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Gender, Memory Accessibility, and Persusasion: Are Women More Susceptible to Influence Than Men?

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GENDER, MEMORY ACCESSIBILITY, AND PERSUASION: ARE WOMEN MORE SUSCEPTIBLE TO INFLUENCE THAN MEN?

By

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ABSTRACT

GENDER, MEMORY ACCESSIBILITY, AND PERSUASION: ARE WOMEN MORE SUSCEPTIBLE TO INFLUENCE THAN MEN?

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The effect of memory accessibility on gender differences in persuasive situations is examined by an experiment in 2 x 2 x 2 factorial design. Using two topics, high quality of supporting arguments, and majority responses which equal either 80% or 20%, 187 students, in the Department of Communication at Michigan State University, indicate their attitudes, knowledge, involvement, gender-based knowledge, belief retrieval, and behavior retrieval towards those topics. Findings are encouraging. While subjects with high memory accessibility tend to have the same or slightly different attitude, subjects with low memory accessibility show a higher degree of conformity, especially when majority response equals to 80%. Limitations of the study and suggestions for future research are discussed.

For my parents, Hsiu-Mei Yeh and Ming-Yen Yu,
and those who love me.

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Finally, it is done! Unlike other term papers that I have ever worked with, this thesis has required a great deal of sweat and tears, but it has all been worth it. At this moment, I would like to take this opportunity to thanks all those friends who have helped me to make this possible.

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INTRODUCTION

Gender differences in susceptibility has been a crucial topic in communication and social psychology. While some researchers (e.g., Tuthill & Forsyth, 1982) find that females are more susceptible to influence than males, other researchers (e.g., Follingstad, 1979) fail to demonstrate gender differences between males and females. Since consistent findings are hard to obtain, previous research on gender and susceptibility may be inadequate. They might choose inappropriate independent variables, inapplicable operational definitions, or unsuitable research design. Thus, this area needs further investigation.

From personal view, individual differences can influence people's degree of conformity. However, it is considered that most of gender differences in persuasive literature might focus upon an inappropriate independent variable, gender. Most researchers in the past tend to highlight gender as the only independent variable which affects people's attitude.

This prospectus argue is that the interaction between gender and memory accessibility rather than gender only determines individual's susceptibility to influence. Thus,

with high memory accessibility, both genders tend to have the same or slightly different attitudes in different persuasive situations. However, when both genders lack memory accessibility, their attitudes tend to be more susceptible to influence, especially when some evident cues are presented. To put it simply, the effect of memory accessibility may be the answer to why gender differences are found only in some studies rather than all of them in the persuasive situations.

Literature Review

Research Findings on Gender Differences

Most of the research before 1970 believe that females are more susceptible than males (Hollander, 1967; McGuire, 1969; Freedman, Carlsmith, & Sears, 1970). However, in 1970s, most studies find no gender difference in persuasion, conformity, and other social influence situations (Eagly, 1978; Follingstad, 1979; Eagly & Carli, 1981). Yet, a substantial minority of studies still report gender differences in the female direction (Patel & Gordon, 1960; Sistrunk & McDavid, 1971; Cooper, 1979; Eagly, 1978; Eagly & Carli, 1981). These findings are consistently obtained in group pressure conformity situations, which often involve small-group or dyadic interaction and generally employ other members of the group to serve as the influence source or make subjects believe that their responses are under the surveillance of other group members.

For example, on the basis of a literature review focusing primarily on persuasion and conformity research, Eagly (1978) finds no support for the hypothesis that females are more influenced than males in a variety of situations. Among 61 studies in her literary approach, 38 of them (62%) show no gender differences in influenceability. However, in group pressure settings, some studies (21 studies, 34%) indicate that female's attitude is easier to be influenced than male's.

Similar result is found in Cooper's study (1979). Contrary to traditional literary approach, Cooper uses a meta-analysis of gender differences influenceability research. This quantitative procedure describe numerically the characteristics of a body of evidence, and give a probability level related to the observed pattern of results. After reanalyzing half of the available studies at that period, he finds that male is significantly less influenceable than female in group pressure conformity studies. Using the same approach, Eagly and Carli (1981) also indicate that female is easier to influence.

Proposed Explanations for Gender Differences

In addition to the controversy about whose attitude is easier to influence, some researchers turn their direction to analyzing previous studies and try to find possible explanations for observed gender differences in influenceability. For example, the most popular explanation

for influenceability regarding gender differences is that female yield to social influence because submissiveness is prescribed by the female role in our culture (Sistrunk & McDavid, 1971; Goldberg, 1974, 1975; Eagly, 1978; Pearson, 1985). Thus, "women do what they are told to do and believe what they are told to believe because they are expected to do so, and the submissiveness lesson has been ingrained through socialization designed to insure the passivity and dependence of girls and women" (Eagly, 1978, P. 102).

Different levels of comprehension is another possible explanation. Some studies substantiate the claim that attitude change is a function of comprehension of the content of messages (Hovland, Janis, & Kelley, 1953; McGuire, 1972; Eagly, 1974; Schumacker, 1981). McGuire (1969) further suggests that the greater persuasibility of females may partially reflect their more effective receptivity rather than their greater yielding. Schumacker (1981) also conducts an experimental study and finds subjects high in comprehension are persuaded the most, and that the main effect of gender is not statistically significant when level of comprehension is controlled.

Some researchers propose that the researcher's gender may affect study outcomes in influence studies (Janis & Field, 1959; Eagly & Carli, 1981). Conducting a meta-analysis of gender differences studies, Eagly and Carli (1981) argue that gender of the researcher is a determinant

to gender differences in persuasive situations. They report that 79% of the authors of influenceability studies are male, and male authors obtain larger gender differences in the direction of greater persuasibility and conformity among females; however, in studies conducted by female, there are no gender differences. From the studies of Anderson (1968) and Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz (1972), it is apparent that both male and female researchers tend to portray their own gender more favorably than opposite gender in conformity.

Reviewing the sources in persuasion studies, it is interesting that communicators are almost always males, especially when information about gender is given. The choice of male communicators is not surprising, since most of the topics are male-oriented. It is believed that greater attitude change occurs when communicators and recipients differ in gender (Knower, 1935). Haiman (1949) also finds a significant tendency for female to be more persuadable than male by a male communicator.

Topics used in previous gender differences literature get a lot of attention from researchers. It is the possible explanation most relevant to this prospectus: differences in topic knowledge. For instance, Sistrunk and McDavid (1971), manipulating experimental tasks (male-related, female-related, and neutral task items) and group pressure (labeling majority response to each items within a

questionnaire), argue that cultural role prescriptions are an inadequate explanation for gender differences, and that a disregard for the nature of the experimental tasks contribute to artificially inflated observations of gender differences in conformity research. They conclude that while female tends to conform more on masculine tasks, male also tends to conform more on feminine tasks. On neutral tasks, there is no differences. Thus, it is possible that in certain circumstances female conform more than male, even as male conform more in other cases. Goldberg (1974 & 1975) also demonstrates that task competence acts as a between-gender factor in that female conformed more than male only on masculine topics, but on feminine tasks the opposite is the case.

Eagly (1978) and Eagly and Carli (1981) address the effects of topic knowledge on studies of persuasion. It is possible that individuals are more readily influenced to the extent when they lack information about a topic or regard it as trivial or unimportant. Thus, they are more easily persuaded if they only have little information relating to a topic (McGuire & Papageorgis, 1961). Reviewing the literature of gender difference influenceability, they find that numerous studies use social, economic, or political issues as their topics. According to some researches (e.g., Swanson, 1951; Sloan, Love, & Ostrom, 1974), those topics tend to be male-oriented. In other words, males are (or may

have been) more involved, knowledgeable and interested in those areas than females. Goldberg (1974, 1975) also argues that people tend to conform on matters in which their own gender is thought to be relatively uninterested and inexpert. Since research topics are often somewhat biased towards the interests and expertise of male, this may explain why some findings show more attitude conformity by female.

Theories of Persuasion and Gender Differences

Although all of these possible explanations for gender differences sound unrelated, in fact, they are congruent with several current persuasion theories. A general argument is that there are two processes through which individuals are persuaded (Chaiken, 1980; Petty & Cacioppo, 1981; Wood, 1982). While one process focuses upon the content of persuasive messages, the other emphasizes on the characteristics of the persuasive situation, such as source credibility, number of arguments, and advocated attitude. Chaiken (1980) proposes the first process as the systematic approach, which involve the cognitive evaluation of message content. According to this approach, when individuals receive a persuasive message, they tend to spend considerable cognitive effort evaluating the message arguments and assessing the extent to which they support the claim of the message. Petty and Cacioppo (1981) call this kind of approach the central route to persuasion.

As the second process, Chaiken identifies as a heuristic approach to persuasion, which requires recipients' little cognitive effort. More specifically, although recipients are not passive, they rely on easily accessible information to decide to accept or reject message conclusions. Petty and Cacioppo label this heuristic approach as the peripheral route to persuasion. Like Chaiken, they suggest that individuals following this route rely on non-content cues, such as characteristics of the source and the situation, to make judgment about message recommendations. In other words, this approach allows individuals to make decisions about message recommendations without processing issue-relevant information.

According to Chaiken (1980) and Petty and Cacioppo (1981), individuals' involvement and ability will influence which information process (systematic/central or heuristic/peripheral route) they may follow. With high involvement and high ability, people tend to employ the systematic or central route, and use the content of messages to decide their attitude. However, with low involvement or low ability, they are most likely to employ the heuristic or peripheral route, and use non-content cues to form their attitude.

From this theoretical perspective, the findings in the literature of influenceability could be reasonably explained. Since most experimental topics or tasks are

male-oriented, females may possess low involvement and inadequate ability towards those topics. Thus, females may use evident cues, such as source credibility or majority response, to form their own attitudes.

The traditional perspective in attitude search emphasizes the role of information stored in memory in determining evaluative judgments (McGuire, 1969). Consistent with this approach, a number of information-processing models propose specifically how individuals integrate pieces of information to form an overall valuative judgment (Anderson, 1971; Fishbein & Ajzen, 1975). Research in this area considers how individuals view an object and make judgments about. Since people tend to evaluate and judge an object before generating their attitude, their involvement and ability play a crucial role in deciding the processes of evaluation and judgment. The processes of evaluation and judgment is critical for understanding research findings in the area of attitude and attitude changes (Hovland & Sherif, 1961). The cognitive aspects, which include beliefs about and perceptual reactions to an attitude object, is the foundation of evaluation and judgment processes. Besides, the cognitive aspects are shaped by internal and external factors at the same time (Hovland & Sherif, 1961; Davis, 1984).

As an example of this approach, Wood (1982) argues that when people form their initial attitude towards an object,

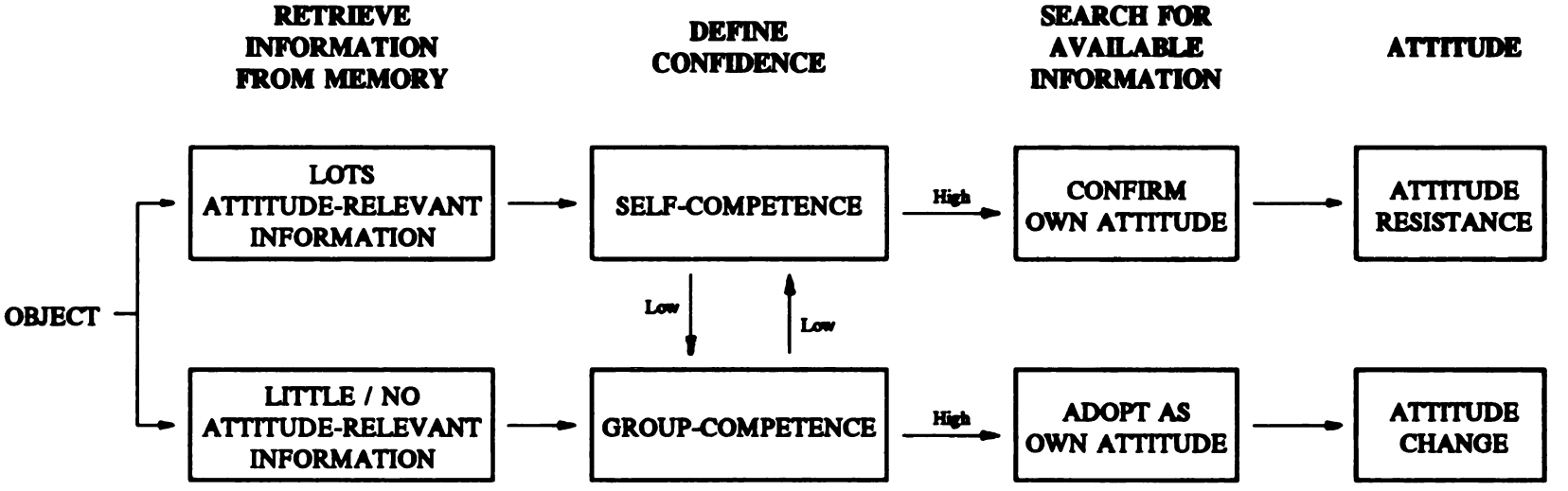
first, they tend to retrieve attitude-relevant information (e.g., beliefs, prior experiences) from their memory. If individuals have lots of relevant-information in their memory and have high self-competence, they tend to resistant couterattitudinal arguments. Under these conditions less attitude change occurs.

