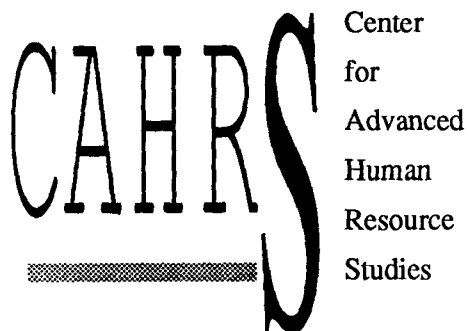


PREFERENCE
REVERSALS IN
PERSONNEL
SELECTION

Working Paper 92-05



Joel P. Rudin and John W. Boudreau

PREFERENCE REVERSALS IN PERSONNEL SELECTION

by

Joel P. Rudin

School of Business and Administration

St. Louis University
and

John W. Boudreau

School of Industrial and Labor Relations

Cornell University

Working Paper # 92-05

Preference reversals, in which one alternative is preferred in a choice task while another alternative is preferred in a judgment task, may occur in personnel selection. If so, the candidate who is assigned the highest predictor score may not be the candidate the selector would have chosen. Previous research does not clearly indicate the rate of preference reversals that are likely to occur in personnel selection. A simulated selection task carried out by 157 managers revealed near-zero levels of preference reversals. Implications for decision theory and personnel selection research are discussed.

This research was carried out with support from the U.S. Army Research Institute, contract SRFC #MDA903-87-K-0001. The views, opinions, and/or findings contained in this paper are those of the author and should not be construed as an Official Department of the army policy or decision.

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make the results of Center research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

PREFERENCE REVERSALS IN PERSONNEL SELECTION

The classical validation approach to evaluation of selection decisions, which involves correlating predictor and criterion scores, has been criticized "to the extent that measurement and prediction are stressed rather than the outcomes of decisions" (Cascio, 1991, p. 295). A potentially important limitation of the classical validation approach may exist when the selector is interested in identifying the single best candidate rather than assigning ratings to each of the candidates. Behavioral decision theorists refer to the former task as "choice" and to the latter task as "judgment" (Einhorn and Hogarth, 1981).

Much existing selection research assumes that top-rated candidates will be the first to be offered jobs by selectors (e.g. Murphy, 1986). However, preference reversals, in which one alternative is preferred in a choice task while the other alternative is preferred in a judgment task, have been well-documented (Tversky, Slovic, and Kahneman, 1990). If preference reversals plague personnel selection decisions, the shortcomings of the classical validation approach may be severe. The candidate who is assigned the highest predictor score may not be the candidate the selector would have chosen. If actual choices display a different preference pattern from what would be inferred from the ratings, validity coefficients based on ratings may inaccurately reflect the effectiveness of various selection devices for choosing the best job candidate.

One group of preference reversal studies uses a matching design (Tversky, Sattath, and Slovic, 1988). Two alternatives, A and B, are provided, with scores on two dimensions, X and Y. $X_A > X_B$ but $Y_A < Y_B$. In the choice task, one group of subjects is asked which alternative they prefer, while in the judgment (matching) task, one number of the set (X_A, Y_A, X_B, Y_B) is removed, and other groups of subjects calculate the value M of the missing number that would equate the two alternatives. If alternative A is preferred in the choice task, preference reversal occurs if M is greater than X_A or Y_A , or less than X_B or Y_B .

Tversky, Sattath, and Slovic (1988) apply this design to two personnel selection simulations, each involving choice and matching of two candidates. 65% of the subjects involved in the choice task preferred one of the candidates, while 64% of the matching responses implied a preference for the other candidate. However, this matching task may be too different from the actual judgment task of personnel selection to allow conclusions to be drawn about the frequency of preference reversals in practice. The selection evaluation process generally involves rating each candidate's overall attractiveness (Motowidlo, 1986; Murphy, 1986), rather than deciding how much better an inferior candidate would have to be on a single dimension to be equivalent to the superior candidate.

