



University of North Florida
UNF Digital Commons

All Volumes (2001-2008)

The Osprey Journal of Ideas and Inquiry

2002

The Availability Heuristic in Judgments of Research Findings: Manipulations of Subjective Experience

Michele A. Shams
University of North Florida

Follow this and additional works at: http://digitalcommons.unf.edu/ojii_volumes

 Part of the [Social and Behavioral Sciences Commons](#)

Suggested Citation

Shams, Michele A., "The Availability Heuristic in Judgments of Research Findings: Manipulations of Subjective Experience" (2002).
All Volumes (2001-2008). 112.
http://digitalcommons.unf.edu/ojii_volumes/112

This Article is brought to you for free and open access by the The Osprey Journal of Ideas and Inquiry at UNF Digital Commons. It has been accepted for inclusion in All Volumes (2001-2008) by an authorized administrator of UNF Digital Commons. For more information, please contact [Digital Projects](#).

© 2002 All Rights Reserved



The Availability Heuristic in Judgments of Research Findings: Manipulations of Subjective Experience

Michele A. Shams

Faculty Sponsor: Dr. Dan Richard

Abstract

Previous studies have demonstrated that what is easy to call to mind will influence judgments. The impact of a person's subjective experience was tested for its influence on judgments of social psychological research findings. Eighty-three college students generated examples of 40 research findings. Students subsequently judged the ease with which the examples came to mind and the probability of experiencing similar examples. Students then evaluated the obviousness and importance of and their interest in the research outcomes. Students also provided demographic information and indicated their previous knowledge in psychology. In the current study, the ease with which examples of research findings could be recalled influenced student's obviousness but not importance judgments. Other studies found that obviousness and importance judgments of research findings are positively related. The relationship between these judgments was not replicated in the current study. Results are discussed in terms of the availability heuristic and other cognitive strategies involved in lay judgments of research.

Introduction

People acquire and process knowledge about their social world in different ways. One way people gain knowledge is through past experience. People often use their past experiences with others, for example, to develop and test lay theories (Heider,

1958). Scientists also develop and test theories about human behavior. Scientists and lay people, however, may think differently about the importance of research outcomes. Scientists think that if a finding is obvious, then it is not important to conduct further research on that topic. Studies have shown that when lay people think a finding is obvious, they also think that it is important (Richard, Bond, and Stokes-Zoota, 2001). Scientists conduct research to gain knowledge that could eventually be beneficial to the general public (Aronson, Ellsworth, Carlsmith, & Gonzales, 1990). In order for scientific information to be beneficial, scientists must disseminate the information to the public in a way that people can understand. Scientists must understand lay knowledge if they are to communicate important information to the public and if this information is to be received. The current study was designed to better understand how lay people interpret and process scientific information.

Scientists use a defined method. They think critically, formulate hypotheses, and test theories. Psychologists believe that lay people think much like scientists (Heider, 1958). People interpret and then assimilate new information into their existing mental systems through a form of hypothesis testing. The lay person's hypothesis testing is similar to a scientist's because they both rule out alternative possibilities. The lay person's hypothesis testing, however, is not as comprehensive as a scientist's process (Fiske & Taylor, 1982).

Other studies reveal that scientists and lay people may differ in how they interpret the results of scientific hypothesis testing. Scientists feel that an obvious finding is not interesting and not important, hence not worthy of research. Scientists are afraid of wasting precious resources investigating topics that are already known. Research findings that do not appear obvious arouse curiosity and are investigated further (Aronson et al., 1990). Lay people, however, may respond differently to research they consider surprising. Richard

et al. (2001) investigated the differences in lay peoples' perceptions of social psychological results. Students read 398 findings gathered from published social psychological research reviews. The researchers asked college students to make a judgment about each research finding. Some students indicated whether each finding was obvious or not obvious, some indicated whether each finding was interesting or not interesting, and others indicated whether each finding was important or not important. The research findings most college students judged as obvious were the findings other students judged as important. Although scientists consider obvious research as unimportant, lay people believe the most obvious research findings are the most important.

In an effort to see if lay people and scientists differ drastically in how they evaluate research, Richard et al. (2001) asked students to read each research finding and judge whether they think the finding is important enough for scientists to conduct further research on that topic. If students evaluate research like social scientists, then findings considered obvious would be judged as least important for scientists to pursue further. The opposite occurred. Students indicated that it was more important to conduct additional research on obvious findings and less important to pursue non-obvious findings. Richard et al.'s (2001) study demonstrated that what the lay person considers important is not necessarily consistent with what a scientist typically would consider important.

Perhaps what a lay person believes is obvious is not what a scientist considers obvious. Scientists consider obvious what is already known (Aronson et al., 1990). Sometimes what lay people consider an obvious research finding may not always be a true finding. People may believe, for example, that when it comes to romantic relationships, "opposites attract," but social psychological research has suggested that people become romantically involved with people who are similar (Feingold, 1988).

