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SOCIAL AND SELF PERCEPTIONS OF ATTITUDES AS A
FUNCTION OF RELEVANCY INFORMATION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Gary L. Wells B.S.

* * * * *

The Ohio State University
1977

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Department of Psychology
This dissertation is dedicated to my wife, Teresa Diane Wells, for her many faceted and consistent support throughout my graduate career.
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PUBLICATIONS


# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>111</td>
</tr>
<tr>
<td>VITA</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xi</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>OPERATIONALIZING THE COVARIATION CONCEPT</td>
<td>14</td>
</tr>
<tr>
<td>PILOT STUDY 1</td>
<td>19</td>
</tr>
<tr>
<td>PILOT STUDY 2</td>
<td>22</td>
</tr>
<tr>
<td>EXPERIMENT 1: SOCIAL PERCEPTION OF ATTITUDES</td>
<td>25</td>
</tr>
<tr>
<td>Method</td>
<td>29</td>
</tr>
<tr>
<td>Procedure</td>
<td>32</td>
</tr>
<tr>
<td>Subjects and Materials</td>
<td>33</td>
</tr>
<tr>
<td>Design</td>
<td>33</td>
</tr>
<tr>
<td>Results</td>
<td>33</td>
</tr>
<tr>
<td>Manipulation Checks</td>
<td>33</td>
</tr>
<tr>
<td>Subjects' Ascriptions of the Target Persons' Attitudes</td>
<td>34</td>
</tr>
<tr>
<td>Subjects' Confidence in Their Ascriptions of the Target Persons' Attitudes</td>
<td>46</td>
</tr>
<tr>
<td>Discussion</td>
<td>51</td>
</tr>
<tr>
<td>EXPERIMENT 2: SELF PERCEPTION OF ATTITUDES</td>
<td>53</td>
</tr>
<tr>
<td>Method</td>
<td>55</td>
</tr>
<tr>
<td>Subjects and Design</td>
<td>55</td>
</tr>
<tr>
<td>Materials and Procedure</td>
<td>55</td>
</tr>
<tr>
<td>Results</td>
<td>56</td>
</tr>
<tr>
<td>Manipulation Checks</td>
<td>56</td>
</tr>
<tr>
<td>Subjects' Behaviors</td>
<td>56</td>
</tr>
<tr>
<td>Attitude Measure</td>
<td>59</td>
</tr>
<tr>
<td>Subjects' Confidence in Their Attitude Responses</td>
<td>67</td>
</tr>
<tr>
<td>Discussion</td>
<td>67</td>
</tr>
<tr>
<td>Conclusions and Implications</td>
<td>74</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
</tr>
<tr>
<td>FOOTNOTES</td>
<td>78</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>79</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>266</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information Patterns for Three Attributions</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Mean of Subjects' Predictions of the Absolute Difference Between p(B</td>
<td>A) and p(B</td>
</tr>
<tr>
<td>3</td>
<td>Analysis of Variance on Subjects' Ascriptions of the Target Persons' Attitudes</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Regression Analyses on Subjects' Ascriptions of the Negative and Positive-Behavior Target Persons' Attitudes Using Perceived Relevancy as the Predictor Variable</td>
<td>43</td>
</tr>
<tr>
<td>5</td>
<td>Regression Analyses on Subjects' Ascriptions of the Attitudes of the Mixed-Behavior Target Persons Using Perceived Relevancy of the Positive Behaviors Minus Perceived Relevancy of the Negative Behaviors as the Predictor</td>
<td>45</td>
</tr>
<tr>
<td>6</td>
<td>Subjects' Mean Confidence in Their Ascriptions of the Target Persons' Attitudes as Functions of Topic, Relevancy Condition and Target Type</td>
<td>47</td>
</tr>
<tr>
<td>7</td>
<td>Analysis of Variance on Subjects' Confidence in Their Ascriptions of the Target Persons' Attitudes</td>
<td>48</td>
</tr>
<tr>
<td>8</td>
<td>Regression Analyses on Subjects' Confidence in Their Ascriptions of the Target Persons' Attitudes Using Average Perceived Relevancy as the Predictor</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>Mean of Subjects Predictions of the Absolute Difference Between p(B</td>
<td>A) and p(B</td>
</tr>
<tr>
<td>10</td>
<td>Mean Scores on the Behavioral Index as Functions of Topic and Relevancy Condition (Experiment 2)</td>
<td>60</td>
</tr>
<tr>
<td>11</td>
<td>Subjects' Mean Attitudes as Functions of Topic and Relevancy Conditions (Experiment 2)</td>
<td>61</td>
</tr>
<tr>
<td>12</td>
<td>Analysis of Variance on Subjects' Attitudes (Experiment 2)</td>
<td>62</td>
</tr>
<tr>
<td>13</td>
<td>Subjects' Mean Confidence in Their Attitude Responses as Functions of Topic and Relevancy Condition (Experiment 2)</td>
<td>68</td>
</tr>
</tbody>
</table>
LIST OF TABLES (Cont.)

Table                                                                                           Page

14 Analysis of Variance on Subjects' Confidence in Their Attitude Responses (Experiment 2)........ 69
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Energy Topic</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Introductory Psychology Topic</td>
<td>37</td>
</tr>
<tr>
<td>3</td>
<td>Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Pollution Topic</td>
<td>38</td>
</tr>
<tr>
<td>4</td>
<td>Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Junk Food Topic</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Energy Topic (Experiment 2)</td>
<td>64</td>
</tr>
<tr>
<td>6</td>
<td>Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Pollution Topic (Experiment 2)</td>
<td>65</td>
</tr>
<tr>
<td>7</td>
<td>Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Junk Foods Topic (Experiment 2)</td>
<td>66</td>
</tr>
<tr>
<td>8</td>
<td>Regression Lines Relating Relevancy Conditions to Subjects' Confidence in their Attitude Responses</td>
<td>70</td>
</tr>
</tbody>
</table>
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Questionnaire: Pilot Study 1</td>
<td>79</td>
</tr>
<tr>
<td>B</td>
<td>Questionnaire: Pilot Study 2</td>
<td>113</td>
</tr>
<tr>
<td>C</td>
<td>Means for Pilot Study 2 and Correlations Between Predicted and Obtained Values of ( p(U) )</td>
<td>125</td>
</tr>
<tr>
<td>D</td>
<td>The James-Stein Estimated Values of ( p(B), p(A), p(B</td>
<td>A) ) and ( p(B</td>
</tr>
<tr>
<td>E</td>
<td>Low-Relevancy Materials: Experiment 1</td>
<td>143</td>
</tr>
<tr>
<td>F</td>
<td>Natural-Relevancy Materials: Experiment 1</td>
<td>166</td>
</tr>
<tr>
<td>G</td>
<td>High-Relevancy Materials: Experiment 1</td>
<td>189</td>
</tr>
<tr>
<td>H</td>
<td>High-Relevancy Materials, Energy Topic: Experiment 2</td>
<td>212</td>
</tr>
<tr>
<td>I</td>
<td>Natural-Relevancy Materials, Energy Topic: Experiment 2</td>
<td>218</td>
</tr>
<tr>
<td>J</td>
<td>Low-Relevancy Materials, Energy Topic: Experiment 2</td>
<td>224</td>
</tr>
<tr>
<td>K</td>
<td>High-Relevancy Materials, Pollution Topic: Experiment 2</td>
<td>230</td>
</tr>
<tr>
<td>L</td>
<td>Natural-Relevancy Materials, Pollution Topic: Experiment 2</td>
<td>236</td>
</tr>
<tr>
<td>M</td>
<td>Low-Relevancy Materials, Pollution Topic: Experiment 2</td>
<td>242</td>
</tr>
<tr>
<td>N</td>
<td>High-Relevancy Materials, Junk Foods Topic: Experiment 2</td>
<td>252</td>
</tr>
<tr>
<td>O</td>
<td>Natural-Relevancy Materials, Junk Foods Topic: Experiment 2</td>
<td>254</td>
</tr>
<tr>
<td>P</td>
<td>Low-Relevancy Materials, Junk Foods Topic, Experiment 2</td>
<td>260</td>
</tr>
</tbody>
</table>
INTRODUCTION

A large body of social psychological literature has been directed at the manner in which peoples' beliefs and attitudes are developed and modified. The experimental literature typically manipulates information about persons, objects and/or events, documents the direction and magnitude of belief or attitude change, and links the documented effects to an hypothesized conceptual model of change. Sometimes the conceptual model is not proposed to be analogous to human thought processes, instead reflecting a useful heuristic for prediction (e.g., Anderson, 1968; 1974). Other models are proposed as being representative of actual cognitive processes, though not necessarily conscious (e.g., Festinger, 1957).

Many attitude theorists were influenced by the gestalt tradition and their conceptualization of attitudes included some concept of cognitive consistency or other terms of similar connotation such as balance, symmetry, dissonance, congruity, etc. (see Abelson, Aronson, McGuire, Newcomb, Rosenberg, & Tannenbaum, 1968). To a large extent, interest in cognitive consistency was rooted in Heider's (1946) paper on "Attitudes and Cognitive Organization." One of the most influential consistency theories, dissonance theory (Festinger, 1957), received a great deal of attention because of its ability to predict, or at least explain, counterintuitive results in attitude change experiments. A
widely employed paradigm in testing dissonance theory involved manip­
ulating the behavior of the subject under various conditions and
assessing any subsequent attitude change. In general, the results
suggested that, if a great deal of external pressure is employed to
make a subject engage in a counterattitudinal behavior, such as a
large reward for engaging in the behavior (e.g., Festinger and
Carlsmitth, 1959) or punishment for not engaging in the behavior (e.g.,
Brehm, 1962) little or no attitude change occurs. However, small
rewards for compliance or mild punishment for noncompliance results in
significant attitude change in a direction consistent with the behavior.
The original version of dissonance theory conceptualized that cognitive
elements that are inconsistent or dissonant with one another will result
in some type of cognitive change to achieve consonance. In the above
examples, behavior is stored as a cognitive element (e.g., I did "X")
that is dissonant with another cognitive element (e.g., I believe "y")
Continued research on dissonance theory yielded empirical results that
demanded new versions of the theory so that it now has some semblance
of Festinger's version but many deletions and additions (see Wicklund
and Brehm, 1976). But, whatever the evolution pattern of dissonance
theory, the fact is that behavior and attitudes were linked in a manner
that did not simply reflect an interest in the influence of attitude
change on behavior change, but reflected an interest in the influence
behavior on attitudes.

Given the fact that behavioral contingency (reward, punishment)
was being conceptualized as an independent variable in attitude research
(it has also been used earlier by Doob [1947]), it was no surprise that
stimulus-response theory surfaced as an alternative conceptualization regarding the formation of attitudes. Bem (1965; 1967) argued from a Skinnerian (Skinner, 1953; 1957) position that an individual's attitude statements are *inferences* that the individual derives from his/her own behavior. Skinner (1957) pointed out that there are limited resources available to individuals to "know themselves" and that these resources are not functionally different from what the public must use in "knowing" an individual. Bem (1967) suggested that judgments of an object, person or event are not definitively analyzed until an individual is asked to do so; once asked, that individual's past behavior toward the stimulus may provide cues as to what these judgments should be. Thus, Bem (1972) argues that, to the extent that internal cues are weak or ambiguous, an individual is functionally in the same position as an outside observer who must rely on his/her behavior, and, the context in which the behavior occurs, to infer his/her attitude.

Person perception researchers had already made some advances in investigating how observers make inferences about the internal characteristics of another individual. Heider's (1958) broad analysis of how individuals make attributions (inferences) about their world in general and attributions about people in particular spawned theory that could be more readily operationalized. For example, Jones and Davis (1965) presented a theory of observers' dispositional attributions relying largely on Heider's (1958) analysis. Subsequently, Kelley (1967; 1971) proposed a principle of *covariation* that he applied to the inference process of observers' inferences of another person's internal characteristics and individuals' inferences of their own internal
characteristics.

Kelley's (1967) covariation principle states that an effect (behavior) is attributed to the plausible causes with which it covaries. From this general principle, Kelley derived three variables that can provide crude covariation information for an individual: Distinctiveness, (Does the actor respond in that way to all or only a few stimuli of the type?); consensus, (Do all or only a few people respond to the stimulus in the same way as does the actor?); and consistency, (Does the actor always respond in the same way to the stimulus?). Using these three variables, Kelley predicted that external attributions, that is, attributions that the behavior is caused by some characteristic other than that of the individual's attitudes, beliefs, traits, or other internal characteristics; should be greatest when consensus is high, consistency is low and distinctiveness is high. Attributions that the behavior is due to some internal characteristic of the individual should be greatest when consensus is low, distinctiveness is low and consistency is high. In some sense this represents an improvement over Bem's (1965; 1967; 1972) analysis since, Bem's statement that, individuals infer their attitudes from their behavior in the context in which those behaviors are performed, did not include a priori definition of the relevant context factors.

Kelley (1967) went on to suggest that the finding that low pressure to perform a counterattitudinal behavior resulted in greater
attitude change than high pressure to perform such a behavior stemmed from subjects' (incorrect) belief that consensus is low in the former condition but high in the latter condition. Cooper, Jones and Tuller (1972) tested this proposition by crossing two levels of perceived consensus with two levels of incentive for performing a counter-attitudinal behavior. Their results showed that, while incentive produced the traditional effect (i.e., high incentive subjects were less favorable toward the behavior than were low incentive subjects), the consensus manipulation had no effect. However, a crucial problem exists in this test. Table 1 shows the hypothesized effects of various levels of consensus, consistency and distinctiveness as derived from Kelley's theory. One must assume that, if only consensus is manipulated, high consensus should result in a stimulus attribution and low consensus could result in either a person attribution or a circumstance attribution. If the subjects in Cooper, Jones and Tuller's study believed that distinctiveness was high, then high consensus should produce a stimulus attribution and low consensus should produce a circumstance attribution. If this is true, differences between high and low consensus should have no effect on self attitude inferences. Of course, it would be extremely difficult to manipulate perceived distinctiveness for an actor's behavior in the laboratory since it would require that the subjects be exposed to multiple situations of the type and their compliance behavior varied across those situations.

Kelley's covariation concept assumes that individuals are reasonably competent information processors who incorporate probabilistic information and revise their beliefs in accordance with that
TABLE 1
Information Patterns for Three Attributions

<table>
<thead>
<tr>
<th>Attribution</th>
<th>Consensus</th>
<th>Distinctiveness</th>
<th>Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Person</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Circumstance</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
information. Several investigators have tested the extent to which peoples' probabilistic inferences correspond to objective-probability laws. For example, Wyer (1970a) had subjects make likelihood judgments about various hypothetical situations. Specifically subjects were asked to estimate probabilities for statements such as the following:

\[ p(A) \] The probability that Governor Smith will be reelected.
\[ p(B) \] The probability that state aid to education will be increased.
\[ p(B|A) \] The probability that state aid to education will be increased if Governor Smith is reelected.
\[ p(B|\overline{A}) \] The probability that state aid to education will be increased if Governor Smith is not reelected.
\[ p(A\cup B) \] The probability that state aid to education will be increased and Governor Smith will be reelected.
\[ p(A\cap B) \] The probability that state aid to education will be increased or that Governor Smith will be reelected or that both events will occur.

Subjects responded to these statements on an 11-point scale ranging from 0 (extremely unlikely) to 10 (extremely likely). Objective-probability laws require that \[ p(A\cap B) = p(B|A) p(A) \] and that \[ p(A\cup B) = p(A) + p(B) - p(A\cap B) \]. Wyer computed a correlation between each subjects' estimate of \[ p(A\cap B) \] and \[ p(B|A) p(A) \] and also computed a correlation between each subjects' estimate of \[ p(A\cup B) \] and \[ p(A) + p(B) - p(A\cap B) \]. The correlations were reasonably high (around +.60) suggesting that the subjects' perceptions of probability are relatively consistent with normative relationships among probabilities. Wyer
and Goldberg (1970) have obtained similar results.

McGuire (1960a, b, c) was one of the first investigators to apply probability notions to the attitude area. McGuire (1960b) was interested in developing a quantitative model of consistency among beliefs and his approach combined formal probability theory and syllogistic reasoning. McGuire set up a series of 16 syllogisms wherein a major premise (A), minor premise (B) and conclusion (C) constituting each syllogism were presented in random order as 48 propositions. The subjects were asked to indicate, in probabilistic terms, their adherence to each proposition. Subjects' estimates were obtained on a scale ranging from very improbable (0) to very probable (100). Assuming that A and B are independent, \( p(C) = p(A) \cdot p(B) + p(K) \) where \( p(A) \) and \( p(B) \) are the probabilities that proposition A and proposition B are true, respectively and \( p(K) \) is the probability of C being true based on reasons other than the conjunction of A and B. Although subjects never estimated \( p(K) \), a correlation was computed between \( p(A) \cdot p(B) \) and \( p(C) \) because adding a constant \( [p(K)] \) to a variable will not alter that variable's correlation with another variable. The results indicated a considerable degree of correspondence when the 16 syllogisms were used (.48) and a somewhat higher correspondence when only 8 syllogisms were used (.74) (McGuire, 1960a; McGuire 1960b, respectively).

Peterson and Beach (1967) reviewed the literature up to 1967 on man as an intuitive statistician and concluded that there is considerable evidence that probability models provide a good first approximation to a model of inferential belief formation. Fishbein
and Ajzen's (1975) textbook on attitudes and beliefs takes a similar position regarding the role of probability models. However, while subjects appear to alter their beliefs in the proper direction when given new information, much of the research indicates that subjects are conservative in revising their beliefs as a function of new information (Edwards, 1968). The issue of how accurate people are requires more than a correlational analysis. One of the principal models employed to test the accuracy issue is Bayes' theorem. A typical paradigm employed is the book-bag and poker-chip paradigm wherein the subject's task is to estimate the ratio $p(H_r)/p(H_b)$, where $p(H_r)$ is the probability of the hypothesis that a sequence of chips were drawn from a bag containing X% red chips and 100% -X% blue chips and $p(H_b)$ is the probability that the chips were drawn from a bag containing the opposite composition of red and blue chips. The research tends to show that subjects fail to be as influenced by the data (the observed sequence of chips) than is optimally required by Bayes' theorem (see Edwards, 1968). The research in this area has tended to focus on the issue of whether the conservatism is a function of misaggregation or misperception. The misaggregation hypothesis assumes that, while subjects correctly perceive the diagnostic value of the incoming data, they do not combine the data in strict accordance with Bayes' rule. The misperception hypothesis, however, suggests that while subjects aggregate the information in accordance with Bayes' rule, they somehow misperceive the diagnostic value of the information.
There is also evidence that people underutilize rather simple base-rate information in making probabilistic predictions about the occurrence of an event. Kahneman and Tversky (1973) for example, presented subjects with a hypothetical situation in which five persons were said to have been randomly selected from a population of engineers and lawyers. In one condition, subjects were told that the population was composed of 70 engineers and 30 lawyers and, in another condition, a different set of subjects were told that the population was composed of 30 engineers and 70 lawyers. Each of the five randomly selected persons were briefly described in a manner somewhat informative of a lawyer, an engineer or by information that appeared on face to uninformative regarding whether the individual was a lawyer or an engineer. Because the descriptions were identical in the 30% engineer and 70% engineer conditions, subjects' predictions about the probability that each person is an engineer can be compared between the two base-rate conditions for correspondence with Bayes' rule. The results suggested a strong underutilization of the base-rate information. While there are still some questions regarding the extent to which subjects underutilized base-rate information in Kahneman and Tversky's lawyer-engineer study, it does appear certain that base-rate information is not optimally utilized.

Not only is there evidence that people err in strict probability settings, but, evidence also exists that an individual's attitudes can influence the extent to which people will make proper use of probabilities. In McGuire's (1960a, c) work subjects indicated the
degree to which they regarded each of the propositions as desirable. When desirability ratings were partialled out of the analysis, the correlations between \( p(C) \) and \( p(A) p(B) \) increased from .48 to .85 in the 16 syllogism case and from .74 to .96 in the 8 syllogism case. Holt and Watts (1969), Watts and Holt (1970) and Dillehay, Insko and Smith (1960) have reported similar findings regarding the tendency for desirability to influence subjective probability judgments.

Ajzen (1971) has presented evidence that the desirability of an event is related to its perceived probability of occurrence. Ajzen manipulated the desirability of behaviors in four hypothetical situations in which a hypothetical person was said to have chosen a desirable or undesirable behavioral alternative from three possible desirable alternatives and one undesirable alternative (high decision-freedom) or from three possible undesirable alternatives and one desirable alternative (low decision-freedom). Subjects indicated the probability that the actor had a particular disposition (e.g., that he likes eating out) given one particular behavioral choice \([p(D|B)]\) as well as estimates of \( p(B) \), \( p(D) \) and \( p(B|D) \). The results indicated that revisions from prior to posterior probabilities \([i.e., p(D) - p(D|B)]\), increased with perceived decision freedom and decreased with the chosen alternatives' desirability. In addition, Ajzen calculated correlations between the obtained posterior probabilities and the posterior probabilities as predicted from Bayes' theorem for each situation. While Ajzen considered the results supportive of a Bayesian model, the correlations were not impressive (average correlation = +.52) and the correlations fail to consider the degree to which the
obtained posterior probabilities were accurate (as opposed to simply correlated with the predicted values).

While there has been considerable research on probability models of inference processes, the research deals almost exclusively with inferences about the properties of other persons or objects to the exclusion of self inferences. If, as Bem (1965) and Kelley (1969) have suggested, individuals process information about themselves in the same manner that they process information about other persons, then the quantitative models that have often provided reasonable frameworks for probability revision should also be applicable to attitude change. Consider, for example, a study by Kiesler, Nisbett and Zanna (1969). These researchers wanted to show that the ambiguity of one's own behavior with regard to its cause, results in the individual's reliance on characteristics of other peoples' behavior. Specifically, subjects were told that the experimenter was studying the optimum number of arguments that would be employed in persuasive communications and that a large number of experimenters were needed. Subjects were asked to persuade passersby on a street corner to sign a petition urging action against air pollution. Subjects agreed to this request under one of two experimental variations. In one condition, a confederate who presumably was going to deliver a persuasive communication about auto safety to passersby, was asked if he had any objections to delivering the message. The confederate's response was clearly audible to actual subjects wherein he replied either (a) that he wouldn't mind since the topic was a good one for the experimenter's purpose and the important thing was to be a part of an experiment that
really showed something or (b) that he wouldn't mindconvincing people about something he believed in. Thus, the confederate explained his behavior (i.e., agreeing to persuade passersby) by way of an attitude toward the topic or by way of an attitude toward the experiment. The subjects were then asked to give their opinions on a variety of social issues, one of which was air pollution. The subjects for whom the attitude toward the topic was made salient indicated more opposition toward air pollution than did subjects for whom the attitude toward the experiment was made salient.

While the Kiesler et al. experiment was not represented by a quantitative model, it demonstrates the role of other peoples' behavior in influencing inferences of one's own attitudes. The studies to be presented here were designed in part to further investigate this relationship. Before describing the studies in this dissertation, which employ a Bayesian framework for social and self-perception of attitudes, methodological issues regarding the operationalization of covariation are discussed in the next chapter.
OPERATIONALIZING THE COVARIATION CONCEPT

Consensus has come to be operationalized as the overall probability of a behavior in a given situation. As such, consensus can provide information to perceivers regarding the strength of that situation to evoke a particular behavior. If consensus is high, perceivers are more likely to assume that the situation is powerful and, therefore, a given person who engages in the behavior in that situation will not be presumed to be as internally predisposed toward the behavior as in cases where consensus is low (McArthur, 1972; Wells and Harvey, 1977). Thus, a straightforward design to manipulate covariation information might be to induce a belief in subjects that particular behaviors, ones that they have previously engaged in, are normative, thereby undermining the basis of their attitude inferences. However, there are several problems with simply manipulating the probability of behavior.