In addition to searching internal information, individuals also search available external information, especially when they lack relevant information in memory or are less confident in their attitude. At that time, they may evaluate the relationship between their own competence and the competence of other members of the group to which they belong (Javornisky, 1979). The perceived relationship may influence their degree of conformity: the lower the self competence, the higher the conformity will be. In other words, if individuals have little or no relevant information to retrieve from their memory and possess low self-competence, they tend to conform with information presented in a persuasive situation, such as other's attitude or induced attitude. Kelly (1965) also points out that individuals may use a reference group as a standard or checkpoint for making decisions about persuasive messages that they receive. For example, assuming that individuals are low involved and lack topic knowledge, they cannot make their own attitude decisions based on their memory accessibility. In that case, they may actively seek

information under the constraints of the situation, adopt the source's position, or conform to the attitude expressed by another group member. Thus, they may have a higher degree of conformity. The proposed relation between topic knowledge and attitude is showed in Figure 1.

As mentioned earlier, the topic in influenceability research is addressed as a determinant of gender differences in susceptibility (Eagly & Carli, 1981; Wilson, Kraft, & Dunn, 1989). It is argued that individuals are more readily influenced to the extent that they lack information about a topic (McGuire & Papageorgis, 1961; Eagly, 1978; Wilson, Kraft, & Dunn, 1989), when the task regards as ambiguous or unfamiliar (Allen, 1965; Sistrunk & McDavid, 1971; Goldberg, 1974 & 1975; Endler, Wiesenthal, Coward, Edwards, & Geller, 1975; Eagly, 1978; Follingstad, 1979), when subjects think topics are trivial, unimportant and are not involved or interested in the topics (Eagly, 1978), and when they lack confidence and perceive themselves as incompetent to the topic (Ettinger, 1971; Goldberg, 1974, 1975). In a word, those studies imply that the lack of topic knowledge may increase the degree of conformity. They suggest that when people are unfamiliar with the correct answer, they accept influence from others as sources of valid information (Festinger, 1954; Eagly, 1978), search available information indicating the "correct" alternatives (Javornisky, 1979), or more frequently employ external information (Coleman, Blake,

Figure 1. Processes of evaluation and judgment in persuasive situation.



& Mouton, 1958).

In sum, it is possible that topic knowledge influences individual's attitude through evaluation and judgment processes based on relevant information available under certain condition. Thus, gender differences may not be the only determinant of individual's conformity, rather, it may only reflect differences in the accessibility of topic knowledge in memory. To put it simply, females are not easier to influence than males unless they lack topic knowledge in persuasive situations .

It should be noted that the information effect is not only confined to the relatively formal information-integration paradigm but also demonstrated in more traditional attitude change research. Studies demonstrate that the amount of information that one has about an attitude object is a determinant of the extent of attitude change following exposure to new information or to a counterattitudinal communication. This finding has generality across a range of topics and is robust with both research paradigm and measurement procedures (McGuire, 1969; Fishbein & Ajzen, 1975). For example, Wood (1982) finds that subjects' amount of attitude-relevant information, which is assessed through a thought-listing procedure, determines the impact of a counterattitudinal message on attitude change. Subjects with little attitude-relevant information, in comparison to those with greater

information, change their opinions to be more consistent with the message position.

Although the previous research provides us with reasonable explanations for female's higher conformity rate, it has some weaknesses. First, it is demonstrated that the lack of information about a topic may increase individuals conformity (McGuire & Papageorgis, 1961; Eagly, 1978; Wilson et al., 1989). However, previous studies do not demonstrate specific differences between male and female, and no such experiment, concerning about topic knowledge and influenceability, has been conducted in the gender differences literature. Second, most researchers use previous gender influenceability studies or another group of subjects to conclude the male-related, female-related, and neutral topics, tasks, or interests. Their reliability and validity can be questioned; for example, what topics are of interest to each gender may change over time. Besides, it is possible that people may be very interested in certain topics, but know nothing about them, and vice versa.

Hypothesis

The hypothesis of present study is that memory accessibility (topic knowledge) rather than gender determines the degree of conformity in persuasive situations. The assumption is that, when males and females are equal knowledgeable towards a topic, there will be a 2-way interaction between memory accessibility and majority

response but no gender effects. When both genders possess high memory accessibility (possession of relevant information) about a topic, they tend to retrieve that information from their memory and use evident cues, such as majority response, as extra information to confirm their own attitudes or to modify them. Thus, they show lower degree of conformity. However, when both genders with low memory accessibility (lack of topic knowledge) about a topic, they tend to actively search for available external information or evident cues, such as majority response, as an attitude index to form their own attitudes. Hence, they may display higher degree of conformity.

Overview of Procedures

The purpose of this study is to examine the relationship between gender, memory accessibility (topic knowledge), and persuasion to see whether individuals lacked attitude-relevant information in memory are more persuadable than those who possess topic knowledge. The research design for the proposed experiment is a 2 x 2 x 2 factorial design. The independent variables are gender, memory accessibility (behavior retrieval, belief retrieval, and knowledge), and majority response. The dependent variable is individuals' attitudes.

In order to find relevant topics and supporting arguments for the proposed experiment, two pretests will be administered. In the first pretest, subjects will be

requested to complete a questionnaire assessing their attitudes and other responses towards ten proposals concerning ten different social issues. Those topics are derived from Eagly and Carli's study (1981, pp.12-15), and both genders are believed to be equal knowledgeable about those topics. Then, two topics on which males and females on the average are equally knowledgeable and involved will be chosen to be used in the second pretest and the proposed experiment. In the second pretest, two supporting articles (an editorial and a committee report), each of which contains three arguments for either chosen proposal, will be created. Then, these material will be rated by subjects based on the strength of arguments in each article. Arguments which obtain high quality ratings will be chosen for the proposed experiment; otherwise they will be modified according to subjects' suggestions.

In the proposed experiment, each subject will randomly be assigned to either topic by the distributing of questionnaires. At the beginning of each questionnaire, a supporting article and a majority response for each topic will be presented. Then, each subject indicates his or her attitude towards the proposal to which he or she is assigned. In addition, subjects will be asked to indicate their knowledge, involvement, belief retrieval, and behavior retrieval related to the issue. The procedures for accessing memory accessibility in the proposed experiment

are similar to those in Wood's (1982) study. In most of her experiments, she uses belief and behavior retrieval to represent memory accessibility (1982, 1985, 1986, & 1988). The reported correlations between belief and behavior retrieval are .30 (1982) and .60 (1986).

PRETEST ONE

Purpose

The purpose of this pretest is to select two relevant proposals which will be used in pretest two and the proposed experiment.

Subjects

Forty eight students attending summer term classes in the Department of Communication at Michigan State University in 1990 serve as subjects. The number of males and females are 14 and 30 (4 of them do not indicate their gender).

Procedures

All participants completes an informed consent form (see Appendix A). Then, they are requested to complete a questionnaire that takes approximately 15 minutes and is administered in two parts. In the first part, subjects are asked to rate their attitudes towards each of the ten proposals. These data are used to characterize the consistency of response which may be expected in judgments of these proposals by such a population. In the second part, subjects are asked to assess their knowledge, involvement, and gender-based knowledge concerning each of the ten social issues. All of the responses are marked on

four-item semantic differential scales (see Appendix B). The reliability of the attitude, knowledge, involvement, and gender-based measure, as assessed by Cronbach's Alpha, are .92, .95, .86, and .83, respectively. In addition, subjects are requested to provide background information, such as gender, age, about themselves. After completing the questionnaire, subjects are thanked for their participation and dismissed.

Dependent Variables

Attitude

Subjects indicate their attitudes towards ten proposals on a four-item semantic differential scale developed by Fishbein and Raven (1962).

Self-perception of Knowledge

Subjects rate how well informed they are concerning those issues, and how strong their self-competence or self-confidence is concerning their opinions of those topics on a four-item semantic differential scale.

Self-perception of Involvement

Subject indicate how important those issues are to them, and how involved they are in those issues on a four-item semantic differential scale.

Perception of Gender-based Knowledge

Subjects are asked to indicate whether males or females in general would be more knowledgeable about each issue on a four-item semantic differential scale.

Results

For each of the dependent variables, means and standard deviations are computed for the sample as a whole as well as for each gender. In addition, t-tests are conducted to assess gender differences towards each of the ten proposals.

Attitude Responses

The data presented in Table 1 reveal that, on the average, all subjects' attitudes towards those ten proposals are moderate (overall $M = 4.20$). Subjects neither agree nor disagree strongly with most proposals. Among them, the proposal of Tuition Increases is the least favorable one ($M = 2.68$). In contrast, the proposal of Increased Self Understanding gets the highest agreement from all subjects. The only gender difference occurs for Increased Self Understanding, which females evaluate more positively than males, $t\ (42) = -2.25$, $p = .03$.

Knowledge Responses

The data present in Table 2 providing support for Eagly and Carli's (1981) study; both genders, on the average, believe that they possess almost the same amount of knowledge towards those ten topics ($M = 5.16$ for male; $M = 5.13$ for female). The only gender difference which approaches significance is for the topic of "My ability to increase understanding of myself," where females rate themselves marginally more knowledgeable than do males, $t\ (42) = -1.89$, $p = .065$. Although no other significant

Table 1

Attitude Responses on Pretest One

Topic	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
More Classical Music	3.74	1.41	4.20	1.24	3.48	1.35	1.67	42	.103
Optional Class Attend	4.10	1.97	3.82	1.59	4.09	2.03	-.44	42	.664
Limit Water Use	5.40	1.60	5.96	1.02	5.18	1.76	1.54	42	.132
Abolish Capital Punishment	3.24	1.95	3.02	1.91	3.31	1.98	-.46	42	.649
Donate Blood	2.88	2.04	3.29	2.08	2.93	2.06	.53	42	.601
Prohibit Obscenities	4.76	1.81	4.48	2.05	5.03	1.59	-.96	42	.342
Increase Tuition	2.68	1.51	2.96	1.54	2.48	1.34	1.07	42	.290
Increase Federal Fund	4.86	1.65	4.43	1.65	5.03	1.63	-1.13	42	.267
Increase Self Understanding	6.70	.58	6.39	.74	6.81	.47	-2.25	42	.030
Increase Power of State	3.62	1.62	4.16	1.19	3.30	1.67	1.73	42	.091

Note. N = 48. Ratings were made on a 7-point scale. The higher the score, the more more favorable the attitude.

Table 2

Knowledge Responses on Pretest One

Topic	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
More Classical Music	4.42	2.26	4.59	2.46	4.29	2.28	.39	42	.696
Optional Class Attend	5.01	1.29	4.70	1.44	5.18	1.27	-1.12	42	.271
Limit Water Use	4.94	1.34	5.13	1.24	4.96	1.30	.40	42	.689
Abolish Capital Punishment	5.32	1.05	5.59	1.33	5.20	.87	1.16	42	.252
Donate Blood	5.35	1.29	5.38	1.11	5.33	1.35	.12	42	.904
Prohibit Obscenities	4.74	1.71	4.82	1.51	4.53	1.79	.54	42	.595
Increase Tuition	5.83	1.19	5.68	1.06	5.95	1.26	-.70	42	.488
Increase Federal Fund	4.98	1.44	5.09	1.21	4.93	1.50	.36	42	.722
Increase Self Understanding	6.44	.73	6.16	.81	6.59	.65	-1.89	42	.065
Increase Power of State	4.56	1.41	4.71	.97	4.36	1.60	.77	42	.446

Note. N = 48. Ratings were made on a 7-point scale. The higher the score, the higher the knowledge.

differences are detected, it is interesting to note that males tend to rate themselves more knowledgeable than females for seven of the ten topics.

Involvement Responses

The data presented in Table 3 indicate that all subjects are highly involved in those ten topics (M = 5.14 for all subjects). There are no significant differences between genders for any of the ten topics.

Gender-based Knowledge Responses

The data presented in Table 4 show that both males and females see both genders as equally knowledgeable across the ten topics (overall M = 3.98). It is interesting to note that both genders rate themselves slightly more knowledgeable than the other gender (M = 3.92 for male; M = 4.38 for female). In addition, females are more likely than males to rate females as being more knowledgeable about the topic of "My ability to increase understanding of myself," t (42) = -2.72, p = .01.

In summary, subjects' responses are consistent with the previous study (Eagly and Carli, 1981): both genders are equally knowledgeable about the topics. Although there are some slight differences, most are not significant. In addition, subjects' attitudes tend to be moderate, while knowledge and involvement ratings are moderate to high.

Compared to the responses for other proposals, two topics, "Prohibiting the use of obscenities on television

Table 3

Involvement Responses on Pretest One

Topic	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
More Classical Music	3.35	1.82	3.68	1.78	3.17	1.78	.89	42	.379
Optional Class Attend	4.43	1.78	4.82	1.54	4.17	1.80	1.17	42	.247
Limit Water Use	5.34	1.41	5.63	1.02	5.31	1.41	.75	42	.456
Abolish Capital Punishment	5.73	.98	5.48	1.07	5.74	.93	-.82	42	.415
Donate Blood	5.07	1.04	5.07	1.01	4.97	1.09	.30	42	.763
Prohibit Obscenities	5.38	1.40	5.54	1.25	5.17	1.49	.80	42	.427
Increase Tuition	5.96	.85	5.77	.94	5.99	.82	-.80	42	.426
Increase Federal Fund	5.08	1.36	5.11	1.54	5.06	1.32	.11	42	.914
Increase Self Understanding	6.47	.85	6.55	.74	6.47	.82	.34	42	.738
Increase Power of State	4.59	1.40	5.14	1.27	4.46	1.33	1.62	42	.114

Note. N = 48. Ratings were made on a 7-point scale. The higher the score, the higher the involvement.