Researchers have investigated inaccuracies lay people have when evaluating research. In Richard et al.'s (2001) study, people accurately distinguished between true findings and foil findings. The research findings lay people find obvious, therefore, are the findings they can predict

Wong (1995) also evaluated lay judgments of research findings. In her study, Wong presented students with 12 teaching-related research findings and asked the students to rate the obviousness of each statement. People rated summaries that stated the opposite of actual research outcomes as more obvious than the original outcomes themselves. In addition, providing a rationale for a finding, whether it was an actual finding or an opposite finding, increased the degree to which people rated the research summary as obvious. Feelings of obviousness tended to bias a person's judgments and were not a good measure of accuracy when students judged research results. Richard et al. (2001) found that students can distinguish true findings from foil findings and that true findings rated as obvious also were accurately distinguished from foils. Evidence demonstrates that lay people do have a sense of true psychological research findings and that what is important to lay people tends to be what is obvious.

Research has demonstrated that lay people do think differently than scientists regarding judgments of research findings. The way lay people make judgments of research and their subjective experiences when making these judgments can be important in understanding differences between scientists and non-scientists. Making a judgment about research involves a process rather than a single act. Strack (1992) introduced a model that outlines this judgment process. When making any judgment, a person goes through two phases: an exposure phase and a judgment phase. In the exposure phase, a person is presented with a stimulus. Concurrently, the person evaluates information that is given about the stimulus, his or her own

past experiences relating to the stimulus, and the process information (e.g. how easy or difficult it is for the person to think of experiences) relating to the stimulus. The exposure phase is completed before continuing to the judgment phase. In the judgment phase, the person evaluates how the information obtained in the exposure phase compares to previous knowledge relating to the stimulus. The person then checks and corrects the information for perceived biases. Finally, a judgment is made. Judgments are greatly affected by how past experiences and information from the process of making the judgment are integrated (see Figure 1). When making a judgment, people use information from past experiences and from what is available in their minds at the time of judgment.

The Availability Heuristic

The availability heuristic, a common cognitive strategy in human decision-making, provides an example of how the process of making a judgment influences the evaluation of relevant events. People's judgments of probability and frequency of events are based on the ease with which examples of those events come to mind (Tversky and Kahneman, 1973). Tversky and Kahneman demonstrated how ease of recall affects probability judgments using lists of famous male and female names. Participants reviewed a list of an equal number of female and male names. Some lists contained famous male names and some contained famous female names. The participants then made estimates of the frequency of male and female names. Famous names were more likely recalled and produced higher frequency estimates. Judgments of frequency were affected by what was salient in the mind of the person making the judgment.

Information that is salient in one's mind can bias one's judgments. The hindsight bias occurs when people have previous outcome knowledge of a certain event and base their decisions on that knowledge (Slovic and Fischhoff, 1977). An

availability heuristic is responsible for the hindsight bias because previous knowledge about a stimulus is readily available in a person's mind and can be retrieved to make a decision.

Slovic and Fischhoff (1977) evaluated how lay people evaluate research and what factors influence the evaluation process. The researchers assigned participants to either a hindsight group or a foresight group. Both groups reviewed four different research scenarios. The investigator told the foresight group about two possible outcomes that could occur and asked them to predict the probability of each outcome, explain why it might occur, and estimate the likelihood of that outcome happening again if the study were replicated. The investigator told the hindsight group only about one of the two outcomes, asked them to explain why it had occurred, and had the students evaluate the probability that the research outcome would be replicated. The participants given one outcome estimated a higher probability for the results being replicated than did the participants who were given two outcomes to consider.

In a second experiment, Slovic and Fishhoff (1977) tested whether hindsight participants responded like foresight participants if forced to consider two alternative outcomes for a research experiment instead of just one. The researchers had students consider alternative outcomes to an already known research result. Students believed that replicating the research outcomes was less probable when they considered two possible outcomes as opposed to just one outcome. Hindsight participants responded similar to foresight participants who have no prior knowledge of a research outcome. The hindsight bias was reduced when students were asked to consider alternative research outcomes.

Davies (1987) conducted three experiments to demonstrate that the hindsight bias could be eliminated. In the first experiment, Davies presented students with four scenarios based on psychological

studies. He asked participants to write notes about the studies and evaluate the scenarios. The students returned two weeks later and received one of four conditions. In the first condition, the investigator informed students of the outcomes of the scenarios, showed students their original notes, and then asked them to estimate the likelihood of the outcomes as if they had never known the outcome. In the second condition, the investigator gave the same instructions except that the students did not review their original notes. Experimenters then instructed the students to try and remember how they originally judged the outcomes prior to the outcome knowledge they received. In the third condition, students did not receive the outcomes, but they did review their original notes. In the fourth condition, students did not receive the outcome and did not review their previous notes. All students were asked to make a probability judgment of the outcome while recalling what they had originally thought about the outcomes.

