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Acquiescence: Tests of the Cognitive Limitations and Question Ambiguity Hypotheses[1]

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Abstract: Explanations for acquiescence to agree-disagree questions tend to locate the problem either in characteristics of the respondent or in characteristics of the question. For example, acquiescence has been attributed to respondents with limited cognitive sophistication and to ambiguous or unfamiliar question content. This paper elaborates the cognitive limitations theory in an attempt to clarify the cognitive mechanisms which may underlie acquiescence. The new cognitive model as well as the question ambiguity hypothesis are then tested with two attitude questions from a telephone survey of a midwestern metropolitan area. Significant acquiescence was found for both items, replicating the findings from previous studies. There was no support, however, for either the cognitive theory or the ambiguity hypothesis. Although it is concluded that it would be premature to seriously question the cognitive explanation until alternative methods are attempted, subjectively experienced ambiguity does not appear to be a valid explanation of acquiescence.

Key words: Agree-disagree questions; telephone survey.

1. Introduction

When survey respondents are asked to agree or disagree with attitude statements, an agreeing-response bias, which is often called acquiescence, may occur. Acquiescence tends to be explained in terms of either characteristics of the respondent or characteristics of the question. For example, it has been attributed to respondents with limited cognitive abilities or sophistication (Campbell, Converse, Miller, and Stokes 1960; Jackman 1973; Peabody 1966) and to ambiguous or unfamiliar question content (Christie, Havel, and Seidenberg 1958; Peabody 1966; Ray 1983).

The fact that acquiescence has been found to be greater for less educated respondents is consistent with the limited cognitive abilities hypothesis (Campbell et al. 1960; Jackman 1973; Schuman and Presser 1981). There are several reasons, however, to question the adequacy of the empirical support of the hypothesis. The experimental designs used by Schuman and Presser (1981) appear to provide the most valid evidence to date for the existence of acquiescence in general population surveys. Their findings on the relationship between education and acquiesc-

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ence, however, are somewhat inconsistent and unreliable. They also point out that acquiescence is still a factor among individuals with a college education in the general population (Schuman and Presser 1981). Additionally, since the majority of studies which have claimed to demonstrate the existence of acquiescence have been carried out on college students, low education apparently cannot be more than a partial explanation of the phenomena. Greater acquiescence among less educated respondents in general population surveys might also be due to their lower status relative to the average interviewer, that is, it might be the result of social deference (Carr 1971; Lenski and Leggett 1960) rather than limited cognitive sophistication. These considerations indicate that to date there has been inadequate support for the cognitive limitations hypothesis. New tests which do not rely solely on education are needed.

The question-ambiguity hypothesis is supported by some evidence that there may be less acquiescence when items are less abstract, such as when the attitude object is a specific group or the self, rather than people in general (Christie, Havel, and Seidenberg 1958; Ray 1983). For example, personality inventories, such as the MMPI, appear to be less susceptible to acquiescence than authoritarianism scales (Peabody 1966; Rorer 1965). These conclusions, however, are based on the judgments of investigators about which items or scales are more ambiguous. What may appear to be ambiguous to an investigator may not be perceived as ambiguous by respondents.

McBride and Moran (1967), however, found that the items *within* scales (dogmatism, authoritarianism, and anti-Semitism) which were rated as most ambiguous by judges were also the items to which respondents were most likely to acquiesce; acquiescence correlated positively with ambiguity across items within the same scale. This would seem to confirm the ambiguity hypothesis. It was surprising, however, that the scale with the highest average item ambiguity (anti-Semitism) had the lowest average acquiescence; i.e., there was a negative between-scale relationship between ambiguity and acquiescence. This result, of course, makes the conclusions somewhat ambiguous themselves. Furthermore, it is not known whether the items that were rated most ambiguous by the judges were also perceived to be the most ambiguous by the respondents, or whether the respondents who perceived an item to be most ambiguous were also most likely to acquiesce to that item. The above considerations suggest that a better method for testing the hypothesis might be to ask the respondents themselves to evaluate the clarity of the items.