Table 4

Gender-based Knowledge Responses on Pretest One

Topic	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
More Classical Music	3.83	.62	3.98	.09	3.74	.71	1.24	40	.222
Optional Class Attend	4.11	.39	4.05	.18	4.09	.33	-.47	41	.644
Limit Water Use	3.72	.70	3.71	.61	3.72	.78	-.04	41	.967
Abolish Capital Punishment	3.61	.74	3.50	.90	3.64	.69	-.58	41	.566
Donate Blood	4.16	.41	4.17	.36	4.17	.46	-.04	41	.968
Prohibit Obscenities	3.96	.29	3.88	.31	4.04	.23	-1.84	40	.074
Increase Tuition	4.01	.21	3.98	.09	4.03	.25	-.82	42	.418
Increase Federal Fund	4.09	.77	4.17	.58	4.10	.90	.27	40	.789
Increase Self Understanding	4.83	.95	4.26	.90	5.00	.81	-2.72	42	.010
Increase Power of State	3.51	.80	3.50	.74	3.53	.86	-.13	42	.901

Note. N = 48. Ratings were made on a 7-point scale. The higher the score, the higher the females gender-based knowledge.

and radio," and "Increasing college tuition to improve the quality of education," are chosen. This decision bases on two reasons. First, both genders score very similarly on these topics. The ratings of the two topics by both genders for attitude, knowledge, and involvement are almost identical (see Tables 1-3). Also, both genders indicate that males and females should be equally knowledgeable about those two topics (M = 3.96 for Prohibiting Obscenities, M = 4.00 for Tuition Increases; see Table 4). Second, the topic of Tuition Increase is counter-attitudinal, while the topic of Prohibiting Obscenities is pro-attitudinal. Selection of these topics should enhance the generalizability of findings from the main study.

For these reasons, the two topics, "Prohibiting the use of obscenities on television and radio" and "Increasing college tuition to improve the quality of education," are chosen to be used in the pretest two and the experiment. Furthermore, the proposal, "Prohibiting the use of obscenities on television and radio," is defined more specifically as "Prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums" in the second pretest in order to give subjects a clearer idea of the exact nature of this proposal.

PRETEST TWO

Purpose

The main purpose of this pretest is to develop three strong arguments in supporting articles for each of the two proposals chosen in the pretest one. In addition, the effect of a peripheral cue, majority response, is tested. Subjects' attitude, knowledge, involvement, and gender-based knowledge responses towards the redefined proposal, "Prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums," also are collected to see whether the redefined proposal is suitable to be a topic in the experiment.

Subjects

Another group of 57 students attending fall term classes in the Department of Communication at Michigan State University in 1990 serve as subjects. The number of males and females are 20 and 36 (1 of them does not indicate his or her gender). All participants complete an informed consent form (see Appendix A).

Procedures

Subjects are randomly assigned to either the topic of Prohibiting Pornography (N = 28) or of Tuition Increases (N

= 29) by distributing alternate questionnaires. In the beginning of questionnaire, a supporting article (an editorial or a committee report) and a majority response rating (a poll indicated that 80% of college age respondents favored the proposal) are presented (see Appendix C). After learning this information, the subjects are asked to rate the strength of each of the three supporting arguments mentioned in the article and to write down more persuasive arguments for each proposal, if they have better ones. In addition, the subjects assigned to the topic of prohibiting pornography are asked to assess their attitude, knowledge, involvement, and gender-based knowledge towards the proposal. Then, subjects are thanked for their participation and dismissed.

After assessment, the most persuasive and believable arguments for each proposal are chosen for the proposed experiment.

Dependent Variables

Argument Strength

Subjects indicate their ratings towards each argument for each proposal on a four-item semantic differential scale (see Appendix D). Reliability of the measure of argument strength, as assessed by Cronbach's Alpha, is .90.

Better Arguments

Subjects then write down any supporting arguments which from their point of view are stronger than these listed in

the message (see Appendix F).

Majority Response

As a manipulation check, subjects are asked to write down the percentage of MSU students who favored either proposal mentioned in supporting arguments. (see Appendix E). For example, in the topic of Prohibiting Pornography, the author had said, "Besides this research, I also conducted a survey of MSU students in May 1989. In the survey, 80% of the 154 students who responded agreed that the play, rental, and sale of violent sexual pornography in video and record shops should be prohibited." At that moment, subjects are requested not to turn back and look at this information.

Attitude, Knowledge, Involvement, and Gender-based Knowledge responses

Subjects assigned to the topic of prohibiting pornography are requested to indicate their attitude, knowledge, involvement, and gender-based knowledge toward the topic on four-item semantic differential scales (see Appendix B). Those scales are the same as those used in pretest one. Reliability for these measures, as assessed by Cronbach's Alpha, are .92, .95, .86, and .83.

Results

Descriptive statistics are reported separately for each topic. Mean, standard deviations, t-test for gender differences are reported for all variables.

Responses for the Topic of Prohibiting Pornography

Table 5 presents subjects' responses to the attitude, knowledge, involvement, gender-based knowledge, and strength of arguments measures. For the topic of Prohibiting Pornography in this pretest, subjects' ratings for attitude, knowledge, and gender-based knowledge are very similar to those for Prohibiting Obscenities in pretest one. However, the mean rating for involvement by females is significantly larger than for males, t (23) = -2.42, p = .024. As to the strength of arguments presented in the editorial, all subjects think that all of the arguments are high in quality (M = 4.95, SD = 1.23). For both genders, the third argument, "The play, rent, and sale of violent sexual pornography in video tapes and record albums could mislead children's behaviors and their concept of reality," is the strongest one. The second argument, "Permission to play, rent, and sell violent sexual pornography in video tapes and record albums reinforces the unequal power relations between men and women as well as degrades women," is the weakest argument in their eyes. Although females rate each argument more persuasive than males do, there are no significant differences between the two genders.

A simple correlations analysis also is conducted to see the relationships between the dependent variables (see Table 6). There is a high correlation between subjects' attitudes and the strength of arguments (r = .8555, p < .01).

Table 5

Responses for the Topic of Pornography in Pretest Two

Category	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
Attitude[a]	4.82	1.91	4.36	1.29	5.25	2.08	-1.16	23	.260
Knowledge[b]	5.37	.92	5.06	1.21	5.58	.71	-1.37	23	.184
Involvement[c]	5.38	1.07	4.86	1.13	5.80	.80	-2.42	23	.024
Gender-based Knowledge[d]	3.72	1.11	3.37	.95	3.88	1.20	-1.11	24	.280
Strength of First Argument[e]	4.79	1.55	4.17	1.67	5.22	1.41	-1.68	23	.107
Strength of Second Argument[e]	4.61	1.72	3.86	1.34	5.13	1.79	-1.84	23	.078
Strength of Third Argument[e]	5.38	1.36	5.22	1.67	5.50	1.24	-.47	23	.640
Strength of Three Arguments[e]	4.93	1.23	4.42	.94	5.28	1.30	-1.75	23	.094

Note. N = 28. Ratings were made on a 7-point scale. [a]The higher the score, the more favorable the attitude. [b]The higher the score, the higher the knowledge. [c]The higher the score, the higher the involvement. [d]The higher the score, the more knowledge the females would be. [e]The higher the score, the more persuasive the argument.

Table 6

Correlations Among Responses on the Topic of Prohibiting Pornography in Pretest Two

	ATPR	KNPR	INPR	GEPR	ARTH	MJRE
ATPR	------	-.0307	.3140	-.1246	.8555**	-.0601
KNPR		------	.1939	-.0531	.0822	-.0303
INPR			------	.2044	.3606	.1574
GEPR				------	-.0313	.0699
ARTH					------	-.1884
MJRE						------

Note. N = 28. (*) = r significant at $p < .05$; (**) = r significant at $p < .01$. ATPR = attitude; KNPR = knowledge; INPR = involvement; GEPR = gender-based knowledge; ARTH = argument strength; MJRE = majority response.

Subjects' attitudes towards the topic and their perceptions of argument quality are strongly related.

The effect of majority response is revealed by a frequency analysis. Seventy-five percent of subjects remember exactly the percentage of majority response mentioned in the proposal. This shows that the majority response is a potential peripheral cue for all of the subjects. Table 7 lists subjects' suggestions to better supporting arguments for Prohibiting Pornography. Although only half of subjects answered this question, 33% of them think that all of the presented arguments are the best. It is apparent that almost all subjects pay attention to the peripheral cue, majority response which was mentioned in the proposals.

Responses for the Topic of Tuition Increases

The data in Table 8 represent subjects ratings of the strength of three arguments presented in the committee report. As expected, all of the three arguments are believed to be high in quality by all subjects (M = 5.00, SD = 1.09). There are no significant gender differences in perceiving strength of any of the three arguments. In addition, 70% of the subjects write down the accurate percentage of majority response mentioned in the committee report. Among the subjects who provide answers to the question about better arguments than those included in the committee report, 35% of them think that all presented arguments are the best (see Table 9).

Table 7

Answers to the Opened Question in the Topic of Prohibiting Pornography in Pretest Two

Answer	Case
All presented arguments are the best	5
"The impact on children" is more relevant	2
Add some statistical evidence	2
The reason why "exposure to violent sexual pornography" may cause violent acts is unclear	1
Use a more source credibility	1
Violent sexual pornography is ignorant	1
The word "prohibiting" is too strong	1
The definition of violent sexual pornography is unclear	1
This proposal infringes on First Amendment Rights	1
Total Cases	15

Table 8

Responses for the Topic of Tuition Increase in Pretest Two

Topic	All Subjects		Males		Females		T-Test		
	M	SD	M	SD	M	SD	t	df	p
Strength of First Argument	4.69	1.22	4.82	.88	4.60	1.42	.45	26	.658
Strength of Second Argument	4.90	1.60	5.20	1.66	4.71	1.57	.80	26	.430
Strength of Third Argument	5.47	1.48	5.45	1.58	5.48	1.46	-.05	25	.960
Strength of Three Arguments	5.00	1.09	5.16	.98	4.90	1.18	.61	25	.549

Note. Ratings were made on a 7-point scale. The higher the score, the higher quality and more persuasive the argument.

Table 9

Answers to Opened Question in the Topic of Tuition Increases in Pretest Two

Answer	Case
All presented arguments are the best	6
A tuition increase is unnecessary	2
A tuition increase is needed: to improve the registration procedure	2
To keep MSU at a competitive level with other major universities	1
To repair dorms	1
To solve parking difficulty on campus	1
To hire more professors	1
To hire TAs who speak English	1
To hire more DPS officers for night patrol on campus	1
To increase the number and the quality of safety phone on campus	1
To improve the services and to hire more staff in the department of financial aid	1
To buy more computer for student use	1
Total Cases	17

To summarize, the redefined proposal, "Prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums," is proved suitable to be used in the experiment according to the comparisons between subjects' responses in pretest one and pretest two. Furthermore, all of the arguments presented in the two articles are rated high in quality by all of the subjects. The majority response also is proved to be a noticeable potential peripheral cue to most subjects. Thus, all the supporting arguments for the two proposals and the hypothetical majority response will be used in the experiment.

MAIN EXPERIMENT

Purpose

The purpose of this study is to examine the relationship between gender, memory accessibility (topic knowledge), and persuasion to see whether people who lack attitude-relevant information in memory are more persuadable than those who possess topic knowledge. The research design for the experiment is a 2 x 2 x 2 factorial design.

Subjects

One hundred and eighty seven students attending fall term classes in the Department of Communication at Michigan State University in 1990 serve as subjects. The number of males and females are 78 and 108 (one person does not indicate his or her gender). All participants complete an informed consent form (see Appendix A).

Procedures

In the proposed experiment, each subject is randomly assigned to either topic by distribution of alternate questionnaires. Approximately half of the subjects are assigned to the topic of prohibiting pornography (N = 95), and the rest are assigned to the topic of tuition increases (N = 92). First, subjects are told that the purpose of the

experiment is to assess people's opinions about social issues. Then, each of the subjects receive a questionnaire beginning with an article which contains supporting arguments and a majority response equal to either 80% or 20%.

The supporting article for the topic of Prohibiting Pornography is an editorial (835 words) based on information from previous scholarly literature, news, and magazines (see Appendix C). Subjects are told that Dr. Atkin, a professor in the College of Communication at MSU, is the author. This is done to increase the source credibility of the editorial. In this editorial, three arguments are presented: "Exposure to violent sexual pornography in video tapes and record albums could promote the sexual abuse of women," "Permission to play, rent, and sell violent sexual pornography in video tapes and record albums reinforces the unequal power relations between men and women as well as degrades women," and "The play, rental, and sale of violent sexual pornography in video tapes and record albums could mislead children's behaviors and their concept of reality."