The first problem is that such manipulations can create incredulity toward the manipulated information. For example, suppose that subjects are inferring their attitude toward air pollution, in part, through their behavior of walking to work at least one day a week (instead of driving). It would be incredulous to attempt to manipulate subjects' belief in consensus for that behavior by asserting that 90% of the population also walk to work at least one day a week. Subjects would have direct disconfirmations of that fact by the way of their own
observational experiences.

The second problem with manipulating overall consensus for a behavior and measuring attitude inferences is that the perceiver can make one of two inferences. When consensus is high, one inference, already discussed, is that the perceiver might infer that the behavior is covarying with the situation. The other possible inference however, is that an attitude, or other internal predisposition plausibly related to the behavior, is widely shared by the population. This appears to be a general issue with consensus research, unacknowledged in the formal literature. On the other hand, increasing consensus would probably not result in perceivers assuming that some internal predisposition is causal for particular types of behavior, particularly behaviors that connote an internal predisposition that could not plausibly be widely shared (e.g., delivering electric shock to oneself as in Wells and Harvey, 1977, or being afraid of a dog as in McArthur, 1972). In such cases, it is implausible for subjects to attribute high consensus to a widely shared predisposition (i.e., that almost everyone has a favorable attitude toward electric shock or that almost everyone has a fearful attitude of dogs). Instead, subjects should assume that characteristics of the stimulus (e.g., dog) or the situation (shock taking) are evoking the behavior. However, it is not implausible to attribute high consensus for some behaviors (e.g., eating cake) to the fact that almost everyone has a particular attitude (liking cake). In such cases, increasing consensus for the behavior would not necessarily result in an attribution that the behavior is externally caused. Thus, simply manipulating the overall probability of behavior could result in a poor
test of the role of covariation in attitude inferences.

The third problem with manipulating subjects' perceptions of the overall probability of behavior is that the explanation for any resultant change in attitude expressions might be due to a phenomenon that is independent of the covariation concept to be tested, namely, a change in "scale context." The scale context interpretation operates on the basis that attitude and belief scales typically involve no absolute point of reference. For example, note the difference between the question "How many inches of rainfall annually fall in your hometown?" and "How wet is the climate in your hometown?" The first question is measured on a scale that is more typical of scales in attitude research (e.g., extremely wet...extremely dry).

Scale-context effects are likely to occur when the labels on the scale (e.g., moderately wet, slightly wet, etc.) are highly related to a population norm. For example, 25" a year is dry if one assumes 45" a year to be the norm but 25" a year is wet if one assumes 5" a year to be the norm. Scale context effects have little or nothing to do with the attribution concept currently being investigated. The attribution explanation assumes that increasing consensus evokes external attributions and, thus, perception of the absolute magnitude of internal causal factors.
is lessened. The scale-context interpretation, however, assumes that absolute judgments of internal causal factors have not changed by information that the behavior is normative, instead, relative to other persons the magnitude of internal causal factors is lessened.

How can these problems be resolved? An alternative mode of operationalizing the theoretical connotation of covariation would be to manipulate conditional probabilities of behavior (instead of the overall probability of behavior). The conditional probabilities would represent the relationship between the behavior and an attitude. For example, suppose that subjects in one condition were told that (a) 50% of the population hold a favorable attitude toward individual measures to control air pollution [i.e., \( p(F) = 0.5 \)] and that (b) 35% of those who hold this favorable attitude walk to work at least one day a week [i.e., \( p(B | F) = 0.35 \)] while (c) only 5% of those who hold an unfavorable attitude walk to work at least one day a week [i.e., \( p(B | \overline{F}) = 0.05 \)].

This set of information implies a reasonable degree of covariation between the attitude and the behavior. If, in another condition, subjects were informed that \( p(F) = 0.5 \), \( p(B | F) = 0.20 \) and \( p(B | \overline{F}) = 0.20 \), the implication is that the behavior is caused by something other than attitude favorability. Note that the probability of behavior would be held constant [\( p(B) = p(B | F) \ p(F) + p(B | \overline{F}) \ p(\overline{F}) = 0.20 \) in both conditions] thereby eliminating the kind of scale context problem discussed earlier. Also, note that the problem of incredulity would be greatly lessened since the variations of conditional probabilities change the relationship between attitude and behavior (which is not directly detectable by observational experiences) as opposed to the
overall probability of behavior (which is directly detectable through observational experience). Finally, the overall probability of the attitude within the population is held constant [in above example \( p(F) = .50 \) in both conditions] thereby eliminating the possibility (inherent in simply manipulating the overall probability of behavior) that subjects given high-consensus-information could infer a high base rate for the attitude.

Given the advantages of manipulating conditional probabilities of behavior instead of manipulating the overall probability of behavior, conditional probabilities were employed in two experiments. The first experiment was designed to investigate the effect of the covariation information on subjects' inferences of the attitudes of other persons, hereafter referred to as "Social perception of attitudes." The second study was designed to assess the impact of covariation information on subjects' inferences of their own attitudes, hereafter referred to as "Self perception of attitudes."

Two pilot studies were necessary to aid in the construction of the stimuli. The goals of the pilot studies were (a) to identify behaviors that are perceived by subjects to be related to various attitudes and (b) to obtain subjects' estimates of the perceived overall probability of the behaviors and the perceived probability of the attitude. The necessity of meeting these goals is discussed in the pilot studies' sections.
PILOT STUDY 1

The first pilot study was designed to identify behaviors that are perceived by subjects to underlie various attitudes. This phase was particularly important for the experiment on self perception of attitudes since, if manipulations of conditional probabilities were performed on behaviors that subjects did not perceive as related to the attitude, those manipulations might have little or no effect on the attitude inference. Indeed, it is presumed in the self perception of attitudes study that, when subjects are asked their attitude on a topic, subjects will consider their past behaviors that are judged relevant to the topic, consider the degree and direction of that relevance and, base their attitude response at least partly on those considerations.

Procedure

Fifty introductory psychology students were given a copy of the questionnaire shown in Appendix A. They were asked to express their own attitude on each of the eleven topics and, for each topic, list behaviors that they have recently engaged in that would indicate what their attitude is. In addition, subjects were requested to indicate, for each behavior, whether the behavior should be construed as indicative of a favorable attitude on the topic (+) or an unfavorable attitude on the topic (-).
Results

The behaviors generated by subjects were categorized within each of the eleven topics. The categorization scheme called for (a) pooling behaviors that are highly similar (e.g., "I talk a lot in my class" and "I always try to answer the instructor's questions" were pooled and coded as "Active participation in class discussions") and (b) tabulating the frequency of the pooled behaviors.

The frequency of the pooled behaviors was taken to be indicative of the extent to which people generally perceive those behaviors to be related to the attitude and also a rough measure of the frequency of those behaviors. Ideally, it was hoped that behaviors would surface that are widely shared in the population since, if such behaviors could be identified, the assumption could be made in the self perception of attitudes study that manipulating perceived conditional probabilities for such a set of behaviors would have similar effects for all subjects. Note, however, that if half of the subjects engage in a behavior and half do not, manipulating conditional probabilities will have opposite effects on these two groups of individuals in Experiment 2. Consequently, only five of the topics were chosen for further pursuit based on the criteria that (a) at least eight behaviors could be identified for each topic as indicating a positive or negative attitude toward the topic and (b) those behaviors were listed by at least 10% of the subjects. While 10% might seem a rather low percentage to qualify as "widely shared," it seemed reasonable to assume that more persons actually engaged in the behaviors than the number who listed them in this open-ended format.
The five topics meeting these criteria were: pollution; introductory psychology; religion; junk foods; and energy conservation.
The second pilot study was designed to explore the five attitude topics and the behaviors associated with those topics, in more detail. In particular, subjects' perceptions of the normal conditional probabilities for each of the behaviors as well as a measure of the frequency of subjects' who report having engaged in those behaviors was sought. Subjects' perceptions of normal conditional probabilities is important to Experiments 1 and 2 in that it provided a baseline from which the manipulations of conditional probabilities could be varied.

Procedure

Twenty-six introductory psychology students were asked to estimate, for each of five topics, (a) the percentage of persons who have a favorable attitude (or endorse a belief statement) on the topic, (b) the percentage of people who engage in various behaviors related to the attitude or belief (c) the percentage of people who engage in those behaviors given that they have a favorable attitude on the topic or endorse the belief statement (d) the percentage of people who engage in those behaviors given that they have an unfavorable attitude on the topic or do not endorse the belief statement and (e) the particular behaviors that the subjects themselves engage in. Appendix B served as the materials for the study.
Results

Means were calculated for each question item in Appendix B. The obtained means are presented in Appendix C alongside their respective questions. Separate one-way, within subjects analyses of variance were computed for each of the 45 behaviors contrasting subjects' estimates of the probability of the behavior given a favorable attitude (or endorsement of the belief) and the probability of the behavior given an unfavorable attitude (or non-endorsement of the belief). With the exception of one behavior (behavior #6 of the pollution topic), subjects predicted that the base rate for the behaviors would be different for people with a favorable attitude (or endorsement of the belief) than for people with an unfavorable attitude (or non-endorsement of the belief) (all F's (1, 50) > 4.05; p's < .05).

To measure the extent to which each subjects' estimates were internally consistent within a topic, each subject's estimate of the percentage of people with a favorable attitude or endorsement of the belief [hereafter referred to as p(A)] was combined with (a) that subject's estimate of the percentage of people who engage in the behavior given that the people have a favorable attitude or belief endorsement [hereafter referred to as p(B|A)] and (b) that subject's estimate of the percentage of people who engage in the behavior given that the people have an unfavorable attitude or do not endorse the belief [hereafter referred to as p(B|¬A)] to form a prediction of the overall probability of behavior [p(B)]. The formula p(B|A) p(A) + p(B|¬A) (1-p(A)) = p(B), derived from Bayes' theorem, was used to combine this information. Thus, for each of the 45 behaviors, each
subject was assigned two values for \( p(B) \), one being predicted from the subjects' estimates of \( p(B|A) \), \( p(B|X) \), \( p(A) \) and the other being subjects' direct estimate of \( p(B) \). In addition to calculating means for the predicted values of \( p(B) \) for comparison to the obtained means of \( p(B) \), a correlation coefficient was computed between the predicted and obtained values of \( p(B) \). The means and correlations are presented in Appendix C. Except for the topic of junk foods, every correlation reached significance (i.e., correlations \( > .381 \), p's < .05). For the junk foods topic, five of the nine behaviors showed nonsignificant relationships between obtained values of \( p(B) \) and predicted values of \( p(B) \). On the other hand, the obtained and predicted means were not more highly discrepant for the junk food behaviors than they were for the behaviors that produced high correlations between obtained and predicted values.

The percentage of subjects who reported engaging in each of the 45 behaviors is presented in Appendix C. The probability that subjects engage in these behaviors ranged from .04 (sign up for more experiments than required in the course) to .96 (fail to report incidents of littering). However, none of the topics yielded only behaviors that subjects either do or do not engage in. Instead, many of the behaviors were engaged in by 30%-70% of the subjects. Consequently, it was decided that the self perception of attitudes experiment would have to take individual differences in behavior into account in predicting the effects of the manipulations of conditional probabilities.
In Experiments 1 and 2, "High-relevancy-information" is information that a particular behavior (B) has a base rate or probability (p) for individuals who hold a favorable attitude (A) that is highly discrepant from the base rate of those who hold an unfavorable attitude (Ā). "Low-relevancy-information" is information that the behavior has almost no discrepancy between the values of p(B|A) and p(B|Ā). "Natural-relevancy-information" represents a degree of discrepancy between the values of p(B|A) and p(B|Ā) that corresponds to subjects' normal or natural expectancies as approximated in Pilot Study 2. The degree of discrepancy in high-relevancy-information is mathematically designed in this experiment to be equally distant from the discrepancy in natural relevancy as is the distance between the discrepancy in low relevancy and the discrepancy in natural relevancy. For example, if p(B|A) - p(B|Ā) = .40 in natural relevancy and p(B|A) - p(B|Ā) = .05 in low relevancy then, p(B|A) - p(B|Ā) .05 = .75 in high relevancy.

The values for natural relevancy were determined in Pilot Study 2 but the values for low and high relevancy had to be calculated. As noted earlier, the values of p(B) and p(A) were to be held constant throughout variations of conditional probabilities (relevancy). Therefore, since

\[ p(B) = p(B|A) p(A) + p(B|Ā) p(Ā). \]
certain restrictions are placed on the particular values of the conditional probabilities in the high and low relevancy conditions. For example, if the values for the natural relevancy condition are:

\[
\begin{align*}
    p(B) &= .5 \\
    p(B\mid A) &= .7 \\
    p(B\mid \overline{A}) &= .3 \\
    p(A) &= .5
\end{align*}
\]

and, in the low relevancy condition:

\[
\begin{align*}
    p(B\mid A) &= .5 \\
    p(B\mid \overline{A}) &= .5
\end{align*}
\]

then only one set of values is possible for the high relevancy condition, namely,

\[
\begin{align*}
    p(B\mid A) \text{ must } &= .90 \text{ and} \\
    p(B\mid \overline{A}) \text{ must } &= .10.
\end{align*}
\]

Note that the high relevancy condition could not be represented by \( p(B\mid A) = .85 \) and \( p(B\mid \overline{A}) = .05 \) because, even though the discrepancy is .80, these values do not mathematically fit with the values of \( p(B) \) and \( p(A) \) in the above example.

In assuming that one of the criteria for calculating values for the low-relevancy-conditions was that \( p(B\mid A) \) be only slightly discrepant from \( p(B\mid \overline{A}) \), a problem arose. Namely, for the values of \( p(B), p(A), p(B\mid A) \) and \( p(B\mid \overline{A}) \) obtained in Pilot Study 2, meeting the criteria of slight discrepancy in the low-relevancy-condition and high discrepancy in the high-relevancy-condition, as defined earlier, was not always mathematically possible. Behavior number 6 in the introductory psychology topic (See Appendix B) will serve as an example. The natural
relevant values for that behavior were:

\[ p(A) = .46, \; p(B) = .11, \; p(B|A) = .19, \; p(B|\bar{A}) = .04. \]

[Note that the value of \( p(B) \) employed is not the obtained value from Pilot Study 2 but, the predicted value. The predicted value is employed as a mathematical correction for subjects' inconsistencies and it will be thought of as a "natural" value. This correction is small, and should have little or no meaning except to allow for the consistent utilization of Bayes' rule in calculating the appropriate values of the low and high relevancy conditions]. If, for low relevancy, the values

\[ p(B|A) = .12 \; \text{and} \; p(B|\bar{A}) = .10 \]

are employed then the high-relevancy condition should have a value of \( p(B|A) = p(B|\bar{A}) = .28 \) so that the discrepancy between \( p(B|A) \) and \( p(B|\bar{A}) \) is equally distant from natural relevancy in both high and low-relevancy conditions. However, it is mathematically impossible to obtain values for \( p(B|A) \) and \( p(B|\bar{A}) \) that differ by .28 while holding \( p(B) = .11 \) and \( p(A) = .46. \) This problem exists whenever the values of \( p(A) \) and or \( p(B) \) are extremely low or high.

While there were several different approaches to this problem, it was decided that a correction of the natural values obtained in Pilot Study 2 be employed. In traditional statistics, the average of obtained data on a given item is thought to be the best guess of future data on that item. However, more recently, applied and theoretical statistics has come to acknowledge superior methods of parameter estimation. One such estimator, the James-Stein estimator (see Efron and Morris, 1977), assumes that, when there are more than two means being estimated, overall risk is reduced by assuming that the true means
are more similar to one another than the observed data indicate. Consequently, the James-Stein estimator "shrinks" the values of the individual means toward the value of the grand mean (average of the individual means). Counterintuitively, this adjustment is shown to be valid even under conditions in which one assumes statistical independence between the individual means. It turns out, however, that risk will be reduced only if the means do not include extreme outlying mean values. The formula for shrinkage is set up so that, when the observed means are close to the grand mean they are shrink proportionally more toward the grand mean than when the observed means are farther away from the grand mean. The reason for this is that the James-Stein estimator makes a preliminary guess that the true means are near the grand mean and, data that support that guess, are so adjusted. The shrinking factor is given by the equation

\[ C = 1 - \frac{(K-3) \sigma^2}{(Y-\bar{Y})^2} \]

where: C is the shrinking factor, K is the number of means, \( \sigma^2 \) is the variance of the means, and \( (Y-\bar{Y})^2 \) is the sum of the squared deviations of the individual averages \( Y \) from the grand average \( \bar{Y} \). A new estimate, \( Z \), is calculated for each mean where

\[ Z = \bar{Y} + C (Y-\bar{Y}) \]

Suppose, for example, four means representing the number of words four different typists could type per minute were obtained. If the obtained means were 60, 68, 72 and 84, the \( \sigma^2 \) is estimated to be 70, \( K-3 = 1 \) and \( (Y-\bar{Y})^2 = 784 \). Thus, the shrinking factor, \( C = .911 \) and the \( Z \) values corresponding to the means of 60, 68, 72 and 84 are
61, 68, 72 and 83. The shrinking factor is small in this example, primarily because only four means are being estimated.

In applying the James-Stein Estimator to the data obtained in Pilot Study 2, the higher of the two values \( p(B|A) \), \( p(B|\bar{A}) \) for each of the 45 behaviors constituted one cluster of means used to generate \( Z \) values and the lower of the two values \( p(B|A) \), \( p(B|\bar{A}) \) constituted a separate cluster of means used to generate \( Z \) values. In addition, the lower of the two values \( p(A) \), \( 1-p(A) \) constituted a cluster of means used to generate \( Z \) values. The results of using the James-Stein shrinking technique revealed that the earlier problem of setting values for low and high relevancy that are equally discrepant from natural relevancy no longer existed. The shrinking factor \( c \) for the higher of \( p(B|A) \), \( p(B|\bar{A}) \) was .19 while the shrinking factor for the lower of \( p(B|A) \), \( p(B|\bar{A}) \) was .18 and, for \( p(A) \), \( 1-p(A) \), the shrinking factor was .50. Appendix D shows the values after shrinking.

Method

A cover story was employed to minimize demand that subjects use the conditional probability information. The cover story also served as a manipulation check and a method of inducing subjects to closely attend to the conditional probability information. Specifically, subjects were told that they would read the results of surveys and that their task was to guess what they "would have predicted." Subjects were told that they were making predictions because surveys of this type are expensive and, that accurate figures might be obtained through questionnaires of this type at a fraction of the cost of the
expensive surveys. Fischhoff's (1975) research suggests that such a procedure, where subjects make predictions after knowing the results, is a relatively powerful technique for getting people to focus selectively on aspects of the situation that could have produced those results. This, in turn, biases peoples' predictions in favor of the results. Subjects' predictions also served as a manipulation check.

In addition to the conditional probability prediction, subjects were asked to estimate the attitude of three types of target persons. One target person type was described as having engaged in behaviors that are somewhat indicative of a favorable attitude or, in the case of the energy topic, belief endorsement. Another target person type was described as having engaged in behaviors indicative of an unfavorable attitude (non-endorsement of belief). A third target person type was described by some behaviors indicative of a favorable attitude and some behaviors indicative of an unfavorable attitude. The three target person types will be referred to as the positive, negative and mixed-behavior target persons respectively. After subjects estimated the attitude of each target person, subjects were asked to indicate how confident they were in their estimate of that person's attitude.

It was expected that subjects' predictions of the conditional probabilities relating the various behaviors to the attitude would be influenced by the conditional probability results that they were given. In determining their prediction, it was expected that subjects would focus on aspects of the behavior and attitude that could produce such results. Thus, subjects in the low-relevancy-condition were expected to focus on reasons other than the attitude in explaining the behaviors.
Natural-relevancy-condition subjects were expected to think of the attitude as a moderately plausible explanation of the behaviors and high-relevancy-condition subjects were expected to think of the attitude as a highly plausible explanation of the behaviors. Thus, the low-relevancy condition subjects should estimate that the positive-behavior target case is less favorable, and, the negative-behavior target case is less unfavorable, than the subjects in the natural relevancy condition will estimate. Natural-relevancy condition subjects, in turn, should estimate that the positive-behavior target case is less favorable, and, the negative-behavior target case is less unfavorable, than the high relevancy condition subjects' will estimate. For the mixed-behavior target cases, no main effects for attitude favorability across levels of relevancy were necessarily expected since, increasing relevancy equally increases the relevancy of both favorable and unfavorable behaviors.

For both positive and negative-behavior target persons, confidence should decrease as relevancy decreases since the basis of an attitude inference from behavior is undermined by beliefs that the behaviors are irrelevant to that attitude. It is less clear about what should happen to confidence judgments in the mixed-behavior target case as a function of relevancy manipulations. There are two models of inference, one suggests that the relevancy manipulations will affect subjects' confidence in their attitude ascriptions toward the mixed-behavior target case and the other model suggests that the relevancy manipulations will not affect subjects' confidence. The former model assumes that confidence is a direct function of the total
relevancy of the available information (total-relevancy model). That is, it does not matter that the target person engages in an equal number of positive and negative behaviors. What determines confidence is the relevancy of all the information, irrespective of whether the elements of information conflict with one another. The other model assumes that confidence is a direct function of the discrepancy between the total relevancy of the positive behaviors and the total relevancy of the negative behaviors (relative-relevancy model). This model suggests that a manipulation that increases the relevancy of the eight behaviors for the mixed-behavior target case will not serve to enhance confidence (assuming that the four positive and four negative behaviors are equally affected by the manipulation). Both the total-relevancy model and the relative-relevancy model predict the same effects of relevancy manipulations for the positive and negative-behavior target cases. That is, for positive and negative-behavior target cases, as relevancy increases, (a) the total relevancy of the information increases and (b) the discrepancy between the total relevancy of the positive behaviors and the total relevancy of the negative behavior increases.

Procedure

Subjects were randomly assigned to one of the twelve booklet types. Subjects were allowed 50 minutes to complete their booklet. All subjects completed their booklet within the allotted time (mean time to completion = 38 minutes). The next day, subjects were debriefed. The debriefing included a general discussion of how individuals are dependent on the behaviors of other people in ascribing
attitudes to those people.

Subjects and Materials

Forty-nine students enrolled in introductory psychology at Ohio State University participated in the study for course credit. One subject was eliminated from the analyses to balance the design. Appendices E, F and G present the materials of the study. These appendices correspond to the low, natural and high-relevancy-conditions respectively.

Design

The order of topics was manipulated between subjects as a standard latin square design of the 4 topics. Preliminary analyses indicated that order of topics had no effect on the dependent measures and was, therefore, eliminated from the report of results. The design employed for testing the major hypotheses was a 4 (topics) X 3 (negative-behavior, mixed-behavior and positive-behavior target types) X 3 (high, natural and low relevancy) mixed factorial with topics and target types as within subjects variables and relevancy a between subjects-variable.