Davies (1987) found that there was a hindsight bias. Students who reviewed the outcomes of the scenarios judged them as more probable than did students who did not review the outcomes. Davies demonstrated that helping people remember what they had originally thought prior to discovering the true research outcome could eliminate the hindsight bias. Lay judgments of research, therefore, are influenced by the information available in memory and the experiences of recalling that information.

Subjective Experience

Judgments are influenced by the content of information in memory and by the process by which the content is accessed. The experience of how easy or difficult information is called to mind can be just as important as the information recalled. Self-assessments, for example, are influenced by the ease with which one can recall examples related to that assessment (Schwarz, Strack, Bless,

Klumpp, and Rittenauer-Schatka, 1991). Schwarz et al. manipulated subjective ease by asking students to generate either 6 or 12 examples of times in their recent past when they were assertive (or unassertive). Generating 6 examples was considered an easy task whereas generating 12 examples was considered a difficult task. The researchers assumed that if students made judgments based solely on the content of their recollections, the more assertive examples they generated, the higher their self-ratings of assertiveness. If students considered the ease of recalling these assertive behaviors, then the difficult task of recalling 12 assertive examples would lower their self-ratings of assertiveness, and the easy task of recalling 6 examples would raise their self-ratings of assertiveness. Results showed that the more difficult it was to think of assertive examples, the lower students' self-assessments of assertiveness, and the more difficult it was to think of unassertive examples, the higher their self-assessments of assertiveness. Experienced ease of recalling instances of assertive or unassertive behaviors had a larger effect on self-assessments than did the number of instances recalled. People make judgments not only based on the content of the information they are judging but also based on the ease with which the content comes to mind.

In other studies, memory accessibility effectively altered example recall (MacLeod & Campbell, 1992). The researchers used a mood induction procedure to manipulate ease of memory accessibility. Participants were placed in either a negative mood or a positive mood using a mood induction procedure. Experimenters presented participants with either a pleasant or an unpleasant event and asked them to recall a personal memory that would apply to that event. Participants then rated the future probability of experiencing the event in the future.

The researchers hypothesized that recall times and probability judgments would be inversely related. The longer it

takes a person to think of examples, the less salient it is in memory; therefore, the probability of the event occurring in the future would seem unlikely. If the mood induction was successful, then recall times for pleasant events would be shorter for participants in a positive mood than for those in a negative mood, and recall times for unpleasant events would be shorter for people in a negative mood than for those in a positive mood (MacLeod & Campbell, 1992).

The researchers found that there is a significant inverse relationship between the speed with which past memories of specified events can be recalled and the perceived probability of experiencing that event in the future (MacLeod & Campbell 1992). Basically, those who recalled passed memories quicker rated them as more probable to occur in the near future. By using a mood induction process, the researchers were successful in modifying the ease with which positive and negative memories were recalled. This ease of recall subsequently influenced probability judgments. Students in a negative mood recalled unpleasant events faster and indicated that unpleasant events have a higher probability of occurring than pleasant events. The same pattern occurred for people in a positive mood recalling pleasant events. MacLeod and Campbell demonstrated that subjective experience can be manipulated and that differences in subjective experience influence judgments.

Hypothesis

Richard et al. (2001) found that lay people think obvious research results are important. One possible explanation for these findings is that lay people use the ease with which examples are called to mind when making judgments of obviousness and importance. This hypothesis was investigated in the current study. Groups of students read brief, type-written social psychological research findings. Students generated either one example or five examples for research findings. For each

finding, participants rated how easy it was to generate examples and how probable it was that similar examples would occur in the near future. The students also indicated whether each finding was obvious or not obvious, important or not important, and interesting or not interesting. After making these judgments for each finding, participants completed a one-page questionnaire that assessed their level of psychological knowledge.

The current study attempted to manipulate subjective experience by including psychological findings previously categorized as being easy and difficult to think of examples and by utilizing an example generation manipulation. Students generated either one or five examples of research findings and then made judgments of obviousness, importance, and interestingness. The more difficult it is for students to think of examples of a research finding, the less obvious, important and interesting students will judge that finding. The findings for which more examples are requested will be judged as less obvious and important than findings for which fewer examples are requested.

The current study attempted to replicate earlier results on the availability heuristic and to extend the research to lay judgments of research findings in the field of social psychology. If people know the outcome of psychological research, then they may call to mind easily accessible information to judge the probability of future occurrences. The present study evaluated the use of accessible information in memory to make obviousness, importance, and interest judgments about research outcomes. Findings for which examples are easily recalled will be judged as more obvious and important than findings for which examples are difficult to recall.