It is possible that the two explanations (the cognitive and ambiguity hypotheses) may be compatible with one another. Individuals with less cognitive sophistication may be more likely to find a question to be ambiguous. However, it is also possible that ". . . what seems clear to less sophisticated respondents may seem hopelessly unclear to those who are more sophisticated . . ." (Schuman and Presser 1981, p. 205).

2. Elaborating the Cognitive Limitations Hypothesis

In order to design a different test of the cognitive sophistication hypothesis it is necessary to take a closer look at the underlying theoretical assumptions. Relative to the importance of the hypothesis, there has been very little effort to define the concept of cognitive sophistication and to elaborate processes which underlie acquiescence. The interpretations to be developed below, however, entail extentions of the theory that its original proponents might well disavow.

Perhaps the best statement of the hypothesis comes from Campbell, Converse, Miller, and Stokes (1960, p. 513), who say that acquiescence is ". . . the tendency for poorly educated people to be uncritical of sweeping statements and to be 'suggestible' . . . ." Similarly, Jackman (1973, p. 329) has stated that ". . . the comparatively poor cognitive sophistication of the less educated respondent prevents him from giving a considered response to such a statement." The words *uncritical, suggestible,* and *considered response* imply that these respondents are not willing or able to carefully consider the pros and cons of the issue. Therefore, cognitive sophistication is conceptualized in this paper as the ability to retrieve and integrate available information, both for and against a stated position, in order to make a considered decision on an issue. As such, it involves critical thinking about both the pros and cons of a position. This conceptualization also implies that acquiescent respondents do not have crystallized opinions. If they had existing opinions on the issue prior to the question, they would not have to be critical or sophisticated, they would simply report their opinion.

Although a failure to be critical, or to give a considered response, may result in some type of biased response, this alone fails to explain why the bias is in the direction of agreement rather than disagreement. A failure to give equal consideration to both sides of the issue might mean that respondents would neglect the side presented in the attitude statement, producing a bias toward disagreement. Campbell et al. (1960), for example, claim that a disagreeing-response bias, which is sometimes called naysaying, occurs for highly educated respondents. Compared to acquiescence, however, there is much less evidence for the existence of naysaying.

In order to account for an agreeing-response bias from a cognitive perspective, we must assume that the respondent perceives some reason or sentiment for agreeing with the statement, while at the same time giving little or no consideration to the other side of the issue. The assumption that acquiescent respondents have cognitions which support an agreeing response, but neglect those which would lead to disagreement, is supported by research in cognitive psychology. The literature on hypothesis testing indicates that there is a bias toward seeking out confirming information and a tendency to insufficiently utilize disconfirming evidence when available (Sherman and Corty 1984). This bias is called the feature positive effect. Krosnick and Alwin's (1987) theory of response-order effects in surveys similarly argues that the cognitive processing of items will be dominated by cognitions supporting the selection of an item. Thus, acquiescence may occur because the one-sided nature of an agree-disagree statement – which is analogous to a hypothesis which respondents must attempt to confirm or disconfirm – leads to an under-representation of cognitions which would support a disagreeing response, at least for some respondents.

Krosnick and Alwin's theory of response-order effects (1987) may also help to further clarify acquiescence. Drawing on Simon's (1957) satisficing principle, they argue that some respondents will tend to minimize the costs of answering questions by giving the first satisfactory response that occurs to them, rather than searching for a more optimal answer. In terms of acquiescence, satisficing would tend to cause agreement because cognitions supporting agreement more readily come to mind, according to the above argument. A more optimal response, on the other hand, would involve more cognitive effort to retrieve additional information that might disconfirm the attitude state-

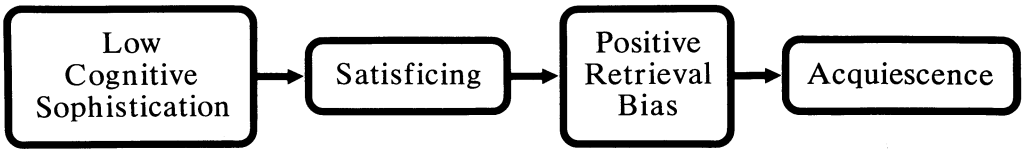

Fig. 1. Model of the cognitive limitations theory of acquiescence

ment. Krosnick and Alwin (1987) argue that persons with less cognitive sophistication are more likely to satisfice because the costs of optimizing are greater for them and because they derive less satisfaction from such intellectual exercises. Applying this reasoning to acquiescence, respondents with low cognitive sophistication would tend to agree because they are less willing and able to expend the cognitive effort required to give a more considered or critical response, that is, a more optimal response. The cognitive limitations theory of acquiescence that has been elaborated above is summarized in the diagram shown in Fig. 1.