Results

Manipulation Checks

Subjects' estimates of the conditional probabilities were scored as the absolute difference between the probability of the behavior given a favorable attitude and the probability of that behavior given an unfavorable attitude. The absolute difference was scored because, a check of the data revealed that, in no case did subjects' estimates of $p(B|A)$ and $p(B|\bar{A})$ indicate a directional
difference that differed from the direction of the provided conditional probabilities. Each subjects' estimates of the absolute difference between \( p(B|A) \) and \( p(B|\bar{A}) \) were averaged across the eight behaviors of a topic. Table 2 presents the means for these data by topic and relevancy condition. A 4 (topics) x 4 (order of topics) x 3 (relevancy) mixed analysis of variance was performed. The results revealed a main effect for relevancy, \( F(2,36) = 18.8, p < .01 \), thereby validating the manipulation. There was also a main effect for topics, \( F(3,108) = 3.49, p < .05 \), and a topics X relevancy interaction, \( F(6,108) = 2.23, p < .05 \). No other interactions nor main effects were significant.

**Subjects' Ascriptions of the Target Persons' Attitudes**

Mean attitude perceptions of the three target types are graphed by relevancy condition in Figures 1-4 corresponding to the energy, introductory psychology, pollution and junk foods topics, respectively. As expected, the patterning of means suggests a linear relationship between the behaviors of the target person and subjects' perceptions of the target persons' attitudes. Most importantly, the nature of this linear relationship appears to be modified by the relevancy manipulation. The data were analyzed as a 4 (topics) x 3 (target type) x 3 (relevancy) mixed analysis of variance with the latter as a between subjects factor. The results of this ANOVA are presented in Table 3. The lack of a significant main effect for relevancy was expected since the positive-behavior target case was expected to be affected by relevancy information in the opposite direction of the effect of relevancy on the negative-behavior target case. The significant target-type main effect simply attests to the
### TABLE 2

Mean of Subjects' Predictions of the Absolute Difference Between $p(B|A)$ and $p(B|\bar{A})$ multiplied by 100 and Averaged Over the Eight Behaviors by Relevancy Condition and Topic

<table>
<thead>
<tr>
<th>Relevancy Condition</th>
<th>Energy</th>
<th>Introductory Psychology</th>
<th>Pollution</th>
<th>Junk Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>39.8</td>
<td>37.0</td>
<td>36.6</td>
<td>31.7</td>
</tr>
<tr>
<td>Natural</td>
<td>34.4</td>
<td>26.9</td>
<td>20.4</td>
<td>23.5</td>
</tr>
<tr>
<td>Low</td>
<td>18.0</td>
<td>18.6</td>
<td>12.2</td>
<td>18.0</td>
</tr>
</tbody>
</table>

Note: Number of data points constituting each mean = 16.
Figure 1

Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Energy Topic

Note: Higher numbers on the 15 point attitude measure indicate more agreement with the belief that there is an energy shortage.
Figure 2

Assignments of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Introductory Psychology Topic

Note: Higher numbers on the 15 point attitude measure indicate a more favorable attitude.
Ascriptions of the Target Persons' Attitudes as Functions of Target Type and Relevancy Information for the Pollution Topic

Note: Higher numbers on the 15 point attitude measure indicate a more favorable attitude.
Figure 4

Ascriptions of the Target Person’s Attitudes as Functions of Target Type and Relevancy Information for the Junk Foods Topic

Note: Higher numbers on the 15 point attitude measure indicate a more favorable attitude.
<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy (R)</td>
<td>2</td>
<td>3.02</td>
<td>1.13</td>
<td>&gt; .25</td>
</tr>
<tr>
<td>Subjects (S)/R</td>
<td>45</td>
<td>2.67</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Topic (T)</td>
<td>3</td>
<td>15.91</td>
<td>5.1</td>
<td>&gt; .01</td>
</tr>
<tr>
<td>RXT</td>
<td>6</td>
<td>6.24</td>
<td>2.0</td>
<td>.08</td>
</tr>
<tr>
<td>SXT/R</td>
<td>135</td>
<td>3.12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Target Type (TAR)</td>
<td>2</td>
<td>17.61</td>
<td>10.3</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>RXTAR</td>
<td>4</td>
<td>6.21</td>
<td>2.95</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>SXTAR/R</td>
<td>90</td>
<td>2.13</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TXTAR</td>
<td>6</td>
<td>2.12</td>
<td>2.9</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>RXTXTAR</td>
<td>12</td>
<td>4.51</td>
<td>6.1</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>SXTXTAR/R</td>
<td>270</td>
<td>0.74</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lin(R)XLin(TAR)XT</td>
<td>3</td>
<td>13.2</td>
<td>20.3</td>
<td>.001</td>
</tr>
<tr>
<td>Lin(R)XQuad(TAR)XT</td>
<td>3</td>
<td>1.5</td>
<td>2.3</td>
<td>.10</td>
</tr>
<tr>
<td>SXTXLin(TAR)/R</td>
<td>135</td>
<td>0.65</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Residual</td>
<td>6</td>
<td>1.68</td>
<td>2.03</td>
<td>.11</td>
</tr>
<tr>
<td>SXTXTQuadTAR/R</td>
<td>135</td>
<td>0.83</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
impact of knowledge of another person's behavior in ascribing attitudes to that person. The significant Relevancy X Target-type interaction lends support to the general hypothesis that subjects' perceptions of the target persons' attitudes were affected by relevancy information. However, the significant three-way interaction indicates that the effect of relevancy information on subjects' perceptions of the target persons' attitudes was not the same across topics. In general, it was expected that the linear effect of the target cases (using 1, 0, -1 for the 8 positive, 4 positive-4 negative and 8 negative-behavior target cases, respectively) would be modified by the linear effect of relevancy information (using 1, 0, -1 for high, natural and low-relevancy information, respectively). Inspection of Figures 1-4 suggests that this linear X linear interaction exists but is modified by a failure to obtain the linear (relevancy) effect for the junk foods topic. To test this, the three-way interaction was reduced to its four possible three degree of freedom interaction tests of:

- Linear (relevancy) X linear (target type) X topic;
- Linear (relevancy) X quadratic (target type) X topic;
- Quadratic (relevancy) X linear (target type) X topic; and
- Quadratic (relevancy) X quadratic (target type) X topic.

As shown in Table 3, only the linear (relevancy) X linear (target type) X topic interaction was significant.

In addition to these analyses, a set of regression analyses was conducted using each subjects' average perceived relevance [i.e., subjects' predictions of p(B|A) - p(B|A)] across the eight behaviors of a topic as the predictor variable. The obtained correlations,
slopes and intercepts are reported in Table 4. The results of this analysis show that, for the negative-behavior target person, six of the twelve topic-relevancy combinations produced significant relationships between perceived relevancy and attitude ascriptions. For the positive-behavior target person, four of the topic-relevancy combinations produced significant relationships between perceived relevancy and attitude ascriptions. Each of the significant slopes were in the expected direction (i.e., as relevancy increased for the actions of the negative-behavior target person, ascriptions of attitude favorability decreased while the reverse held true for the positive-behavior target person). The mixed-behavior target cases required a somewhat different analysis than using overall perceived relevancy as the predictor of attitude. For the mixed-behavior target cases, regression analyses were performed using each subject's average perceived relevancy of the mixed-behavior target person's four positive behaviors minus that subject's average perceived relevancy of the mixed-behavior target person's four negative behaviors as the predictor variable. This analysis was conducted on each topic-relevancy combination and the correlations, slopes and intercepts are reported in Table 5. These results revealed a significant relationship between the perceived relevance of the behaviors (relevance of positive minus relevance of negative) and attitude ascriptions toward the mixed-behavior target type in eight of the twelve topic-relevancy combinations. Each of the significant slopes was in the expected direction (i.e., as the relevancy of positive minus negative behaviors increased, ascriptions of attitude favorability increased).
Regression Analyses on Subjects' Ascriptions of the Negative and Positive-Behavior Target Persons' Attitudes Using Perceived Relevancy as the Predictor Variable

<table>
<thead>
<tr>
<th>Topic and Relevancy Condition</th>
<th>Negative-Behavior Target Person</th>
<th>Positive-Behavior Target Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.61*</td>
<td>.36</td>
</tr>
<tr>
<td>Slope</td>
<td>-.18</td>
<td>.10</td>
</tr>
<tr>
<td>Intercept</td>
<td>12.2</td>
<td>8.76</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.55*</td>
<td>.85*</td>
</tr>
<tr>
<td>Slope</td>
<td>-.21</td>
<td>.55</td>
</tr>
<tr>
<td>Intercept</td>
<td>12.13</td>
<td>-7.12</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.41</td>
<td>.38</td>
</tr>
<tr>
<td>Slope</td>
<td>-.22</td>
<td>.19</td>
</tr>
<tr>
<td>Intercept</td>
<td>.13</td>
<td>.12</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.38</td>
<td>.32</td>
</tr>
<tr>
<td>Slope</td>
<td>-.11</td>
<td>.10</td>
</tr>
<tr>
<td>Intercept</td>
<td>9.12</td>
<td>7.19</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.81*</td>
<td>.22</td>
</tr>
<tr>
<td>Slope</td>
<td>-.36</td>
<td>.17</td>
</tr>
<tr>
<td>Intercept</td>
<td>15.72</td>
<td>5.70</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.57*</td>
<td>.53*</td>
</tr>
<tr>
<td>Slope</td>
<td>-.24</td>
<td>.20</td>
</tr>
<tr>
<td>Intercept</td>
<td>11.51</td>
<td>5.52</td>
</tr>
<tr>
<td>Pollution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>-.67*</td>
<td>.32</td>
</tr>
<tr>
<td>Slope</td>
<td>-.22</td>
<td>.07</td>
</tr>
<tr>
<td>Intercept</td>
<td>16.22</td>
<td>10.45</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.28</td>
<td>.53*</td>
</tr>
<tr>
<td>Slope</td>
<td>.12</td>
<td>.23</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.79</td>
<td>7.92</td>
</tr>
<tr>
<td>Topic and Relevancy</td>
<td>Condition</td>
<td>Target Person</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td>Correlation</td>
<td>-.67*</td>
</tr>
<tr>
<td></td>
<td>Slope</td>
<td>-.62</td>
</tr>
<tr>
<td></td>
<td>Intercept</td>
<td>14.7</td>
</tr>
<tr>
<td>Junk Foods</td>
<td>High Relevancy</td>
<td>Correlation</td>
</tr>
<tr>
<td></td>
<td>Slope</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>Intercept</td>
<td>8.27</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td>Correlation</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>Slope</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>Intercept</td>
<td>6.61</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td>Correlation</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>Slope</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>Intercept</td>
<td>6.57</td>
</tr>
</tbody>
</table>

* p < .05, df = 14, based on the null hypothesis that the correlation and slope = 0.

Note: Higher values of the predictor variable (perceived relevance) indicate a stronger relationship between the target persons' behaviors and the attitude or belief. Higher values of the outcome variable (attitude) represented a more favorable attitude (or stronger endorsement of the belief).
<table>
<thead>
<tr>
<th>Topic</th>
<th>Energy</th>
<th>Introductory Psychology</th>
<th>Pollution</th>
<th>Junk Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Relevancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.43*</td>
<td>.85*</td>
<td>.55*</td>
<td>.06</td>
</tr>
<tr>
<td>Slope</td>
<td>.46</td>
<td>.29</td>
<td>.26</td>
<td>.09</td>
</tr>
<tr>
<td>Intercept</td>
<td>6.91</td>
<td>7.40</td>
<td>10.08</td>
<td>11.02</td>
</tr>
<tr>
<td><strong>Natural Relevance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.77*</td>
<td>.79*</td>
<td>.64*</td>
<td>-.29</td>
</tr>
<tr>
<td>Slope</td>
<td>.21</td>
<td>.32</td>
<td>.25</td>
<td>-.46</td>
</tr>
<tr>
<td>Intercept</td>
<td>7.58</td>
<td>8.26</td>
<td>9.58</td>
<td>10.69</td>
</tr>
<tr>
<td><strong>Low Relevancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.16</td>
<td>.81*</td>
<td>.66*</td>
<td>-.40</td>
</tr>
<tr>
<td>Slope</td>
<td>.23</td>
<td>.32</td>
<td>.41</td>
<td>1.53</td>
</tr>
<tr>
<td>Intercept</td>
<td>11.89</td>
<td>8.17</td>
<td>8.03</td>
<td>11.04</td>
</tr>
</tbody>
</table>

* p < .05, df = 46, based on the null hypothesis that the correlation and slope = 0.

Note: Higher values of the predictor variable represent greater perceived relevance of the positive compared to the negative behaviors of the target person. Higher numbers on the outcome variable represent greater attitude favorability ascriptions toward the target person.
Subjects' Confidence in Their Ascriptions of the Targets' Attitudes

Table 6 presents subjects' mean confidence in their attitude inferences by relevancy condition, topic and, target type. The confidence data were analyzed as a 4 (topics) X 3 (target type) X 3 (relevancy) mixed analysis of variance with the latter a within subjects factor. Table 7 presents the results of this analysis. The fact that relevancy had no overall main effect and that the relevancy X target-type interaction was significant lends support to the relative-relevancy model of confidence proposed earlier. Recall that the relative-relevancy model proposed that confidence in one's ability to ascribe an attitude is a function of the discrepancy between the relevancy of positive behaviors and the relevancy of the negative behaviors. The relative-relevancy model, therefore, proposes that relevancy information will have the same impact on the positive-behavior target cases as the negative-behavior target cases (where increasing relevancy increases confidence) but no impact on the mixed-behavior target cases. The total-relevancy model, however, predicted the same effect for relevancy information across target cases. A more precise test of the relative-relevancy model is contained in the linear (relevancy) X quadratic (target type) interaction term. That is, the relative-relevancy model predicts a quadratic relationship relating target type to confidence such that the positive and negative-behavior target cases should produce higher confidence scores than the mixed-behavior target case and the magnitude of this effect should be a linear function of relevancy information. Note, however, that there is a significant three-way interaction, indicating that the manner in
TABLE 6

Subjects' Mean Confidence in Their Ascriptions of the Target Persons' Attitudes as Functions of Topic, Relevancy Condition and Target Type

<table>
<thead>
<tr>
<th>Topic and Target Type</th>
<th>Relevancy Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>11.2</td>
</tr>
<tr>
<td>Mixed</td>
<td>4.9</td>
</tr>
<tr>
<td>Positive</td>
<td>11.0</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>9.8</td>
</tr>
<tr>
<td>Mixed</td>
<td>4.8</td>
</tr>
<tr>
<td>Positive</td>
<td>11.0</td>
</tr>
<tr>
<td>Pollution</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>11.9</td>
</tr>
<tr>
<td>Mixed</td>
<td>7.1</td>
</tr>
<tr>
<td>Positive</td>
<td>12.0</td>
</tr>
<tr>
<td>Junk Foods</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>5.9</td>
</tr>
<tr>
<td>Mixed</td>
<td>3.8</td>
</tr>
<tr>
<td>Positive</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Note: Higher numbers indicate more confidence on the 15-point scale.
<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Mean Square</th>
<th>F</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy (R)</td>
<td>2</td>
<td>45</td>
<td></td>
<td>31.34</td>
<td>.97</td>
<td>&gt; .50</td>
</tr>
<tr>
<td>Subjects (S)/R</td>
<td>45</td>
<td>-</td>
<td></td>
<td>32.39</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Topic (T)</td>
<td>3</td>
<td>135</td>
<td></td>
<td>186.35</td>
<td>36.4</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>RXT</td>
<td>6</td>
<td>135</td>
<td></td>
<td>9.86</td>
<td>1.89</td>
<td>&gt; .08</td>
</tr>
<tr>
<td>SXT/R</td>
<td>135</td>
<td>-</td>
<td></td>
<td>5.21</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Target Type (TAR)</td>
<td>2</td>
<td>90</td>
<td></td>
<td>274.36</td>
<td>20.07</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>RXTAR</td>
<td>4</td>
<td>90</td>
<td></td>
<td>78.35</td>
<td>5.7</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>SXTAR/R</td>
<td>90</td>
<td>-</td>
<td></td>
<td>13.67</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TXTAR</td>
<td>6</td>
<td>270</td>
<td></td>
<td>34.22</td>
<td>8.31</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>RXTXTAR</td>
<td>12</td>
<td>270</td>
<td></td>
<td>16.96</td>
<td>3.8</td>
<td>&lt; .011</td>
</tr>
<tr>
<td>SXTXTAR/R</td>
<td>270</td>
<td>-</td>
<td></td>
<td>4.46</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quad(TAR)XLin(R)XT</td>
<td>3</td>
<td>135</td>
<td></td>
<td>41.6</td>
<td>11.47</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Quad(TAR)XQuad(R)XT</td>
<td>3</td>
<td>135</td>
<td></td>
<td>7.27</td>
<td>2.0</td>
<td>.15</td>
</tr>
<tr>
<td>SXQuad(TAR)XT/R</td>
<td>135</td>
<td>-</td>
<td></td>
<td>3.63</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Residual</td>
<td>6</td>
<td>135</td>
<td></td>
<td>9.45</td>
<td>1.78</td>
<td>.09</td>
</tr>
<tr>
<td>SXLin(TAR)XT/R</td>
<td>135</td>
<td>-</td>
<td></td>
<td>5.29</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
which relevancy information modified subjects' confidence across the target types varied across topics. Consequently, the three-way interaction was partitioned into its four possible three degree of freedom interaction tests of: Linear (relevancy) X linear (target type) X topic; Linear (relevancy) X quadratic (target type) X topic; Quadratic (relevancy) X quadratic (target type) X topic; and Quadratic (relevancy) X linear (target type) X target. Consistent with the predicted pattern, only the linear (relevancy) X quadratic (target type) X topic interaction was significant. As with the attitude results, the interaction with topic appears to be due to a failure of relevancy to have the predicted linear effects on the junk foods topic.

In addition to these analyses, a set of regression analyses was performed on subjects' confidence using each subjects' perceived relevancy averaged over the eight behaviors of a topic as the predictor. The resultant correlations, slopes and intercepts within each relevancy-topic combination are reported in Table 8 for all three target types. These results show that subjects' confidence in their ascriptions of the positive-behavior target persons' attitudes were significantly related to subjects' perceived relevancy in six of the twelve topic-relevancy cells. Subjects' confidence in their ascriptions of the negative-behavior target persons' attitudes were significantly related to subjects' perceived relevancy in four of the topic-relevancy cells. For the mixed-behavior target persons, subjects' confidence in their attitude ascriptions were significantly related to subjects' perceived relevancy in only one of the topic-relevancy cells (pollution, low relevancy).
**TABLE 8**

Regression Analyses on Subjects' Confidence in Their Ascriptions of the Target Persons' Attitudes Using Average Perceived Relevancy as the Predictor

<table>
<thead>
<tr>
<th>Topic and Relevancy Condition</th>
<th>Negative-Behavior Target Person</th>
<th>Mixed-Behavior Target Person</th>
<th>Positive-Behavior Target Person</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation</td>
<td>Slope</td>
<td>Intercept</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td>.47</td>
<td>.11</td>
<td>6.8</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td>.66*</td>
<td>.13*</td>
<td>5.4</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td>.52*</td>
<td>.12*</td>
<td>4.7</td>
</tr>
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<td>Introductory Psychology</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td>.47</td>
<td>.18</td>
<td>2.9</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td>.80</td>
<td>.34*</td>
<td>-4.2</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td>.72</td>
<td>.31</td>
<td>1.3</td>
</tr>
<tr>
<td>Pollution</td>
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<td></td>
</tr>
<tr>
<td>High Relevancy</td>
<td>.66*</td>
<td>.19</td>
<td>4.7</td>
</tr>
<tr>
<td>Natural Relevancy</td>
<td>.75</td>
<td>.32*</td>
<td>4.2</td>
</tr>
<tr>
<td>Low Relevancy</td>
<td>.70</td>
<td>.55</td>
<td>.19</td>
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<tr>
<td>Junk Foods</td>
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<td></td>
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<tr>
<td>High Relevancy</td>
<td>-.10</td>
<td>-.03</td>
<td>6.9</td>
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<tr>
<td>Natural Relevancy</td>
<td>.19</td>
<td>.11</td>
<td>3.5</td>
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<tr>
<td>Low Relevancy</td>
<td>-.32</td>
<td>.14</td>
<td>4.9</td>
</tr>
</tbody>
</table>

*p < .05, df = 14, based on the null hypothesis that the correlation and slope = 0.

Note: Higher values of the predictor variable (perceived relevancy) indicate a stronger relation between the behaviors and the attitude (or belief endorsement). Higher values of the outcome variable indicate more confidence in the attitude ascription the 15-point confidence scale.
Discussion

Subjects who were led to believe (via manipulations of conditional probabilities) that particular behaviors had high, moderate or low relevance to particular attitudes tended to modify their inferences of the attitudes of persons who were described by patterns of those behaviors. Specifically, the linear relationship existing between target persons' behaviors and subjects' perceptions of attitude favorability was linearly modified by relevancy information. In general, this linear interaction took the form of increasing the relationship between the target persons' behaviors and subjects' perceptions of the target persons' attitudes as relevancy increased. However, this linear interaction also interacted with topics and it appears that the junk foods topic yielded no systematic effect for relevancy information. Perceived relevancy (i.e., subjects' own estimates of the conditional probabilities) also tended to be related to subjects' perceptions of the target persons' attitudes. Subjects' perceptions of the positive, negative and mixed behavior target persons' attitudes produced average within-cell correlations of .36, -.36 and .42, respectively. Again, however, the junk foods topic failed to follow the overall pattern.

Subjects' confidence in their ability to ascribe an attitude to the target persons' was modified by the relevancy manipulation. Specifically, the quadratic relationship between target types (all positive, mixed, all negative behaviors) and confidence was linearly related to relevancy. The pattern of this quadratic (target type) X linear (relevancy) interaction indicates that subjects' confidence in
their ability to ascribe attitudes to the positive and negative-behavior target case increased with relevancy while their confidence in ascribing an attitude to the mixed-behavior target case was invariant to the relevancy manipulations. This patterning of the confidence data did not support a total-relevancy model wherein confidence is a function of the total relevancy of the available information but did support a model of relative-relevancy as described earlier. Again, however, the junk foods topic failed to replicate the overall pattern with regard to the relevancy manipulation. Subjects' perceived relevance also tended to be related to subjects' confidence in their attitude ascriptions of the positive and negative-behavior target cases. The average within all correlations between perceived relevancy and confidence for the positive and negative-behavior target cases were .43 and .51, respectively. The junk foods topic showed no relationship between relevancy and confidence. The consistent failure of the junk foods topic to be related to relevancy is explored in more detail in the discussion of Experiment 2. As expected from the relative-relevancy model, the average within-cell correlation was only -.03 between perceived relevancy and confidence for the mixed-behavior target case.
EXPERIMENT 2: SELF PERCEPTION OF ATTITUDES

Employing the manipulations of Experiment 1 to test for effects on subjects' inferences of their own attitudes requires a few additional suppositions. First, it is assumed that subjects will, at least in part, rely on their past behaviors as a source of information in determining their own attitudes. This contrasts with Experiment 1 where the behaviors were those of another individual and those behaviors were specifically provided for the subjects. In addition, it is assumed that the behaviors selected in the pilot studies, while not necessarily exhaustive, represent much of the possible pool of behaviors that an individual uses in making self attitude-inferences on these topics.

It became clear in Pilot Study 2 that none of the topics included only behaviors that subjects uniformly engage in or do not engage in. Consequently, in Experiment 2, subjects were asked to indicate the behaviors that they engage in. Unlike the mixed-behavior target cases in Experiment 1 however, where the target engaged in an equal number of positive and negative behaviors, subjects vary in the number of favorable and unfavorable behaviors that they engage in. This allowed for a somewhat different statistical analysis. Specifically, it was expected that, as the number of positive minus negative behaviors increases, attitude favorability should increase and that the linear slopes relating the number of positive minus negative
behaviors to attitude favorability should increase with increasing relevancy.