For the topic of Tuition Increases, a hypothetical committee report entitled "Tuition increases and the quality of education at MSU" is created (see Appendix C). This article bases on university literature, newspapers, and magazines. The subjects are told that Dr. Andrews, a professor in the College of Education at MSU, is the

chairman of the Committee and the author of this report. In the report, three arguments supporting a tuition increase are presented: "Due to severe reductions in the maintenance budget in previous years, 15% of buildings need roof and ceiling repairs. For MSU to provide students with safe class rooms and to prevent high tuition increases in the near future to reconstruct those buildings, a moderate tuition increase up to 6% is necessary," "Due to budget reductions, the placement service is unable to be effective in providing services for students. A drop in the number of employment recruiters visiting MSU has coincided with the placement service's budget cuts. A moderate tuition increase up to 6% is the only viable way for MSU to maintain services which are important to students," and "Due to frozen salaries, good faculty will continue to leave MSU. Good faculty produce good students. Since no other resources are available at the present time, a moderate tuition increase of up to 6% is the only viable way for MSU to provide students with better quality of education by retaining qualified faculty as well as continuing to attract new ones," are presented. This report consists of 957 words.

After subjects read this information, they are asked to indicate their attitudes, knowledge, involvement, and gender-based knowledge concerning the topic (see Appendix B). They also list their beliefs and behavior occurrences

related to the assigned topic (see Appendices G and H). In addition, they are asked to indicate their gender and age. After completing the questionnaire, which takes about 20 minutes, subjects are thanked for their participation and dismissed.

Independent Variables

Independent variables in this experiment are gender, memory accessibility, and majority response.

Gender

Before administering the experiment, the ratio of males and females in the same classes is calculated based on professors' lists. The class with the most even gender distribution is chosen. In addition, subjects are asked to indicate their gender in the beginning of each questionnaire.

Memory Accessibility

Memory accessibility is the amount of relevant-topic knowledge which subjects can retrieve from memory. Three indicators of memory accessibility are used: instances of behavior retrieval, number of beliefs, and self-rating knowledge. In this study, memory accessibility contains two levels, low and high, which will be divided by median scores for each topic and gender.

Behavior retrieval. Subjects are asked to list specific instances of times when they have engaged in actions related to the issue in an opened question (see

Appendix H). Before counting the number of behavior occurrences a subject reported, a coding manual including key concepts and coding rules is developed. Then, two coders are asked to rate each questionnaire individually based on the coding manual (see Appendix J). The correlation between the two coders' ratings for number of behavior occurrences is .89.

Belief retrieval. To learn which subjects could retrieve attitude-relevant beliefs, they are asked to list the characteristics and facts which they believed to be true about the issue in an opened question (see Appendix G). Before counting the number of beliefs a subject reported, a coding manual including key concepts and coding rules is developed. Then, two coders are asked to rate each questionnaire individually based on the coding manual (see Appendix I). The correlation between the two coders' ratings for number of beliefs is .86.

Self-rating knowledge. Subjects rate their knowledge about the topic. They indicate how well-informed they are and how strong their self-competence and self-confidence is concerning the topic. The same four-item semantic differential scale is used as in Pretest One (see Appendix B). Reliability for this scale, assessed by Cronbach's Alpha, is .95.

Separate median splits for each gender and for each topic are used to create the high and low memory

accessibility groups. The median scores for behavior retrieval, belief retrieval, and knowledge in the topic of Prohibiting Pornography are 2, 4, and 5.75 for males, and 3, 5, and 5 for females. In the topic of Tuition Increases, the median scores for behavior retrieval, belief retrieval, and knowledge are 3, 4, and 4.5 for males, and 3, 4, and 4.75 for females. Thus, for each topic, half of the male and female subjects are either in the high or low memory accessibility group.

Majority Response

Majority response refers to the most common attitude in a population toward the two chosen proposals. It consists of two levels: favorable and unfavorable. Before reading the supporting arguments for either proposal, subjects are told about a hypothetical student survey about that proposal. Half of the subjects are informed that 80% of the students who were surveyed supported the proposal and 20% were opposed to the proposal. The other half are informed that 80% of the students were opposed to the proposal and 20% supported the proposal. The percentage of supporting and opposing opinions differs by 60% in order to be an obvious cue for subjects.

In the end of each questionnaire, subjects are asked to write down the percentage of MSU students who favored the proposal mentioned in previous article (see Appendix E). At that moment, subjects are requested not to turn back and

look at that information.

Dependent Variables

Attitude

After reading the supporting arguments and a majority response, subjects indicate their attitudes towards the proposal on the same four-item semantic differential scale as in Pretest One (see Appendix B). Reliability for this scale, assessed by Cronbach's Alpha, is .92.

Self-perception of Involvement

Subjects assess how important the issue is to them and how involved they are in the issue. The same four-item semantic differential scale is used as that in Pretest One (see Appendix B). Reliability for this scale, assessed by Cronbach's Alpha, is .86.

Perception of Gender-based Knowledge

Subjects are asked to indicate whether the males or females on average are more knowledgeable about the issue. The same four-item semantic differential scale is used as that in Pretest One (see Appendix B). Reliability for this scale, assessed by Cronbach's Alpha, is .83.

Results

Manipulation Check

To assess the effectiveness of the majority response manipulation, subjects are asked to write down the result of the student survey mentioned in the previous article. They are urged not to turn back and look at that information. If

they can not remember clearly, they are encouraged to provide their best guess. After frequency analysis, 74% (64/86, missing cases = 7) of subjects exposed to the majority response equal to 20% write down the exact percentage mentioned in their questionnaire. Similarly, 82% (70/85, missing cases = 9) of subjects exposed to the majority response equal to 80% write down the exact percentage. Thus, it appears that majority response is manipulated successfully.

Experimental Findings

For each of the dependent variables, means and standard deviations are computed for the sample as a whole as well as for each gender across topics and with in each topic (see Table 10). Since the means of dependent variables in one topic are obviously different from those in the other, topic is treated as an additional independent variable in this study in all of the analyses.

Table 11 is a result of correlation analysis showing the relationships between all of the dependent variables across topics. As noted earlier, the method of assessing memory accessibility in this study is derived from Wood's studies (Wood, 1982; Wood, Kallgren, & Preisler, 1985; Kallgren & Wood, 1986; Wood & Kallgren, 1988). Wood (1982 & 1986) reported correlations of .30 and .60 between the measures of behavior and belief retrieval. However, in this study, none of the correlations between the three

Table 10

Responses for Experiment

	All Subjects (P&T)	Males (P&T)	Females (P&T)	All Subjects (P)	Males (P)	Females (P)	All Subjects (T)	Males (T)	Females (T)
AT	4.34 (1.63)	4.10 (1.57)	4.52 (1.65)	4.62 (1.69)	4.13 (1.57)	5.03 (1.68)	4.06 (1.52)	4.07 (1.58)	4.05 (1.49)
KN	4.81 (1.24)	4.93 (1.41)	4.73 (1.11)	5.05 (1.23)	5.38 (1.26)	4.80 (1.16)	4.57 (1.21)	4.43 (1.41)	4.66 (1.07)
IN	5.10 (1.27)	4.92 (1.32)	5.23 (1.22)	4.87 (1.38)	4.66 (1.36)	5.03 (1.38)	5.34 (1.10)	5.22 (1.22)	5.42 (1.02)
GE[a]	4.08 (.74)	3.96 (.60)	4.16 (.82)	4.16 (.97)	3.99 (.74)	4.30 (1.11)	3.99 (.36)	3.92 (.40)	4.04 (.33)
BELI	4.58 (2.56)	4.01 (2.24)	4.98 (2.70)	4.80 (2.18)	4.29 (1.72)	5.21 (2.45)	4.34 (2.64)	3.69 (1.82)	4.76 (3.01)
BEHA	2.69 (2.20)	2.47 (2.08)	2.84 (2.28)	2.55 (2.18)	2.14 (1.72)	2.87 (2.45)	2.84 (2.23)	2.86 (2.40)	2.82 (2.14)

Note. N = 187. P = Topic of Pornography; T = Topic of Tuition; AT = attitude; KN = knowledge; IN = involvement; BELI = belief retrieval; BEHA = behavior retrieval. Numbers inside of parentheses are SD. Ratings were made on a 7-point scale. [a]The higher the score, the more knowledgeable the females would be.

Table 11

Correlations Among Responses on Experiment Across Topics

	AT	KN	IN	GK	BELI	BEHA
AT	------	-.0637	-.0677	-.0037	.0812	-.0689
KN		------	.3015**	.2892**	.0284	.0859
IN			------	.2566**	.0775	.1060
GK				------	.0727	.0429
BELI					------	.1334
BEHA						------

Note. N = 95. (*) = r significant at $p < .05$; (**) = r significant at $p < .01$. AT = attitude; KN = knowledge; IN = involvement; GK = gender-based knowledge; BELI = belief retrieval; BEHA = behavior retrieval.

assessments of memory accessibility (behavior retrieval, belief retrieval, and knowledge) are significant (see Table 11). One explanation for their poor correlation may be that the three measures do not tap the same construct (e.g., memory accessibility). Hence, the three measures are analyzed individually rather than combined together to represent subjects' memory accessibility. Thus, the four independent variables in every ANOVA are gender, majority response, topic, and one of the representations of memory accessibility (behavior retrieval, belief retrieval, or knowledge). Assuming that alpha equal .05 and N equal 187, statistical power to detect main or interaction effects of medium size is .78.

In addition, two planned contrasts between memory accessibility and majority response across all three representations of memory accessibility are conducted. This is done to compare the differences in attitudes towards proposals among different topics and conditions.
In the following section, all of these analyses based on subjects' responses are reported in the order of the representations of memory accessibility (behavior retrieval, belief retrieval, then knowledge).

Behavior retrieval. The significant effects of ANOVA for behavior retrieval are listed in Table 12. Two main effects, topic and gender, occur. Subjects are more favorable towards the proposal of Prohibiting Pornography (M

Table 12

Three Different Senses of Memory Accessibility

Category	Behavior Retrieval	Belief Retrieval	Knowledge
Topic Main Effect	P > T, p = .001	P > T, p = .008	P > T, p = .012
Gender Main Effect	F > M, p = .010	F > M, p = .037	F > M, p = .050
TO x MJ 2-way IN	p = .077	p = .050	p = .063
TO x Gender 2-way IN	N. S.	p = .075	p = .058
MJ x MA 2-way IN	N. S.	N. S.	p = .071

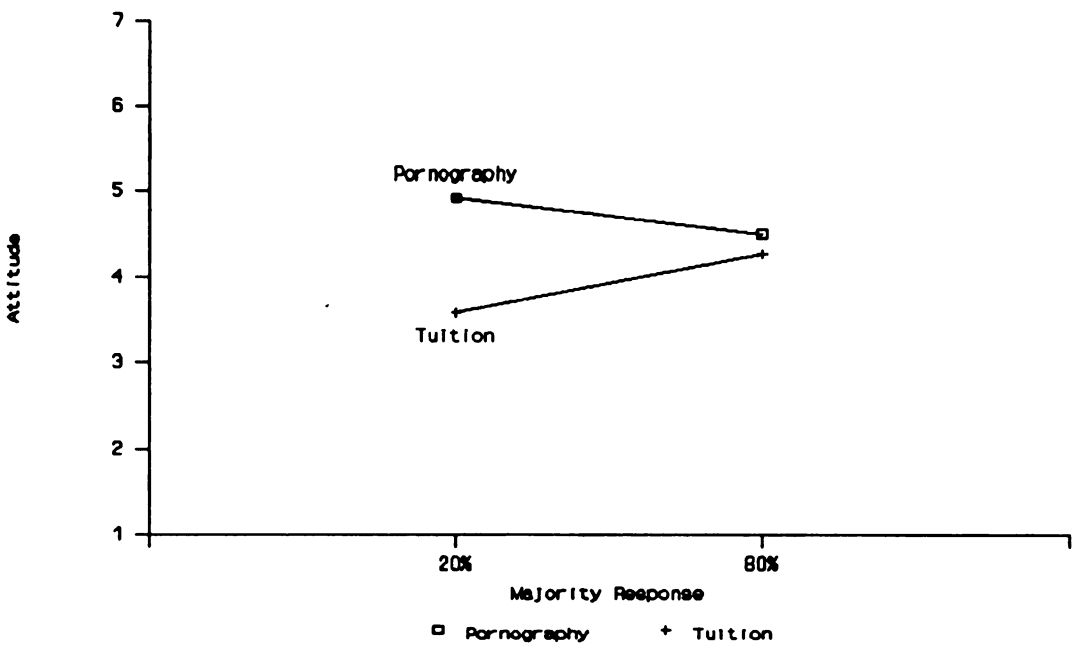
Note. P = Topic of Pornography; T = Topic of Tuition; F = Female; M = Male; TO = Topics; MJ = Majority Response; MA = Memory Accessibility; GE = Gender; N.S. = Nonsignificant; IN = Interaction.

= 4.72) than towards the proposal of Tuition Increases (M = 3.91), $F(1,127) = 10.902$, $p = .001$, $eta^2 = .069$. Females (M = 4.58) tend to have more positive attitude towards these two proposals than males (M = 3.97), $F(1, 127) = 6.841$, $p = .010$, $eat^2 = .043$. Both of these main effects are significant across different representations of memory accessibility. The topic main effect also is proved that it is reasonable to include topic as an independent variable in this study.

The only two-way interaction which approaches significant is topic by majority response, $F(1, 127) = 3.177$, $p = .077$, $eat^2 = .020$ (see Figure 2). Since this interaction is significant for one measure of memory accessibility (see Table 12), it is interpreted. A Student Newman Keuls post hoc test indicates that for the topic of Tuition Increases, subjects in the 80% majority response group have a higher degree of conformity than do those in the 20% majority response group, while for the topic of Prohibiting Pornography the two groups do not differ from each other or from the tuition groups. In other words, majority response affects only subjects' attitudes for the topic of Tuition Increases.

