

collapsed into new categories). (5) The frequency observed for each new category after recollapsing the data.

**Availability.** The program printout and user instruction may be obtained without cost from:

G. Vigderhous  
Bell Canada

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### CMTG: A Fortran IV Program for studying individual behavior in the common target game

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The common target game was devised as a method for studying group problem solving (Leavitt, 1960). The game requires the members of a group to work together to solve problems under conditions of limited information. Each of three group members must contribute a number from 0 to 10 toward a target number between 3 and 30, previously specified by the experimenter. Most recently, Joyner (Joyner, 1970; Joyner & Green, 1970; Joyner, Note 1) has used computer techniques in developing and testing an information processing model of concept formation by individuals playing the common target game. Computerized procedures would appear to offer an effective way for studying the behavior of individuals interacting under highly controlled conditions. CMTG was written as a medium for conditioning subjects to solve problems presented according to specified solution strategies under either a cooperative or a competitive set (Morisano, Note 2).

**Description.** CMTG is an interactive computer version of the three-person common target game. The subject, working at a remote terminal, is presented with a description of the task and instructions for playing the game. He is informed that the responses of the other two members of his group will be determined by the program and that the goal of the group will be to develop a system for solving any target number on the first attempt. A series of randomly ordered target numbers is presented. The subject enters his contribution and then receives feedback concerning the responses of the two simulated members of his group, whether the group was successful in hitting the target on that trial, and the number of points earned. The responses of the simulated subjects are selected from among three general solution strategies referred to as TWOS, THREES, and TENS (Joyner, 1970). Each of these strategies involves three different roles for partitioning target numbers. Each group

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### REFERENCE

BRYSON, K. R., & PHILLIPS, D. P. Method for classifying interval-scale and ordinal-scale data. *Sociological Methodology*, 1975. Pp. 171-190. San Francisco: The Jossey Bass Series, 1974.

member must adopt one of the roles if the group is to succeed. Points can be earned on either an individual or a group contingency basis. It is thus possible to require the subject to learn to respond according to up to nine different strategy-role combinations to be successful. The criterion for learning of a strategy-role combination is seven consecutive correct target number solutions. A new combination is automatically introduced when the subject reaches criterion for the previous one. In the present version, the game terminates following exposure to nine combinations.

**Input.** Before the subject is seated at the terminal, the experimenter must initialize a set of parameters that determine the strategy-role combinations the subject will receive, the order in which these will be presented, and the type of feedback provided (individual or group contingency).

**Language.** CMTG is written in Fortran IV and was developed on a DEC System-10.

**Availability.** Copies of the source program, a more elaborate description of it, and copies of sample output are available without charge from the authors at the Department of Psychology, Syracuse University, Syracuse, New York 13210 or from Frank A. Morisano, Board of Cooperative Educational Services, Box 233, Yorkville, New York 13495.

### REFERENCE NOTES

1. JOYNER, R. C. *COMTARG: Computer simulation of the common target game*. Toronto: FAS, York University, 1969.
2. MORISANO, F. A. Conditioning of individual behavior in the common target game. A dissertation proposal, Syracuse University, 1974.

### REFERENCES

- JOYNER, R. C. Computer simulation of individual concept learning in the three-person common target game. *Journal of Mathematical Psychology*, 1970, 7, 478-514.
- JOYNER, R. C., & GREEN, C. J. Demonstration of computer-augmented group problem solving. *Behavioral Science*, 1970, 15, 452-462.
- LEAVITT, H. J. Task ordering and organizational development in the common target game. *Behavioral Science*, 1960, 5, 233-239.