Bulletin of the Psychonomic Society
1980, Vol. 16 (5), 356-358

Measuring personal satisfaction under varying economic conditions

IRWIN P. LEVIN, STEPHEN V. FARAONE, and RICHARD D. HERRING
University of Iowa, Iowa City, Iowa 52242

This study was designed to develop a methodology for measuring economic satisfaction and showing how individuals form intuitive impressions of economic satisfaction. Hypothetical economic situations were created by factorially manipulating salary level, raise, and inflation rate. Subjects rated each situation on an impersonal scale of financial well-being for a person in that situation and on a scale of personal satisfaction. Responses differed on the two scales. Ratings of personal satisfaction were lower than ratings of financial well-being, showing that individuals set higher standards for personal satisfaction. The factors of raise and inflation rate each played a more important role in rating personal satisfaction than in rating financial well-being, showing that these variables have special personal significance. The special significance of these factors is discussed.

In today's society, economic conditions are changing rapidly. Our salaries are going up, but so is the inflation rate. Economists can give us objective indexes of how purchasing power is being affected. But how well off do we perceive ourselves to be under varying economic conditions? Inflation would appear to be impersonal; it affects everybody. Salary and salary raises are personal; they are an index of job evaluation, as well as a reflection of changing economic conditions. How are these factors evaluated and combined to determine general financial well-being, and how are they evaluated and combined to determine personal satisfaction? Are the two processes different? These are questions addressed in the present study using behavioral rather than economic measures.

The questions, thus posed, are basically questions of "intuitive statistics," dealing with how numerical information of varying sources is integrated into an overall impression on some dimension of judgment (Peterson & Beach, 1967; Slovic & Lichtenstein, 1971). In recent years, researchers have used Anderson's (1974, 1979) information integration theory to study intuitive statistical processes. In these studies, an information integration task is constructed in which a single judgment is required for each of a series of sets of numerical scores. The dimension of judgment itself may be numerical (e.g., Birnbaum, 1976), or it may be an affective rating scale measuring subjective dimensions such as student performance (Levin, Ims, & Vilmain, 1980) or the relative desirability of shopping at different stores (Levin, 1975).

In the present study, an information integration task is constructed in which subjects are asked to evaluate various hypothetical economic scenarios defined by combining different levels of salary, raise, and inflation. Each scenario is evaluated on two different rating scales: a rating of general financial well-being for a person in that situation and a rating of personal satisfaction. The first scale represents an impersonal evaluation of how an individual may be affected economically by varying sets of conditions, whereas the second scale measures how respondents feel they would personally be affected if the given sets of conditions were to apply. The latter effect could well measure more than just economic well-being. The present methodology allows a comparative analysis of how the chosen factors are evaluated, weighted, and combined to determine general economic well-being and personal satisfaction.

METHOD

Subjects

Thirty male and 30 female introductory psychology students participated in this experiment to fulfill a course requirement.

Materials

The judgment task was presented in booklet form. Each page of the booklet contained a financial picture in the form of a salary level, a yearly inflation rate, and a yearly raise rate. Every page also contained two response scales. Each scale was a 20-cm line segment, along which the subjects were to place a slash mark to indicate their responses. Responses were measured to the nearest millimeter and were recorded on a scale of 0 to 20, with higher numbers representing more favorable evaluations. On the first scale, the subjects were asked to judge the financial well-being of a person in that situation. The extremes of this response scale were labeled "very bad" and "very good." On the second scale, the subjects were asked to rate their personal satisfaction with the given situation. The extremes of this response scale were labeled "very dissatisfied" and "very satisfied."

The instructions for these two scales were as follows: "On each page of this booklet you will find a hypothetical salary, inflation rate, and yearly raise. Each page also contains two response scales. On the first scale we would like you to rate how financially well off a person would be with the financial situation described by the values of salary, inflation rate, and yearly raise. On the second scale, we would like you to rate how personally satisfied you would be if the financial situation described was your own."

0090-5054/80/110356-03$00.55/0

The booklet contained 50 different scenarios. The first 10 of these were used as warm-up trials and were not analyzed. Four of the trials consisted of end anchors (two each of the following: salary = $15,000, inflation = 18%, raise = 3%; salary = $30,000, inflation = 6%, raise = 15%) designed to represent the most extreme situations. These trials were not used in the data analyses. The remaining 36 trials were formed from two replications of all possible combinations of two levels of salary ($20,000 and $25,000), three levels of inflation (8%, 12%, and 16%), and three levels of raise (5%, 9%, and 13%). These trials were presented to each subject in a different random order.

Procedure

Subjects were tested in groups of 10. After reading them the instructions and answering any pertinent questions, the experimenter gave the subjects the judgment booklet. The experimenter paced the task by instructing subjects to turn to the next page of the booklet every 30 sec. The experimental session lasted about 40 min.

RESULTS AND DISCUSSION

The mean response was 10.05 on the financial well-being scale and 9.07 on the personal satisfaction scale. This difference is statistically significant [$t(59) = 5.41$, $p < .01$]. Recalling that higher numbers represent more favorable ratings, we can conclude that subjects rated personal satisfaction to be less than financial well-being for the same set of economic conditions.

In addition, the independent variable manipulations had a somewhat different pattern of effects when financial well-being was rated than when personal satisfaction was rated. Separate 2 by 2 by 3 repeated-measures analyses of variance were conducted for the two different rating scales. These are summarized in Table 1. It can be seen that salary, inflation, and raise all had large and statistically significant effects (all in the logical directions), but the order of importance, as measured by the size of the mean-square terms, differed between scales. For the financial well-being scale, the ordering was salary, inflation, raise. For the personal satisfaction scale, the ordering was inflation, raise, salary. Both raise and inflation had significantly greater effects on personal satisfaction ratings than on financial well-being ratings [$ts(59) = 4.60$ and 3.87, respectively; $p < .01$ in each case]. The effect of salary did not differ significantly between scales.