There is no significant two-way interaction between memory accessibility and majority response found in ANOVA analysis. Since hypothesis of this study predicts an ordinal rather than disordinal interaction between memory

Figure 2. Effects of topic and majority response on attitude.



accessibility and majority response, planned comparisons also are conducted. Consistent with hypothesis, these two independent variables have a significant impact on subjects' attitudes in one planned comparison. The four groups and the nature of the comparison are: (1) low memory accessibility and 20% majority response, -1; (2) low memory accessibility and 80% majority response, 3; (3) high memory accessibility and 20% majority response, -1; and (4) high memory accessibility and 80% majority response, -1. This analysis reveals that with low memory accessibility and 80% majority response, subjects have more favorable attitudes towards the two proposals than those in the other conditions, $t(139) = 2.082$, $p = .039$.

Belief retrieval. The significant effects of ANOVA for belief retrieval are listed in Table 12. Like the results in behavior retrieval analyses, there are two main effects, topic and gender, $F(1, 164) = 7.259$, $p = .008$, $eta^2 = .038$ for topic main effect; $F(1, 164) = 4.444$, $p = .037$, $eta^2 = .023$ for gender main effect. Subjects are more favorable to the proposal of Prohibiting Pornography ($M = 4.63$) rather than the proposal of Tuition Increases ($M = 4.03$). Females ($M = 4.51$) tend to have more positive attitude towards these two proposals than males ($M = 4.09$).

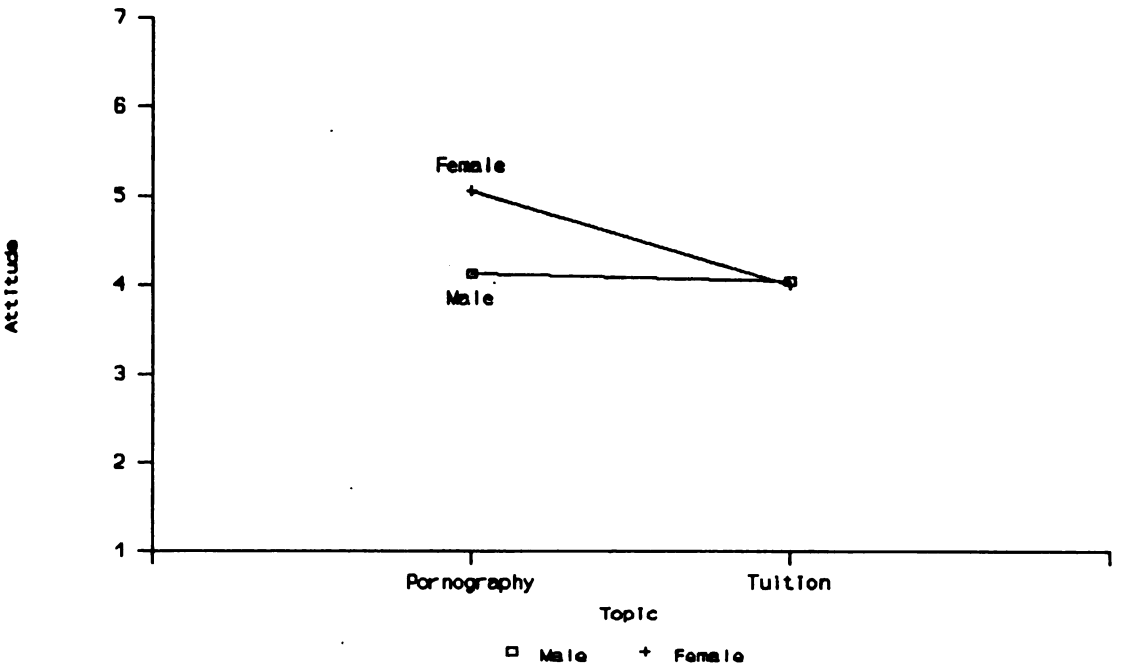
Furthermore, two two-way interaction effects are found. Like the results in the behavior retrieval analyses, the interaction between topic and majority response is

significant, $F(1, 164) = 3.888$, $p = .050$, $eta^2 = .020$ (see Figure 2). Majority response only influences subjects' attitudes towards the proposal of Tuition Increases: the higher the majority response, the more favorable the attitude.

Unlike the results in the behavior retrieval analyses, the two-way interaction effect between topic and gender approaches significant , $F(1, 164) = 3.221$, $p = .075$, $eta^2 = .017$ (see Figure 3). Since this interaction is significant for one measure of memory accessibility, it is interpreted (see Table 12). While females' attitudes significantly differ from topic to topic, males tend to have the same attitudes across topics. Once again, Student Newman Keuls post hoc test indicates that, for the topic of Prohibiting Pornography, females have more favorable attitude than females or males in other conditions, $F(3, 180) = 4.501$, $p = .0045$, $eat^2 = .070$. In sum, gender differences occur for one of the two topics: Prohibiting Pornography.

Knowledge. The significant effects of ANOVA for knowledge as memory accessibility are listed in Table 12. Like the previous analyses, there are two main effects: topic and gender; $F(1, 166) = 6.465$, $p = .012$, $eta^2 = .034$ for topic main effect, $F(1, 166) = 3.911$, $p = .050$, $eta^2 = .020$ for gender main effect. Subjects have more favorable attitudes towards the proposal of Prohibiting Pornography ($M = 4.63$) rather than the proposal of Tuition Increases ($M =$

Figure 3. Effects of topic and gender on attitude.

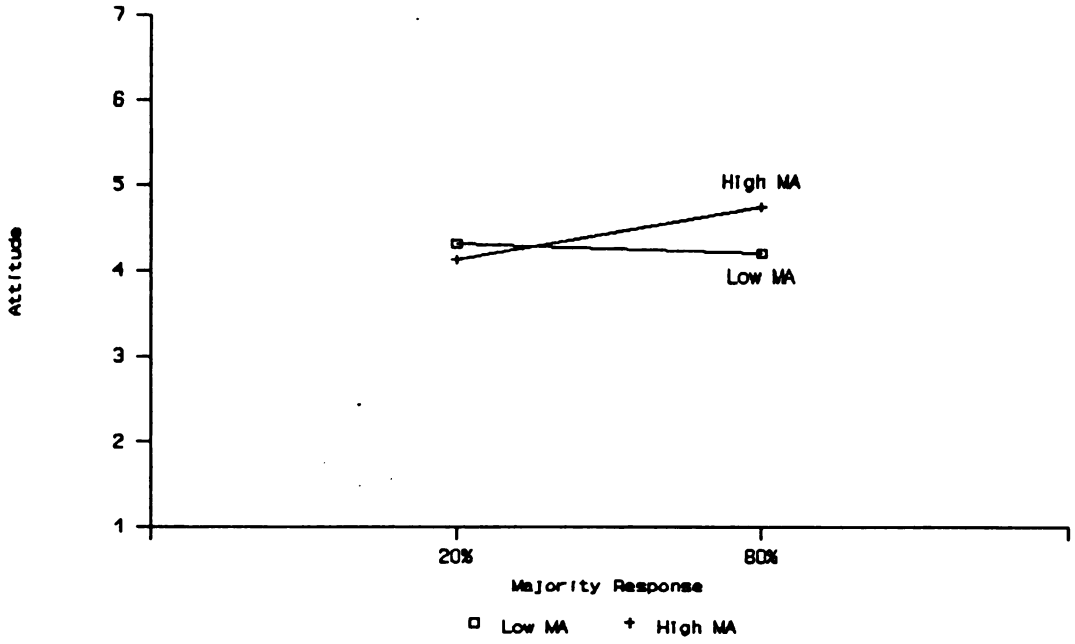


4.06). Females (M = 4.49) tend to have more positive attitudes towards the two proposals than males (M = 4.21).

In the ANOVA, there are three two-way interaction effects. First is the interaction between topic and majority response, $F(1, 166) = 3.495$, $p = .063$, $eat^2 = .018$ (see Figure 2). It indicates that subjects' attitudes towards the proposal of Tuition Increases are influenced by majority response: the higher the majority response, the more favorable the attitude. But in the proposal of Prohibiting Pornography, majority response seems to have no impact on subjects' attitudes. Second, like the results in the belief retrieval analyses, there is a two-way interaction between topic and gender, $F(1, 166) = 3.635$, $p = .058$, $eta^2 = .019$ (see Figure 3). Females' attitudes vary with topics. They are more favorable to the proposal of Prohibiting Pornography (M = 5.03) than Tuition Increases (M = 4.05). On the other hand, topics seem to have no impact on males' attitudes.

Unlike the results in the two previous analyses, the two-way interaction effect between majority response and memory accessibility approaches significant, $F(1, 166) = 3.302$, $p = .071$, $eta^2 = .017$ (see Figure 4). Since the same two-way interaction is significant by planned contrasts when the measure of memory accessibility is behavior retrieval, this interaction is interpreted. However, a post hoc test shows that subjects' attitudes in different conditions do not vary enough to reach a significant level.

Figure 4. Effects of memory accessibility and majority response on attitude.



DISCUSSION

This study investigated the relationship between gender, memory accessibility, and persuasion. Subjects were asked to indicate their opinion of a proposal along with their involvement and gender-based knowledge ratings. In addition, they were requested to rate their knowledge, and to list beliefs and instances of behavior concerning a topic to portray their memory accessibility. Subjects also were asked to write down the results of a hypothetical student survey in order to demonstrate the effect of majority response as a potential peripheral cue in the experiment.

It was hypothesized that memory accessibility about topics rather than gender would determine people's attitudes in persuasive situations. The assumption of the present study was that males and females with low memory accessibility would conform more than those with high memory accessibility, especially when an advocated peripheral cue was presented. Furthermore, it was assumed that the majority response would serve as a cue to all the individuals in persuasive situations. To subjects with high memory accessibility, majority response served as extra information along with their prior knowledge about the

topic. However, to those with low memory accessibility, majority response acted as an index for subjects to form their attitudes. To put it simply, this study expected a 2-way interaction between memory accessibility and majority response, and no gender effects. In addition, a high correlation between the three measures of memory accessibility (behavior retrieval, belief retrieval, and knowledge) was expected.

Before running proposed experiment, two pretests were conducted in order to select two relevant topics and persuasive arguments for these topics. The purpose of Pretest One was to select two topics on which males and females on the average would be equally knowledgeable. Based on ratings by a group of subjects, two topics, "Prohibiting the use of obscenities on television and radio" and "Tuition increases," were chosen out of ten proposals. Both genders tended to have the same attitudes towards them (see Table 1). In addition, males' and females' amount of knowledge, and involvement ratings were almost identical (see Table 2 & 3). Both genders thought themselves were equally knowledgeable about these two topics (see Table 4). More importantly, the topic of Tuition Increases is counter-attitudinal, while the topic of Prohibiting Obscenities is pro-attitudinal. Selection of these topics should enhance the generalizability of findings from the main study. It should be noted that the proposal, "Prohibiting the use of

obscenities on television and radio," was defined more specifically as "Prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums" in order to give subjects a clearer idea of the exact nature of this proposal.

The purpose of Pretest Two was to develop three strong arguments within supporting articles for each of the two proposals chosen in the Pretest One. In addition, the effect of a peripheral cue, majority response, was tested. The results were encouraging. All of the arguments presented in the two articles were rated high in quality by all of the subjects ($\underline{M}$ = 4.95 for the topic of Prohibiting Pornography; $\underline{M}$ = 5 for the topic of Tuition Increases). The majority response also proved to be a noticeable peripheral cue to most subjects. In the topic of Prohibiting Pornography, 87% of subjects wrote down the accurate percentage of majority response mentioned in the editorial. Seventy percent of subjects remembered the exact percentage of majority response addressed in the committee report in the topic of Tuition Increases.

In the following, a summary of results of the proposed experiment, the limitations of the study, and the directions for future research are presented. It should be noted that the three measures of memory accessibility (behavior retrieval, belief retrieval, and knowledge) did not turn out to be highly correlated (see Table 11). Thus, separate

analyses for each measure of memory accessibility were conducted. In addition, topic was included as an independent variable in this study due to its effects on other dependent variables (see Table 10).

Summary of Results

After collecting all the data from the experiment, simple analysis including mean, standard deviation, correlation, ANOVA, Student's Newman-Keuls post hoc test, and planned comparison were computed. The following are all the statistical significant findings which were consistent with or contrary to the hypothesis of this study. In addition, possible explanations for significant effects opposed to the hypothesis are also listed.

Effects Consistent with Hypothesis

The hypothesis that subjects with low memory accessibility tend to use majority response as an attitude index to form their own attitudes, while subjects with high memory accessibility tend to use majority response as extra information to confirm their own attitudes was confirmed by the following findings. In the topic of Tuition Increases, subjects in the 80% majority response group had a higher degree of conformity than did those in the 20% majority response group. However, for the topic of Prohibiting Pornography, the two different majority response groups did not differ from each other or from the 20% majority response tuition group. This finding occurred in the analyses of all

three different senses of memory accessibility: $F(1, 127) = 3.177$, $p = .077$, $eat^2 = .020$, for behavior retrieval; $F(1, 164) = 3.888$, $p = .050$, $eat^2 = .020$, for behavior retrieval; $F(1, 166) = 3.495$, $p = .063$, $eat^2 = .018$, for knowledge.