This model shows that limited cognitive abilities increase satisficing, or selecting the first acceptable response that comes to mind. Satisficing, in turn, causes a bias toward retrieving information that confirms the attitude statement (the feature positive effect); that is, the first thing that comes to mind tends to be confirming information (assuming that the statement is plausible). And, the bias toward retrieving supporting information causes the agreeing-response bias, acquiescence.

3. Research Hypotheses

3.1. Cognitive limitations

A test of the entire model in Fig. 1 will not be attempted in this paper. The diagram, however, indicates three partial tests that might be conducted: the relationship between acquiescence and cognitive sophistication, the relationship between acquiescence and satisficing, and the relationship between acquiescence and a positive retrieval bias. All of the tests to date have involved the relationship between acquiescence and cognitive sophistication, as operationalized by education (years of schooling). Since the previous results have provided only weak and inconsistent support for the link between education and acquiescence, and since we do not have any better measure of cognitive ability than education, this relationship will not be emphasized in this paper. Instead, the test to be presented is based on the hypothesized link between acquiescence and a positive retrieval bias.

The cognitive limitations hypothesis will be tested with two items for which Schuman and Presser (1981) found reliable and valid evidence of acquiescence (Table 1). In a split-ballot experiment, respondents were more likely to endorse the idea that individuals are more to blame than social conditions for crime when it is presented in an agree-disagree form than when it is presented in a properly balanced forced-choice form. Likewise, the notion that men are better suited emotionally for politics than women was endorsed more frequently in the agree-disagree form.

These question-form differences in responses are interpreted as indicating an agreeing-response bias or acquiescence on both items. They might also be due to response-order effects on the forced-choice form; i.e., "individuals are more responsible" and "men are better suited" are endorsed less frequently on the forced-choice form

Table 1. Acquiescence experiments from Schuman and Presser (1981)

Agree-Disagree Form		**Forced-Choice Form**	
Please tell me whether you agree or disagree with this statement. Individuals are more to blame than social conditions for crime and lawlessness in this country.		Which in your opinion is more to blame for crime and lawlessness in this country – individuals or social conditions?	
Do you agree or disagree with this statement? Most men are better suited emotionally for politics than are most women.		Would you say that most men are better suited emotionally for politics than are most women, that men and women are equally suited, or that women are better suited than men in this area?	
Crime[a]			
Agree (Individuals)	59.6%	Individuals	46.4%
Disagree	40.4	Social Conditions	53.6
	100.0		100.0
	(473)		(448)
Politics[b]			
Agree (Men)	46.6%	Men	36.3%
Disagree	53.4	Equal/Women	63.7
	100.0		100.0
	(3,694)		(3,371)

[a]From SRC-1974 Fall, as reported in Schuman and Presser (1981: Table 8.1). Form difference is significant at $p = .001$.
[b]Combined from NORC-1974, SRC-1974 Fall, SRC-1976 Feb., and SRC-1976 Spring, as reported in Schuman and Presser (1981: Table 8.6). Form difference is significant at $p < .05$ for each year.

because these alternatives are presented first (recency effects). Schuman and Presser (1981), however, tested for response-order effects on the crime question and found no evidence of such effects. They also note that the last alternative on the politics question (women are better suited) is endorsed too infrequently (3–4%) for a response-order effect on it to have caused the form difference in responses. It is still possible, however, that the middle alternative (men and women are equally suited) might have benefited sufficiently from following "men are better suited" to account for the difference. Ayidiya and McClendon (1990) also found significant form effects on these items in a mail survey, indicating that the agreeing-response bias cannot be due to deference to interviewers. Their findings also indicate that a response-order effect is unlikely to have accounted for this form effect since it is theoretically expected that either response-order effects should not occur in self-administered surveys or that they should be of the primacy type (Krosnick and Alwin 1987). Thus, all things considered, acquiescence is the most valid interpretation of the form effects found by Schuman and Presser (1981) for these items.