Method

Participants

Participants were undergraduate students currently enrolled in Introductory to Psychology courses at a southern university. One hundred thirteen students participated and received credit toward their grade (30 students in the pretest and 83 in the primary study). An experimenter visited each Introductory Psychology class and briefly explained the study. Students were given the opportunity to sign up immediately or later on a psychology department bulletin board. All students were treated in accordance with APA ethical guidelines.

Materials

The findings presented to students represent a sample from Richard et al.'s (2001) study. By examining their data, the present research team observed the time students took to read and think of examples for each finding. Controlling for reading times, the 25 findings with the shortest response times were categorized as easy, and the 25 findings with the longest response times were categorized as difficult. These easy and difficult findings were selected for the current study.

Pretest

Experimenters recruited students from Introductory Psychology courses and conducted a pretest to establish whether the findings selected would be judged as easy or difficult. Thirty students completed a packet of 14 findings. The students made judgments indicating the ease with which examples came to mind on an eight-point Likert Scale anchored at one, *Not at all Easy*, and eight, *Very Easy*. The pretest participants rated a total of 50 findings. The ease ratings averaged across participants for each finding served as a measure of example generation ease. Students' ratings of ease were accumulated for each finding. Researchers selected the 20 findings students rated most difficult to

generate examples ($M = 4.58, SD = .97$) and the 20 findings students rated most easy to think of examples ($M = 6.59, SD = .44$). As a validity test on the sample of findings, those findings categorized as *easy* received higher ease of example generation ratings than findings categorized as *difficult*, $t(38) = 8.43, p < .0005$. Findings categorized as *easy* represent research outcomes for which students have examples readily available in memory. Findings categorized as *difficult* represent research outcomes for which students have few examples readily available in memory. Researchers also selected four findings as neutral findings with a mean ease rating of $M = 5.16 (SD = .54)$.

Primary Experiment

Students read two neutral findings at the beginning of each sequence to become familiar with the task of generating examples. Each set of test materials consisted of an equal number of easy findings (e.g. "When people drink alcohol, they become aggressive") and difficult findings (e.g. "Sometimes a message has more persuasive impact after a delay"). Students viewed and judged an equal number of findings categorized as easy and as difficult. This served as a repeated-measures factor in the current study. Appendix A lists the findings categorized as easy and difficult.

The number of examples the participants generated served as an experimental manipulation. Researchers achieved the manipulation through the presentation of different survey forms. Half of the participants generated one example per research finding and the other half generated five examples per research finding. In the one-example condition, subjects viewed 22 findings, and in the five-example condition subjects viewed 12 findings. In each condition, students spent approximately one hour completing the judgment task.

In order to control for presentation order, participants received the statements in one of two sequences. In the first sequence, the findings occurred in a fixed random order. The second sequence was the opposite of the first. In both sequences, students read the two neutral findings first to familiarize them with the task. The students then viewed the test findings. The materials did not distinguish between practice findings and test findings for the students. Figure 2 presents a diagram of the various presentation orders across groups of participants.

After reviewing each finding, students rated the ease and probability of each finding based on an eight-point scale replicated from the pretest. For each finding, students judged whether the finding was obvious or not obvious, important or not important, and interesting or not interesting. Half of the participants received the judgments with the affirmative response stated first (e.g. *Obvious or Not Obvious*). The remaining half received the judgment choices in the opposite order (e.g. *Not Obvious or Obvious*).

Once students completed the first set of materials, they completed an Experience with Psychology questionnaire. Students indicated their age, sex (either male or female), and classification (either freshmen, sophomore, junior, or senior). The questionnaire assessed the students' experience with psychology courses in high school and college by asking the students to write the number of courses they completed at each institution and to list the topics they studied.

Procedure

Participants for each session were directed to a room with two rows of six chairs. The participants read and signed the informed consent form and received instructions. The experimenter explained that the study would take at least one hour and that if at any time a participant decided not to continue, he or she could do so

without any penalty. The experimenter read the following instructions out loud:

“The purpose of this study is to understand students' judgments of research findings. You will be given a number of findings. In the space provided, generate brief examples that apply to that finding. Any example is acceptable. If you feel that after some time you are struggling to generate an example, complete the remaining questions on the page and go on to the next finding. After thinking of examples, you will be asked additional questions about the finding.”

Participants then received the materials containing the research findings. In the one-example condition, students read each finding and listed one example per finding. Immediately after generating an example, students evaluated how easy it was to think of the example and how probable it was that the finding could occur in the near future. Following the ease and probability questions, students made obvious, important, and interesting judgments. The procedure was identical for the five-example group with the exception that students listed five examples for each finding rather than one. In both the one-example condition and the five-example condition, students generated examples for findings previously rated as either easy or difficult. After the participants finished making judgments, they completed the Experience with Psychology questionnaire. The experimenter debriefed the participants.

