Software Announcements

New Software

WordPerfect 5.1 Macros for APA Style

A set of nine macros for WordPerfect 5.1 (DOS) enables the writer of a manuscript to (1) easily cite and list references, (2) indicate the positions of tables and figures, and (3) report statistical results in the format required by the American Psychological Association (1983).

An initializing macro sets up margins, running head, and page numbers in Document 1. Document 2 is set up to receive references. References may be listed in Document 2 as they are being cited in the manuscript, selected from a previous list of references, or entered directly into the reference list. References are alphabetized and formatted, and citations are placed in the text. The macros also enable the writer to cite references that already exist in the reference list quickly and easily.

One macro allows the user to place "Insert Table (Figure) X about here" in the text and ensures that the instruction and accompanying lines are not divided over a page when the manuscript is printed.

Finally, statistical results may be reported more easily. Formats for the most commonly used statistics, including punctuation, underlining, and alpha levels are placed in the text; the writer need only insert the appropriate numerical values.

Availability. A floppy disk (3.5 or 5.25 in.) containing the nine macros and README.WP5, a Wordperfect 5.1 file describing how to use the macros, may be obtained from the authors. Send \$5 to Marilyn T. Zivian, Department of Psychology, Atkinson College, York University, 4700 Keele Street, North York, Ontario M3J 1P3, Canada. The files can also be obtained via e-mail (yfak0037@vm1.yorku.ca).

REFERENCES

- AMERICAN PSYCHOLOGICAL ASSOCIATION. (1983). *Publication Manual of the American Psychological Association* (3rd ed.). Washington, DC: Author.

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ERROR: A BASIC Program for Response Sequence Analysis of Two-Choice Learning Data

Studies of learning typically focus on easily derived outcome measures such as number of trials to reach a criterion or percentage of correct responses. A number of investigators, however (e.g., Harlow, 1959; King & Michels, 1989; Krechevsky, 1932; Levine, 1965), have noted that the type and pattern of responses made by a subject contain much additional information. Before reaching a competent level of performance, responses may reflect not only random responding, but other systematic (though incorrect) attempts at problem solution. Some of these "strategies" reflect simple preferences (e.g., for positions or objects), whereas others may reflect some aspect of performance on the previous trial. Thus, during a two-choice object discrimination test, a "positional lose-shift" strategy might be inferred if the animal frequently chooses the opposite side on the trial immediately following an incorrect choice. As this example suggests, such an analysis involves summarizing the raw data in a form in which pairs of (rather than individual) trials are the conceptual unit.

Error analyses typically require a fixed number of trials per problem. This number is usually large if few problems are presented (see, e.g., Lentz & King, 1981), or it may be small if a large number of identical problems are presented (see, e.g., Harlow, 1959). Presumably, this requirement relates to a need to carefully balance side of reward presentation—if two-trial sequences are to be the unit of analysis, then trials on which right is correct and trials on which left is correct should each be preceded equally by right-correct and left-correct trials. In many situations, however, these requirements cannot be met. For example, on some tasks where training to a criterion is involved (such as discrimination learning), different individuals may experience a different number of trials on a given problem. Moreover, across problems, the number of trials required to attain criterion may decline as learning progresses. As a result, complete balancing in such a study is usually not possible.

ERROR is a menu-driven BASIC program that summarizes and performs an error analysis on data from two-choice learning tasks. Input consists of an ASCII file