It was noted in Experiment 1 that relevancy information has little impact on subjects' confidence in their ascriptions of the attitudes of a person who engages in an equal number of positive and negative behaviors. It was noted that this finding is not consistent with a total relevancy model wherein confidence is a direct function of the relevancy of all information. Instead, this finding tended to support a relative-relevancy model—wherein confidence is a function of the discrepancy between the total relevance of the positive behaviors and the total relevance of the negative behaviors. On the basis of the data in Pilot Study 2, it was expected that most subjects would not indicate that they engage in an equal number of the eight positive and negative behaviors on a topic in Experiment 2. Thus, if confidence is a function of the discrepancy between the total relevance of positive behaviors and the total relevance of negative behaviors, manipulations of relevancy information across the eight behaviors were expected to have an overall effect on confidence in Experiment 2. That is, as relevancy increases across the eight behaviors, the discrepancy between the total relevance of positive behaviors and the total relevance of negative behaviors should increase, thereby increasing confidence.

Unlike Experiment 1, Experiment 2 was a completely between subjects design. A between subjects design seemed necessary because, even though there were no effects for the order of topics in Experiment 1, suspicion that the research concerned the subjects' attitudes and
behaviors would seem especially problematic with repeated presentations of different topics.

Method

Subjects and Design

One hundred and thirty-seven introductory psychology students at Ohio State University served as subjects for class credit. Subjects were randomly assigned to the nine conditions with 15 subjects per condition. Two subjects were eliminated from the analyses due to a failure to respond to one or more of the questions. The design was a 3 (topics) X 3 (relevancy) between subjects.

Materials and Procedure

Subjects were presented with one of the nine booklets shown in Appendices H, I, J, K, L, M, N, O and P. These appendices correspond to the high, natural and, low-relevancy conditions of the energy topic, the high, natural and, low-relevancy conditions of the pollution topic and the high, natural and, low-relevancy conditions of the junk foods topic, respectively. Subjects were given 50 minutes to complete their booklet. All subjects returned their booklets within the allotted time (mean time to completion = 21 minutes). After all booklets were returned, subjects were asked to orally indicate what the study was about. In the resultant discussion, the subjects focused completely on the cover story wherein many subjects hypothesized that "intelligent" people would be best at predicting the outcome of surveys. The rival hypothesis generated by a majority of those offering a hypothesis was that "experienced" people would be best at predicting the outcome of surveys. After this discussion, subjects were debriefed. The
debriefing included the fact that the true interest of the study was how the supposed outcome of the survey that they read about might have influenced their perceptions of their own attitudes.

Results

Manipulation Checks

As in Experiment 1, a check of the data revealed that, in no case were the differences between subjects' estimates of $p(B|A)$ and $p(B|\bar{A})$ in a different direction than that of the conditional probabilities that subjects were provided with. Thus, subjects' estimates were scored as the absolute difference between $p(B|A)$ and $p(B|\bar{A})$. Subjects' estimates were averaged across the eight behaviors of a topic. Table 9 presents the means for those data by topic and relevancy condition. A 3 (topics) X 3 (relevancy) between subjects analysis of variance was performed on that data. The results revealed a significant main effect for topics, $F (2,126) = 5.66$, $p < .01$, and, a significant main effect for relevancy, $F (2,126) = 15.24$, $p < .01$. The Topics X Relevancy interaction was not significant, $F (4,126) = 1.64$, $p > .10$.

Subjects' Behaviors

Subjects' indications of the behaviors that they engage in were particularly important for subsequent analyses. Relying on a self-report measure created the possibility that subjects' indications of the behaviors that they engage in might be affected by the relevancy manipulations. Further, since relevancy manipulations might affect which behaviors the subjects report engaging in (as opposed to simply the number of behaviors) a "behavioral index" was constructed. The
<table>
<thead>
<tr>
<th>Relevancy Condition</th>
<th>Topic</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy</td>
<td>Pollution</td>
<td>Junk Foods</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>41.5</td>
<td>36.6</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td>33.2</td>
<td>21.2</td>
<td>22.3</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>18.1</td>
<td>14.2</td>
<td>17.1</td>
<td></td>
</tr>
</tbody>
</table>

Note: Number of subjects constituting each mean = 15
behavioral index consisted of a count of the number of positive behaviors that a subject reported engaging in, plus the number of negative behaviors that a subject reported not engaging in, minus the number of positive behaviors that a subject reported not engaging in, minus the number of negative behaviors that a subject reported engaging in. This quantity was calculated for each subject and divided by 8. Thus, the score could vary from -1 to +1. The question of whether relevancy information affected subjects' self-reports of behavior, however, is not a simple test on the behavioral index with relevancy conditions as an independent variable. Instead, if relevancy information affected behavioral reports it would most likely take a form wherein subjects who initially had a favorable attitude report engaging in more positive behaviors as relevancy increases while the reverse pattern would occur for subjects who initially hold an unfavorable attitude. Consequently, subjects were partitioned into two groups, those whose attitudes were favorable on the topic (9 or greater on the 15-point attitude scale) and those who are unfavorable on the topic (7 or less on the attitude scale) with those subjects indicating neutral attitudes (8) eliminated from the analysis. For the energy topic, there were 7, 6 and 8 unfavorable subjects and 7, 6 and 7 favorable subjects in the high, natural and low-relevancy conditions, respectively. A 2 (favorable, unfavorable) X 3 (relevancy) between subjects, unweighted means analysis of variance on the behavioral index for the energy topic yielded a significant main effect for attitude, \( F (1,35) = 9.5, p < .005 \), no effect for relevancy, \( F (2,35) = 1.76, p > .10 \), and no interaction, \( F (2,35) = 1.84, p > .10 \). For the pollution topic, there were 12, 11,
and 14 favorable subjects and 3, 3 and 0 unfavorable subjects in the high, natural and low-relevancy conditions, respectively. Thus, the pollution topic was analyzed only for the favorable subjects. A one-way analysis of variance, with three levels of relevancy, on these data yielded a nonsignificant $F(2,34) = 1.31, p > .20$. The junk foods topic had 12, 13 and 11 favorable subjects and 0, 0 and 2 unfavorable subjects in the high, natural and low-relevancy conditions, respectively. Using only the favorable subjects, a one-way analysis of variance (high, natural and low-relevancy) on the behavioral index for the junk foods topic yielded a nonsignificant $F(2,33) = 2.37, p > .10$. Thus, it appears that relevancy did not affect subjects' indication of the behaviors that they engage in. Table 10 reports the mean of subjects' scores on the behavioral index for each topic and relevancy condition.

**Attitude Measure**

Subjects' attitude responses were analyzed by a 3 (topics) X 3 (relevancy) between subjects analysis of variance. Subjects' mean attitudes for each topic and relevancy condition, are reported in Table 11. Table 12 presents the results of the analysis of variance. As discussed earlier, there were no expectations regarding an overall effect of relevancy information on attitudes because of the diverse patterning of behaviors among subjects. That is, relevancy manipulations would have opposite effects on subjects who engage in positive behaviors as opposed to subjects who engage in negative behaviors.
<table>
<thead>
<tr>
<th>Relevancy</th>
<th>Energy</th>
<th>Pollution</th>
<th>Junk Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>.08</td>
<td>-.13</td>
<td>-.33</td>
</tr>
<tr>
<td>Natural</td>
<td>.07</td>
<td>-.03</td>
<td>-.28</td>
</tr>
<tr>
<td>Low</td>
<td>.03</td>
<td>.02</td>
<td>-.35</td>
</tr>
</tbody>
</table>

Note: Number of subjects per mean = 15
TABLE II

Subjects' Mean Attitudes as Functions of Topic and Relevancy Conditions (Experiment 2)

<table>
<thead>
<tr>
<th>Relevancy</th>
<th>Energy</th>
<th>Pollution</th>
<th>Junk Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>10.3</td>
<td>11.3</td>
<td>10.9</td>
</tr>
<tr>
<td>Natural</td>
<td>8.1</td>
<td>11.4</td>
<td>10.9</td>
</tr>
<tr>
<td>Low</td>
<td>7.4</td>
<td>12.0</td>
<td>10.7</td>
</tr>
</tbody>
</table>

Note: Higher values represent a more favorable attitude (or a stronger endorsement of the belief in the case of the energy topic).
Number of subjects per mean = 15.
## TABLE 12
Analysis of Variance on Subjects' Attitudes (Experiment 2)

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Squares</th>
<th>F</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy</td>
<td>2</td>
<td>126</td>
<td>7.8</td>
<td>.49</td>
</tr>
<tr>
<td>Topic</td>
<td>2</td>
<td>126</td>
<td>108.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Relevancy X Topic</td>
<td>4</td>
<td>126</td>
<td>14.2</td>
<td>.87</td>
</tr>
<tr>
<td>Subjects Within Group</td>
<td>126</td>
<td>16.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As a result of this consideration, regression analyses were performed on each relevancy level of each topic using each subjects' score on the behavioral index as the predictor of subjects' attitudes. It was noted earlier that relevancy manipulations should affect the slope relating behaviors to attitudes. Specifically, the low-relevancy condition should produce a flatter slope relating the behavioral index to attitude favorability than the slope of the natural-relevancy condition which, in turn, should be flatter than the slope of the high-relevancy condition: The results of these regression analyses for the energy, pollution and junk food topics are graphed in Figures 5, 6 and 7 respectively. First, it is noted that the obtained slopes tend to conform to the hypothesized pattern wherein the steepest slopes are associated with the highest relevancy conditions. Since the slope relating subjects' scores on the behavioral index to subjects' attitudes was a regression problem with only one predictor variable and one criterion variable, a test of the differences between slopes is a test of the differences between the standardized regression coefficients using the Fisher r to z transformation (Hayes, 1963, p. 530). Within each topic, an initial chi-square test was conducted to test the null hypothesis that the three slopes (representing high, natural and low relevancy) are equal. The results revealed that, only for the energy topic were the three slopes significantly different ($\chi^2(2) = 8.07$, $p < .02$, $\chi^2(2) = .34$, $p > .50$, $\chi^2(2) = 0$, $p > .9$ for the energy, pollution and junk foods topics, respectively). Individual comparisons between slopes within the energy topic revealed a marginally significant difference between the slope for the high-relevancy condition and the
Figure 5

Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Energy Topic

Note: Higher numbers on the 15 point attitude scale indicate more agreement with the belief that there is an energy shortage. Higher scores on the behavioral index indicate more energy conserving behaviors.
Figure 6

Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Pollution Topic

Note: Higher numbers on the 15 point attitude scale indicate a more favorable attitude toward individual measures to control pollution. Higher numbers on the behavioral index indicate more anti-pollution and fewer pollution behaviors.
Figure 7
Regression Lines Relating the Behavioral Index to Subjects' Attitudes as a Function of Relevancy Information for the Junk Foods Topic

Note: Higher numbers on the 15 point attitude scale indicate a more favorability toward junk foods. Higher numbers on the behavioral index indicate fewer behaviors of consuming junk foods.
slope for the natural-relevancy condition, \( t(26) = 1.61, p = .06 \) (one-tailed), a nonsignificant difference between the slopes of the natural-relevancy condition and the low-relevancy condition, \( t(26) = 1.22, p = .15 \) and a significant difference between the slopes of the high-relevancy condition and the low-relevancy condition, \( t(26) = 2.83, p < .01 \).

**Subjects' Confidence in Their Attitude Responses**

Subjects' mean confidence in their attitude responses is reported in Table 13 by topic and relevancy condition. A 3 (topics) \( \times 3 \) (relevancy) analysis of variance on subjects' confidence is reported in Table 14. The analysis of variance revealed a significant main effect for relevancy and topics but no interaction. However, even though the relevancy \( \times \) topics interaction was not significant, a graph of the linear slopes relating relevancy conditions to confidence in Figure 8 shows a markedly different pattern for the junk foods topic when compared to the energy and pollution topics.

**Discussion**

A model of social perception of attitudes was proposed and tested in Experiment 1. Specifically, it was proposed that an observer of another individual's behaviors is affected by the observer's belief about the base rate of those behaviors among individuals of varying attitudes. In Experiment 1, subjects' beliefs about the base rate (relevancy) of various behaviors of persons with favorable versus unfavorable attitudes (or endorsement versus non-endorsement of a belief) were manipulated. The manipulation of relevancy tended to
TABLE 13

Subjects' Mean Confidence in Their Attitude Responses as Functions of Topic and Relevancy Condition (Experiment 2)

<table>
<thead>
<tr>
<th>Relevancy</th>
<th>Topic</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy</td>
<td>Pollution</td>
<td>Junk Foods</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>9.87</td>
<td>12.00</td>
<td>10.53</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td>9.07</td>
<td>11.13</td>
<td>11.00</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>7.46</td>
<td>10.13</td>
<td>11.07</td>
<td></td>
</tr>
</tbody>
</table>

Note: Higher numbers on the 15 point scale represents more confidence.
### TABLE 14

Analysis of Variance on Subjects' Confidence in Their Attitude Responses (Experiment 2)

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Numerator</td>
<td>Denominator</td>
<td>Square</td>
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</tr>
<tr>
<td>Relevancy</td>
<td>2</td>
<td>126</td>
<td>23.16</td>
<td>3.16</td>
</tr>
<tr>
<td>Topics</td>
<td>2</td>
<td>126</td>
<td>773.36</td>
<td>105.62</td>
</tr>
<tr>
<td>Topics X Relevancy</td>
<td>4</td>
<td>126</td>
<td>9.30</td>
<td>1.27</td>
</tr>
<tr>
<td>Subjects within group</td>
<td>126</td>
<td></td>
<td></td>
<td>7.32</td>
</tr>
</tbody>
</table>
Figure 8
Regression Lines Relating Relevancy Conditions to Subjects' Confidence in their Attitude Responses

Note: The values 3, 2, and 1 were used as the predictor values corresponding to the high, natural and low relevancy conditions, respectively. Higher numbers on the 15-point confidence scale indicate more confidence.
affect subjects' perceptions of the attitudes or beliefs of various target persons. The effect of the relevancy manipulations on subjects' attitude perceptions was somewhat inconsistent across topics. It is not clear under what conditions subjects will utilize relevancy information, but, the evidence suggests that relevancy plays a role in the social perception of attitudes. It appears that relevancy information also has an effect on subjects' confidence in their attitude ascriptions. Specifically, when observers were led to believe that the population base-rates implied a small degree of relationship between a behavior and an underlying attitude, the observers' confidence in their ability to ascribe an attitude on the basis of that behavior was somewhat lower than when observers believed the population base rates indicated a stronger relationship. The confidence data also tended to support a model wherein confidence is a positive function of the discrepancy between the total relevancy of positive behaviors and the total relevancy of the negative behaviors. The confidence data did not support a model wherein confidence is a function of the total relevancy of all of the behaviors.

The fact that relevancy information had no impact on the junk foods topic suggests that the impact of relevancy information on attitude-perception is not highly general across topics. However, that conclusion may be premature given the existence of inadvertent errors in the wording of two of the behaviors in the junk foods topic. Specifically, these two behaviors (eating potato chips and eating candy bars) were worded in terms of "generally or never" and "usually or never" (see p. 147 of Appendix E) as opposed to the intended wording
of "rarely or never" or "seldom or never." This unfortunate wording error existed for both Experiments 1 and 2. In an attempt to assess the extent to which this wording error produced the negative results on the 'junk foods' topic, correlations were recalculated between perceived relevancy and attitude ascriptions toward the positive and negative-behavior target persons in Experiment 1 using only perceived relevancy for the six behaviors that did not have wording problems. The new correlations were consistently higher than those reported in Table 4 and unlike the previous correlations, perceived relevancy was always negatively correlated with attitude ascriptions toward the negative-behavior target case and positively correlated with attitude ascriptions toward the positive-behavior target case. This suggests that the poorly worded items were a source of the negative results on the junk foods topic. However, none of the new correlations were significantly different from zero. Nevertheless, even though the new correlations were not significant, the new correlations do not consider the potential impact of the poorly worded items on subjects' attitude ascriptions. That is, while the new correlations did not use the poorly worded items to determine perceived relevancy (the predictor variable), the impact of the poorly worded items on subjects' attitude ascriptions (the outcome variable) remains as a source of error in the new correlations. Consequently, while keeping in mind the possibility that relevancy effects are not general across topics, the remainder of this discussion section will focus on the other topics.
In experiment 2, the social perception of attitudes model was tested on subjects' perceptions of their own attitudes. For the energy topic, the linear relationship between subjects' behaviors and their attitudes was significantly modified by the relevancy information. Specifically, subjects who were led to believe that their behaviors were highly relevant to their beliefs about the existence of an energy shortage showed a significantly stronger linear relationship between their behaviors and their beliefs than did subjects who were led to believe that their behaviors had low relevancy to their beliefs. Visual inspection of the slopes in Figure 5 suggest that, while subjects who engaged in more energy conserving than energy-wasting behaviors more strongly endorsed the belief that there is an energy shortage in high-relevancy conditions than in low-relevancy conditions, the reverse did not obtain for subjects who engaged in more energy wasting than energy-conserving behaviors. One possible explanation is that subjects who engage in more energy wasting than energy-conserving behaviors perceive the behaviors to be less relevant overall than perceived by subjects who engage in more energy conserving than energy-wasting behaviors. To test this, a correlation was computed between subjects' scores on the behavioral index (where lower values represent more energy wasting than energy-conserving behaviors) and perceived relevancy on the energy topic. The results revealed a significant positive correlation $r (45) = .36, p < .02$, indicating that subjects' who engaged in more energy-wasting behaviors tended to estimate lower values for the relevancy of the energy-related behaviors. This effect might be considered a "defensive estimation" not unlike the defensive
attributions often found in the actor-observer literature (e.g., Synder, Stephan and Rosenfield, 1976; Wells, Petty, Harkins, Kagehiro and Harvey, 1977) wherein information relevant to the presentation of oneself is distorted to instill a positive presentation of oneself. On the other hand, subjects who engage in energy wasting behaviors may be doing so because of their perceptions that the behaviors are not highly relevant to their energy conservation beliefs.

The pollution topic yielded a patterning of slopes wherein subjects who engaged in more pollution-related behaviors than anti-pollution-related behaviors had a more favorable attitude toward pollution control in the high-relevancy condition than in the low-relevancy condition and (unlike the energy topic) the reverse held for subjects who engaged in more anti-pollution-related behaviors than pollution-related behaviors. However, the high-relevancy condition slope was not significantly different from the low relevancy slope indicating that the interaction effect is not reliable. Nevertheless, it should be noted that the slopes followed the predicted pattern. Relevancy manipulations had a significant linear effect on subjects' confidence in their ability to ascribe an attitude to themselves regarding energy and pollution.

Conclusions and Implications

Taken together the results of the two experiments provide evidence for Bem's (1967) proposition that the process underlying inferences of one's own attitudes is functionally similar to the process by which an outside observer makes inferences of another persons' attitudes. The data suggest that the attitude inference process is
influenced by perceivers' beliefs in which particular attitudes are covarying with the behaviors and the degree of that covariation. Of course, in naturalistic settings, covariation information is not learned by means of reading surveys of attitudes and behaviors but covariation information might be learned through a labeling process wherein observation of a given behavior (e.g., seeing a neighbor waxing his car) is paired with a verbal label by one's parents (e.g., "He must really like that car") or the actor himself ("I really like this car"). Repeated cooccurrence of such attitudes (labels) and behaviors thus creates covariation-type information. It is probably not necessary that an individual experience a large number of cooccurrences of each label with each behavior since people appear somewhat willing to infer the general from the particular (Kahneman and Tversky, 1973). The concepts of stimulus and response generalization further suggest that natural development of covariation information does not require that an individual had to be exposed to a given behavior-attitude pairing at some point in his/her life in order to make an attitude inference from that behavior. Instead, in many cases individuals are likely to have confidence in inferring a given attitude from a given behavior because of the behavior's perceived similarity to another behavior for which the individual has covariation information.

The process by which covariation information is acquired in naturalistic settings, as described above, suggests that covariation beliefs might have relatively powerful effects on behavior. Specifically, if behavioral choice is influenced by the actor's suppositions regarding the type of inference (e.g., good person vs. bad person)
that others or that the actor himself will make, then covariation information might serve to inhibit some behaviors and enhance other behaviors. Specifically, for a behavior normally associated with an attitude that a person judges as undesirable, perceived high-covariation between the behavior and the attitude would inhibit the person from engaging in the behavior more than would perceived low-covariation. On the other hand, a behavior that is associated with an attitude that a person judges as desirable would increase in likelihood as the person's perception of the degree of covariation increased.

Finally, the process of the natural acquisition of covariation information and the effects of that information on behavioral choice, taken together as described above, might constitute a "self-perpetuating" system. That is, beliefs that a particular attitude inference will follow from one's particular actions (high covariation) will serve to make persons who desire to be associated with that attitude engage in that behavior more than persons who desire to not be associated with that attitude. In doing so, peoples' beliefs in covariation would serve to affect actual covariation between their behavior and their reports of attitude which, in turn, would maintain or potentially enhance prior beliefs in the degree of covariation.

The fact that covariation manipulations have opposite effects on subjects who engage in positive behaviors as opposed to those who engage in negative behaviors suggests that such manipulations are of limited use for mass persuasion settings. However, the effect of covariation information on subjects' confidence in what their attitude is represents a somewhat more general effect.
The fact that low-covariation information tended to lower subjects' confidence in their ability to assign themselves an attitude suggests that a low-covariation manipulation might serve to enhance receptivity to a persuasive communication.
FOOTNOTES

1Risk is defined here as the expected deviation between the prediction of a future obtained value and the value actually obtained in the future.

2The James-Stein Estimator has no working definition for what should be considered extreme.

3The topic of religion was not employed in Experiment 1 because of the objections of a particular individual. That individual was the instructor of a class from which the majority of subjects were obtained. The instructor argued that telling people that positive behaviors are no more frequent among those favorable toward religious values than among those unfavorable toward religious values was an intolerable deception.

4The large number of subjects required for this design necessitated the elimination of one topic. A random selection eliminated the introductory psychology topic.
APPENDIX A

QUESTIONNAIRE:

PILOT STUDY 1
PLEASE NOTE:

Pages 80-265 contain small and indistinct print. Filmed as received in the best possible way.

UNIVERSITY MICROFILMS INTERNATIONAL
This study concerns your attitudes and behaviors on several issues. On the next few pages, you will be asked to express your attitude on a scale and list as many behaviors as you can think of that you engage in that are related to each attitude. Topics covered will be energy conservation, physical fitness, pollution, women's movement, religion, introductory psychology, health foods, highway safety, etc.

You are reminded that your cooperation in this questionnaire study is voluntary and that you may withdraw participation at any time from this point on with full credit for participation.

Please sign the bottom of this page if you want to continue with this questionnaire. Signing does not obligate you to complete the questionnaire but rather, it indicates that you fully understand that you may withdraw participation at any time without penalty. This page that you sign will be detached from your answers to the questionnaire so that your answers will remain confidential. That is your answers will not be associated with your name in any way.

_____________ Signature _______________ Date
Some individuals have recently expressed disfavor toward "junk foods" (such as potato chips, Hostess Twinkies, candy bars, etc.). They argue that the overavailability of junk foods detracts an individual from what would otherwise be an acceptable human diet.