Most preference reversal studies involve choice and pricing of two gambles, one of which offers a smaller chance to win a larger cash prize (Wedell and Bockenholdt, 1990). Though preference reversals have been induced in such situations, Slovic, Griffin, and Tversky (1990) cut the incidence of preference reversals from 41% to 24% simply by using nonmonetary prizes (i.e. free vacations, meals, and movie tickets) instead of cash prizes. This demonstrates the compatibility effect, in which "a predictor [the amount of the cash prize, expressed in dollars] will be weighted more heavily when it matches the response scale [the price of the gamble, also expressed in dollars] than when it does not" (Slovic, Griffin, and Tversky, 1990, p. 7). A typical personnel selection decision might involve determining which of two candidates would receive higher performance ratings if hired, where one had stronger references and the other had more relevant work experience. In this case, as in most selection decisions, predictors and criteria are expressed in different units of measurement (Gatewood and Feild, 1990, pgs. 132-3), and the compatibility effect should have a smaller influence on personnel selection than on gamble selection.

If personnel selection actually involves rating the overall attractiveness of candidates, which is implied by the technique of correlating predictor and criterion scores to determine the validity of selection devices (e.g. Schmitt and Klimoski, 1991), preference reversals may

occur at near-zero levels. Slovic, Griffin, and Tversky (1990, p. 19) compared choice and rating of pairs of delayed payoffs, and concluded that "no discrepancy between choice and rating was observed ... only 11% of the patterns exhibited preference reversal between choice and rating as compared to 52% between choice and pricing."

Thus, previous research does not clearly indicate what level of preference reversals occur in personnel selection. While a simulated personnel selection yielded high levels of preference reversals, the matching task employed in the experiment was somewhat different from the usual judgment task of personnel selection. An experiment in which the judgment task consisted of assigning ratings to each alternative resulted in low levels of preference reversals. Since preference reversals could sometimes lead to misinterpretations of personnel selection validity using the classical validation approach, it is important to make further investigations into their prevalence. The purpose of this study is to estimate the extent of preference reversals using actual managers as subjects and a more realistic simulation of the selection task.

Method

A simulated selection task was devised, in which selectors evaluated eight candidates for promotion to the position of Accounting Supervisor. Half of the subjects were told to assign promotability scores to each candidate (judgment task) while the other half were told to choose which candidate to promote (choice task). In a previous paper, the authors examined differences in information acquisition between subjects engaged in each task (Rudin and Boudreau, 1989).

The candidates were represented by written descriptions of interpersonal skills and computer competence. These dimensions are similar to the factors of "technical knowledge" and "human relations" used by Tversky, Sattath, and Slovic (1988) in one of their simulations of personnel selection decisions.

Interpersonal skills descriptors were adapted from the Akron Leadership Questionnaire (Lord, Foti, and de Vader, 1984), which provides well-validated trait descriptions of good, moderate, and poor leadership. Verbal protocol analyses of several subjects participating in pretests indicated that subjects were able to correctly distinguish the intended quality differences implied by the descriptors of both dimensions.

The set of eight candidates contained all possible combinations of high, moderate, and low favorability on the two dimensions, except high computer competence and high interpersonal skills. The exclusion of such a candidate created a conflict set of two potentially "superior" choices (the candidates with positive descriptors on one dimension and moderate descriptors on the other dimension.) For reasons discussed above, we believed that Slovic, Griffin, and Tversky's (1990) study of choice and rating, which found few preference reversals, had more elements in common with actual personnel selection decisions than Tversky, Sattath, and Slovic's (1988) study of choice and matching, which found many preference reversals. It was hypothesized, therefore, that preference reversals would not occur, and that preference patterns would be similar in the rating and choice tasks.

The exercise was distributed to managers of three large firms and a large university. Exercises were accompanied by a cover letter, signed by an executive associated with the subjects' employers.

Results

Of the 230 exercises that were distributed, 157 were returned, a response rate of 68%. 80 subjects completed the choice task, while 77 completed the judgment task. As Table One indicates, 77 of the 80 choosers and 67 of the 77 judges preferred the same candidate. Even if we make the highly unlikely assumption that all 13 subjects who failed to indicate a clear preference for the "high interpersonal skills - moderate computer competence" candidate would have reversed their preferences had they completed the other task, this would indicate a preference reversal rate of only 8%, which is lower than the

lowest preference reversal rates previously attained in experiments (Slovic, Griffin, and Tversky, 1990). Therefore, our hypothesis that preference reversals would not generally occur in a simulated selection task was strongly confirmed.

