A measure of association for discriminating between a positional criterion and party affiliation

HARVEY W. KUSHNER
C. W. Post College/Long Island University
Greenvale, New York 11548

When roll call data are used as input to examine the differences in the way representatives vote, the ensuing differentials are usually reported as a series of simple percentages. However, such rudimentary statistics do not enable the social scientist to discern a marked difference between the representatives's party affiliation and voting pattern. Raw percentages cannot investigate, for example, the degree of association between the differences of support for liberal-conservative positions and the direction of change in the party affiliation of the elected official representing the congressional district. In order to retrieve this information, a coefficient of correlation is needed to assay whether percentages of support for a selected standardized scale indicate that a representative's party affiliation makes a difference in the way the representative votes.

This program used the point-biserial correlational statistic (r_{pb}) to test whether index items discriminate well between party members who score high by some criterion and those who score low. For example, the criterion, the continuous X variable can be a standard scale of conservatism, and the item, the dichotomous Y variable, can be whether Democrats and Republicans support the issues contained in the adopted positional scale. However, the statistic requires that the independent X variable be of the interval level whereas the dependent Y variable can be of nominal or ordinal level and truly dichotomous. When a forced condensation of the underlying continuum takes the place of the dichotomous variable, the point-biserial computation changes to a biserial computation.

The program merges with PARSUPPORT to aid the researcher in computing percentages of support (SSPs)

for any criterion (Kushner, 1974). In other words, the PARSUPPORT algorithm will determine the values for the continuous independent X variable. These programs were employed by De Maio and Kushner (1975) to ascertain whether the change in the direction of party replacement—that is, Democrat to Republican or Republican to Democrat—discriminated well between party and voting representation in marginal-switch districts. With the aid of these programs it becomes possible to further investigate propositions relating party and voting to an extended typology of districts.

Input. The program requires just the insertion of one parameter card specifying the number of cases. The data cards are coded with respect to the dichotomous and continuous variables.

Output. (1) Mean of the continuous variable. (2) Mean for dichotomous variable. (3) standard deviation of continuous variable. (4) The proportion of the cases in the dependent variable having a value of 0. (5) Correlational statistics.

Computer and language. This program was written in FORTRAN IV for the IBM System/370 computer. But the program is easily adapted to other computers, such as a basic IBM 1130, having a FORTRAN compiler. Execution time is only a few seconds.

Restrictions. The program has a region size of 32K and can be modified for a larger region size.

Availability. A program listing and source deck can be obtained without charge by writing: The Computer Center, Roth Hall, C. W. Post College/Long Island University, Greenvale, New York 11548. All questions concerning this report can be addressed to the author.

REFERENCES

- Kushner, H. W., & De Maio, G. Electoral margins and ideological voting. *Review of Public Data Use*, 1975, 3, 23-27.
Kushner, H. W. PARSUPPORT: A computer program for measuring the support of a party member for his party. *Behavior Research Methods & Instrumentation*, 1974, 6, 364.

Harvey Kushner would like to thank Peter Yeun-Tong Han for his invaluable help.