from the quarter to the semester system was...

	 	 	 ~~~~~~~~~~~~
harmful	 	 	 beneficial
positive	 	 	 negative
undesirable	 	 	 desirable
good	 	 	 bad

Changing to the semester system ...

had a great	had no impact on me
was a personally relevant topic	was not personally relevant
concerned me greatly	did not concern me at all
is an issue I I don't care much about	is an issue that care very much about

Student Number _____

Your final task is to recall and list below, as many of the SPEAKERS argument that you can remember. Do not look back in the booklet just try and remember as many as you can. When you are finished, turn your packet over and the research assistant will collect it.

### APPENDIX G: Strong Message Response Packet

## STRONG MESSAGE RESPONSE PACKET

#### Informed Consent Form

This project examines human processing capabilities. You will listen to a message related to the semester change at MSU and will be asked to respond to the message on a brief questionnaire. The entire process will take about twenty minutes. It is worth extra credit points toward your grade.

You will be asked to record your student number (no names) on the response sheets for tracking and data calculation purposes. The researcher and data input assistants are the only people who will have access to this information. Absolutely no attempt will be made to attach names with reported student numbers and under no circumstances will individual data be reported.

If at any time you do not feel comfortable completing the research project simply express this to the research assistant and you are free to exit the project without penalty.

"I am participating in this study voluntarily. The purpose and procedures of the research have been explained to me."

signature

printed name

instructors name

course enrolled in

Please write in your student number

Please circle your class level.

Freshman Sophomore Junior Senior

The following questions ask for your feelings regarding the upcoming switch to the semester system at MSU. Please check the position which most closely represents your position.

Changing from the quarter to the semester system is...

good	 	 	 bad
undesirable	 	 	 desirable
positive	 	 	 negative
harmful	 	 	 beneficial

While the material is still fresh in your mind, list below all of the arguments that you can remember from the message and any other thoughts you had while listening to the message. The research assistant will allow five minutes for this task and then will collect your responses and administer the remainder of the survey materials.

Thank you for participating. I would like your input on each of the arguments used in the message. Each argument will be restated then please check your assessment of that argument.

Argument 1: Same time schedule (calendar) as other universities and community colleges.

This argument is ...

very weak highly believable	 	 	-	very strong not very plausible
questionable high quality	 	 		convincing low quality

Argument 2: Semesters will not hurt students in terms of the credits they need to graduate. This argument is .... ____ very strong very weak highly believable ____ not very plausible ____ convincing ____ low quality questionable high quality Argument 3: Semesters will allow MSU students to get out of school in late May (the same as other semester schools) allowing for a better chance in summer job hunting. This argument is ... _____ very strong very weak - -----____ not very _____plausible highly believable ____ convincing ____ low quality questionable _____ ____ high quality Argument 4: Two final exam weeks per year instead of three. This argument is ... _____ very strong very weak _____ not very _____plausible highly believable ____ convincing ____ low quality questionable _____ high quality The rate/speed at which the message was presented was... ____ very slow very fast 100 words per _____ ___ ___ ___ ___ ___ 500 w minute 500 words per minute ____ so slow that I was day-dreaming rushed beyond comprehension 

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Please evaluate the speaker by marking the slot that represents your opinion of the speaker.

#### The speaker of the message seemed...

manipulative	 	 	 ethical
reserved	 	 	 dynamic
believable	 	 	 deceptive
competent	 	 	 incompetent
extroverted	 	 	 introverted
fair	 	 	 biased
outgoing	 	 	 reticent
experienced	 	 	 untrained
honest	 	 	 dishonest
uninformed	 	 	 expert
organized	 	 	 unorganized

Participating in this perception research...

Was	frustrating	 	 	 was relaxing
was	enjoyable	 	 	 was a waste of time
Was	irritating	 	 	 was pleasurable
tauç	ght me something	 	 	 was stupid

After listening to the message the student put together, how do you feel now about the recent switch to the semester system at MSU? Please check the position which most closely represents your position.

Overall I feel better about the semester change after hearing the message just presented.

strongly _____ strongly disagree agree

Now I feel that changing from the quarter to the semester system was...

good	 	 	 bad
undesirable	 	 	 desirable
positive	 	 	 negative
harmful	 	 	 beneficial

Changing to the semester system ...

had a great impact on me	<pre> had no impact on me</pre>
was a personally	was not
relevant topic	personally relevant
concerned me	did not concern
greatly	me at all
is an issue I	is an issue that
I don't care much about	I care very much about

Your final task is to recall and list below, as many of the SPEAKERS argument that you can remember. Do not look back in the booklet just try and remember as many as you can. When you are finished, turn your packet over and the research assistant will collect it.

#### **ENDNOTES**

1. For the ELM, involvement is direct personal relevance of the issue; for social judgment theory, the concept of involvement or "ego-involvement" refers more to the connection between a person's self-concept or identity and the message (O'Keefe, P.114).

2. These dimensions are strengthened by the Eagly, Wood, and Chaiken (1978) research regarding the types of bias listeners might assign to the speaker. When presented with a persuasive message individuals ask themselves why the speaker is advocating a particular position. If the listener believes that the speaker is going to profit from message compliance then a reporting bias is assigned which reduces trust in the speaker. If the listener believes that the speaker does not know what the objective facts are then a knowledge bias is assigned and speaker competence is reduced. The lack of consistency between dimensions of credibility (although greater confidence is being given to competence and trustworthiness with the addition of Eagly, Wood, and Chaiken's work) and speech rate's effect on these dimensions makes prediction difficult.

## LIST OF REFERENCES

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