Results

Two independent variables were used for the current study. The first independent variable was the number of examples requested (either one or five). The second independent variable was the expected ease of examples recalled (easy or difficult, as determined by the pretest). Students read both easy and difficult findings; therefore,

this variable served as a within-subjects factor. The dependent variable was the proportion of students judging the findings as obvious and important. The data were evaluated in two forms: cross-participant analyses and cross-finding analyses. In some cases, the test of interest involved averaging students' responses across findings. Not all research findings are identical; therefore, some analyses involved averaging students' responses for a particular finding.

Manipulation Check

Analysis of each student's responses averaged across categories of easy and difficult findings revealed that students in fact rated the example generation task easier for findings previously categorized as easy ($M = 5.95$) than for findings categorized as difficult ($M = 4.54$), $F(1,81) = 94.25$, $p < .0005$. Students asked to generate one example found that task easier ($M = 6.11$) than students asked to generate five examples ($M = 4.62$), $F(1,81) = 39.25$, $p < .0005$. No interaction effects emerged in judgments of example generation ease ($F < 1$). See Figure 3.

Replication of the Availability Heuristic

Consistent with the availability heuristic, students rated findings in the easy category as more probable ($M = 6.28$) than findings in the difficult category ($M = 4.6$), $F(1,81) = 163.47$, $p < .0005$. Students asked to generate one example, however, found the findings only slightly more probable to occur in the future ($M = 5.7$) than students asked to generate five findings ($M = 5.2$) $F(1,81) = 3.88$, $p = .052$. No interaction effects were found in probability judgments ($F < 1$). The manipulation of the number of examples generated clearly affected students' experience with subjective ease; however, it did not clearly affect probability ratings (See Figure 4).

Judgments of Research Findings

The percentage of affirmative (e.g. obvious, important, etc.) judgments made by a participant in each of the example generation ease categories was observed. Consistent with the hypothesis, students were more likely to judge a finding in the easy category as obvious ($M = 85\%$) than they were to judge as obvious findings in the difficult category ($M = 50\%$), $F(1,81) = 138.38$, $p < .0005$. According to the availability heuristic and research on the hindsight bias, findings for which examples come to mind easily would be judged as more obvious than findings for which examples do not. The manipulation of subjective ease, however, did not have the same effect. Students who generated one example (a subjectively easy task) were not more likely to judge findings as obvious than were students who generated five examples (a subjectively difficult task), $F < 1$. See Figure 5.

Analysis of importance judgments revealed that students judged findings categorized as easy and those categorized as difficult as equally important, $F(1,81) = .672$, $p = .415$. In addition, students did not judge findings as more important in either the one-example condition or the five-example condition. No interaction emerged for importance judgments ($F < 1$).

Cross-Findings Judgments

To evaluate students' judgments of research outcomes, the proportion of students indicating that a finding was obvious in one presentation order was compared to the proportion of students judging the same finding as obvious in the opposite presentation order. Results indicate that students agreed with what was obvious, important and interesting, Spearman Brown Split-Half Reliability $r = .88$, $.71$, $.70$, respectively.

Richard et al. (2001) found a positive relationship between students' judgments of obviousness and importance of research findings. The previously observed

relationship was not replicated in the current study. The correlations between the proportion of students (across all conditions) judging a finding as obvious, important and interesting are presented in Table 1. Unlike previous research, no relationship was observed between the proportion of students who judged the finding as obvious and the proportion of students who judged the finding as important, $r(38) = .09, p = .572$. As might be expected from research on the availability heuristic, the proportion of students who judged a finding as obvious was positively correlated with the average example generation ease rating for the finding and the probability that similar examples would occur in the future, $r_s(38) = .89, .76$, respectively, both $ps < .0005$.

Discussion

Consistent with the hypothesis, students rated findings as more obvious if the findings were easily called to mind. The results of the current study are consistent with Slovic and Fischhoff's (1977) demonstration of the hindsight bias and extend Tversky and Kahneman's (1973) research of the availability heuristic. What is easily accessed in memory influenced a student's judgment of research outcomes. The results indicate that requiring students to generate several examples influenced the subjective experience of ease. The changes in subjective experience, however, only slightly influenced probability judgments and did not influence obvious judgments. A person's ease ratings of a finding were, however, influenced by the number of examples they generated. Students who generated only one example for a finding evaluated the generation of examples for a finding as easier than did students who generated five examples. The influence of example generation ease on obvious judgments suggests a heuristic strategy for making obvious judgments rather than a

systematic strategy.