To put it simply, the different percentage of majority response only influenced subjects' attitudes towards the proposal of Tuition Increases rather than the proposal of Prohibiting Pornography. The higher the majority response, the more favorable the attitude. More important, comparing subjects' memory accessibility in different topics, their belief retrieval and knowledge for the topic of Tuition Increases were moderate ($M = 4.34$ for belief retrieval; $M = 4.57$ for knowledge) and lower than those for the topic of Prohibiting Pornography ($M = 4.80$ for belief retrieval; $M = 5.05$ for knowledge). As mentioned earlier, when people have lower memory accessibility, they lack confidence about their attitudes towards an object. Thus, it is possible that subjects used majority response to form or to modify their attitudes only towards the topic of Tuition Increases because they had less prior knowledge about this topic.

In addition, majority response and memory accessibility (behavior retrieval) had a significant impact on subjects' attitudes in one planned comparison. This analysis demonstrated that with low memory accessibility and 80% majority response, subjects had more favorable attitudes towards both proposals than those in the other conditions,

$t(139) = 2.082$, $p = .039$.

In sum, this study provides supports for the hypothesis that the interaction between memory accessibility and majority response determines people's conformity in persuasive situations. For both genders with low memory accessibility, they tended to have more favorable attitudes to the proposals when majority response equaled 80%. However, for both genders with high memory accessibility, they displayed less conformity or were not influenced by the percentage of majority response.

Effects Contrary to Hypothesis

The topics used in the two pretests reflected no gender effect. However, the actual experiment did indicate gender differences. To put it simply, no matter which measures represented memory accessibility females were more favorable towards both topics than males: $F(1, 127) = 6.841$, $p = .010$, $eat^2 = .043$ for behavior retrieval; $F(1, 164) = 4.444$, $p = .037$, $eat^2 = .023$ for belief retrieval; $F(1, 166) = 3.911$, $p = .050$, $eat^2 = .020$ for knowledge. Nevertheless, the 2-way interaction between topic and gender indicated that this was true only for the topic of Prohibiting Pornography (see Figure 3). While male's attitude ($M = 4.13$) was .90 points lower than female ($M = 5.03$) in the topic of Prohibiting Pornography, female ($M = 4.05$) was .02 points lower than male ($M = 4.07$) in the topic of Tuition Increases rating. This finding could be a pre-existing difference rather than

gender differences between males and females. For example, in the Pretest One, female's average attitude (M = 5.03) was .55 points higher than male (M = 4.48) towards the topic of Prohibiting Obscenities. In additionally, for the redefined topic, Prohibiting Pornography, female's average attitude (M = 5.25) was .89 points higher than male (M = 4.36). In experiment, females' attitude (M = 5.03) was .90 points higher than male (M = 4.13). Since sample sizes were smaller in the two pretests than in the experiment, statistical power may explain why gender differences were significant only in the experiment (.36 for Pretest One; .45 for Pretest Two; .78 for experiment). Thus, the reason why females were more favorable towards the proposal of Pornography than males in this study could be pre-existing difference in their attitudes.

Topic was found to be a main effect across three different senses of memory accessibility: $F(1, 127)$ = 10.902, p = .001, eat^2 = .069 for behavior retrieval; $F(1, 164)$ = 7.259, p = .008, eta^2 = .038 for belief retrieval; $F(1, 166)$ = 6.465, p = .012, eta^2 =.034 for knowledge. It showed that subjects were more favorable towards the topic of Prohibiting Pornography than Tuition Increases. However, the two-way interaction between gender and topic indicated that it was true only for females (see Figure 3). For instance, male's attitude towards both topics was almost the same (M = 4.13 for the topic of Prohibiting Pornography; M =

4.07 for the topic of Tuition Increases). For females, their attitude towards the topic of Prohibiting Pornography (M = 5.03) was .98 points higher than those in the topic of Tuition Increases (M = 4.05). This could explain why females were more favorable towards the topic of Prohibiting Pornography than those in the topic of Tuition Increases and males in either topic.

A similar perception was also found in knowledge and belief retrieval analyses for topic impact on females. While females' attitudes were significantly different from topic to topic, males tended to have the same attitudes across topics: $F(1, 166) = 3.635$, $p = .058$, $eta^2 = .019$ for knowledge; $F(1, 164)$, 3.221. $p = .075$, $eta^2 = .017$ for belief retrieval. Specifically, females were more favorable towards the proposal of Prohibiting Pornography (M = 5.03) than Tuition Increases (M = 4.05). Newman-Keuls post hoc test indicated that, for the topic of Prohibiting Pornography, females had more favorable attitudes than did females or males in other conditions, $F(3, 180) = 4.501$, $p = .0045$, $eat^2 = .070$. It seems that topic has an impact on female attitude only. However, this could be a pre-existing gender differences on the pornography study as mentioned earlier.

In the hypotheses of this study, behavior retrieval, belief retrieval, and knowledge ratings were expected to be highly correlated. However, the correlation among these

three senses of memory accessibility appeared to be low (see Table 11). It might due to the method of assessing subject's memory accessibility, or the coders' perception of behavior retrieval and belief retrieval. As mentioned earlier, the method of assessing people's memory accessibility is derived from Wood's studies. In her experiments, she did not report the correlation between behavior and belief retrieval in the 1985 and 1988 studies, but did report the correlations in her 1982 and 1986 studies. However, those correlations between behavior and belief retrievals in her 1982 study indicated a slight relationship (r = .30) whereas her 1986 study reflected a moderate relationship (r = .60). The former correlation and the current findings may indicate that these methodological variables (behavior and belief retrieval) are not measuring the actual theoretical construct of memory accessibility. Since a strong relationship between behavior and belief retrieval was hard to obtain, the present method of assessing individual's memory accessibility may be inadequate.

The number of behavior and belief retrieved by a subject was determined by two coders based on coding manuals. The correlation between the two coders' ratings was .89 for the number of behavior retrieval and .86 for the number of belief retrieval. Although the correlations are considered to be high, the question of validity raises: are

coders segmenting or unitizing behaviors instances and beliefs in the same way as subjects themselves would? Thus, the weak relationship among behavior retrieval, belief retrieval, and knowledge may be explained due to the question of validity.

In sum, most of these contradictory findings could be resulted from pre-existing difference rather than gender differences, since the research design in this study did not provide either pretest information about groups or comparison differences. In addition, the current method of assessing memory accessibility has methodological shortcomings. For example, the choice of variable selection is not representative of the actual theoretical construct; the lack of validity for subject's behavior and belief retrieval; and the inappropriate method used to measure variables.

Limitations of the Study

The primary focus of the present study was on the comparison of subjects' attitudes towards the two proposals not only in different levels of memory accessibility but also in different percentages of majority response. The hypothesis that subjects with low memory accessibility had a higher degree of conformity than those with high memory accessibility, especially when a advocated cue was used, was confirmed in one test. The effect of peripheral cue, majority response, also was demonstrated.

However, the lack of strong evidence supporting the relationship between the memory accessibility and the degree of conformity reduce the generalization of this study. This limitation is proposed to be the result of inadequate method used to assess the memory accessibility, and the use of a less than optimal sample.

Construct Validity

To conduct research that will help test theories and hypotheses, researchers need to successfully measure the theoretical constructs of interest. Since constructs are abstract, researchers need to create some concrete representations (variables) which can approximately portray those constructs. If a study has high construct validity, all the constructs in the hypothesis have been successfully measured or captured by the specific variables which researchers use in collecting data. However, variables measure not only the construct of interest but also other irrelevant characteristics, such as constructs of disinterest and random errors.

In the present study, the low correlation between the three senses of memory accessibility was found. This may suggest that these three variables (behavior retrieval, belief retrieval, and knowledge) were not representative of the theoretical construct, memory accessibility. In other words, these three variables may tap other different constructs. For instance, the method of assessing memory accessibility may detect subjects' level of motivation or

memory ability instead of memory accessibility. According to a study by Cacioppo, Petty, and Morris (1983), individuals high in need for cognition expended more cognitive effort and recalled more message arguments regardless of argument quality than those low in need for cognition. They also indicated that need for cognition represented a motivational tendency which developed through an individual's experiences with complex cognitive endeavors and reflected the intrinsic rewards the individual derived from these types of efforts. Thus, when requested to list behavior occurrences or beliefs, subjects with low in need for cognition might not have the motivation to write down all the beliefs and behavior instances they had. On the contrary, subjects with high in need for cognition might spend a lot of effort to list everything they had in mind.

Another possible factor is subject's memory ability. Forgetting is an interesting type of internal factor frequently cited as a reason for failure to carry out an intention (Kuhl, 1985). It is possible that some people have the ability to remember all their beliefs and previous experiences, some can only recall few or none due to forgetting. Thus, subjects with better memory ability might be assigned to high memory accessibility group. The others might be grouped into low memory accessibility group. In sum, the current method of assessing memory accessibility is not ideal. It makes it difficult to detect the real construct which present study tried to investigate.

Internal Validity

This criterion is concerned with the extent to which conclusions can be drawn about the causal effects of one variable on another. Only if people have been randomly assigned to the levels of one of the variables, one can confidently infer causality from the relationship between two variables.

Subjects in this study were randomly assigned to either 80% or 20% majority response group by distributing alternation of questionnaires. It ruled out the most serious threat to the internal validity. However, whether subjects were assigned to either the high or low memory accessibility group was determined by median scores for each topic and gender. There is a probability that this kind of split is inappropriate. Furthermore, the proposal of Prohibiting Pornography used in Pretest Two and in the actual experiment was redefined from the proposal used in Pretest One. This change could have effects that may be confused with those of the treatment. It is possible that while both genders have the same attitude towards a broad action, one gender could be more favorable than the other towards a specific act.

External Validity

This criterion is concerned with the extent to which one can generalize the results of the study to the populations and settings of interest in the hypothesis.

Sample selection. How closely the information a

researcher receives corresponds to what he or she would find by a comparable census of the population depends largely on the way the sample is selected. In every study, that the sample is true of the population as a whole is expected. However, in reality, it is hard to achieve. Most of the time, the way of sampling for a study depends on the time and amount of money a researcher has. The method used in the present study was nonprobability sampling. Its major advantages are convenience and economy. However, its shortcoming may be a threat to external validity. For example, there is no way to estimate the probability of each element included in the sample, and no assurance that every element in the population has some chance of being included.

All the subjects in two pretests and actual experiment were students of the Department of Communication at Michigan State University. They were chosen based on the ratio between male and female in a same class and professor's cooperation. Thus, the findings of this study may only refer people in university environments, especially those in the communication majors.

Sample size. Since this study is concerned with gender differences, the ratio of male and female is very crucial. As mentioned earlier, the two pretests and the proposed experiment were administered in the Department of Communication which tends to have more female than male students. The sample of males in pretests could be too small to detect gender differences (Pretest One: male *N* =

14, female N = 30; Pretest Two: male N = 20, female N = 36; experiment: male N = 78, female N = 108).

Directions for Future Research

The present study provides an explanation of how the interaction between memory accessibility and majority response affects the degree of conformity. Future research could continue this line of inquiry in a number of ways. First, the nature of the relationship between gender, memory accessibility, and persuasibility needs to be further identified. The findings in this study provided initial evidence that the two-way interaction between memory accessibility and majority response was the explanation for people's conformity in persuasive situations. However, it needs further evidence to corroborate the relationship between memory accessibility and the degree of conformity found in this study and to assess whether differences in memory accessibility account for gender differences.

Another area in which subsequent research will improve the current study is the methodology. Further research should redefine and reexamine methodological variables representative of memory accessibility. The low and moderate relationships between the three senses of memory accessibility (behavior retrieval, belief retrieval, and knowledge) revealed that they were not representative of the same theoretical construct. Researchers should define better variables to tap the construct (memory accessibility).

Moreover, the development of alternative methods of measuring memory accessibility in persuasive situations is needed. In the present study, the open-question was used to assess subjects' belief and behavior retrieval. There is a probability that this method only assesses subjects' motivation or ability rather than their memory accessibility. In addition, the way of coders segmenting or unitizing subject's behavior and belief retrieval is a threat to the construct validity of this study. Thus, a better method of assessing these variables is required. For example, an closed-ended question which contains a list of beliefs or behavior instances may be used to assess subjects' memory accessibility in future research.

A final area in which future research could investigate is the advocated attitude in persuasive messages. Further studies should include both the pro- and counter-attitudinal proposals in order to compare the effect of advocated attitude and memory accessibility on the degree of conformity. For example, researchers may investigate the relationship between advocated attitude (pro- and counter-attitudinal), memory accessibility, and gender difference in persuasion situations. It will help to develop better theories in predicting attitudes and to generate techniques increasing the degree of conformity.

Conclusion

The current study was an attempt to demonstrate the effect of memory accessibility and majority response on

conformity in persuasive situations. The result was encouraging. The findings in this study provided evidences to support the primary hypothesis: the interaction of memory accessibility and majority response determined people's degree of conformity. With high memory accessibility, subjects showed less or no degree of conformity even when a suggested attitude was used. However, with low memory accessibility and a advocated cue, both genders displayed a higher degree of conformity. The statistical significance in low memory accessibility and 80% majority response group made the assumption of the study more convincing.

However, some limitations may reduced the generalization of this study, such as inappropriate variables representative of memory accessibility, inadequate methods used to assess the memory accessibility, and the use of a less than optimal subject sample. These limitations may explain the lack of strong evidence supporting the relations between the memory accessibility and the degree of conformity.