Table One

Number of subjects indicating a clear preference for each candidate, by task.

Candidate		Task	
Computer Competence	Interpersonal Skills	Choice	Judgment
Medium	High	77	67
High	Medium	1	7
Low	High	1	0
Medium	Medium	1	0

Note: Three subjects engaged in the judgment task assigned tie scores to their two preferred candidates, thereby failing to indicate a clear preference for one candidate.

Discussion

The preference reversal phenomenon may have important implications for strategic decision makers contemplating risky and uncertain proposals, but it may not affect personnel selection. The nature of the judgment task (rating overall attractiveness) and the incompatibility of stimulus and response appear to have reduced the incidence of preference reversals to near-zero levels in our experiment. We would expect these results to generalize to other common selection decisions such as selections of prize winners for merit-based competitions. A better understanding of the conditions under which preference reversals are most likely to occur can enhance the usefulness of preference reversal research to decision makers.

Although this study failed to uncover evidence of preference reversals, the distinction between judgment and choice in personnel selection is nonetheless important. Many selection decisions, such as internal promotions to highly desirable positions, involve only one vacancy and little chance of refusal by the preferred candidate, and are thus more similar to choice tasks than to judgment tasks. There is no legal imperative in the United States to assign ratings to each candidate, as shown by the case of *EEOC v. Sears, Roebuck & Co.* (1986), won by the defendant despite severe adverse impact and lack of a consistent system for evaluating candidates.

If the preference patterns elicited by judgment and choice processes are the same for personnel selection, as this study suggests, then it may not be necessary for ratings to be made of all candidates when the selector is only interested in choosing the best candidate. A strategy of rating every candidate and choosing the one with the highest rating requires much more information processing than any other choice method and may not be justifiable from a cost-benefit standpoint (Johnson and Payne, 1985). Future research is needed to delineate the conditions under which selectors may dispense with the task of rating each candidate, focussing instead on their true interest of choosing the best candidate.

References

- Cascio, W. 1991. Applied psychology in personnel management. Englewood Cliffs, NJ: Prentice-Hall.
- EEOC v. Sears, Roebuck & Co. 1986. 628 F. Supp. 1264. Einhorn, H., and Hogarth, R. 1981. Behavioral decision theory: Processes of judgment and choice. In Rozensweig, M. and Porter, L. (eds.) Annual Review of Psychology, vol. 32. Palo Alto: Annual Reviews.
- Gatewood, R., and Feild, H. 1990. Human Resource Selection. Chicago: Dryden.
- Johnson, E., & Payne, J. 1985. Effort and accuracy in choice. Management Science, 31: 395-414.
- Lord, R., Foti, R., and de Vader, C. 1984. A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. Organizational Behavior and Human Performance, 34: 343-378.
- Motowidlo, S. 1986. Information processing in personnel decisions. In Rowland, K. and Ferris, G. (eds.) Research in Personnel/Human Resource Management, vol. 4. Greenwich, CT: JAI.
- Murphy, K. 1986. When your top choice turns you down. Effect of rejected offers on the utility of selection tests. Psychological Bulletin, 99:133-138.
- Rudin, J. and Boudreau, J. 1989. Judgment and choice in personnel selection. Ithaca, NY: Center for Advanced Human Resource Studies, Working Paper #89-23.
- Schmitt, N. and Klimoski, R. 1991. Research methods in human resources management. Cincinnati: South-Western.
- Slovic, P., Griffin, D., and Tversky, A. 1990. Compatibility effects in judgment and choice. In Hogarth, R. (ed.) Insights in decision making: Theory and applications. Chicago: University of Chicago Press.
- Tversky, A., Sattath, S., and Slovic, P. 1988. Contingent weighting in judgment and choice. Psychological Review, 95:371- 384.

Tversky, A., Slovic, P., and Kahneman, D. 1990. The causes of preference reversal. American Economic Review, 80:204-207.

Wedell, D. and Bockenholt, U. 1990. Moderation of preference reversals in the long run. Journal of Experimental Psychology: Human Perception and Performance, 16:429-438.