According to the cognitive theory elaborated in this paper, the reasons that respondents might have for disagreeing that "individuals are more to blame than social conditions" would be less likely to be

retrieved on the agree-disagree form than the reasons that they might have for agreeing with the statement. On the forced-choice form, however, there would be less bias, if any, toward retrieving information supporting one side or the other of the issue since the forced-choice form is a balanced question that states each of the substantive alternatives (it is not a single hypothesis). Although there might be a bias toward retrieving confirming information with regards to the last alternative in an interview survey (Krosnick and Alwin 1987), this bias should be less than the retrieval bias on the agree-disagree form because the forced-choice form does explicitly state both sides of the issue. Therefore, cognitions favoring the social conditions alternative, regardless of which position it is presented in, would be more likely to be retrieved on the forced-choice form than on the agree-disagree form. Thus, support for the individuals alternative would be less on the forced-choice form because that form would induce respondents to be more critical of the idea (i.e., to give a more balanced consideration of the idea) that individuals are more to blame than social conditions for crime.

The cognitive hypothesis will be tested by attempting to prime, or make more accessible, certain cognitions that would lead to disagreeing with the statement presented in the agree-disagree form. Information will be more accessible the more recently it has been thought about, and the more accessible the information is, the more likely it is that it will be used (Wyer 1980). Thus, the use of an immediately preceding question that requires the respondent to think about such information should increase the probability of a disagreeing response. This type of test is based on the assumption that some respondents fail to retrieve or utilize information on the agree-disagree form that they would make use of on the forced-choice form. Although the prime might lead to the information being used more frequently on the forced-choice form as well, the increase should be smaller than on the agree-disagree form. Thus, if these cognitions can be made more accessible by inserting preceding questions that bring them to mind when the target question is asked, acquiescence should be reduced.

In order to know what to prime, however, we need to know what kinds of information are used by respondents to answer the questions. After the crime question, but not after the politics item, Schuman and Presser (1981) asked respondents to tell them why they answered the question as they did. The single most important type of reason given by those who endorsed the social conditions alternative (on both forms) was that economic problems cause crime. Furthermore, this reason was almost never given by those endorsing the individuals alternative. And since more people endorsed the social conditions alternative on the forced-choice form, there was a greater percentage of all respondents who cited economic problems as an explanation on the forced-choice form than on the agree-disagree form. This is consistent with the cognitive hypothesis which would predict that more people would think of economic problems as a reason for answering the question on the forced-choice form than on the agree-disagree form. Of course, we cannot be certain that repondents actually answered the crime question on the basis of the reasons they gave to the following open-ended question; they simply might have made plausible post-hoc inferences about these causes (Nisbet and Wilson 1977). This, however, is the only type of information that is available about their reasons for answering as they did.

On the basis of the above, the following question was constructed to attempt to

make economic problems a more accessible reason for answering the crime question:

> If you had to choose, do you think government should devote more of its efforts to reducing crime or more of its efforts to solving economic problems such as poor jobs and unemployment?

It was felt that by specifically mentioning economic problems and crime together, more respondents would think of economic problems on the subsequent question as a social condition that causes crime.

For the politics item, however, there was no information available about the types of reasons that respondents might have had for answering this question. The following item was constructed to attempt to prime personality traits (compassionate and sensitive to the needs of others) that are thought of as more typically female than male, traits that may also be seen as assets for a politician:

> Thinking about the personal qualities of good political leaders, both males and females, how important is it for a political leader to be compassionate and sensitive to the problems of those who are disadvantaged – very important, somewhat important, or not too important?

When asked prior to the question on men and women in politics, it is hypothesized that this item will increase the accessibility of the idea that typical female traits are valuable in the political arena, and thus that the agreeing-response bias on this question would be reduced.