Schwarz (1998) examined previous studies in which people engaged in systematic processing when highly invested (or motivated) in a task and engaged in heuristic processing in tasks that were less relevant to the person. Rothman and Schwarz (1998) found that when people are motivated, they base their judgments on the content of information and engage in systematic processing to assess risk. The more relevant information that people had to recall about their health, the higher they assessed their health risk. People who were not highly motivated in a task engaged in heuristic processing and based their risk assessments on the ease with which they could recall examples. The less relevant information people had to recall about their health, the higher their health-risk assessment.

When using a heuristic processing strategy, a person draws information from his or her subjective experience. People are more inclined to base their judgment on the content of the information when using systematic processing. In the current study, people tended to judge findings as easier to think of examples if they only had to generate one example. If students were using a heuristic processing strategy to judge research outcomes, then the ease with which examples came to mind would have influenced their obvious and important judgments. If a systematic process was used, then students who generated five examples would have rated the findings as more obvious. Our results show that judgments of obviousness were influenced by the subjective ease of example generation but not necessarily by the number of examples generated for a finding. Students who generated five findings, in fact, were less likely to judge the finding as obvious, even though they generated more examples of the finding. This result suggests that heuristic processing rather than systematic processing was being used to judge the obviousness of research. There was no

evidence to suggest that experienced ease affected important or interesting judgments.

Richard et al. (2001) had found that findings students judged as obvious were also findings judged as important. The positive relationship between obviousness and importance was not replicated in the current study. Perhaps the populations used were different. Richard et al. tested students at Texas Christian University (TCU), a private, historically Christian, mid-sized university, and the current study tested students at the University of North Florida (UNF), a mid-sized public university. The people in these two regions of the country could respond to research outcomes differently. People vary in their motivations and their ability to consider alternative explanations when making a judgment (Kruglanski & Freund, 1983). People's motivation to consider other alternatives when forming a judgment is influenced by three separate needs: the need for structure, the fear of invalidity, and the need for specific closure. The need for structure motivates people to search for an answer to clarify ambiguity. This need is amplified when a person is forced to reach a clearly defined conclusion. The fear of invalidity motivates people to be correct so as not to receive negative social attention for being invalid. People who experience high fear of invalidity consider multiple alternatives and evaluate various explanations when attempting to solve problems. The need for specific conclusions motivates people to have clearly defined, plausible explanations for the events in their life.

According to Kruglanski (1983), some people have a general tendency to seek out new information as opposed to just seeking out one answer. Only seeking one answer would suggest that a person has a high need for cognitive closure. Students at the UNF felt that obvious research findings were not necessarily important. This reasoning is more consistent with that of a scientist's thought process. Having a high need for cognitive closure may have motivated

students in the TCU sample to engage in heuristic processing to quickly reach an answer, any answer. Students at UNF, alternatively, may have used more systematic processing in an effort to avoid invalidity. It would be beneficial to not only examine the differences between lay people and scientists, but to also observe the differences among lay people in different regions of the country.

The current study has reinforced the idea that lay people utilize information that is easily accessible in memory to make judgments. The idea that people use their subjective experiences as process information to make judgments received support in the current study as well. When people can easily think of examples for a given research finding, they will consider the finding obvious. When scientists disseminate new information to the public they should consider using subjective experience to their advantage. Perhaps giving examples of the research findings that people can quickly call to mind will reinforce how the new information is pertinent to their lives.

The results of this study will help establish a better understanding of the factors that influence judgments of research outcomes. The response scientists receive from the lay public about the obviousness and importance of the research can be influenced by how the information is presented and by the information about the finding people already have in memory. Many social psychological research outcomes may be important to society. When scientists discover an important finding, they will want to effectively communicate the new information to the lay public.

References

- Aronson, E., Ellsworth, P. C., Carlsmith, J. M., & Gonzales, M. (1990). *Methods of Research in Social Psychology* (2nd Ed.). New York: McGraw-Hill.
- Davies, M.F. (1987). Reduction of hindsight bias by restoration of foresight perspective: Effectiveness of foresight-encoding and hindsight-retrieval strategies. *Organizational Behavior and Human Decisions Processes*, 40, 50-68.
- Feingold, A. (1988). Matching for attractiveness. *Psychological Bulletin*, 104, 226-235.
- Fiske, S. T., & Taylor, S. E. (1982). *Social cognition*. Reading, MA: Addison-Wesley.
- Kruglanski, A. W., & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impression primacy, ethnic stereotyping, and numerical anchoring. *Journal of Experimental Social Psychology* 19, 448-468.
- MacLeod, C. & Campbell, L. (1992). Memory Accessibility and Probability Judgments: An experimental evaluation of the availability heuristic. *Journal of Personality and Social Psychology*, 63, 890-902.
- Richard, F.D., Bond, C.F. Jr., & Stokes-Zoota, J.J. (2001). "That's completely obvious....and important": Lay judgments of social psychological findings. *Personality and Social Psychology Bulletin*, 27, 497-505.
- Rothman, A.J., & Schwarz, N. (1998). Constructing perceptions of vulnerability: Personal relevance and the use of experiential information in health judgments. *Personality and Social Psychology Bulletin*, 24, 1053-1064.
- Schwarz, N. (1998). Accessible content and accessibility experiences: The interplay of declarative and experiential information in judgment. *Personality and Social Psychology Review*, 2, 87-99.
- Schwarz, N., Bless, H., Strack, F., Klump, G., Rittenauer-Schatka, H., Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, 61, 195-202.
- Slovic, P., & Fischhoff, B. (1977). On the psychology of experimental surprises. *Journal of Experimental Psychology: Human Perception and Performance*, 3, 544-541.
- Strack, F. (1992). The different routes to social judgments: Experimental versus informational strategies. In L.L. Martin & A. Tesser (Eds.), *The Social Judgments* (pp. 249-275). Hillsdale, NJ: Lawrence Erlbaum.
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207-232.
- Wong, L.Y (1995). Research on teaching: Process-product research findings and the feeling of obviousness. *Journal of Educational Psychology*, 87, 504-511.