What is your attitude toward junk foods?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Very Favorable Somewhat Favorable Neutral Somewhat Unfavorable Very Unfavorable

Suppose that we did not directly ask you what your attitude is toward junk foods. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite cases where you bought a particular food item, turned down a particular food, found a particular food to be pleasantly tasteful or untasteful, etc. Please be specific. Describe each behavior in the boxes on the following page. Describe only one behavior per box.
Thank you for listing your behaviors regarding junk food. Now go back and score each behavior for what our inference should be. That is, place a (+) to the left of the box if the behavior indicates a FAVORABLE ATTITUDE, place a (-) to the left of the box if the behavior indicates an UNFAVORABLE ATTITUDE and place a (o) if the behavior indicates a NEUTRAL ATTITUDE toward junk foods.
The main thesis of the "women's movement" centers on the concept of equality of the sexes.

What is your attitude toward the women's movement?

Very Favorable
Somewhat Favorable
Neutral
Somewhat Unfavorable
Very Unfavorable

Suppose that we did not directly ask you what your attitude is toward the women's movement. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, a male might cite the fact that he opens doors less often (or equally often) for males than for females. A female might cite the fact that she paid (or offered to pay) for her share of expenses on a date, etc. Again, be specific and describe only one behavior per box on the following page.
Now, as before, go back and place a (+) to the left of each behavior if the behavior indicates a FAVOURABLE ATTITUDE toward the women's movement, place a (-) if the behavior indicates an UNFAVOURABLE ATTITUDE toward the women's movement and place a (0) if the behavior indicates a NEUTRAL ATTITUDE toward the women's movement.
Some people have expressed concern dealing with the amount of highway traffic accidents in the last year. They argue that people place their priority with comfort and convenience instead of safety. They feel that measures should be taken to lessen the amount of traffic accidents.

What is your attitude toward government measures to increase highway safety?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Very Favorable Somewhat Favorable Neutral Somewhat Favorable Unfavorable Very Favorable

Suppose that we did not directly ask you how important you feel highway safety is. What behaviors do you engage in while driving a car that would indicate to us what your attitude is? For example, you might cite cases where you check your mirrors infrequently, watch for slippery spots on the road, fail to check the seat belts of the passengers in your car, etc. Please be specific. Describe each behavior in the boxes on the following page. Describe only one behavior per box.
Now, as before, go back and place a (+) to the left of each box if the behavior indicates a FAVORABLE ATTITUDE toward highway safety, place a (-) if the behavior indicates an UNFAVORABLE ATTITUDE toward highway safety and place a (o) if the behavior indicates a NEUTRAL ATTITUDE toward highway safety.
Pollution control has been a major concern for many people. With the increasing population, the problem of pollution control (air, water) has compounded. Greater control should be placed upon society to insure the minimal amount of pollution to exist.

What is your attitude toward pollution control?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Very Favorable Somewhat Favorable Neutral Somewhat Unfavorable Very Unfavorable

Suppose that we did not directly ask you what your attitude is toward pollution control. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite cases where you bought cans containing aerosols, or purchased non-phosphate detergents, walking or riding a bicycle instead of driving, etc. Describe each behavior in the boxes on the following page. Describe only one behavior per box.
Just as before, go back and place a (+) to the left of a box if the behavior indicates a FAVORABLE ATTITUDE, place a (-) to the left of a box if the behavior indicates an UNFAVORABLE ATTITUDE, place a (o) to the left of a box if the behavior indicates a NEUTRAL ATTITUDE toward pollution control.
The conservation of our resources is a problem that we have all been affected by quite recently. It has been requested of us to take several steps to help alleviate the situation at hand. We have been told to closely watch how we make use of our resources (oil, gas, coal, electricity).

What is your attitude toward the conservation of resources?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Very Somewhat Neutral Somewhat Very Favorable Favorable Unfavorable Unfavorable

Suppose that we did not directly ask you what your attitude is toward the conservation of resources. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might have turned your thermostat down, turn your lights on when gone to prevent burglaries, etc. Please be specific. Describe each behavior in the boxes on the following page. Remember, describe only one behavior per box.
Now, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE toward conservation of resources, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE toward conservation of resources, place a (0) to the left of each box that contains a NEUTRAL ATTITUDE toward the conservation of resources.
Experts have engaged in discussion dealing with the question of the value of physical exercise in maintaining good health. To what extent is physical exercise important to maintaining good health?

What is your attitude toward physical exercise?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Very Favorable Somewhat Favorable Neutral Somewhat Unfavorable Very Unfavorable

Suppose that we did not directly ask you what your attitude is toward physical exercise. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite cases where you walk instead of drive to nearby places, you do not participate in intramurals, you jog at night, etc. Please be specific. Describe each behavior in the boxes on the following page. Describe only one behavior per box.
Now, please go back as before and place a (*) to the left of a box if the behavior indicates a FAVORABLE ATTITUDE, place a (-) to the left of a box if the behavior indicates an UNFAVORABLE ATTITUDE, and place a (o) to the left of a box if the behavior indicates a NEUTRAL ATTITUDE towards physical exercise.
Some persons feel that it is not necessary for them to adopt what are commonly referred to as religious values while others feel that they must personally adopt these values.

What is your attitude toward personally adopting religious values?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Very Somewhat Neutral Somewhat Very
Favorable Favorable Unfavorable Unfavorable

Suppose that we did not directly ask you what your attitude is toward religious values. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite instances when you pray at home, go the church or synagogue, neglect religious holidays. Please be specific. Describe each behavior in the boxes on the following page. Describe only one behavior per box.
Now, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE, and place a (o) to the left of each box that contains a behavior that indicates a NEUTRAL ATTITUDE toward religious values.
Wilce Student Health Center provides free health service to all students enrolled full time at Ohio State University. While some people praise these services, others claim that the services are inadequate.

What is your attitude toward Wilce Student Health Center?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Very Somewhat Neutral Somewhat Very Favorable Favorable Unfavorable Unfavorable

Suppose that we did not directly ask you what your attitude is toward Wilce Student Health Center. What behaviors have you engaged in recently that could indicate to us what your attitude is? For example, you might cite instances when you chose to use Wilce Student Health Center versus a private clinic or vice versa, etc. Please be specific. Describe each behavior in the boxes on the following page. Remember, describe only one behavior per box.
Now, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE, and place a (o) to the left of each box that contains a behavior that indicates a NEUTRAL ATTITUDE toward Wilco Student Health Center.
Over 5,000 students take introductory psychology each year at Ohio State University.

What is your attitude toward introductory psychology?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Very Favorable Somewhat Favorable Neutral Somewhat Unfavorable Unfavorable

Suppose that we did not directly ask you what your attitude is toward introductory psychology. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite cases when you chose to read ahead in intro. psych., read for another course instead of reading for psychology, etc. Please be specific. Describe each behavior in the boxes on the following page. Remember, describe only one behavior per box.
Now, once again, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE, place a (0) to the left of each box that contains a behavior that indicates a NEUTRAL ATTITUDE toward introductory psychology.
Sexually explicit situations, movies, 'adult' restaurants, and Columbus' recent introduction to Burlesque has created a new era in sexual entertainment.

What is your attitude toward this type of sexual entertainment?

1 2 3 4 5 6 7 8 9

Very Somewhat Neutral Somewhat Very Favorable Favorable Unfavorable Unfavorable

Suppose that we did not directly ask you what your attitude is toward this type of sexual entertainment. What behaviors have you observed in recently that would indicate to us what your attitude is? For example, you might cite specific cases when you chose to go to a particular movie or not, chose to buy or not buy a specific magazine, etc. Please be specific. Describe each behavior in the boxes on the following page. Remember, describe only one behavior per box.
Now, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE, and place a (0) to the left of each box that contains a behavior that indicates a NEUTRAL ATTITUDE toward this type of sexual entertainment.
Some individuals praise High Street's clothing stores for being reasonably priced with a good selection. Others claim that their hometown stores, or other stores in Columbus, are better than those on High Street.

In general, what is your attitude toward the clothing stores on High Street?

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Suppose that we did not directly ask you what your attitude is toward the clothing stores on High Street. What behaviors have you engaged in recently that would indicate to us what your attitude is? For example, you might cite instances when you bought clothes on High Street, chose not to buy clothes on High Street, etc. Please be specific. Describe each behavior in the boxes on the following page. Remember, describe only one behavior per box.
Now, please go back and place a (+) to the left of each box that contains a behavior that indicates a FAVORABLE ATTITUDE, place a (-) to the left of each box that contains a behavior that indicates an UNFAVORABLE ATTITUDE, and place a (o) to the left of each box that contains a behavior that indicates a NEUTRAL ATTITUDE toward the clothing stores on High Street.
APPENDIX B

QUESTIONNAIRE:

PILOT STUDY 2
Suppose introductory psychology students were asked the following question:

"What is your attitude toward introductory psychology?"

What percentage would say FAVORABLE? __________
What percentage would say UNFAVORABLE? __________

What percentage of introductory psychology students would you expect to engage in the following behaviors?

1. Read ahead of assignments in their introductory psychology course?
2. Pay close attention in class?
3. Frequently miss class?
4. Study psychology before studying for other courses?
5. Read outside materials related to the course?
6. Sign up for more experiments than required in the course?
7. Plan to sign up for more psychology courses?
8. Active participation in class discussions?

Of those who answered FAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______

Of those who answered UNFAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______

INTRODUCTORY PSYCHOLOGY
Now place an "X" beside each behavior of the eight listed that you engage in:

(1) ________
(2) ________
(3) ________
(4) ________
(5) ________
(6) ________
(7) ________
(8) ________
Suppose that introductory psychology students were asked the following question:

"What is your attitude toward religious values?"

What percentage would say FAVORABLE? _________
What percentage would say UNFAVORABLE? _________

What percentage of those students would you expect to engage in the following behaviors?

1. Attend church services at least once a week?
2. Say grace before meals?
3. Pray every night?
4. Curse occasionally?
5. Read the Bible or religious books?
6. Donate money to church or religious organizations?
7. Obey the rules of their church?
8. Publicly testify or otherwise promote religious values?

Of those who answered FAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?

1. _________
2. _________
3. _________
4. _________
5. _________
6. _________
7. _________
8. _________

Of those who answered UNFAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?

1. _________
2. _________
3. _________
4. _________
5. _________
6. _________
7. _________
8. _________
Now place an "X" beside each behavior of the eight listed that you engage in:

(1)  
(2)  
(3)  
(4)  
(5)  
(6)  
(7)  
(8)  
Suppose introductory psychology students were asked the following question:

"What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?"

What percentage would say FAVORABLE? __________

What percentage would say UNFAVORABLE? __________

What percentage of the introductory psychology students would you expect to engage in the following behaviors:

1. Generally do not eat potato chips? _________
2. Usually do not purchase candy bars? _________
3. Seldom buy French fries when eating out? _________
4. Rarely buy snack items from vending machines? _________
5. Almost never purchase snacks while shopping? _________
6. Frequently buy food at health stores? _________
7. Rarely eat snacks while watching TV? _________
8. Seldom drink soda pop? _________
9. Usually turn down the opportunity to eat pizza? _________

Of those students who answered FAVORABLE to the question regarding their attitude toward junk foods, what percentage engage in each of the above behaviors? (Place your percentage estimate beside the numbers below that correspond to the behaviors just described).

1. _________
2. _________
3. _________
4. _________
5. _________
6. _________
7. _________
8. _________
9. _________

Of those students who answered UNFAVORABLE to the above question regarding their attitude toward junk food, what percentage engage in each of the nine behaviors?

1. _________
2. _________
3. _________
4. _________
5. _________
6. _________
7. _________
8. _________
9. _________
Now place an "X" beside each behavior of the eight listed that you engage in:

(1) 
(2) 
(3) 
(4) 
(5) 
(6) 
(7) 
(8)
Suppose introductory psychology students were asked the following question:

"Do you believe that there is an energy shortage?"

What percentage would say YES? __________
What percentage would say NO? __________

What percentage of introductory psychology students would you expect to engage in the following behaviors?
(1) Keep thermostat in apartment, dorm room or house below 65°? ________
(2) Keep drapes closed? ________
(3) Occasionally walk or ride a bicycle to a location to which it was possible to drive? ________
(4) Do not use excessive amounts of hot water? ________
(5) Occasionally watch TV in the dark? ________
(6) Always turn off lights that are not in use? ________
(7) Often leave lights on when gone from apartment, house or dorm room? ________
(8) Do not use air conditioning during summer months unless it is necessary? ________
(9) Do not leave windows open during cold weather? ________

Of those students who answered YES to the above question (that is, those who do believe there is an energy shortage), what percentage engage in each of the above behaviors?

1 ________
2 ________
3 ________
4 ________
5 ________
6 ________
7 ________
8 ________
9 ________

Of those students who answered NO to the above question (that is, those who do not believe that there is an energy shortage), what percentage engage in each of the above behaviors?

1 ________
2 ________
3 ________
4 ________
5 ________
6 ________
7 ________
8 ________
9 ________
Now place an "X" beside each behavior of the eight listed that you engage in:

(1) __________
(2) __________
(3) __________
(4) __________
(5) __________
(6) __________
(7) __________
(8) __________
How place an "X" beside each behavior of the eight listed that you engage in:

(1)  
(2)  
(3)  
(4)  
(5)  
(6)  
(7)  
(8)  
Suppose that introductory psychology students were asked the following question:

"What is your attitude toward individual measures to control air, water, and other types of pollution?"

What percentage would say FAVORABLE? __________
What percentage would say UNFAVORABLE? __________

What percentage of the students would you expect to engage in the following behaviors:

(1) Buy detergents irrespective of phosphate content? _______
(2) Purchase deodorants and other items in aerosol cans? _______
(3) Purchase items in cans or other nonreturnable containers? _______
(4) Fail to have the exhaust emission of the car they drive frequently checked? _______
(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? _______
(6) Fail to report incidents of littering? _______
(7) Recycle newspapers? _______
(8) Contribute money or time to antipollution organizations? _______
(9) Frequently pick up litter? _______

Of those students who answered FAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

(1) _______
(2) _______
(3) _______
(4) _______
(5) _______
(6) _______
(7) _______
(8) _______
(9) _______

Of those students who answered UNFAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

(1) _______
(2) _______
(3) _______
(4) _______
(5) _______
(6) _______
(7) _______
(8) _______
(9) _______
Now place an "X" beside each behavior of the eight listed that you engage in:

1)  
2)  
3)  
4)  
5)  
6)  
7)  
8)  


APPENDIX C

MEANS FOR PILOT STUDY 2 AND CORRELATIONS
BETWEEN PREDICTED AND OBTAINED VALUES OF p(B)
**INTRODUCTORY PSYCHOLOGY**

Suppose introductory psychology students were asked the following question:

“What is your attitude toward introductory psychology?”

What percentage would say FAVORABLE? __________ %
What percentage would say UNFAVORABLE? __________ %

What percentage of introductory psychology students would you expect to engage in the following behaviors?

1. Read ahead of assignments in their introductory psychology course? __________
2. Pay close attention in class? __________
3. Frequently miss class? __________
4. Study psychology before studying for other courses? __________
5. Read outside materials related to the course? __________
6. Sign up for more experiments than required in the course? __________
7. Plan to sign up for more psychology courses? __________
8. Active participation in class discussions? __________

Of those who answered FAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

(1) ________ 52%
(2) ________ 71%
(3) ________ 11%
(4) ________ 32%
(5) ________ 22%
(6) ________ 17%
(7) ________ 34%
(8) ________ 53%

Of those who answered UNFAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

(1) ________ 14%
(2) ________ 30%
(3) ________ 27%
(4) ________ 33%
(5) ________ 33%
(6) ________ 25%
(7) ________ 13%
(8) ________ 12%
Now place an "x" beside each behavior of the eight listed that you engage in:

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RELIGION

Suppose that introductory psychology students were asked the following question:

“What is your attitude toward religious values?”

What percentage would say FAVORABLE? _______ 60%
What percentage would say UNFAVORABLE? _______ 40%

What percentage of these students would you expect to engage in the following behaviors?

(1) Attend church services at least once a week? _______ 39% 39% .81
(2) Say grace before meals? _______ 21% 24% .87
(3) Pray every night? _______ 30% 30% .75
(4) Curse occasionally? _______ 75% 52% .75
(5) Read the Bible or religious books? _______ 33% 31% .62
(6) Donate money to church or religious organizations? _______ 23% 27% .73
(7) Obey the rules of their church? _______ 28% 30% .76
(8) Publicly testify or otherwise promote religious values? _______ 14% 16% .61

Of those who answered FAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?

(1) _______ 97%
(2) _______ 95%
(3) _______ 95%
(4) _______ 93%
(5) _______ 93%
(6) _______ 91%
(7) _______ 95%
(8) _______ 95%

If those who answered UNFAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?

(1) _______ 97%
(2) _______ 95%
(3) _______ 95%
(4) _______ 93%
(5) _______ 93%
(6) _______ 91%
(7) _______ 95%
(8) _______ 95%
Now place an "X" beside each behavior of the eight listed that you engage in:

(1) ________ 82%
(2) ________ 30%
(3) ________ 63%
(4) ________ 83%
(5) ________ 54%
(6) ________ 42%
(7) ________ 33%
(8) ________ 13%
JUNK FOODS

Suppose introductory psychology students were asked the following question:

"What is your attitude toward junk foods (such as potato chips, Hostex Twinkies, candy bars, etc.)?"

What percentage would say FAVORABLE? 77%
What percentage would say UNFAVORABLE? 23%

What percentage of the introductory psychology students would you expect to engage in the following behaviors:

1. Generally do not eat potato chips
2. Usually do not purchase candy bars
3. Seldom buy french fries when eating out
4. Rarely buy snack items from vending machines
5. Almost never purchase snacks while shopping
6. Frequently buy food at health stores
7. Rarely eat snacks while watching TV
8. Seldom drink soda pop
9. Usually turn down the opportunity to eat pizza

Of those students who answered FAVORABLE to the question regarding their attitude toward junk foods, what percentage engage in each of the above behaviors? (Place your percentage estimate beside the numbers below that correspond to the behaviors just described).

(1) 17%  
(2) 13%  
(3) 16%  
(4) 16%  
(5) 16%  
(6) 16%  
(7) 16%  
(8) 16%  
(9) 16%  

Of those students who answered UNFAVORABLE to the above question regarding their attitude toward junk foods, what percentage engage in each of the nine behaviors?

(1) 93%  
(2) 91%  
(3) 97%  
(4) 94%  
(5) 95%  
(6) 97%  
(7) 93%  
(8) 92%  
(9) 37%
Now place an "x" beside each behavior of the eight listed that you engage in:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>42%</td>
</tr>
<tr>
<td>2</td>
<td>30%</td>
</tr>
<tr>
<td>3</td>
<td>63%</td>
</tr>
<tr>
<td>4</td>
<td>83%</td>
</tr>
<tr>
<td>5</td>
<td>24%</td>
</tr>
<tr>
<td>6</td>
<td>42%</td>
</tr>
<tr>
<td>7</td>
<td>33%</td>
</tr>
<tr>
<td>8</td>
<td>13%</td>
</tr>
</tbody>
</table>
Suppose introductory psychology students were asked the following question:

"What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?"

What percentage would say FAVORABLE? _______ 77%
What percentage would say UNFAVORABLE? _______ 23%

What percentage of the introductory psychology students would you expect to engage in the following behaviors:

1. Generally do not eat potato chips?
2. Usually do not purchase candy bars?
3. Seldom buy french fries when eating out?
4. Rarely buy snack items from vending machines?
5. Almost never purchase snacks while shopping?
6. Frequently buy food at health stores?
7. Rarely eat snacks while watching TV?
8. Seldom drink soda pop?
9. Usually turn down the opportunity to eat pizza?

Of those students who answered FAVORABLE to the question regarding their attitude toward junk foods, what percentage engage in each of the above behaviors? (Place your percentage estimate beside the numbers below that correspond to the behaviors just described).

(1) _______ 17%
(2) _______ 13%
(3) _______ 16%
(4) _______ 16%
(5) _______ 16%
(6) _______ 10%
(7) _______ 16%
(8) _______ 11%
(9) _______ 9%

Of those students who answered UNFAVORABLE to the above question regarding their attitude toward junk foods, what percentage engage in each of the nine behaviors?

(1) _______ 53%
(2) _______ 51%
(3) _______ 47%
(4) _______ 9%
(5) _______ 45%
(6) _______ 47%
(7) _______ 43%
(8) _______ 49%
(9) _______ 37%
Now place an "x" beside each behavior of the eight listed that you engage in:

1) ________ 62%
2) ________ 65%
3) ________ 69%
4) ________ 34%
5) ________ 46%
6) ________ 73%
7) ________ 37%
8) ________ 62%
9) ________ 89%
Suppose that introductory psychology students were asked the following question:

"What is your attitude toward individual measures to control air, water, and other types of pollution?"

<table>
<thead>
<tr>
<th>What percentage would say FAVORABLE?</th>
<th>__________ 72%</th>
</tr>
</thead>
<tbody>
<tr>
<td>What percentage would say UNFAVORABLE?</td>
<td>__________ 28%</td>
</tr>
</tbody>
</table>

What percentage of the students would you expect to engage in the following behaviors:

1. Buy detergents irrespective of phosphate content? __________ 51%
2. Purchase deodorants and other items in aerosol cans? __________ 48%
3. Purchase items in cans or other nonreturnable containers? __________ 65%
4. Fail to have the exhaust emission of the car they drive frequently checked? __________ 68%
5. Drive to locations to which it was possible to walk, ride a bicycle or take a bus? __________ 61%
6. Fail to report incidents of littering? __________ 28%
7. Recycle newspapers? __________ 48%
8. Contribute money or time to antipollution organizations? __________ 37%
9. Frequently pick up litter? __________ 23%

Of those students who answered FAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>9%</td>
<td>53%</td>
<td>7%</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Of those students who answered UNFAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>53%</td>
<td>63%</td>
<td>65%</td>
<td>71%</td>
<td>71%</td>
<td>26%</td>
<td>53%</td>
<td>31%</td>
<td>41%</td>
</tr>
</tbody>
</table>
Now place an "X" beside each behavior of the eight listed that you engage in:

(1) _________ 33%
(2) _________ 50%
(3) _________ 79%
(4) _________ 48%
(5) _________ 35%
(6) _________ 56%
(7) _________ 50%
(8) _________ 13%
(9) _________ 46%
Appendix D

THE JAMES-STEIN ESTIMATED VALUES OF $p(A)$, $p(B)$,

$p(B|A)$ AND $p(B|\bar{A})$
This experiment concerns your perceptions of various attitudes held by people and the behaviors that those people engage in. On the following pages you will be asked to estimate the percentage of people who hold particular attitudes, the percentage of people who engage in certain behaviors, among the people who have a particular attitude what percentage engage in certain behaviors, etc.

Your participation in this study is voluntary. As in all experiments at Ohio State University you are free to withdraw your participation at any time. Your signature at the bottom of this page is mandatory in order to complete the questionnaire. However, your signature does not bind you to answer any of the questions but rather indicates that you have read this page. Your answers will be held strictly confidential in that your name will not be associated with your answers.

_________________________
signature

_________________________
date
Suppose introductory psychology students were asked the following question:

"What is your attitude toward introductory psychology?"

What percentage would say FAVORABLE? ________ 61%
What percentage would say UNFAVORABLE? ________ 39%

What percentage of introductory psychology students would you expect to engage in the following behaviors?

1. Read ahead of assignments in their introductory psychology course?
2. Pay close attention in class?
3. Frequently miss class?
4. Study psychology before studying for other courses?
5. Read outside materials related to the course?
6. Sign up for more experiments than required in the course?
7. Plan to sign up for more psychology courses?
8. Active participation in class discussions?