3.2. *Question ambiguity*

Schuman and Presser (1981) found some evidence that ambiguity was a factor in acquiescence to the question on whether individuals or social conditions are more to blame for crime. Respondents who were judged as giving more tangential reasons for their answers to the question appeared to be more likely to acquiesce. They interpreted this as indicating that these individuals had greater difficulty in fitting their beliefs about the cause of crime into the response categories provided by the question because the categories were not meaningful to them. We do not know, however, whether these respondents actually perceived the question to be unclear.

Instead of relying on judgments about question ambiguity that might be made by the investigator or other judges, this study asked respondents themselves to make such an evaluation. If acquiescence is a way of responding when individuals have difficulty in formulating a response when they find the question to be ambiguous, vague, or otherwise unclear, as the hypothesis states, then they should be able to report whether they had any difficulty understanding the question. Therefore, to measure the respondents' subjective assessments of question ambiguity, the following question was asked after each of the target items:

> Sometimes the meaning of a question is not as clear as it should be. Would you say that the last question was very clear, pretty clear, somewhat clear, or not too clear?

It was expected that acquiescence would be greater for respondents who rated the question to be less clear. It is possible, however, that some individuals might not want to admit that the question was unclear to them, especially after they had just answered it. Thus, an upward bias in reported question clarity might occur, which would probably reduce the observed relationship between question ambiguity and acquiescence.

4. Data

The data for testing the research hypotheses were collected as part of the 1988 Akron

Area Survey, an annual telephone survey of Summit County, Ohio conducted by the Department of Sociology at the University of Akron. The interviews were carried out in the University's Survey Research Center by computer assisted telephone methods. Households were selected by random digit dialing and one respondent (18 years of age or older) was randomly selected within each household. Out of 1,807 households contacted, there were 584 completed interviews (32.3%), 3.5% were partially completed, 45.9% refused, 4.9% were unable to be interviewed, and 13.3% were "call backs" who could not be contacted again. The low completion rate was probably due in part to the fact that the majority of the interviewing was done by inexperienced undergraduate and graduate sociology students enrolled in research methodology courses.

Despite the low response rate, the demographics for the sample (57.2% female, 10.3% black, a median age of 40.8 years, and a median education of 12.6 years) are similar to those given by the U.S. Bureau of the Census (1983) for Summit County in 1980 (53.2% female, 9.5% black, a median age of 41.9 years, and a median education of 12.0 years). Although the sample appears to somewhat underrepresent males and the less educated, the respondents are still quite heterogeneous on these variables.

A split-ballot design was used in which respondents were presented with either the agree-disagree form or the forced-choice form of both the crime and politics items (Table 1). For each of these forms, each item was presented either before or immediately after the priming question that was constructed to test the cognitive sophistication hypothesis. Respondents were randomly assigned one of the four questionnaire versions created by this 2 × 2 design. The questions about the clarity of the crime and politics items immediately followed each item. The crime question was either the 13th or 14th item in the questionnaire and the politics question was either the 152nd or 153rd item.

5. Results

The crime and politics items were both significantly affected by acquiescence (Table 2). The percentage agreeing with the attitude stated in the agree-disagree form was signifi-

Table 2. Responses to crime and politics items by question form

Agree-Disagree Form		Forced-Choice Form	
Crime			
Agree (Individuals)	59.6%	Individuals	44.9%
Disagree	40.4	Social Conditions	55.1
	100.0		100.0
	(272)		(285)
	$\chi^2 = 11.96$, df = 1, $p < .001$		
Politics			
Agree (Men)	36.7%	Men	24.9%
Disagree	63.3	Equal/Women	75.1
	100.0		100.0
	(275)		(297)
	$\chi^2 = 9.38$, df = 1, $p = .002$		

cantly greater than the percentage selecting that response alternative in the forced-choice form. These results replicate those originally found by Schuman and Presser (1981). For both items the percentage difference between forms was very similar to that reported by Schuman and Presser (1981).

5.1. Cognitive-limitations hypothesis

The results of the test of the cognitive hypothesis for the crime item are opposite from what was predicted (Table 3). Acquiescence is actually greater on the primed version than on the unprimed version. On the unprimed version the form effect is not even significant. The three-way interaction (response × form × prime) is significant, indicating that the priming question increased acquiescence rather than reducing it as predicted. There is no apparent explanation for this result.