Appendix A: Findings Presented Previously Categorized as Easy and Difficult

Easy Statements Mean

When people drink alcohol, they engage in extreme behaviors.	7.57
The members of a group influence one another.	7.25
Women are more likely than men to perform care-taking tasks for others.	7.13
Women are more skilled at expressing emotion than men.	7.00
Leaders are most effective if they have charisma.	6.88
People are likely to recycle if they know about recycling.	6.86
When people drink alcohol, they become aggressive.	6.86
Men are more likely than women to favor premarital sex.	6.86
Dormitory crowding makes residents dissatisfied.	6.57
People are unlikely to express their opinions without others' support.	6.57
Taking a pretest improves a person's score on a posttest.	6.57
People work less when in a group than when working alone.	6.43
Students who have high self-esteem achieve a lot.	6.43
Women are more likely than men to disclose personal information to others.	6.29
Smiling increases happiness.	6.29
Friends interact more positively with one another than non-friends.	6.29
People remember negative events when they are depressed.	6.13
People attribute their successes to effort.	6.00
Boys are more competitive than girls.	6.00
People are most likely to respond to surveys if they are offered monetary incentives.	6.00

Difficult Statements Mean

Jurors are harsh if the victim is an attractive Anglo-American female.	1.60
Persuasive messages that provoke fear are able to induce attitude change.	3.57
Negotiators are likely to compromise if they are experienced.	3.83
Girls who are reared in father-absent homes are non-feminine.	3.88
Experimenters find the research results they expect to find.	4.00
Sometimes a message has more persuasive impact after a delay.	4.17
A woman is likely to be held responsible for being raped if she was previously acquainted with her attacker.	4.43
Teachers expect more from attractive than unattractive students.	4.43
People with Type A personalities suffer chronic emotional distress.	4.50
Empathetic people do not act negatively, antisocially, or abusively.	4.71
Children who are helpful can infer others' motives and thoughts.	4.71
Men attribute their performance to effort more than women.	4.75
Leaders are most effective if they avoid making unnecessary changes.	4.83
Nonverbal behavior quickly conveys accurate information about the actor.	5.00
In the presence of others, people become physiologically aroused.	5.25
Highly masculine men and highly feminine women have traditional attitudes toward women.	5.29
A confident eyewitness gives accurate eyewitness testimony.	5.33
There is consistency between people's attitudes and behavior.	5.71
The most socially active people report the highest life satisfaction.	5.86
People involved in intimate violence give undesirable self-descriptions.	5.86

Table 1

Correlations Between Proportions of Students Judgments of Ease, Probability, Obviousness, Importance and Interest

Judgment	Ease	Probability	Obvious	Important	Interesting
Ease		.782*	.890*	.104	.071
Probability			.759*	-.154	-.211
Obvious				.092	-.018
Important					.643*