Of those who answered FAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

1. __________ 50%
2. __________ 51%
3. __________ 18%
4. __________ 49%
5. __________ 95%
6. __________ 45%
7. __________ 51%
8. __________ 51%

Of those who answered UNFAVORABLE regarding their attitude toward introductory psychology, what percentage engage in each of the eight behaviors listed above?

1. __________ 19%
2. __________ 21%
3. __________ 51%
4. __________ 10%
5. __________ 16%
6. __________ 16%
7. __________ 17%
8. __________ 19%
Suppose that introductory psychology students were asked the following question:

"What is your attitude toward religious values?"

What percentage would say FAVORABLE? ________
What percentage would say UNFAVORABLE? ________

What percentage of those students would you expect to engage in the following behaviors?
1. Attend church services at least once a week? ________
2. Say grace before meals? ________
3. Pray every night? ________
4. Cursing occasionally? ________
5. Read the Bible or religious books? ________
6. Donate money to church or religious organizations? ________
7. Obey the rules of their church? ________
8. Publicly testify or otherwise promote religious values? ________

Of those who answered FAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?
1. ________
2. ________
3. ________
4. ________
5. ________
6. ________
7. ________
8. ________

Of those who answered UNFAVORABLE to the above question regarding their religious values, what percentage engage in each of the above behaviors?
1. ________
2. ________
3. ________
4. ________
5. ________
6. ________
7. ________
8. ________
JUNK FOODS

Suppose introductory psychology students were asked the following question:

"What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?"

| What percentage would say FAVORABLE? | 79% |
| What percentage would say UNFAVORABLE? | 21% |

What percentage of the introductory psychology students would you expect to engage in the following behaviors:

1. Generally do not eat potato chips? 28%
2. Usually do not purchase candy bars? 26%
3. Seldom buy french fries when eating out? 29%
4. Rarely buy snack items from vending machines? 26%
5. Almost never purchase snacks while shopping? 25%
6. Frequently buy food at health stores? 27%
7. Rarely eat snacks while watching TV? 26%
8. Seldom drink soda pop? 26%
9. Usually turn down the opportunity to eat pizza? 26%

Of those students who answered FAVORABLE to the question regarding their attitude toward junk foods, what percentage engage in each of the above behaviors? (Place your percentage estimate beside the numbers below that correspond to the behaviors just described).

| (1) | 9% |
| (2) | 18% |
| (3) | 19% |
| (4) | 18% |
| (5) | 18% |
| (6) | 18% |
| (7) | 18% |
| (8) | 17% |
| (9) | 17% |

Of those students who answered UNFAVORABLE to the above question regarding their attitude toward junk food, what percentage engage in each of the nine behaviors?

| (1) | 51% |
| (2) | 52% |
| (3) | 42% |
| (4) | 51% |
| (5) | 47% |
| (6) | 49% |
| (7) | 49% |
| (8) | 41% |
| (9) | 41% |
Suppose introductory psychology students were asked the following question:

"Do you believe that there is an energy shortage?"

What percentage would say YES? ________ 62%
What percentage would say NO? ________ 38%

What percentage of introductory psychology students would you expect to engage in the following behaviors?

<table>
<thead>
<tr>
<th>Behavior Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Keep thermostat in apartment, dorm room or house below 65°F</td>
<td>40%</td>
</tr>
<tr>
<td>(2) Keep drapes closed</td>
<td>39%</td>
</tr>
<tr>
<td>(3) Occasionally walk or ride a bicycle to a location to which it was possible to drive</td>
<td>33%</td>
</tr>
<tr>
<td>(4) Do not use excessive amounts of hot water?</td>
<td>33%</td>
</tr>
<tr>
<td>(5) Occasionally watch TV in the dark?</td>
<td>40%</td>
</tr>
<tr>
<td>(6) Always turn off lights that are not in use?</td>
<td>40%</td>
</tr>
<tr>
<td>(7) Often leave lights on when gone from apartment, house or dorm room?</td>
<td>31%</td>
</tr>
<tr>
<td>(8) Do not use air conditioning during summer months unless it is necessary?</td>
<td>39%</td>
</tr>
<tr>
<td>(9) Do not leave windows open during cold weather?</td>
<td>44%</td>
</tr>
</tbody>
</table>

Of those students who answered YES to the above question (that is, those who do believe there is an energy shortage), what percentage engage in each of the above behaviors?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>72%</td>
</tr>
<tr>
<td>(2)</td>
<td>51%</td>
</tr>
<tr>
<td>(3)</td>
<td>56%</td>
</tr>
<tr>
<td>(4)</td>
<td>59%</td>
</tr>
<tr>
<td>(5)</td>
<td>44%</td>
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<tr>
<td>(6)</td>
<td>49%</td>
</tr>
<tr>
<td>(7)</td>
<td>58%</td>
</tr>
<tr>
<td>(8)</td>
<td>59%</td>
</tr>
<tr>
<td>(9)</td>
<td>55%</td>
</tr>
</tbody>
</table>

Of those students who answered NO to the above question (that is, those who do not believe that there is an energy shortage), what percentage engage in each of the above behaviors?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>21%</td>
</tr>
<tr>
<td>(2)</td>
<td>20%</td>
</tr>
<tr>
<td>(3)</td>
<td>20%</td>
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<td>(4)</td>
<td>20%</td>
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<td>(5)</td>
<td>20%</td>
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<td>(6)</td>
<td>20%</td>
</tr>
<tr>
<td>(7)</td>
<td>50%</td>
</tr>
<tr>
<td>(8)</td>
<td>20%</td>
</tr>
<tr>
<td>(9)</td>
<td>20%</td>
</tr>
</tbody>
</table>
POLLUTION

Suppose that introductory psychology students were asked the following question:

"What is your attitude toward individual measures to control air, water, and other types of pollution?"

What percentage would say FAVORABLE? __________ 72%
What percentage would say UNFAVORABLE? __________ 28%

What percentage of the students would you expect to engage in the following behaviors:

1) Pay detergents irrespective of phosphate content? __________ 31%
2) Purchase deodorants and other items in aerosol cans? __________ 33%
3) Purchase items in cans or other nonreturnable containers? __________ 33%
4) Fail to have the exhaust emission of the car they drive frequently checked? __________ 34%
5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? __________ 32%
6) Fail to report incidents of littering? __________ 40%
7) Recycle newspapers? __________ 37%
8) Contribute money or time to antipollution organizations? __________ 37%
9) Frequently pick up litter? __________ 33%

Of those students who answered FAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

1) __________ 22%
2) __________ 23%
3) __________ 23%
4) __________ 25%
5) __________ 22%
6) __________ 93%
7) __________ 47%
8) __________ 48%
9) __________

Of those students who answered UNFAVORABLE to the question regarding their attitude toward individual measures to control pollution, what percentage engage in each of the nine behaviors listed above?

1) __________ 51%
2) __________ 52%
3) __________ 53%
4) __________ 54%
5) __________ 52%
6) __________ 19%
7) __________ 17%
8) __________ 17%
9) __________ 17%

*This behavior was eliminated from further usage because it failed to produce significant differences in subjects' estimates of p(HA) and p(HA).
APPENDIX  E

LOW RELEVANCY MATERIALS:

EXPERIMENT 1
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following question, "Do you believe that there is an energy shortage?"

Here is a summary of their responses:

YES 62%  
NO 38%  

The researchers in this survey observed the behavior of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 61% of those who answered YES to the above question and 38% of those who answered NO on the above question KEEP THERMOSTAT IN APARTMENT, BURN ROOM, OR HOUSE BELOW 65° IN THE WINTER.

2. 42% of those who answered YES and 37% of those who answered NO on the above question KEEP DRAPES CLOSED.

3. 42% of those who answered YES to the above question and 34% of those who answered NO on the above question AT LEAST OCCASIONALLY WALK OR RIDE A BICYCLE TO A LOCATION TO WHICH IT WAS POSSIBLE TO DRIVE.

4. 40% of those who answered YES to the above question and 35% of those who answered NO on the above question DO NOT USE EXCESSIVE AMOUNTS OF HOT WATER.

5. 39% of those who answered YES to the above question and 36% of those who answered NO on the above question AT LEAST OCCASIONALLY WATCH TV IN THE DARK.
6. **44%**  

   of those who answered YES to the above question and

   **34%**  

   of those who answered NO on the above question. ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE.

7. **29%**  

   of those who answered YES to the above question and

   **34%**  

   of those who answered NO on the above question. OFTEN LEAVE LIGHTS ON WHICH COULD BE FROM APARTMENT, HOUSE OR DOOR ROOM.

8. **40%**  

   of those who answered YES on the above question and

   **37%**  

   of those who answered NO on the above question. DO NOT USE AIR CONDITIONING DURING SUMMER LEAVES OF "F" MOUNTAIN.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the same behaviors mentioned on the previous page. Also, as before, the attitude is the degree to which the presence of an Energy Shortage is believed.

CASE 1

Here's a profile of Peter R.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65° in the winter? no
(2) Keep drapes closed? no
(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive? no
(4) Do not use excessive amounts of hot water? no
(5) At least occasionally watch TV in the dark? no
(6) Always turn off lights that are not in use? no
(7) Often leave lights on when gone from apartment, house, or dorm room? yes
(8) Do not use air conditioning during summer months unless it is necessary? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Peter R.'s attitude toward energy conservation:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Completely Believe That There Is An Energy Shortage
Don't Believe That There Is An Energy Shortage
Suspect That There Is An Energy Shortage
Suspect That There Is An Energy Shortage
Completely Believe That There Is An Energy Shortage
How confident are you in your judgement of Peter R.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

CASP II

Here is a profile of Amy G.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65° in the winter? yes
(2) Keep drapes closed? yes
(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive? no
(4) Do not use excessive amounts of hot water? yes
(5) At least occasionally watch TV in the dark? yes
(6) Always turn off lights that are not in use? ...
(7) Often leave lights on when gone from apartment, house, or dorm room? yes
(8) Do not use air conditioning during summer months unless it is necessary? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Amy G.'s attitude toward energy conservation:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Completely Suspect Don't Suspect Completely
Believe That There Know That Believe That
That There Is NOT There Is There Is An
Is NOT An An Energy An Energy Shortage
Energy Shortage Energy Energy Shortage

How confident are you in your judgement of Amy G.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
CASE III

Here is a profile of Joseph G.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65' in the winter?  yes
(2) Keep drapes closed?  yes
(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive?  yes
(4) Do not use excessive amounts of hot water?  yes
(5) At least occasionally watch TV in the dark?  yes
(6) Always turn off lights that are not in use?  yes
(7) Often leaves lights on when gone from apartment, house, or dorm room?  no
(8) Do not use air conditioning during summer months unless it is necessary?  yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Joseph G.'s attitude toward energy conservation:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15
Completely  Suspect  Don't  Suspect  Completely
Believe  That  There  Know  That  Believe  That
That  There  Is  NOT  There  Is  Not  There  Is  An
Is  NOT  An  Energy  An  Energy  Shortage
Energy  Shortage  Energy  Shortage

How confident are you in your judgement of Joseph G.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15
Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward introductory psychology?"

Here is a summary of their responses:

FAVORABLE 41.2%

UNFAVORABLE 52.7%

The researchers in this survey observed the behaviors of those who indicated a FAVORABLE attitude and compared them to those who indicated an UNFAVORABLE attitude toward introductory psychology. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 35% of those who indicated a FAVORABLE attitude and
   30% of those who indicated an UNFAVORABLE attitude on the above question READ AHEAD OF ASSIGNMENTS IN THEIR INTRODUCTORY PSYCHOLOGY COURSE.

2. 39% of those who indicated a FAVORABLE attitude and
   31% of those who indicated an UNFAVORABLE attitude on the above question PAY CLOSE ATTENTION IN CLASS.

3. 32% of those who indicated a FAVORABLE attitude and
   40% of those who indicated an UNFAVORABLE attitude on the above question at least FREQUENTLY MISS CLASS.

4. 31% of those who indicated a FAVORABLE attitude and
   21% of those who indicated an UNFAVORABLE attitude on the above question STUDY PSYCHOLOGY BEFORE STUDYING FOR OTHER COURSES.

5. 32% of those who indicated a FAVORABLE attitude and
   21% of those who indicated an UNFAVORABLE attitude on the above question READ OUTSIDE MATERIALS RELATED TO THE COURSE.

6. 30% of those who indicated a FAVORABLE attitude and
   25% of those who indicated an UNFAVORABLE attitude on the above question SIGN UP FOR MORE EXPERIMENTS THAN REQUIRED IN THE COURSE.
7. 36% 7% of those who indicated a FAVORABLE attitude and
    28% 20% of those who indicated an UNFAVORABLE attitude
    on the above question PLAN TO SIGN UP FOR MORE
    PSYCHOLOGY COURSES.

8. 35% 30% of those who indicated a FAVORABLE attitude and
    30% 30% of those who indicated an UNFAVORABLE attitude
    on the above question ACTIVELY PARTICIPATE IN
    CLASS DISCUSSIONS.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward introductory psychology.

CASE I

Here's a profile of Richard L.'s behavior:

1. Read ahead of assignments in their introductory psychology course? yes
2. Pay close attention in class? yes
3. At least frequently miss class? no
4. Study psychology before studying for other courses? yes
5. Read outside materials related to the course? yes
6. Sign up for more experiments than required in the course? yes
7. Plan to sign up for more psychology courses? yes
8. Actively participate in class discussions? yes

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Richard L.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your judgment of Richard L.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident
CASE II

Here is a profile of Steve D.'s behavior:

(1) Read ahead of assignments in their introductory psychology course?  

(2) Pay close attention in class?

(3) At least frequently miss class?

(4) Study psychology before studying for other courses?

(5) Read outside materials related to the course?

(6) Sign up for more experiments than required in the course?

(7) Plan to sign up for more psychology courses?

(8) Actively participate in class discussions?

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Steve D.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your judgement of Steve D.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident

CASE III

Here is a profile of Jerry R.'s behavior:

(1) Read ahead of assignments in their introductory psychology course?

(2) Pay close attention in class?

(3) At least frequently miss class?

(4) Study psychology before studying for other courses?

(5) Read outside materials related to the course?
(6) Sign up for more experiments than required in the course? no

(7) Plan to sign up for more psychology courses? no

(8) Actively participate in class discussions? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jerry R.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely    Mildly    Neutral    Mildly    Extremely
Unfavorable  Unfavorable  Favorable  Favorable

How confident are you in your judgment of Jerry R.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

| FAVORABLE | 68% |
| UNFAVORABLE | 32% |

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 30% of those with a FAVORABLE attitude and
   33% of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 31% of those with a FAVORABLE attitude and
   38% of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AEROSOL CANS.

3. 32% of those with a FAVORABLE attitude and
   35% of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER NONRETURNABLE CONTAINERS.

4. 32% of those with a FAVORABLE attitude and
   39% of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
5. 30% of those with a FAVORABLE attitude and 33% of those with an UNFAVORABLE attitude on the above question DRIVE TO LOCATIONS TO WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE, OR TAKE A BUS.

6. 43% of those with a FAVORABLE attitude and 33% of those with an UNFAVORABLE attitude on the above question RECYCLE NEWSPAPERS.

7. 40% of those with a FAVORABLE attitude and 30% of those with an UNFAVORABLE attitude on the above question CONTRIBUTE MONEY OR TIME TO ANTIPOLLUTION ORGANIZATIONS.

8. 41% of those with a FAVORABLE attitude and 32% of those with an UNFAVORABLE attitude on the above question FREQUENTLY PICK UP LITTER.
In addition to the information that you provided above we would like for you to make a estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward individual measures to control air, water and other types of pollution.

CASE 1

Here's a profile of John D.'s behavior

(1) Buy detergents irrespective of phosphate content? yes
(2) Purchase deodorants and other items in aerosol cans? yes
(3) Purchase items in cans or other nonreturnable containers? yes
(4) Fail to have the exhaust of the car he drives frequently checked? yes
(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? yes
(6) Recycle newspapers? no
(7) Contribute money or time to antipollution organizations? no
(8) Frequently pick up litter? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to John D.'s attitude toward individual measures to control air, water, and other types of pollution:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Unfavorable Mildly Unfavorable Neutral Hildly Favorable Extremely Favorable
How confident are you in your judgement of John D.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident

CASE II

Here is a profile of Jim T.'s behavior.

(1) Buy detergents irrespective of phosphates content? no
(2) Purchase deodorants and other items in aerosol cans? yes
(3) Purchase items in cans or other nonreturnable containers? yes
(4) Fail to have the exhaust emission of the car he drives frequently checked? yes
(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? yes
(6) Recycle newspapers? no
(7) Contribute money or time to antipollution organizations? yes
(8) Frequently pick up litter? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jim T.'s attitude toward individual measures to control air, water and other types of pollution.

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Extremely  Mildly  Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable
How confident are you in your judgment of Jim T.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident

CASE III

Here is the behavior profile of Donald K:

(1) Buy detergents irrespective of phosphate content?  no

(2) Purchase deodorants and other items in aerosol cans?  no

(3) Purchase items in cans or other nonreturnable containers?  no

(4) Fail to have the exhaust emission of the car he drives frequently checked?  no

(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus?  no

(6) Recycle newspapers?  yes

(7) Contribute money or time to antipollution organizations?  yes

(8) Frequently pick up litter?  no

Again you are asked to think carefully about these behaviors. Circle the number below that corresponds to Donald K.'s attitude toward individual measures to control air, water and other types of pollution:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Extremely  Slightly  Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable
How confident are you in your judgment of Donald K.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

STOP
A large sample of college freshmen and sophomores were asked the following question: "What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, and donuts, etc.)?"

Here is a summary of their responses:

<table>
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<tr>
<th>Attitude</th>
<th>Percentage</th>
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<tr>
<td>Favorable</td>
<td>70%</td>
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<tr>
<td>Unfavorable</td>
<td>30%</td>
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</table>

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. Of those with a Favorable attitude and
   - 25% of those with an Unfavorable attitude on the above question "GENERALLY OR NEVER EAT POTATO CHIPS."

2. Of those with a Favorable attitude
   - 27% of those with an Unfavorable attitude on the above question "USUALLY OR NEVER PURCHASE CANDIES DURING DINNER.

3. Of those with a Favorable attitude and
   - 26% of those with an Unfavorable attitude on the above question "SOMETIMES OR NEVER BUY FRENCH FRIES WHEN EATING OUT.

4. Of those with a Favorable attitude and
   - 33% of those with an Unfavorable attitude on the above question "RARELY OR NEVER PURCHASE SHACK ITEMS FROM VENDING MACHINES.

5. Of those with a Favorable attitude and
   - 39% of those with an Unfavorable attitude on the above question "NEVER OR ALMOST NEVER PURCHASE SHACKS WHILE SHOPPING."
6. **25%** of those with a FAVORABLE attitude and **31%** of those with an UNFAVORABLE attitude on the above question AT LEAST FREQUENTLY BUY FOOD AT HEALTH STORES.

7. **26%** of those with a FAVORABLE attitude and **33%** of those with an UNFAVORABLE attitude on the above question RARELY OR NEVER EAT SNACKS WHILE WATCHING TV.

8. **25%** of those with a FAVORABLE attitude and **38%** of those with an UNFAVORABLE attitude on the above question SELDOM OR NEVER DRINK SODA POP.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

CASE I

Here's a profile of Linda K.'s behavior:

1. Generally or never eat potato chips? no
2. Usually or never purchase candy bars? yes
3. Seldom or never buy french fries when eating out? no
4. Rarely or never buy snack items from vending machines? yes
5. Never or almost never purchase snacks while shopping? yes
6. At least frequently buy food at the health stores? yes
7. Rarely or never eat snacks while watching TV? no
8. Seldom or never drink soda pop? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Linda K.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Unfavorable Neutral Favorable Extremely Favorable
How confident are you in your judgement of Linda K.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident

CASE II

Here is a profile of Ellen D.'s behavior:

(1) Generally or never eat potato chips?
   no

(2) Usually or never purchase candy bars?
   no

(3) Seldom or never buy french fries when eating out?
   no

(4) Rarely or never buy snack items from vending machines?
   no

(5) Never or almost never purchase snacks while shopping?
   no

(6) At least frequently buy food at the health stores?
   no

(7) Rarely or never eat snacks while watching TV?
   no

(8) Seldom or never drink soda pop?
   no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Ellen D.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  Mildly  Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable

How confident are you in your judgement of Ellen D.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
CASE III

Here is a profile of Henry S:

(1) Generally or never eat potato chips? yes
(2) Usually or never purchase candy bars? yes
(3) Seldom or never buy french fries when eating out? yes
(4) Rarely or never buy snack items from vending machines? yes
(5) Never or almost never purchase snacks while shopping? yes
(6) At least frequently buy food at the health stores? yes
(7) Rarely or never eat snacks while watching TV? yes
(8) Seldom or never drink soda pop? yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Henry S.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.):

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  mildly  Neutral  mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable

How confident are you in your judgement of Henry S.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
APPENDIX  F

NATURAL RELEVANCY MATERIALS:

EXPERIMENT 1
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 65%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following:

Question: "Do you believe that there is an energy shortage?"

Here is a summary of their responses:

- **YES** 62%
- **NO** 18%

The researchers in this survey observed the behaviors of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. **52%** of those who answered **YES** to the above question and 21% of those who answered **NO** on the above question.

   - KEEP THEROSTAT IN APARTMENT, DORM ROOM, OR HOUSE BELOW 65° IN THE WINTER.

2. **51%** of those who answered **YES** and 20% of those who answered **NO** on the above question.

   - KEEP DRAPES CLOSED.

3. **20%** of those who answered **YES** to the above question and 50% of those who answered **NO** on the above question.

   - AT LEAST OCCASIONALLY WALK OR RIDE A BICYCLE TO A LOCATION TO WHICH IT WAS POSSIBLE TO DRIVE.

4. **49%** of those who answered **YES** to the above question and 20% of those who answered **NO** on the above question.

   - DO NOT USE EXCESSIVE AMOUNTS OF HOT WATER.

5. **49%** of those who answered **YES** to the above question and 20% of those who answered **NO** on the above question.

   - AT LEAST OCCASIONALLY WATCH TV IN THE DARK.
6. 52% of those who answered YES to the above question and

20% of those who answered NO on the above question ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE.

7. 19% of those who answered YES to the above question and

50% of those who answered YES on the above question OFTEN LEAVE LIGHTS ON WHICH GO WIT APARTMENT, HOUSE OR DOOR OPEN.

8. 50% of those who answered YES on the above question and

20% of those who answered YES on the above question DO NOT USE AIR CONDITIONING DURING SUMMER MONTHS OR AT ALL.
In addition to the information that you provided above, we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree to which the presence of an Energy Shortage is believed.