Furthermore, the effect of the prime on acquiescence to the crime question did not depend on how the respondent answered the priming question. Acquiescence on the target question was very similar following the priming question for both those who said government should devote more of its efforts to reducing crime and those who said it should devote more of its efforts to solving economic problems (not shown). The four-way interaction involving response to the target question, form of the target question, response to the priming question, and place-

Table 3. Crime and politics responses by question form and prime

Crime Question Prime: If you had to choose, do you think government should devote more of its efforts to reducing crime or more of its efforts to solving economic problems such as poor jobs and unemployment?

Politics Question Prime: Thinking about the personal qualities of good political leaders, both males and females, how important is it for a political leader to be compassionate and sensitive to the problems of those who are disadvantaged – very important, somewhat important, or not too important?

	Not Primed		Primed	
	Agree-Disagree	Forced Choice	Agree-Disagree	Forced Choice
Crime				
Individuals	56.0%	50.7%	63.0%	38.8%
Social Conditions	44.0	49.3	37.0	61.2
	100.0	100.0	100.0	100.0
	(134)	(146)	(138)	(139)
	$\chi^2 = .78, p = .376$		$\chi^2 = 16.22, p < .001$	
	3-way $\chi^2 = 5.07$, df $= 1, p = .024$			
Politics				
Men	40.3%	23.9%	33.3%	26.1%
Equal/Women	59.7	76.1	66.7	73.9
	100.0	100.0	100.0	100.0
	(134)	(153)	(141)	(142)
	$\chi^2 = 8.99, p = .003$		$\chi^2 = 1.80, p. = .180$	
	3-way $\chi^2 = 1.29$, df $= 1, p = .256$			

ment of the priming question did not approach statistical significance.

For the politics item, however, the results are in the predicted direction. Acquiescence is significant when the item is not primed and is not significant when the item is primed. The three-way interaction, however, is not even marginally significant ($p = .256$), and thus, it cannot be concluded that the prime reduced acquiescence. Furthermore, although it might be hypothesized that men (but not women) might show a form effect (acquiescence) on the politics item, and that this form effect might be reduced by priming, there was no significant sex difference in either acquiescence or in the effect of the prime on acquiescence (the response by form by prime by sex interaction). If anything, women had a greater reduction of acquiescence on the primed version than men (not shown). Schuman and Presser (1981) did not report any breakdown by sex on this item.

The relationship between education and acquiescence was also examined. For the crime question there was a significant tendency for acquiescence to be greater among the less educated (0–12 years of schooling) than among those with 13 or more years of schooling (Table 4). There was, however, no significant relationship between education and acquiescence for the politics item (Table 4). For the politics question the form difference in percentages was very similar in each educational category. When education was coded into four categories (less than 12 years, 12 years, 13 to 15 years, and 16 or more years), the test for a linear interaction with education was also not significant (not shown). In fact, those respondents in the lowest educational category (less than 12 years) showed less acquiescence than those in the higher categories, although the difference was again not significant. Finally, although the cognitive theory would suggest that the effect of the prime should be greater for the less educated, the four-way interaction (response × form × prime × education) was not significant for either the crime item or the politics item (results not shown).

To summarize, the results for the priming experiments provide no support for the cognitive theory elaborated in this paper. The

Table 4. Crime and politics responses by question form and education

	Education = 0–12 years		Education = 13+ years	
	Agree-Disagree	Forced Choice	Agree-Disagree	Forced Choice
Crime				
Individuals	75.0%	50.3%	46.6%	38.5%
Social Conditions	25.0	49.7	53.4	61.5
	100.0	100.0	100.0	100.0
	(124)	(147)	(148)	(135)
	3-way $\chi^2 = 4.44$, df = 1, $p = .035$			
Politics				
Men	42.7%	30.3%	31.8%	18.7%
Equal/Women	57.3	69.7	68.2	81.3
	100.0	100.0	100.0	100.0
	(124)	(155)	(151)	(139)
	3-way $\chi^2 = .19$, df = 1, $p = .658$			

results for education again show that contrary to the cognitive limitation hypothesis, low education does not consistently predict acquiescence.