Additional experimental research, such as further exploring the relations between gender, memory accessibility and degree of conformity, redefining and reexamining methodological variables representative of theoretical construct (memory accessibility), improving data collection methods, and examining the relationship between memory accessibility and pro/counter proposals, are suggested. Though the hypothesized relation between memory

accessibility and degree of conformity was not as strong as expected, this study has provided a foundation upon which subsequent examinations of gender differences in persuasive situations may be built.

APPENDICES

APPENDIX A

Consent Form

APPENDIX A

Consent Form

With regard to my participation in research:

1. I understand that when I sign up for a given study I am indicating my sincere intent to participate in that study.

2. Description of the project, including an estimate of participation time.

   The project is a survey which asks about your attitudes toward some social issues. It will take you about 15 minutes to complete a questionnaire.

3. I understand the procedures by which my participation may count for some form of credit in the Communication class.

4. I understand that, apart from my participation in a given study, my actual performance in that study will in no way affect my evaluation in a given course or in the Department of Communication.

5. I understand that any credit I may earn via participation in research is not transferable to another class or another term.

6. I understand that my participation in a study does not guarantee any beneficial results to me other than credit for participation.

7. I understand that I have the right to withdraw from any study at any time without penalty.

8. I understand that I have the right to have any study in which I participate explained to me to my satisfaction.

9. I understand that the results of a given study will be treated in strict confidence with regard to the data on any given participant. With this restriction, I understand that the results will be made available to me at my request.

10. I understand that the data I provide a researcher as a result of my participation in a given study may be used by other scientists for secondary analysis. Again data will be treated with the strictest of confidence.

11. I understand that should I have any questions, problems, complaints, or if I desire further information, I have the right to contact the Research Coordinator in the Department of Communication.

12. I understand that should I choose not to participate I can receive the same credit by performing alternative service which requires an equivalent effort.

Given these understandings, I have freely consented to participate in scientific research being conducted during this term in the Department of Communication.

Signed _____

Date _____

Name (print) _____

Student number _____

Class _____

Section _____

Researcher Shu-Fen Yu

APPENDIX B

Scales for Measures of Attitude, Knowledge, Involvement, and Gender-based Knowledge

APPENDIX B

Scales for Measures of Attitude, Knowledge, Involvement, and Gender-based Knowledge

1. Scale for measure of attitude.

Beneficial	___	___	___	___	___	___	___	Harmful
Favorable	___	___	___	___	___	___	___	Unfavorable
Undesirable	___	___	___	___	___	___	___	Desirable
Bad	___	___	___	___	___	___	___	Good

2. Scale for measure of knowledge.

Knowledgeable	___	___	___	___	___	___	___	Ignorant
Uninformed	___	___	___	___	___	___	___	Well informed
Competent	___	___	___	___	___	___	___	Incompetent
Familiar	___	___	___	___	___	___	___	Unfamiliar

3. Scale for measure of involvement.

Unimportant	___	___	___	___	___	___	___	Important
Boring	___	___	___	___	___	___	___	Fascinating
Interesting	___	___	___	___	___	___	___	Uninteresting
Relevant	___	___	___	___	___	___	___	Irrelevant

4. Scale for measure of gender-based knowledge.

_____	_____	_____	_____	_____	_____	_____
Females are more knowledgeable			Both sexes are equally knowledgeable			Males are more knowledgeable

_____	_____	_____	_____	_____	_____	_____
Males are more familiar			Both sexes are equally familiar			Females are more familiar

_____	_____	_____	_____	_____	_____	_____
Females are better informed			Both sexes are equally informed			Males are better informed

APPENDIX C

Supporting Articles for Prohibiting Pornography and Tuition Increases

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Supporting Articles for Prohibiting Pornography and Tuition Increases

1. Supporting articles for prohibiting pornography.

In this section you are asked to read an editorial related to prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums. It was published in the MSU New Bulletin in January 1990. The author, Dr. Charles Atkin, is a professor in the College of Communication, who studies Mass Media Effects, and Television & Children.

In the editorial, he asserted that the spread of violent sexual pornography in video tapes or record albums could promote sexual abuse of women, reaffirm unequal power relations between men and women, and mislead children's behavior and their concept of the reality. Besides theoretical research, he also conducted a survey in the Telecommunication department last year. Among the 154 students who answered his questionnaire, 80% of them agreed that prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums was a wise choice.

In the end of the editorial, Dr. Atkin urged the FCC (Federal Communication Committee) to set up a special committee which would restrain the playing of those materials on television or radio, and prohibit the sale or rental of violent sexual pornography in video and record shops.

* * * * *

For years the United States has been embroiled in a heated debate over obscenity. A country indifferent to such a question would be the one that no longer cherishes any belief deeply enough to care whether it has been transgressed. For example, 2 Live Crew's latest album "As Nasty as They Wanna Be" has become a prevalent topic in the industries of record albums, radio, and television. Aside from considering free-speech rights, we should try to think about the problem from a public point of view.

As we know, individual rights must be balanced against the public good. We should scrutinize the problem of violent sexual pornography from the bottom line -- its impact on the public. Based on years of study and personal research, I believe that the play, rental, and sale of violent sexual pornography in video and record shops should be prohibited. My reasons are as follows:

(1) Exposure to violent sexual pornography in video tapes and record albums could promote the sexual abuse of women. For years, research has found a positive correlation between the exposure to

pornographic materials and the committing of sexually abusive or violent acts, particularly against women. These studies have found that violent pornographic materials encourage the potential offenders' beliefs that women enjoy being abused and that masculinity is reflected in coercing someone to have sex. The emphasis of these materials on deviant norms, such as cruelty, perversion, bestiality, can encourage sexual crimes. For instance, after interviewing 56 rapists, Marchall (1978) found that rapists had frequently been exposed to sexually explicit stimuli before committing an offense.

(2) The permission to play, rent, and sell violent sexual pornography in video and record shops reinforces the unequal power relations between men and women. Pornography tends to present women as animalistic and in need of control. Women are also portrayed as easily accessible objects who can be possessed, or as objects to be used to serve the pleasure of men; they are degraded and dehumanized. Women are treated as a thing, not as human beings. The most crucial effects of violent sexual materials are in the legitimation which the provide for negative social attitudes. Such "anti-female propaganda" within pornography has effects beyond the "fantasy realm" by encouraging similar attitudes and behavior toward women in reality. Consequently, this material contributes to a cultural climate in which acts of discrimination and violence against women are more likely to occur and to be accepted.

(3) The permission to play, rent, or sell violent sexual pornography in video and record shops could mislead children's behaviors and their concept of the reality. Children are vulnerable to the influence of outside world. They tend to actively seek out models or information to form their own views and behaviors. Due to their inability to judge what is right or wrong, children can be easily misled. In addition, they also often fail to discriminate between realty and fiction. If violent sexual materials are played, sold, and rented in video and record shops, and parents or relatives (adults) bring those video types or albums home, children will have more access to those materials. Moreover, since some video or record shops do not enforce present regulations seriously, children can even get violent sexual video tapes or albums themselves.

Besides this research, I also conducted a survey of MSU students in May 1989. In the survey, 80% of the 154 students who responded agreed that the play, rental, and sale of violent sexual pornography in video and record shops should be prohibited.

For above reasons, I strongly urge FCC to set a special committee which will exercise strict control over video tapes and record albums. The commission should restrain the playing of violent sexual pornography on television or radio, and prohibit the rental or sale of such materials in video and record shops. It will be a wise choice for ourselves, our society, and our children.

2. Supporting article for tuition increases.

In this section you are asked to read an article which is from a report entitled "Tuition Increases and the Quality of Education at MSU," completed by an education committee commissioned by MSU in September 1989. Dr. Andrews, the author and also the chairman of the Committee, is a professor in the College of Education. In the report, he asserted that a tuition increase was the only viable way for MSU to maintain necessary services which are believed to be important to the quality of education for students. In addition to analyzing the present situation of MSU's

educational quality, the committee also conducted a survey in the Departments of Communication, Education, and Sociology in January 1990. Among the 576 students who answered the questionnaire, 80% of them agreed that it was reasonable for MSU to increase tuition up to 6% in order to keep up the quality of education. What follows are excerpts from Dr. Andrews and the education committee's report:

* * * * *

Our committee has completed research and analysis of the need for and effects of a tuition increase at MSU. Now we shall present the results. The results are not encouraging. We urge MSU to moderately increase tuition up to 6% in order to keep up the quality of education and to maintain necessary services which we believe are important to students.

State universities receive approximately 65% of their funds from the federal and state level. Due to inflation and the continuing reduction of government funds in the last 10 years, MSU has faced severe financial problems in variety of areas. If those problems cannot be solved shortly, we believe that the quality of education at MSU will seriously decline within 3 years. Actually, some areas already have been affected. Three critical areas are the safety of buildings, the operation of the placement service, and the turnover of qualified faculty.

(1) A recent report done by the university reveals a severe problem -- crumbling buildings. According to the report, 15% of buildings need roof and ceiling repairs and those buildings are frequently used for variety of classes. Philip Nobile, one of the research committee, noted that in spite of increasing labor wages and inflation, the university building maintenance budget has remained at the 1978 level. Furthermore, this problem became more severe when the university decided to cut the building maintenance budget in order to repress tuition increases during the period of 1980 to 1985. At the end of the report, the committee urged the university to increase the maintenance budget for repairing roof erosion and ceiling cracks soon, otherwise the university would have to spend much more money tearing down these buildings and replacing them with new buildings.

(2)The placement service has received a budget reduction again this year. According to the Administration, budget cuts at the placement service have resulted in a decrease in the number of recruiters visiting the MSU campus. Specifically, during the last three academic years the number of recruiters visiting MSU has decreased by 1%, 3% and 6% respectively. The size of these decreases were almost perfectly correlated with the size of cuts in the placement service budget. Meanwhile, the demand for services has increased. During the last academic year, approximately 80% of graduating students used the placement services. This is an increase of 5% comparing to the previous year. Clearly the placement service is unable to be effective in providing services with their current budget.

(3) The government is considering a proposal that will reduce 10% of the State's appropriation to MSU, beginning from January 1990 to December 1992. One consequence of the reduction of the state's appropriation is that the salary of MSU faculty will be frozen in the academic years 1990 and 1992. Other Universities have been forced to freeze professors' salaries, and this resulted in an exodus by qualified faculties. There is evidence that this trend already is occurring at MSU. For the last three years there has been a 23% increase in turnover of faculty, which is far above national average. The increasing turnover

has had some negative consequences for MSU students. A study done by College of Education showed that professors who have left MSU recently were more active researchers, had 1/3 more publications than the average, had 10% more committee assignments and had better student instructor ratings (5% better overall). Good faculty produce good students. Thus these data suggest that the quality of education at MSU has decreased somewhat in the past three years. It is likely to start to decline seriously if this trend continues. Moreover, the quality of educational program is defined by the quality of the faculty. There is also a clear link between the quality of program from which the student graduated and the quality of the student's subsequent achievement. Therefore, to provide a better quality education, MSU must retain qualified faculty as well as continue to attract new ones. This cannot be achieved with the present level of governmental funds. The only possible source for these funds is a moderate tuition increase.

Besides this analysis of current MSU situation, our committee also conducted a survey of "Tuition Increases and the Quality of Education" in Departments of Communication, Education, and Sociology in January. Among the 576 students who answered the questionnaire, 80% of them agreed that it was reasonable for MSU to moderately increase tuition up to 6% in order to keep up the quality of education.

No one wants to increase tuition. We know that some students and their parents suffer from the financial burden. However, we believe that the quality of education is the primal concern of students and their parents. The better quality of education will make a diploma from MSU a more meaningful document for students themselves. Since no other resources are available in the near future, we urge MSU to moderately increase tuition up to 6% in order to provide better quality of education and maintain necessary services to students.

APPENDIX D

Scale for Measure of Argument Strength

APPENDIX D

Scale for Measure of Argument Strength

Unconvincing	___ :	___ :	___ :	___ :	___ :	___ :	___	**Convincing**
Weak	___ :	___ :	___ :	___ :	___ :	___ :	___	**Cogent**
Persuasive	___ :	___ :	___ :	___ :	___ :	___ :	___	**Not persuasive**
Logical	___ :	___ :	___ :	___ :	___ :	___ :	___	**Illogical**

APPENDIX E

Question for Checking the Effect of Majority Response

APPENDIX E

Question for Checking the Effect of Majority Response

1. Prohibiting pornography.

In this section, you are asked about the result of the student survey mentioned in the previous article. **Please do not turn back and look**. If you cannot remember clearly, provide your best guess.

The percentage of MSU students who favored prohibiting the play, rental, and sale of violent sexual pornography in video tapes and record albums was: _____ %

2. Tuition increases.

In this section, you are asked about the result of the student survey mentioned in the previous article. **Please do not turn back and look**. If you cannot remember clearly, provide your best guess.

The percentage of MSU students who favored a moderate tuition increase was: _____ %

APPENDIX F

Opened Question for Better Argument

APPENDIX F

Opened Question for Better Argument

This final section asks if you can think of any better arguments supporting the need for a moderate tuition increase than these arguments which were presented in the previous article.

Appendix G

Opened Question for Belief Retrieval

Appendix G

Opened Question for Belief Retrieval

1. Belief retrieval for prohibiting pornography.

In this section, you are asked to list all of your beliefs about the "impact of the play, rental, and sale of violent sexual pornography in video tapes and record albums." Feel free to list your beliefs which are based on hard evidences, as well as those which are your "opinions." If you have both favorable and unfavorable beliefs about this topic, list both types. Please be as complete as possible in listing your beliefs.