* $p < .0005$

Figure 1. Strack's Model of Social Judgment

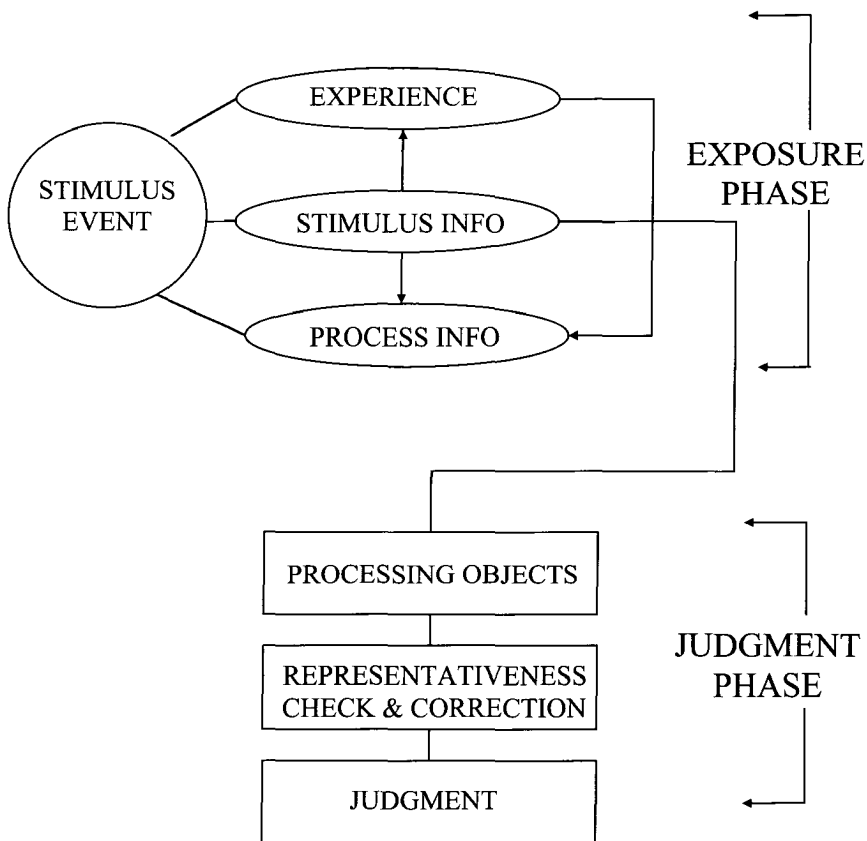


Figure 2. Presentation Order of Test Findings Across Different Experimental Conditions

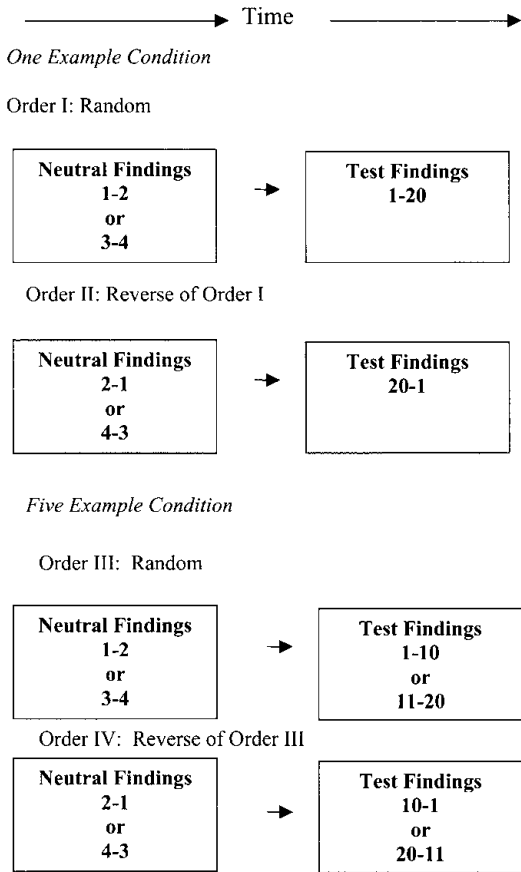


Figure 3. Manipulation Check for Ease of Example Generation

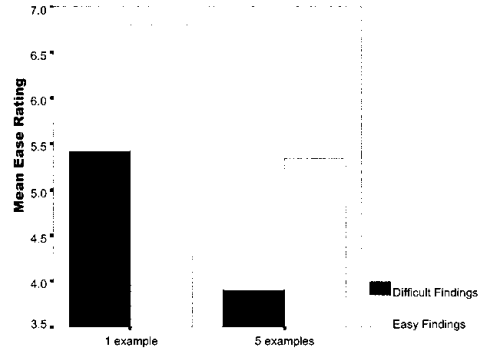


Figure 4. Replication of the Availability Heuristic for the Probability of Future Occurrence

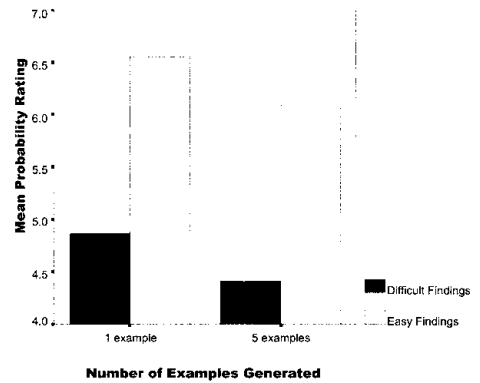


Figure 4. Replication of the Availability Heuristic for the Probability of Future Occurrence