5.2. *Question-ambiguity hypothesis*

Table 5 shows the responses to the questions about the clarity of the crime and politics items. The crime question was rated as being much less clear than the politics question. More than twice as many respondents said the crime question was only somewhat clear or not too clear (33.7%) as said the politics question was somewhat clear or not too clear (16.1%). For both items, however, there appears to be a nonlinear relationship between education and clarity; respondents with less than 12 years of education find the items to be least clear, those with 12 years find the items to be most clear, and those with more than 12 years (including those with 16 or more years) are intermediate on clarity (results not shown). This implies that although the least sophisticated respondents find these items to be the least clear, it is the average person rather than the most sophisticated persons who finds the items to be the clearest. Thus, the observed pattern is more complex than either of the hypothetical alternatives mentioned earlier.

Table 5. Clarity of crime and politics questions

Sometimes the meaning of a question is not as clear as it should be. Would you say that the last question was very clear, pretty clear, somewhat clear, or not too clear?	Crime	Politics
Very clear	29.6%	56.3%
Pretty clear	36.7	27.6
Somewhat clear	18.6	12.0
Not too clear	15.1	4.1
	100.0	100.0
	(582)	(583)

For purposes of testing the ambiguity hypothesis, the somewhat-clear and not-too-clear categories were collapsed into one category because of the small number of respondents in the not-too-clear category. Furthermore, analyses showed only slight and nonsignificant differences in acquiescence between the very-clear and pretty-clear categories. Therefore, these two responses were also collapsed into one category.

As was the case with the test of the cognitive hypothesis for the crime question, the results of the test of the ambiguity hypothesis for the crime item were in the opposite direction from what was expected (Table 6). Acquiescence was significant for those rating the crime item as very clear or pretty clear, but the form difference for those rating the item as somewhat clear or not too clear was not significant. The three-way interaction was not significant, however. Therefore, it cannot be concluded that question clarity affected acquiescence.

The results for the politics item were in the expected direction (Table 6). Acquiescence was significant in both categories of the measure of question clarity, but it was more than twice as great for those who found the question to be less clear, as expected. Again, however, the three-way interaction was not significant, and thus, it cannot be concluded that lack of clarity causes acquiescence.

Because the measures of ambiguity and education are both nonexperimental variables which are somewhat related in the sample, the effect of ambiguity on acquiescence was also tested with education controlled by using the four-way cross-classification of response by form by clarity by education. The partial effect of question clarity was not significant for either the crime or the politics items (results not shown). The four-way interaction for these

Table 6. Crime and politics responses by question form and clarity

	Very/Pretty Clear		Somewhat/Not Too Clear	
	Agree-Disagree	Forced Choice	Agree-Disagree	Forced Choice
Crime				
Individuals	64.3%	45.2%	51.5%	43.7%
Social Conditions	35.7	54.8	48.5	56.3
	100.0	100.0	100.0	100.0
	(171)	(197)	(101)	(87)
	$\chi^2 = 13.52, p < .001$		$\chi^2 = 1.14, p = .285$	
	3-way $\chi^2 = 1.66$, df = 1, $p = .197$			
Politics				
Men	34.9%	24.9%	46.7%	25.0%
Equal/Women	65.1	75.1	53.3	75.0
	100.0	100.0	100.0	100.0
	(229)	(253)	(45)	(44)
	$\chi^2 = 5.80, p = .016$		$\chi^2 = 4.54, p = .033$	
	3-way $\chi^2 = .945$, df = 1, $p = .331$			

variables (response × form × clarity × education) was also not significant for either item. And finally, although no predictions were made, the four-way interactions involving response × form × clarity × prime were not significant.

To summarize, there was no support for the prediction that question ambiguity, as perceived by respondents, is a cause of acquiescence.

6. Conclusions

There was no statistically significant support for either the cognitive sophistication hypothesis or the question ambiguity hypothesis, as tested by the novel methods used in this paper. With respect to the traditional test of the cognitive hypothesis, low education was significantly related to acquiescence on the crime item, but not on the politics item. The implications of these results are somewhat different for each hypothesis.