CASE I

Here's a profile of Peter R.'s behavior:

1. Keep thermostat in apartment, dorm room, or house below 55° in the winter? no
2. Keep drapes closed? no
3. At least occasionally walk or ride a bicycle to a location to which it was possible to drive? no
4. Do not use excessive amounts of hot water? no
5. At least occasionally watch TV in the dark? no
6. Always turn off lights that are not in use? no
7. Often leave lights on when gone from apartment, house, or dorm room? yes
8. Do not use air conditioning during summer months unless it is necessary? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Peter R.'s attitude toward energy conservation:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Completely Suspect Don't Suspect Suspect Completely
Believe That There Know That Believe That
That There in HOT An Energy Energy Shortage
In HOT An An Energy An Energy Shortage
Energy Energy Shortage
Shortage

How confident are you in your judgement of Peter R.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident

CASE II

Here is a profile of Amy G.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65° in the winter? yes
(2) Keep drapes closed? yes
(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive? no
(4) Do not use excessive amounts of hot water? yes
(5) At least occasionally watch TV in the dark? yes
(6) Always turn off lights that are not in use? no
(7) Often leave lights on when gone from apartment, house, or dorm room? yes
(8) Do not use air conditioning during summer months unless it is necessary? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Amy G.'s attitude toward energy conservation:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Completely  Suspect  Don't  Suspect  Completely
Believe  That  There  Know  That  Believe  That
That  There  Is  NOT  Know  That  There  Is  There  Is  An
An  Energy  An  Energy  Energy  Shortage  Shortage
Energy  Shortage  Energy  Shortage

How confident are you in your judgement of Amy G.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
CASE III

Here is a profile of Joseph G.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65° in the winter? yes

(2) Keep drapes closed? yes

(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive? yes

(4) Do not use excessive amounts of hot water? yes

(5) At least occasionally watch TV in the dark? yes

(6) Always turn off lights that are not in use? yes

(7) Often leaves lights on when gone from apartment, house, or dorm room? no

(8) Do not use air conditioning during summer months unless it is necessary? yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Joseph G.'s attitude toward energy conservation:

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<tbody>
<tr>
<td>Completely Believe That There Is NOT An Energy Shortage</td>
<td>Suspect That There Is An Energy Shortage</td>
<td>Don't Know That There Is A (energy shortage)</td>
<td>suspect That There Is An Energy Shortage</td>
<td>Completely Believe That There Is A (energy shortage)</td>
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How confident are you in your judgment of Joseph G.'s attitude?

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<td>Not at all Confident</td>
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A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward introductory psychology?"

Here is a summary of their responses:

FAVORABLE 41%
UNFAVORABLE 52%

The researchers in this survey observed the behaviors of those who indicated a FAVORABLE attitude and compared them to those who indicated an UNFAVORABLE attitude toward introductory psychology. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 50% 3% of those who indicated a FAVORABLE attitude and
   18% 7% of those who indicated an UNFAVORABLE attitude on the above question READ AHEAD OF ASSIGNMENTS IN THEIR INTRODUCTORY PSYCHOLOGY COURSE.

2. 54% 3% of those who indicated a FAVORABLE attitude and
   21% 7% of those who indicated an UNFAVORABLE attitude on the above question PAY CLOSE ATTENTION IN CLASS.

3. 18% 7% of those who indicated a FAVORABLE attitude and
   32% 5% of those who indicated an UNFAVORABLE attitude on the above question at least FREQUENTLY MISS CLASS.

4. 18% 5% of those who indicated a FAVORABLE attitude and
   15% 2% of those who indicated an UNFAVORABLE attitude on the above question STUDY PSYCHOLOGY BEFORE STUDYING FOR OTHER COURSES.

5. 15% 2% of those who indicated a FAVORABLE attitude and
   16% 2% of those who indicated an UNFAVORABLE attitude on the above question READ OUTSIDE MATERIALS RELATED TO THE COURSE.

6. 16% 2% of those who indicated a FAVORABLE attitude and
   16% 2% of those who indicated an UNFAVORABLE attitude on the above question SIGN UP FOR MORE EXPERIMENTS THAN REQUIRED IN THE COURSE.
7. 51% of those who indicated a FAVORABLE attitude and 17% of those who indicated an UNFAVORABLE attitude on the above question PLAN TO SIGN UP FOR MORE PSYCHOLOGY COURSES.

8. 51% of those who indicated a FAVORABLE attitude and 18% of those who indicated an UNFAVORABLE attitude on the above question ACTIVELY PARTICIPATE IN CLASS DISCUSSIONS.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward introductory psychology.

CASE I

Here’s a profile of Richard L.’s behavior:

(1) Read ahead of assignments in their introductory psychology course? yes
(2) Pay close attention in class? yes
(3) At least frequently miss class? no
(4) Study psychology before studying for other courses? yes
(5) Read outside materials related to the course? yes
(6) Sign up for more experiments than required in the course? yes
(7) Plan to sign up for more psychology courses? yes
(8) Actively participate in class discussions? yes

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Richard L.’s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Unfavorable Mildly Unfavorable Neutral Mildly Favorable Favorable

How confident are you in your judgement of Richard L.’s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Confident Slightly Not at all Confident Moderately Confident Quite Confident Very Confident

175
**CASE II**

Here is a profile of Steve D.'s behavior.

1. Read ahead of assignments in their introductory psychology course? **yes**
2. Pay close attention in class? **no**
3. At least frequently miss class? **yes**
4. Study psychology before studying for other courses? **yes**
5. Read outside materials related to the course? **yes**
6. Sign up for more experiments than required in the course? **no**
7. Plan to sign up for more psychology courses? **yes**
8. Actively participate in class discussions? **no**

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Steve D.'s attitude toward introductory psychology:

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<th>1</th>
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<tr>
<td>Extremely Unfavorable</td>
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<td>Favorable</td>
<td>Very Favorable</td>
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How confident are you in your judgement of Steve D.'s attitude?

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**CASE III**

Here is a profile of Jerry R.'s behavior:

1. Read ahead of assignments in their introductory psychology course? **no**
2. Pay close attention in class? **no**
3. At least frequently miss class? **yes**
4. Study psychology before studying for other courses? **no**
5. Read outside materials related to the course? **no**
(6) Sign up for more experiments than required in the course?  no

(7) Plan to sign up for more psychology courses?  no

(8) Actively participate in class discussions?  no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jerry R.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  Wildly  Neutral  Wildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable

How confident are you in your judgement of Jerry R.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

FAVORABLE 68%  
UNFAVORABLE 32%  

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 22% 7% of those with a FAVORABLE attitude and  

51% 7% of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 23% 7% of those with a FAVORABLE attitude and  

52% 7% of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AERO SOL CANS.

3. 23% 7% of those with a FAVORABLE attitude and  

53% 7% of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER INSURFACE CONTAINERS.

4. 25% 7% of those with a FAVORABLE attitude and  

54% 7% of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
5. 22% of those with a FAVORABLE attitude and
   52% of those with an UNFAVORABLE attitude on the above question DRIVE TO LOCATIONS TO WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE, OR TAKE A BUS.

6. 50% of those with a FAVORABLE attitude and
   19% of those with an UNFAVORABLE attitude on the above question RECYCLE NEWSPAPERS.

7. 47% of those with a FAVORABLE attitude and
   17% of those with an UNFAVORABLE attitude on the above question CONTRIBUTE MONEY OR TIME TO ANTIPOLLUTION ORGANIZATIONS.

8. 48% of those with a FAVORABLE attitude and
   18% of those with an UNFAVORABLE attitude on the above question FREQUENTLY PICK UP LITTER.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward individual measures to control air, water, and other types of pollution.

**CASE I**

Here's a profile of John B.'s behavior

1. Buy detergents irrespective of phosphate content?  
   - Yes

2. Purchase deodorants and other items in aerosol cans?
   - Yes

3. Purchase items in cans or other non-returnable containers?
   - Yes

4. Fail to have the exhaust of the car he drives frequently checked?
   - Yes

5. Drive to locations to which it was possible to walk, ride a bicycle or take a bus?
   - Yes

6. Recycle newspapers?
   - No

7. Contribute money or time to antipollution organizations?
   - No

8. Frequently pick up litter?
   - No

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to John B.'s attitude toward individual measures to control air, water, and other types of pollution:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable
How confident are you in your judgement of John D.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident

CASE II

Here is a profile of Jim T.'s behavior.

(1) Buy detergents irrespective of phosphate content?  no

(2) Purchase deodorants and other items in aerosol cans?  yes

(3) Purchase items in cans or other nonreturnable containers?  yes

(4) Fail to have the exhaust emission of the car he drives frequently checked?  yes

(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus?  yes

(6) Recycle newspapers?  no

(7) Contribute money or time to antipollution organizations?  yes

(8) Frequently pick up litter?  no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jim T.'s attitude toward individual measures to control air, water, and other types of pollution.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable
How confident are you in your judgment of Jim T.'s attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

CASE III

Here is the behavior profile of Donald K:

(1) Buy detergents irrespective of phosphate content? no____
(2) Purchase deodorants and other items in aerosol cans? no____
(3) Purchase items in cans or other nonreturnable containers? no____
(4) Fail to have the exhaust emission of the car he drives frequently checked? no____
(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? no____
(6) Recycle newspapers? yes____
(7) Contribute money or time to antipollution organizations? yes____
(8) Frequently pick up litter? no____

Again you are asked to think carefully about these behaviors. Circle the number below that corresponds to Donald K.'s attitude toward individual measures to control air, water and other types of pollution:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15
Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable
How confident are you in your judgement of Donald K's attitude?

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident

STOP
A large sample of college freshmen and sophomores were asked the following:

Question: What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?

Here is a summary of their responses:

Favorable 70%  
Unfavorable 30%

The researchers in this survey observed the behavior of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expense part of the survey and we would like you to predict the results that you would have expected.

1. 19% of those with a favorable attitude and 51% of those with an unfavorable attitude on the above question generally or never eat potato chips.

2. 18% of those with a favorable attitude and 50% of those with an unfavorable attitude on the above question usually or never purchase candy bars.

3. 18% of those with a favorable attitude and 49% of those with an unfavorable attitude on the above question seldom or never buy French fries when eating out.

4. 18% of those with a favorable attitude and 51% of those with an unfavorable attitude on the above question rarely or never buy shack items from vending machines.

5. 18% of those with a favorable attitude and 49% of those with an unfavorable attitude on the above question never or almost never purchase shacks while shopping.
6. ___17%____2% of those with a FAVORABLE attitude and
    ___49%____2% of those with an UNFAVORABLE attitude on the
above question AT LEAST FREQUENTLY BUY FOOD
AT HEALTH STORES.

7. ___18%____2% of those with a FAVORABLE attitude and
    ___49%____2% of those with an UNFAVORABLE attitude on the
above question RARELY OR NEVER EAT SNACKS
WHILE WATCHING TV.

8. ___17%____2% of those with a FAVORABLE attitude and
    ___48%____2% of those with an UNFAVORABLE attitude on the
above question SELDOM OR NEVER DRINK SODA POP.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

**CASE I**

Here's a profile of Linda K.'s behavior:

1. Generally or never eat potato chips? yes
2. Usually or never purchase candy bars? no
3. Seldom or never buy french fries when eating out? yes
4. Rarely or never buy snack items from vending machines? no
5. Never or almost never purchase snacks while shopping? yes
6. At least frequently buy food at the health store? no
7. Rarely or never eat snacks while watching TV? yes
8. Seldom or never drink soda pop? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Linda K.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  Mildly  Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable
How confident are you in your judgment of Linda K.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very

Confident    Confident    Confident    Confident    Confident

CASE II

Here is a profile of Ellen D.'s behavior:

(1) Generally or never eat potato chips?
No

(2) Usually or never purchase candy bars?
No

(3) Seldom or never buy French fries when eating out?
No

(4) Rarely or never buy snack items from vending machines?
No

(5) Never or almost never purchase snacks while shopping?
No

(6) At least frequently buy food at the health store?
No

(7) Rarely or never eat snacks while watching TV?
No

(8) Seldom or never drink soda pop?
No

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Ellen D.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  Mildly  Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable

How confident are you in your judgment of Ellen D.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all  Slightly  Moderately  Quite  Very

Confident    Confident    Confident    Confident    Confident
CASE III

Here is a profile of Henry S:

(1) Generally or never eat potato chips? yes
(2) Usually or never purchase candy bars? yes
(3) Seldom or never buy french fries when eating out? yes
(4) Rarely or never buy snack items from vending machines? yes
(5) Never or almost never purchase snacks while shopping? yes
(6) At least frequently buy food at the health stores? yes
(7) Rarely or never eat snacks while watching TV? yes
(8) Seldom or never drink soda pop? yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Henry S.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.):

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Hildly Neutral Hildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your judgement of Henry S.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

STOP
APPENDIX G

HIGH RELEVANCY MATERIALS:

EXPERIMENT 1
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following question, "Do you believe that there is an energy shortage?"

Here is a summary of their responses:

<table>
<thead>
<tr>
<th>YES</th>
<th>62.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>37.7%</td>
</tr>
</tbody>
</table>

The researchers in this survey observed the behaviors of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

<table>
<thead>
<tr>
<th>Question</th>
<th>YES (%)</th>
<th>NO (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. of those who answered YES to the above question and</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
<tr>
<td>2. of those who answered YES and</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
<tr>
<td>3. of those who answered NO on the above question</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
<tr>
<td>4. of those who answered YES to the above question and</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
<tr>
<td>5. of those who answered YES to the above question and</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
<tr>
<td>6. of those who answered YES to the above question and</td>
<td>62.3%</td>
<td>37.7%</td>
</tr>
</tbody>
</table>
6. ___41__% of those who answered YES to the above question and  
   ___7__% of those who answered NO on the above question ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE.

7. ___9__% of those who answered YES to the above question and ___66__% of those who answered NO on the above question OFTEN LEAVE LIGHTS ON WHICH GOUS FROM APARTMENT, HOUSE OR DOWN RCH.

8. ___61__% of those who answered YES on the above question and ___4__% of those who answered NO on the above question DO NOT USE AIR CONDITIONING DURING SUMMER WEEKS UNTIL IT IS NEEDED.
CASE II

Here is a profile of Amy C.'s behavior:

1. Keep thermostat in apartment, dorm room, or house below 65° in the winter? **yes**
2. Keep drapes closed? **yes**
3. At least occasionally walk or ride a bicycle to a location to which it was possible to drive? **no**
4. Do not use excessive amounts of hot water? **yes**
5. At least occasionally watch TV in the dark? **yes**
6. Always turn off lights that are not in use? **no**
7. Often leave lights on when gone from apartment, house, or dorm room? **yes**
8. Do not use air conditioning during summer months unless it is necessary? **no**

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Amy C.'s attitude toward energy conservation:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

**Completely** Suspect Don't Suspect Completely
Believe That There Know That Believe That
That There is NOT There Is An Energy Shortage
Is NOT An Energy Shortage
Energy Shortage

How confident are you in your judgment of Amy C.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
CASE III

Here is a profile of Joseph G.'s behavior:

(1) Keep thermostat in apartment, dorm room, or house below 65° in the winter? yes
(2) Keep drapes closed? yes
(3) At least occasionally walk or ride a bicycle to a location to which it was possible to drive? yes
(4) Do not use excessive amounts of hot water? yes
(5) At least occasionally watch TV in the dark? yes
(6) Always turn off lights that are not in use? yes
(7) Often leaves lights on when gone from apartment, house, or dorm room? no
(8) Do not use air conditioning during summer months unless it is necessary? yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Joseph G.'s attitude toward energy conservation:

1  2  3  4  5  6  7  8  9 10  11  12  13  14  15

Completely  Suspect  Don't  Suspect  Completely
Believe  That  There  Know  That  Believe  That
That  There  In  NOT  There  In  There  In  An
In  NOT  An  Energy  An  Energy  Energy  Shortage
Energy  Shortage  Energy  Shortage

How confident are you in your judgement of Joseph G.'s attitude?

1  2  3  4  5  6  7  8  9 10  11  12  13  14  15

Not at all  Slightly  Moderately  Quite  Very
Confident  Confident  Confident  Confident  Confident
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward introductory psychology?"

Here is a summary of their responses:

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAVORABLE</td>
<td>41%</td>
</tr>
<tr>
<td>UNFAVORABLE</td>
<td>59%</td>
</tr>
</tbody>
</table>

The researchers in this survey observed the behaviors of those who indicated a FAVORABLE attitude and compared them to those who indicated an UNFAVORABLE attitude toward introductory psychology. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 67% of those who indicated a FAVORABLE attitude and 9% of those who indicated an UNFAVORABLE attitude on the above question READ AHEAD OF ASSIGNMENTS IN THEIR INTRODUCTORY PSYCHOLOGY COURSE.

2. 63% of those who indicated a FAVORABLE attitude and 10% of those who indicated an UNFAVORABLE attitude on the above question PAY CLOSE ATTENTION IN CLASS.

3. 69% of those who indicated a FAVORABLE attitude and 12% of those who indicated an UNFAVORABLE attitude on the above question at least FREQUENTLY MISS CLASS.

4. 63% of those who indicated a FAVORABLE attitude and 3% of those who indicated an UNFAVORABLE attitude on the above question STUDY PSYCHOLOGY BEFORE STUDYING FOR OTHER COURSES.

5. 56% of those who indicated a FAVORABLE attitude and 7% of those who indicated an UNFAVORABLE attitude on the above question READ OUTSIDE MATERIALS RELATED TO THE COURSE.

6. 87% of those who indicated a FAVORABLE attitude and 6% of those who indicated an UNFAVORABLE attitude on the above question SIGN UP FOR MORE EXPERIMENTS THAN REQUIRED IN THE COURSE.
7. **66%** of those who indicated a **FAVORABLE** attitude and
**6%** of those who indicated an **UNFAVORABLE** attitude on the above question **PLAN TO SIGN UP FOR MORE PSYCHOLOGY COURSES**.

8. **68%** of those who indicated a **FAVORABLE** attitude and
**7%** of those who indicated an **UNFAVORABLE** attitude on the above question **ACTIVELY PARTICIPATE IN CLASS DISCUSSIONS**.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward introductory psychology.

**CASE 1**

Here's a profile of Richard L.'s behavior:

1. Read ahead of assignments in their introductory psychology course? **yes**
2. Pay close attention in class? **yes**
3. At least frequently miss class? **no**
4. Study psychology before studying for other courses? **yes**
5. Read outside materials related to the course? **yes**
6. Sign up for more experiments than required in the course? **yes**
7. Plan to sign up for more psychology courses? **yes**
8. Actively participate in class discussions? **yes**

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Richard L.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your judgment of Richard L.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
CASE II

Here is a profile of Steve D.'s behavior:

1. Read ahead of assignments in their introductory psychology course? **yes**
2. Pay close attention in class? **no**
3. At least frequently miss class? **yes**
4. Study psychology before studying for other courses? **yes**
5. Read outside materials related to the course? **yes**
6. Sign up for more experiments than required in the course? **no**
7. Plan to sign up for more psychology courses? **yes**
8. Actively participate in class discussions? **no**

Again you are asked to think carefully about these behaviors. Circle the number that you believe corresponds to Steve D.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Unfavorable Hildly Unfavorable Neutral Hildly Favorable Extremely Favorable

How confident are you in your judgement of Steve D.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident

CASE III

Here is a profile of Jerry R.'s behavior:

1. Read ahead of assignments in their introductory psychology course? **no**
2. Pay close attention in class? **no**
3. At least frequently miss class? **yes**
4. Study psychology before studying for other courses? **no**
5. Read outside materials related to the course? **no**
(6) Sign up for more experiments than required in the course? no
(7) Plan to sign up for more psychology courses? no
(8) Actively participate in class discussions? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jerry R.'s attitude toward introductory psychology:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your judgment of Jerry R.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

<table>
<thead>
<tr>
<th>FAVORABLE</th>
<th>UNFAVORABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>66%</td>
<td>32%</td>
</tr>
</tbody>
</table>

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 13% 7% of those with a FAVORABLE attitude and

68% 7% of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 17% 7% of those with a FAVORABLE attitude and

68% 7% of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AEROSOL CANS.

3. 15% 7% of those with a FAVORABLE attitude and

72% 7% of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER UNRETURNABLE CONTAINERS.

4. 18% 7% of those with a FAVORABLE attitude and

69% 7% of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
5. 14% of those with a FAVORABLE attitude and
   71% of those with an UNFAVORABLE attitude on
   the above question DRIVE TO LOCATIONS TO
   WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE,
   OR TAKE A BUS.

6. 57% of those with a FAVORABLE attitude and
   4% of those with an UNFAVORABLE attitude on
   the above question RECYCLE NEWSPAPERS.

7. 53% of those with a FAVORABLE attitude and
   3% of those with an UNFAVORABLE attitude on
   the above question CONTRIBUTE MONEY OR TIME
   TO ANTIPOLLUTION ORGANIZATIONS.

8. 54% of those with a FAVORABLE attitude and
   3% of those with an UNFAVORABLE attitude on
   the above question FREQUENTLY PICK UP LITTER.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward individual measures to control air, water, and other types of pollution.

**CASE I**

Here's a profile of John B.'s behavior:

1. Buy detergents irrespective of phosphate content? **yes**
2. Purchase deodorants and other items in aerosol cans? **yes**
3. Purchase items in cans or other nonreturnable containers? **yes**
4. Fail to have the exhaust of the car he drives frequently checked? **yes**
5. Drive to locations to which it was possible to walk, ride a bicycle or take a bus? **yes**
6. Recycle newspapers? **no**
7. Contribute money or time to antipollution organizations? **no**
8. Frequently pick up litter? **no**

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to John B.'s attitude toward individual measures to control air, water, and other types of pollution:

1  2  3  4  5  6  7  8  9  10  11  12  13  14  15

Extremely  HNdy  Neutral  HNdy  Extremely
Unfavorable  Unfavorable  Favorable  Favorable
How confident are you in your judgement of John D.'s attitude?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Quite</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident</td>
<td>Confident</td>
<td>Confident</td>
<td>Confident</td>
<td>Confident</td>
</tr>
</tbody>
</table>

**CASE II**

Here is a profile of Jim T.'s behavior.

1. Buy detergents irrespective of phosphate content? **no**
2. Purchase deodorants and other items in aerosol cans? **yes**
3. Purchase items in cans or other nonreturnable containers? **yes**
4. Fail to have the exhaust emission of the car he drives frequently checked? **yes**
5. Drive to locations to which it was possible to walk, ride a bicycle or take a bus? **yes**
6. Recycle newspapers? **no**
7. Contribute money or time to antipollution organizations? **yes**
8. Frequently pick up litter? **no**

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Jim T.'s attitude toward individual measures to control air, water and other types of pollution.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Quite</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely</td>
<td>Mildly</td>
<td>Neutral</td>
<td>Mildly</td>
<td>Extremely</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>Unfavorable</td>
<td>Favorable</td>
<td>Favorable</td>
<td></td>
</tr>
</tbody>
</table>
How confident are you in your judgment of Jim T.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very Confident Confident Confident Confident Confident

CASE III

Here is the behavior profile of Donald K:

(1) Buy detergents irrespective of phosphate content? no

(2) Purchase deodorants and other items in aerosol cans? no

(3) Purchase items in cans or other nonreturnable containers? no

(4) Fail to have the exhaust emission of the car he drives frequently checked? no

(5) Drive to locations to which it was possible to walk, ride a bicycle or take a bus? no

(6) Recycle newspapers? yes

(7) Contribute money or time to antipollution organizations? yes

(8) Frequently pick up litter? no

Again you are asked to think carefully about these behaviors. Circle the number below that corresponds to Donald K.'s attitude toward individual measures to control air, water and other types of pollution:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable
How confident are you in your judgment of Donald K's attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

STOP
A large sample of college freshmen and sophomores were asked the following:

Question: What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, and donuts, etc.)?

Here is a summary of their responses:

| FAVORABLE | 70 % |
| UNFAVORABLE | 30 % |

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. **12 %** of those with a FAVORABLE attitude and
   **68 %** of those with an UNFAVORABLE attitude on the above question GENERALLY OR NEVER EAT POTATO CHIPS.

2. **13 %** of those with a FAVORABLE attitude
   **64 %** of those with an UNFAVORABLE attitude on the above question USUALLY OR NEVER PURCHASE CANDY BARS.

