*A COMPARISON OF INDIRECT MEASURES FOR
LONG-DURATION BEHAVIORS¹*

SAMUEL B. GREEN² AND LINDA G. ALVERSON

AUBURN UNIVERSITY

A computer program was developed to simulate long-duration behavior. The program generated data by using two time-series models linked together by a covariance parameter. By varying the parameters of the program, the characteristics of the simulated behavior were altered, including the mean and variance of the durations of behavior, the mean and variance of the interresponse time, and the degree of relationship within and between durations of behavior and interresponse times. Four data-collection methods were applied to the simulated data: whole interval, partial interval, momentary time-sampling, and continuous measures. The accuracies of the first three recording measures were judged by comparing them to the continuous measure. The results indicated that only the momentary time-sampling approach yielded unbiased results. The degree of bias for the whole and partial interval measures was a function of the ratio of the interval recording length to the sum of the mean duration of behavior and the mean interresponse time. Unfortunately, it was concluded that researchers cannot estimate the magnitudes of these latter two parameters for most behaviors of interest and, consequently, are unable to choose an appropriate interval length. Therefore, it was recommended that the use of interval recording approaches be greatly restricted and that momentary time-sampling be substituted where possible.

DESCRIPTORS: behavioral recording, time sample, interval recording, measurement error

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²Department of Psychology, Auburn University, Auburn, Alabama 36830.