The tests of the cognitive hypothesis were more exploratory than the tests of the ambiguity hypothesis. First, an attempt was made to theoretically specify the cognitive mechanisms implied by the hypothesis. The elaborated model specified that low cognitive sophistication causes respondents to give the first acceptable response that comes to mind (i.e., satisficing). It then predicted that the first acceptable response will tend to be based on information which will confirm the attitude statement (the feature positive effect). The retrieval bias in favor of confirming information in turn causes the agreeing-response bias, i.e., acquiescence.

In order to conduct a partial test of this theoretical model it was predicted that relevant information that is underutilized (disconfirming cognitions) could be primed by a preceding question to increase its utilization, and thus, to reduce acquiescence. In order to test this prediction, valid priming questions had to be constructed. This required some guess work to select information that would disconfirm the attitude statement in the eyes of the respondents. The failure of the primes to reduce acquiescence may simply indicate that they were too weak. Hindsight also suggests that the basic

idea of attempting to prime discomforming information might also be an invalid test of the model. Even though the prime might make disconfirming information more accessible, it still might not be retrieved on the agree-disagree form because the first relevant information that the respondent looks for, according to the feature positive effect, is confirming information. Thus, a faulty prime or research design may be as likely a reason as an invalid theoretical specification for the failure of the tests to support the theory.

For the above reasons it is felt that it would be premature to discredit the elaborated cognitive limitations model on the basis of this initial attempt to test it. The model is based on principles that have been borrowed from cognitive psychology and from Krosnick and Alwin's (1987) related theory of response-order effects. The design that has been used illustrates one potential method of assessing part of the theory, although the primes should obviously be changed in future research. Other research designs should also be considered, including designs to test the other major link in the model, satisficing.

One component of the model, however, that may need some theoretical reassessment, as well as improved testing, is cognitive sophistication itself. Low education was significantly related to acquiescence for the crime question, but there was no relationship at all for the politics question. These inconsistent findings reinforce the weak and inconsistent effects of education found by Schuman and Presser (1981). Improved measures of cognitive sophistication, perhaps like Krosnick and Alwin's (1987) use of education in combination with vocabulary test scores, might produce stronger and more consistent effects. Still, if education is at least an imperfect indicator of cognitive sophistication, as seems likely, one would expect more consistent relationships across items between education and acquiescence. The absence of such consistency suggests that education might sometimes serve as an indicator of question-specific expertise. Expertise might be expected to reduce satisficing and the positive retrieval bias for the same reason that cognitive sophistication is hypothesized to do so; the respondent with more expertise will be able to more easily assess the pros and cons of the issue, that is, to give a more optimal response as opposed to a satisficing response. Future theoretical and empirical work should carefully consider under what conditions cognitive sophistication might predict acquiescence (and other response effects) and when issue expertise might do so.

The tests of the ambiguity hypothesis were more straightforward than the tests of the cognitive hypothesis. Acquiescence was not significantly related to the perceived clarity of the question for either item. Furthermore, there was not even a consistent direction of relationship in the sample; for the politics item there was more acquiescence for those who perceived the question to be most unclear, as expected, but for the crime item the opposite relationship existed. Finally, although the crime question was perceived to be much more unclear than the politics question, there did not appear to be more acquiescence to the crime question than to the politics item, as the ambiguity hypothesis would lead us to expect. Thus, the results provide no support at all for the hypothesis.

It is possible that systematic underreporting of question ambiguity might account for the failure of the data to support the hypothesis. Given the pattern of results noted above, however, the best conclusion appears to be that perceived question ambiguity does not account for acquiescence.

Those who subjectively experience a question as being unclear are no more likely to acquiesce than those who feel the question is clear. Lack of clarity might lead to other types of response effects, such as random responses, but it does not appear to cause acquiescence. If this conclusion is valid, it means that respondents do not select the agree response simply because they have no other basis for answering a question that they cannot make sense of. This conclusion is consistent with the cognitive perspective developed in this paper, to wit, that acquiescent respondents have reasons for agreeing with the question.

7. References

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