3. **11 %** of those with a FAVORABLE attitude and
   **67 %** of those with an UNFAVORABLE attitude on the above question SELLING OR NEVER BUY FRENCH FRIES WHEN EATING OUT.

4. **10 %** of those with a FAVORABLE attitude and
   **69 %** of those with an UNFAVORABLE attitude on the above question RARELY OR NEVER BUY SNACK ITEMS FROM VENDING MACHINES.

5. **10 %** of those with a FAVORABLE attitude and
   **69 %** of those with an UNFAVORABLE attitude on the above question NEVER OR ALMOST NEVER PURCHASE SNACKS WHILE SHOPPING.
6. 10% of those with a FAVORABLE attitude and
    68% of those with an UNFAVORABLE attitude on the
above question AT LEAST FREQUENTLY BUY FOOD
AT HEALTH STORES.

7. 11% of those with a FAVORABLE attitude and
    66% of those with an UNFAVORABLE attitude on the
above question RARELY OR NEVER EAT SNACKS
WHILE WATCHING TV.

8. 8% of those with a FAVORABLE attitude and
    68% of those with an UNFAVORABLE attitude on the
above question RARELY OR NEVER DRINK SODA POP.
In addition to the information that you provided above we would like for you to make an estimation regarding the attitudes of three individuals. Your task is to assign these individuals an attitude that you believe they hold. You will be told what behaviors they engage in. You have already thought extensively about these behaviors since they are the eight behaviors mentioned on the previous page. Also, as before, the attitude is the degree of favorability toward junk foods (such as potato chips, hostess Twinkies, candy bars, etc.).

CASE 1

Here's a profile of Linda K.'s behavior:

1. Generally or never eat potato chips? no
2. Usually or never purchase candy bars? yes
3. Seldom or never buy french fries when eating out? no
4. Rarely or never buy snack items from vending machines? yes
5. Never or almost never purchase snacks while shopping? yes
6. At least frequently buy food at the health stores? yes
7. Rarely or never eat snacks while watching TV? no
8. Seldom or never drink soda pop? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Linda K.'s attitude toward junk foods (such as potato chips, hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely  Mildly Neutral  Mildly  Extremely
Unfavorable  Unfavorable  Favorable  Favorable
How confident are you in your judgement of Linda L.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident

CASE II

Here is a profile of Ellen B.'s behavior:

(1) Generally or never eat potato chips? no
(2) Usually or never purchase candy bars? no
(3) Seldom or never buy french fries when eating out? no
(4) Rarely or never buy snack items from vending machines? no
(5) Never or almost never purchase snacks while shopping? no
(6) At least frequently buy food at the health store? no
(7) Rarely or never eat snacks while watching TV? no
(8) Seldom or never drink soda pop? no

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Ellen B.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Unfavorable Unfavorable Neutral Favorable Favorable
Unfavorable

How confident are you in your judgement of Ellen B.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident

Confident
CASE III

Here is a profile of Henry S:

(1) Generally or never eat potato chips? yes
(2) Usually or never purchase candy bars? yes
(3) Seldom or never buy french fries when eating out? yes
(4) Rarely or never buy snack items from vending machines? yes
(5) Never or almost never purchase snacks while shopping? yes
(6) At least frequently buy food at the health stores? yes
(7) Rarely or never eat snacks while watching TV? yes
(8) Seldom or never drink soda pop? yes

Again you are asked to think carefully about these behaviors. Circle the number below that you believe corresponds to Henry S.'s attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.):

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Unfavorable Neutral Favorable
Hildly Unfavorable Hildly Favorable
Unfavorable Favorable

How confident are you in your judgement of Henry S.'s attitude?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident

STOP
APPENDIX II
HIGH-RELEVANCY MATERIALS,
ENERGY TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the box. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following Question, "Do you believe that there is an energy shortage?"

Here is a summary of their responses:

YES 62
NO 38

The researchers in this survey observed the behaviors of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 62 % of those who answered YES to the above question and
   3 % of those who answered NO on the above question
   KEEP THERMOSTAT IN APARTMENT, DORM ROOM, OR HOUSE BELOW 65° IN THE WINTER.

2. 62 % of those who answered YES and
   5 % of those who answered NO on the above question
   KEEP DRAPES CLOSED.

3. 59 % of those who answered YES to the above question and
   7 % of those who answered NO on the above question
   AT LEAST OCCASIONALLY WALK OR RIDE A BICYCLE TO A LOCATION TO WHICH IT WAS POSSIBLE TO DRIVE.

4. 58 % of those who answered YES to the above question
   5 % of those who answered NO on the above question
   DO NOT USE EXCESSIVE AMOUNTS OF HOT WATER.

5. 59 % of those who answered YES to the above question and
   4 % of those who answered NO on the above question
   AT LEAST OCCASIONALLY WATCH TV IN THE DARK.
6. _____% of those who answered YES to the above question and

_____% of those who answered NO on the above question ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE.

7. _____% of those who answered YES to the above question and

_____% of those who answered NO on the above question OFTEN LEAVE LIGHTS ON WHICH COME FROM APARTMENT, HOUSE OR DOWNSTAIRS.

8. _____% of those who answered YES to the above question and

_____% of those who answered NO on the above question DO NOT USE AIR CONDITIONING DURING SUMMER MAYS IF IT IS NOT NEEDED.
Because of the possibility that your attitude could have influenced your estimates, indicate your attitude on the following scale:

**What is your belief regarding the energy shortage?**

<table>
<thead>
<tr>
<th>1</th>
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<th>12</th>
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<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Believe That There Is An Energy Shortage</td>
<td>Don't Suspect That There Is An Energy Shortage</td>
<td>Suspect That There Is An Energy Shortage</td>
<td>Completely Believe That There Is An Energy Shortage</td>
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<td>Completely Believe That There Is An Energy Shortage</td>
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<td>Suspect That There Is An Energy Shortage</td>
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<td>Completely Believe That There Is An Energy Shortage</td>
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<td>Suspect That There Is An Energy Shortage</td>
<td>Completely Believe That There Is An Energy Shortage</td>
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How confident are you in your answer to the above question?

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<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all Confident</td>
<td>Slightly Confident</td>
<td>Moderately Confident</td>
<td>Quite Confident</td>
<td>Very Confident</td>
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<tr>
<td>Not at all Confident</td>
<td>Slightly Confident</td>
<td>Moderately Confident</td>
<td>Quite Confident</td>
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<tr>
<td>Not at all Confident</td>
<td>Slightly Confident</td>
<td>Moderately Confident</td>
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</table>
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX I

NATURAL-RELEVANCY MATERIALS,

ENERGY TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the box. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following question, "Do you believe there is an energy shortage?" Here is a summary of their responses:

<table>
<thead>
<tr>
<th>YES</th>
<th>62%</th>
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</thead>
<tbody>
<tr>
<td>NO</td>
<td>38%</td>
</tr>
</tbody>
</table>

The researchers in this survey observed the behaviors of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. **52%** of those who answered **YES** to the above question and **21%** of those who answered **NO** on the above question keep the thermostat in apartment, dorm room, or house below 65° in the winter.

2. **51%** of those who answered **YES** and **20%** of those who answered **NO** on the above question keep drapes closed.

3. **20%** of those who answered **YES** to the above question and **50%** of those who answered **NO** on the above question at least occasionally walk or ride a bicycle to a location to which it was possible to drive.

4. **49%** of those who answered **YES** to the above question and **20%** of those who answered **NO** on the above question do not use excessive amounts of hot water.

5. **49%** of those who answered **YES** to the above question and **20%** of those who answered **NO** on the above question at least occasionally watch TV in the dark.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>of those who answered YES to the above question and</th>
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<tr>
<td>6</td>
<td>52%</td>
<td>of those who answered YES to the above question and</td>
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<td></td>
<td>20%</td>
<td>of those who answered NO on the above question ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE.</td>
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<tr>
<td>7</td>
<td>19%</td>
<td>of those who answered YES to the above question and</td>
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<tr>
<td></td>
<td>50%</td>
<td>of those who answered NO on the above question OFTEN LEAVE LIGHTS ON WHEN GONE FROM APARTMENT, HOUSE OR DORM ROOM.</td>
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<tr>
<td>8</td>
<td>50%</td>
<td>of those who answered YES to the above question and</td>
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<td></td>
<td>20%</td>
<td>of those who answered NO on the above question DO NOT USE AIR CONDITIONING DURING SUMMER MONTHS UNLESS IT IS NEEDED.</td>
</tr>
</tbody>
</table>
Because of the possibility that your attitude could have influenced your estimates, indicate your attitude on the following scale:

What is your belief regarding the energy shortage?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Completely Believe That There IS An Energy Shortage
Believe That There IS Not An Energy Shortage
Suspect That There IS An Energy Shortage
Don't Know Suspect That There IS Not An Energy Shortage

How confident are you in your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Confident Slightly Confident Moderately Confident Quite Confident Very Confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX J

LOW-RELEVANCY MATERIALS,

ENERGY TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 68%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following question, "Do you believe that there is an energy shortage?

Here is a summary of their responses:

<table>
<thead>
<tr>
<th>YES</th>
<th>62 %</th>
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</thead>
<tbody>
<tr>
<td>NO</td>
<td>38 %</td>
</tr>
</tbody>
</table>

The researchers in this survey observed the behaviors of those who indicated a belief that there is an energy shortage and compared them to those who indicated a belief that there is NOT an energy shortage. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 41% of those who answered YES to the above question and 38% of those who answered NO on the above question keep the thermostat in apartment, dorm room, or house below 65° in the winter.

2. 42% of those who answered YES and 37% of those who answered NO on the above question keep drapes closed.

3. 42% of those who answered YES to the above question and 34% of those who answered NO on the above question at least occasionally walk or ride a bicycle to a location to which it was possible to drive.

4. 40% of those who answered YES to the above question and 35% of those who answered NO on the above question do not use excessive amounts of hot water.

5. 39% of those who answered YES to the above question and 36% of those who answered NO on the above question at least occasionally watch TV in the dark.
6. **44.2** \% of those who answered **YES** to the above question and

**34.2** \% of those who answered **NO** on the above question **ALWAYS TURN OFF LIGHTS THAT ARE NOT IN USE**.

7. **29.2** \% of those who answered **YES** to the above question and

**34.2** \% of those who answered **YES** to the above question **OFTEN LEAVE LIGHTS ON WHEN GONE FROM APARTMENT, HOUSE OR DOOR ROOM**.

8. **40.2** \% of those who answered **YES** to the above question and

**31.2** \% of those who answered **NO** to the above question **DO NOT USE AIR CONDITIONING DURING SUMMER MONTHS IF IT IS NOT NECESSARY**.
Because of the possibility that your attitude could have influenced your estimates, indicate your attitude on the following scale:

What is your belief regarding the energy shortage?

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<th>12</th>
<th>13</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Completely Believe That There Is An Energy Shortage</td>
<td>Suspect That There Is An Energy Shortage</td>
<td>Don't Know That There Is An Energy Shortage</td>
<td>Suspect That There Is Not An Energy Shortage</td>
<td>Completely Believe That There Is Not An Energy Shortage</td>
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How confident are you in your answer to the above question?

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<th>12</th>
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<th>15</th>
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<tbody>
<tr>
<td>Not at all Confident</td>
<td>Slightly Confident</td>
<td>Moderately Confident</td>
<td>Quite Confident</td>
<td>Very Confident</td>
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Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX K

HIGH-RELEVANCY MATERIALS,

POLLUTION TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 68%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomore were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

FAVORABLE 68%

UNFAVORABLE 32%

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 13% of those with a FAVORABLE attitude and

68% of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 17% of those with a FAVORABLE attitude and

68% of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AEROSOL CANS.

3. 15% of those with a FAVORABLE attitude and

72% of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER NONRETURNABLE CONTAINERS.

4. 18% of those with a FAVORABLE attitude and

69% of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
<table>
<thead>
<tr>
<th></th>
<th><strong>% of those with a FAVORABLE attitude</strong></th>
<th><strong>% of those with an UNFAVORABLE attitude</strong></th>
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<tr>
<td>5</td>
<td>14</td>
<td>71</td>
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<tr>
<td></td>
<td>on the above question \textit{DRIVE TO LOCATIONS TO WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE, OR TAKE A BUS.}</td>
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<td>6</td>
<td>57</td>
<td>4</td>
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<td>on the above question \textit{RECYCLE NEWSPAPERS.}</td>
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<td>53</td>
<td>3</td>
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<td>on the above question \textit{CONTRIBUTE MONEY OR TIME TO ANTIPOLLUTION ORGANIZATIONS.}</td>
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<tr>
<td>8</td>
<td>54</td>
<td>3</td>
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<td></td>
<td>on the above question \textit{FREQUENTLY PICK UP LITTER.}</td>
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</table>
Because of the possibility that your attitude could have influenced your estimates, please indicate your attitude on the following scale:

What is your attitude toward individual measures to control air, water, and other types of pollution?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
extremely mildly Neutral mildly extremely
unfavorable unfavorable favorable unfavorable

How confident are you regarding your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all slightly moderately quite very
confident confident confident confident confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX L

NATURAL-RELEVANCY MATERIALS,

POLLUTION TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomore were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

<table>
<thead>
<tr>
<th>FAVORABLE</th>
<th>68 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNFAVORABLE</td>
<td>32 %</td>
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</table>

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 22% % of those with a FAVORABLE attitude and
   51% % of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 23% % of those with a FAVORABLE attitude and
   52% % of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AEROSOL CANS.

3. 23% % of those with a FAVORABLE attitude and
   53% % of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER NONRETURNABLE CONTAINERS.

4. 25% % of those with a FAVORABLE attitude and
   54% % of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
5. 22% of those with a FAVORABLE attitude and
   52% of those with an UNFAVORABLE attitude on
   the above question DRIVE TO LOCATIONS TO
   WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE,
   OR TAKE A BUS.

6. 50% of those with a FAVORABLE attitude and
   19% of those with an UNFAVORABLE attitude on
   the above question RECYCLE NEWSPAPERS.

7. 47% of those with a FAVORABLE attitude and
   17% of those with an UNFAVORABLE attitude on
   the above question CONTRIBUTE MONEY OR TIME
   TO ANTIPOLLUTION ORGANIZATIONS.

8. 48% of those with a FAVORABLE attitude and
   18% of those with an UNFAVORABLE attitude on
   the above question FREQUENTLY PICK UP LITTER.
Because of the possibility that your attitude could have influenced your estimates, please indicate your attitude on the following scale:

What is your attitude toward individual measures to control air, water, and other types of pollution?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
extremely mildly Neutral mildly extremely unfavorable unfavorable favorable unfavorable

How confident are you regarding your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all slightly moderately quite very confident confident confident confident confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX M

LOW-RELEVANCY MATERIALS,

POLLUTION TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward individual measures to control air, water, and other types of pollution?"

Here is a summary of their responses:

FAVORABLE 68%
UNFAVORABLE 32%

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 30% ______ of those with a FAVORABLE attitude and

   33% ______ of those with an UNFAVORABLE attitude on the above question BUY DETERGENTS IRRESPECTIVE OF PHOSPHATE CONTENT.

2. 31% ______ of those with a FAVORABLE attitude and

   38% ______ of those with an UNFAVORABLE attitude on the above question PURCHASE DEODORANTS AND OTHER ITEMS IN AEROSOL CANS.

3. 32% ______ of those with a FAVORABLE attitude and

   35% ______ of those with an UNFAVORABLE attitude on the above question PURCHASE ITEMS IN CANS OR OTHER UNRETURNABLE CONTAINERS.

4. 32% ______ of those with a FAVORABLE attitude and

   39% ______ of those with an UNFAVORABLE attitude on the above question FAIL TO HAVE THE EXHAUST EMISSION OF THE CAR THAT THEY DRIVE FREQUENTLY CHECKED.
5. \(30\%\) of those with a FAVORABLE attitude and
\(33\%\) of those with an UNFAVORABLE attitude on the above question DRIVE TO LOCATIONS TO WHICH IT WAS POSSIBLE TO WALK, RIDE A BIKE, OR TAKE A BUS.

6. \(43\%\) of those with a FAVORABLE attitude and
\(33\%\) of those with an UNFAVORABLE attitude on the above question RECYCLE NEWSPAPERS.

7. \(40\%\) of those with a FAVORABLE attitude and
\(30\%\) of those with an UNFAVORABLE attitude on the above question CONTRIBUTE MONEY OR TIME TO ANTIPOLLUTION ORGANIZATIONS.

8. \(41\%\) of those with a FAVORABLE attitude and
\(32\%\) of those with an UNFAVORABLE attitude on the above question FREQUENTLY PICK UP LITTER.
Because of the possibility that your attitude could have influenced your estimates, please indicate your attitude on the following scale:

What is your attitude toward individual measures to control air, water, and other types of pollution?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
extremely mildly neutral mildly extremely
unfavorable unfavorable favorable unfavorable

How confident are you regarding your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all slightly moderately quite very
confident confident confident confident confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX N

HIGH-RELEVANCY MATERIALS,

JUNK FOODS TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following:

Question: "What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, and beer, etc.)?"

Here is a summary of their responses:

| FAVORABLE | 70% |
| UNFAVORABLE | 30% |

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. **12%** of those with a FAVORABLE attitude and **68%** of those with an UNFAVORABLE attitude on the above question generally or never eat potato chips.

2. **13%** of those with a FAVORABLE attitude and **64%** of those with an UNFAVORABLE attitude on the above question usually or never purchase candy bars.

3. **11%** of those with a FAVORABLE attitude and **67%** of those with an UNFAVORABLE attitude on the above question seldom or never buy French fries when eating out.

4. **10%** of those with a FAVORABLE attitude and **69%** of those with an UNFAVORABLE attitude on the above question rarely or never buy snack items from vending machines.

5. **10%** of those with a FAVORABLE attitude and **69%** of those with an UNFAVORABLE attitude on the above question never or almost never purchase snacks while shopping.
6. 10% of those with a FAVORABLE attitude and
    68% of those with an UNFAVORABLE attitude on the
    above question AT LEAST FREQUENTLY BUY FOOD
    AT HEALTH STORES.

7. 11% of those with a FAVORABLE attitude and
    66% of those with an UNFAVORABLE attitude on the
    above question RARELY OR NEVER EAT SNACKS
    WHILE WATCHING TV.

3. 8% of those with a FAVORABLE attitude and
    68% of those with an UNFAVORABLE attitude on the
    above question RARELY OR NEVER DRINK SODA POP.
Because of the possibility that your attitudes could have influenced your estimates, indicate your attitude on the following scale:

What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
Indicating, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.
APPENDIX 0

NATURAL-RELEVANCY MATERIALS,

JUNK FOODS TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 68%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the boxes. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following:

Question: What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?

Here is a summary of their responses:

| FAVORABLE | 70 | |
| UNFAVORABLE | 30 | |

The researchers in this survey observed the behavior of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. **19** 2 _%_ of those with a FAVORABLE attitude and
   **51** 2 _%_ of those with an UNFAVORABLE attitude on the above question **GENERALLY OR NEVER** EAT POTATO CHIPS.

2. **18** 2 _%_ of those with a FAVORABLE attitude
   **50** 2 _%_ of those with an UNFAVORABLE attitude on the above question **USUALLY OR NEVER** PURCHASE CAUDY BARS.

3. **18** 2 _%_ of those with a FAVORABLE attitude
   **49** 2 _%_ of those with an UNFAVORABLE attitude on the above question **SELDOM OR NEVER** BUY FRENCH FRIES WHEN EATING OUT.

4. **18** 2 _%_ of those with a FAVORABLE attitude and
   **51** 2 _%_ of those with an UNFAVORABLE attitude on the above question **RARELY OR NEVER** BUY SNACK ITEMS FROM VENDING MACHINES.

5. **18** 2 _%_ of those with a FAVORABLE attitude and
   **49** 2 _%_ of those with an UNFAVORABLE attitude on the above question **NEVER OR ALMOST NEVER** PURCHASE SNACKS WHILE SHOPPING.
of those with a FAVOURABLE attitude and

of those with an UNFAVOURABLE attitude on

above question.

of those with a FAVOURABLE attitude and

of those with an UNFAVOURABLE attitude on

above question.
Because of the possibility that your attitudes could have influenced your estimates, indicate your attitude on the following scale:

What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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APPENDIX P

LOW-RELEVANCY MATERIALS

JUNK FOODS TOPIC: EXPERIMENT 2
This experiment concerns your ability to predict the outcome of survey research. You are going to read the results of an extensive survey of attitudes and behaviors.

Survey can be quite expensive and we are testing whether individuals can predict the outcome of a survey. Some researchers contend that, with thoughtful and concentrated reflection on a topic, accurate figures can be obtained through questionnaires of this type at a fraction of the cost of more expensive observations of behavior. Thus, we are interested in comparing your predictions with actual results obtained from expensive surveys.

On the next page, you will read a description of the items measured in a survey, for example, the percentage of people who watch the evening news. You might also be given the answer to the item (for example, 60%) or you might not be given the answer. In any case, for each survey item, whether given the answer or not, you are to make a prediction. That is, you are to estimate a percentage that you would have predicted. Place your prediction in the box. Give each survey item close consideration. Think about the behaviors and attitudes carefully. Your answers are important.
A large sample of college freshmen and sophomores were asked the following:

Question: 'What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, cand bars, etc.)?'

Here is a summary of their responses:

FAVORABLE 70 %
UNFAVORABLE 30 %

The researchers in this survey observed the behaviors of those who indicated a favorable attitude and compared them to those who indicated an unfavorable attitude. This was the expensive part of the survey and we would like you to predict the results that you would have expected.

1. 25 %  of those with a FAVORABLE attitude and
   35 %  of those with an UNFAVORABLE attitude on
   the above question GENERAL OR NEVER EAT
   POTATO CHIPS.

2. 27 %  of those with a FAVORABLE attitude
   10 %  of those with an UNFAVORABLE attitude
   on the above question USUALLY OR NEVER
   PURCHASE CANDY BARS.

3. 26 %  of those with a FAVORABLE attitude and
   32 %  of those with an UNFAVORABLE attitude on
   the above question SELDOM OR NEVER BUY
   FRENCH FRIES WHEN EATING OUT.

4. 26 %  of those with a FAVORABLE attitude and
   32 %  of those with an UNFAVORABLE attitude on
   the above question RARELY OR NEVER BUY
   SNACK ITEMS FROM VENDING MACHINES.

5. 27 %  of those with a FAVORABLE attitude and
   30 %  of those with an UNFAVORABLE attitude on
   the above question NEVER OR ALMOST NEVER PURCHASE
   SNACKS WHILE SHOPPING.
6. 25% of those with a FAVORABLE attitude and 31% of those with an UNFAVORABLE attitude on the above question AT LEAST FREQUENTLY BUY FOOD AT HEALTH STORES.

7. 26% of those with a FAVORABLE attitude and 33% of those with an UNFAVORABLE attitude on the above question RARELY OR NEVER EAT SNACKS WHILE WATCHING TV.

8. 32% of those with a FAVORABLE attitude and 38% of those with an UNFAVORABLE attitude on the above question SELLON OR NEVER DRINK SODA POP.
Because of the possibility that your attitudes could have influenced your estimates, indicate your attitude on the following scale:

What is your attitude toward junk foods (such as potato chips, Hostess Twinkies, candy bars, etc.)?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Extremely Mildly Neutral Mildly Extremely
Unfavorable Unfavorable Favorable Favorable

How confident are you in your answer to the above question?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Not at all Slightly Moderately Quite Very
Confident Confident Confident Confident Confident
Indicate, for each of the eight behaviors listed, those behaviors that apply to you by placing a check beside those behaviors.

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