Belief 1: _____

_____

Belief 2: _____

_____

Belief 3: _____

_____

Belief 4: _____

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Belief 5: _____

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Belief 6: _____

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Belief 7: _____

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Belief 8: _____

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Belief 9: _____

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Belief 10: _____

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Belief 11: _____

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Belief 12: _____

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Belief 13: _____

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Belief 14: _____

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Belief 15: _____

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Belief 16: _____

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Belief 17: _____

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Belief 18: _____

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Belief 19: _____

_____

Belief 20: _____

_____

2. Belief retrieval for tuition increases.

In this section, you are asked to list all of your beliefs about issues related to "college tuition increases and the quality of education." Feel free to list your beliefs which are based on hard evidence, as well as those which are your "opinion." If you have both favorable and unfavorable beliefs about this topic, list both types. Please be as complete as possible in listing your beliefs.

Belief 1: _____

_____

Belief 2: _____

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Belief 3: _____

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Belief 4: _____

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Belief 5: _____

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Belief 6: _____

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Belief 7: _____

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Belief 8: _____

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Belief 9: _____

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Belief 10: _____

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Belief 11: _____

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Belief 12: _____

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Belief 13: _____

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Belief 14: _____

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Belief 15: _____

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Belief 16: _____

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Belief 17: _____

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Belief 18: _____

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Belief 19: _____

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Belief 20: _____

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Appendix H

Opened Question for Behavior Retrieval

Appendix H

Opened Question for Behavior Retrieval

1. Behavior retrieval for prohibiting pornography.

In this section, you are asked to list specific instances of times when you had engaged in actions related to the "impact of the play, rental, and sale of violent sexual pornography in video tapes and record albums" within 2 years. For example, you may have read related issues in class materials, in term papers, or in news paper, you may have discussed related issues with friends, or you may belong to certain clubs, whose objective is related to this issue.

Instance 1: _____

_____

Instance 2: _____

_____

Instance 3: _____

_____

Instance 4: _____

_____

Instance 5: _____

_____

Instance 6: _____

_____

Instance 7: _____

_____

Instance 8: _____

_____

Instance 9: _____

_____

Instance 10: _____

_____

2. Behavior Retrieval for tuition increase.

In this section, you are asked to list specific instances of times when you had engaged in actions related to "college tuition increases and the quality of education" within 2 years. For example, you may have read related issues in class materials, in term papers, in news paper, you may have discussed related issues with friends, or you may belong to certain clubs, whose objective is related to this issue.

* * * * *

Instance 1: _____

_____

Instance 2: _____

_____

Instance 3: _____

_____

Instance 4: _____

_____

Instance 5: _____

_____

Instance 6: _____

_____

Instance 7: _____

_____

Instance 8: _____

_____

Instance 9: _____

_____

Instance 10: _____

_____

APPENDIX I

Coding Manual for Belief Retrieval

APPENDIX I

Coding Manual for Belief Retrieval

This manual contains instructions on coding open-ended reports of belief retrieval in experiment. It outlines a system for assessing subject's beliefs toward either the topic of pornography or the topic of tuition increases. The manual consists of two sections. In the first section, the definition of belief is presented as well as its differentiation from other related concepts. Section two describes the rules for coding the number of beliefs which a subject has.

Section One: Key Concepts

1. Defining Belief. The term belief refers to the information that a person has about other people, objects, and issues. The information may be factual or it may be only one person's opinion. Furthermore, the information may have positive, negative, or no evaluative implications for the target of the information. Put it simply, a belief is accepted by an individual holder as a datum about reality, about the world. It can be true or false, capable of empirical demonstration or not. Generally speaking, there are three types of beliefs: primitive belief (descriptive belief), inferential belief, and informational beliefs. They are described as following.

   A. Primitive Belief (Descriptive Belief). This belief contents the information which associates an attribute with an object on the basis of direct personal experience. Since these beliefs comprise our basic truths about the world, attitudes based on descriptive beliefs are very difficult to change. Attitudes based on those beliefs correlate highly with behaviors toward that object.

   B. Inferential Belief. This kind of belief goes beyond directly observable events. For example, if you believe that the tuition in NJIT is higher than that in MSU, and that the quality of education in NJIT is lower than that in MSU, you would likely infer that a tuition increase cannot promise the quality of education.

   C. Informational Belief. This kind of belief is formed by accepting information from external sources. The beliefs that we have about objects, persons, or issues are the basis of our attitude about them. For example, you may belief that the number of foreign student studying in graduate school in America increases 8% than last year, because you learned it from an article on USA Today.

2. Differentiating Belief. The concept of belief can be distinguished from two other key terms, attitude and behavior, used throughout this manual.

A. Attitude. An attitude is a disposition to respond favorably or unfavorably to an object, person, institution, or event. Although formal definitions of attitude vary, most contemporary social psychologists seem to agree that the characteristic attribute of attitude is its evaluative nature. Both attitude and belief are nonobservable, cognitive states, and they reflect an individual's psychological processes. The biggest difference between two of them is that attitudes are an individual's likes and dislikes, while beliefs express the relationships we see between two or more events, or people, or the relationships between events and characteristics of those events. In other words, attitudes serve as convenient summaries of our beliefs. An attitude is presumably related to and based upon a constellation of beliefs about an object; a belief is more specific and limited. For example, "I against another tuition increases at MSU" is an attitude toward tuition increases, which may based on beliefs such as "There is not a positive relation between the tuition increases and the quality of education."

B. Behavior. A behavior is a person's movement toward an object or a issue, no matter verbal and nonverbal responses. It may also have positive, negative, or no evaluative implications for the target of the behavior. Behavior can be viewed as consisting of four elements: action, target, context, and time. For example, while "There is not a positive relation between tuition increases and the quality of education" is a belief, "I sign my name to against another tuition increases in fall term registration" is a behavior.

Section Two: Coding Rules

Coding open-ended belief reports in this experiment focuses on determining how many beliefs a subject has toward a topic in the report. Rules for coding the number of belief are as follows.

Rules

The coder should begin by calculating the number of beliefs contained in each report. Participants sometimes report their beliefs explicitly, in which case the number of beliefs is fairly easy to count. However, at other times, participants report their beliefs ambiguously, or report their attitude or behavior, in which case the number of beliefs must be inferred by the coder. It works best to first determine the number of beliefs stated explicitly in a report, and then to judge if any other implicit beliefs are listed. Rules for unitizing are presented in this order.

Coding the Number of Explicit Beliefs

1. Code a phrase that reports or reveals any information related to the topic including factual words and personal opinion.

2. The presence of multiple beliefs within a single sentence should be divided by certain linguistic markers (e.g., conjunction, preposition, or prepositional phrase). Participants may construct sentences containing a single belief or complex sentences containing multiple beliefs which participant intends to say simultaneously. For example:

   "Student placement services is very important to students so does a better environment for studying."

3. Do not code phrases as separate belief statements when the participant uses the same word or a derivative of the same word to describe the belief. For example, if the following two sentences were included in the same report, then the second sentence would not be coded as a separate and additional belief.

   "Americans have the right to do what they like to do."

   "We can do what we like to do --- we have the right."

4. When there is doubt about whether a phrase contains one or more than one belief, give the participant the benefit of the doubt and code more than one belief as present. For example:

5. Do not rely exclusively on the participant's unitization to establish the number of beliefs present in a report. The coder should take note of how the participant divides their objectives (e.g., with spacing, numbering), and treat theses divisions as beginning points in the coding. However, the coder should not assume that each phrase contains one and only one belief. Some phrase may describe attitudes or behaviors, or simply repeat earlier beliefs. Other phrases may contain more than one belief.

After determining the number of beliefs that are stated explicitly, the coder should assess if any other implicit beliefs are present.

Rules for Inferring beliefs

1. Do not code a phrase as a belief statement if the phrase does not describe belief but describes behavior toward the topic that is stated elsewhere in the report. Count it as a behavior retrial. The following sentence describes a behavior not a belief.

   "I have watched those videos several times with my roommate and his girl friend."

2. If a participant reports an attitude that clearly implies a specific belief, and that belief is never stated explicitly elsewhere in the report, then code the attitude as a belief statement. For example:

   "I do not like the idea of censorship."

3. If a participant includes a phrase that clearly is a phrase that does not explicitly state a belief, then do not infer that a belief is present from that phrase.

   "I will graduate this term."

APPENDIX J

Coding Manual for Behavior Retrieval

APPENDIX J

Coding Manual for Behavior Retrieval

This manual contains instructions on coding open-ended reports of behavior retrieval in experiment. It outlines a system for assessing subject's self reported behavior toward either topic of pornography or topic of tuition increases. The manual consists of two sections. In the first section, the definition of behavior is presented as well as its differentiation from other key concepts. Section two describes the rules for coding the number of behaviors which a subject has.

Section One: Key Concepts

1. Defining Behavior. A behavior is a person's movement toward an object or a issue, no matter verbal and nonverbal responses. It may also have positive, negative, or no evaluative implications for the target of the behavior. From the verbal statement or from the overt behavior, the existence of attitudes or beliefs which an individual has can be inferred. Generally, behavior can be viewed as consisting of four elements:

   A. Action. Is the behavior one of renting, playing, or selling?

   B. Target. At which the action is directed: is the action directed to students of MSU, DPS, or administration?

   C. Context. In which the action is performed: is the action performed at the campus of MSU, in front of the Capital, or during registration?

   D. Time. Was the action performed six months ago, in last week, or yesterday?

2. Differentiating Behavior. The concept of behavior can be distinguished from two other key terms, attitude and belief, used throughout this manual.

   A. Attitude. An attitude is a disposition to respond favorably or unfavorably to an object, person, institution, or event. Although formal definitions of attitude vary, most contemporary social psychologists seem to agree that the characteristic attribute of attitude is its evaluative nature. For example, while "I do not like to see another tuition increases at MSU" is an attitude, "I sign my name to against another tuition increases in the fall term registration" is a behavior.

   B. Belief. A belief refers to the information that a person has about other people, objects, and issues. The information may be factual or it may be only one person's opinion. Furthermore, the information may have positive, negative, or no evaluative

implications for the target of the information. Put it simply, a belief is accepted by an individual holder as a datum about reality, about the world. It can be true or false, capable of empirical demonstration or not. For example, while "There is not a positive relation between tuition increases and the quality of education" is a belief, "I sign my name to again another tuition increases in the fall term registration" is a behavior.

Section Two: Coding Rules

Coding open-ended behavior reports in this experiment focuses on determining how many self reported behaviors a subject has toward one of the two topics within two years. Rules for coding the number of behaviors are as follows.

Rules

The coder should begin by calculating the number of behaviors contained in each report. Participants sometimes report their behaviors explicitly, in which case the number of behaviors is fairly easy to count. However, at other times, participants report ambiguously, or report only attitudes or beliefs, in which case the number of behaviors must be inferred by the coder. It works best to first determine the number of behaviors stated explicitly in a report, and then to judge if any other implicit behaviors are listed. Rules for unitizing are presented in this order.

Coding the Number of Explicit Behaviors

1. Code a phrase that reports or reveals any behavior related to the topic including action, target, context, and time.

2. The presence of multiple behaviors within a single sentence should be divided by certain linguistic markers (e.g., conjunction, preposition, and prepositional phrase). Respondents may construct sentences containing a single behavior or complex sentences containing multiple behaviors which participant intends to say simultaneously. For example:

   "Recently, I have read related articles on newspapers and heard some debates on relevant topics on radio."

   "I discussed this topic not only with my folks but also with my friends at the beginning of this term."

3. Do not code phrases as separate behavior statements when the participant uses the same word or a derivative of the same word to describe the behavior unless the behavior has been differentiated by at least one of the behavior elements (action, target, context, or time).

   "I read an related article on State News."

   "I read an related article on Times."

4. When there is doubt about whether a phrase contains one or more than one behavior (e.g, several times, often, a lot of, numerous) give the participant the benefit of the doubt and code more than one behavior as present. For example:

   "I read related articles on several newspapers."

5. Do not rely exclusively on the participant's unitization to establish the number of behaviors present in a report. The coder should take note of how the participant divides their objectives (e.g., with spacing, numbering), and treat theses divisions as beginning points in the coding. However, the coder should not assume that each phrase contains one and only one behavior. Some phrase may describe attitudes or beliefs, or simply repeat earlier behaviors. Other phrases may contain more than one behavior.

After determining the number of behaviors that are stated explicitly, the coder should assess if any other implicit behaviors are present.

Rules for Inferring behaviors

1. Do not code a phrase as a behavior statement if the phrase does not describe behavior (does not contenting at least one of the behavior elements: action, target, context, and time) but describe attitudes or beliefs toward the topic in a report. Treat those statements as belief retrieval and refer them to the coding manual of belief retrieval. The following sentence describes an attitude not a behavior.

   "I do not like this kind of videos."

2. If a participant reports an attitude or a belief that clearly implies a specific behavior, and that behavior is never stated explicitly elsewhere in the report, then code the attitude or belief as a behavior statement. For example:

   "I feel sick when my boyfriend and I watched a porn video."

3. If a participant includes a phrase that clearly is a phrase that does not explicitly state a behavior, then do not infer that a behavior is present from that phrase. For example:

   "I used to be an employee in video store."

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