Table 1
Summary of Analysis of Variance Results

		Financial Well-Being		Personal Satisfaction	
Source	df	MS	F	MS	F
Salary (S)	1	2185.9	94.99*	2295.3	85.45*
Inflation (I)	2	1754.8	89.26*	2745.0	123.63*
Raise (R)	2	1400.6	79.45*	2566.3	133.13*
S by I	2	22.5	6.01*	25.8	6.25*
S by R	2	4.7	1.92	4.3	1.89
I by R	4	46.3	11.30*	114.4	22.91*
S by I by R	4	3.7	1.55	3.4	1.40

Note–For each F test, the error term was the interaction of that source with subjects; the number of subjects was 60. Thus, the degree of freedom for each denominator is 59 times the degree of freedom for the numerator. *$p < .01$.

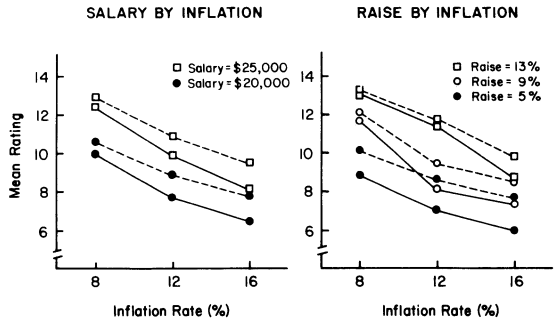

Figure 1. Significant interaction effects.

The same significant interactions, Salary by Inflation and Raise by Inflation, were found on each scale. These are displayed in Figure 1, which also illustrates the form of the main effects and the difference in mean response between scales. Personal satisfaction ratings are shown in solid lines, and financial well-being ratings are shown in dotted lines. Each point on the dotted lines is higher than the corresponding point on the solid lines. Interaction effects were small in comparison with main effects, but each interaction was of the same form–a convergence of lines to the right. The salary effect was less at 16% inflation than at 8% or 12% inflation; the raise effect was also less at 16% inflation than at 8% or 12% inflation. The Raise by Inflation interaction is of particular interest because a "normative" economic model would predict no interaction; percentage inflation should subtract from percentage raise, and the lines should be parallel. Contrary to this, the present results show that a high inflation rate attenuated both the effect of increasing salary and the effect of increasing raise.

SUMMARY AND CONCLUSIONS

Some conclusions can now be made concerning differences in the way the manipulated factors were evaluated, weighted, and combined to determine general economic well-being and personal satisfaction. The fact that identical significant sources of variance were found with each response scale argues against sweeping generalizations about different information processing strategies for forming impressions of general economic well-being and personal satisfaction. However, the differences in mean response across scales and the differences in factor weights across scales are interesting and provocative.

Subjects gave lower ratings to the same set of economic situations when asked to rate "how personally satisfied you would be if the financial situation described was your own" than when asked to rate "how financially well off a person would be with the financial situation." This can be interpreted to mean that individuals set higher standards for achieving per-

sonal satisfaction than for assigning financial well-being to unidentified others.

The factors of raise and inflation affected ratings of personal satisfaction more than they affected ratings of financial well-being. These factors thus appear to have special personal significance. The amount of raise one gets may be considered as a measure of job success that has intrinsic reinforcing properties. Inflation rate is perhaps seen as a constraint on projected personal lifestyles, and thus, while it applies to everyone, it may have personal as well as financial significance.

The use of different response scales for the same subjects may have created a "demand" for responding differently on the two scales. However, there is no apparent reason for expecting the particular differences that were found to be reliable in the present study. We plan further, expanded studies of how individuals form intuitive impressions of economic satisfaction. The present study serves as a preliminary demonstration of how individuals' perceptions of economic satisfaction can be measured and related to antecedent economic conditions. The question of whether subjective models parallel normative economic models must await future research, but our tentative conclusion is that interesting differences may exist. These differences can have important implications for predicting public response to prevailing economic conditions.

REFERENCES

ANDERSON, N. H. Information integration theory: A brief survey. In D. H. Krantz, R. C. Atkinson, R. D. Luce, & P. Suppes (Eds.), *Contemporary developments in mathematical psychology* (Vol. 2). San Francisco: Freeman, 1974.

ANDERSON, N. H. Algebraic rules in psychological measurement. *American Scientist*, 1979, **67**, 555-563.

BIRNBAUM, M. H. Intuitive numerical prediction. *American Journal of Psychology*, 1976, **89**, 417-429.

LEVIN, I. P. Information integration in numerical judgments and decision processes. *Journal of Experimental Psychology: General*, 1975, **104**, 39-53.

LEVIN, I. P., IMS, J. R., & VILMAIN, J. A. Information variability and reliability effects in evaluating student performance. *Journal of Educational Psychology*, 1980, **72**, 355-361.

PETERSON, C. R., & BEACH, L. R. Man as an intuitive statistician. *Psychological Bulletin*, 1967, **68**, 29-46.

SLOVIC, P., & LICHTENSTEIN, S. Comparison of Bayesian and regression approaches to the study of information processing in judgment. *Organizational Behavior and Human Performance*, 1971, **6**, 649-744.

(Received for publication September 10, 1980.)