

*LONGITUDINAL ANALYSIS OF
LEISURE-ITEM PREFERENCES*

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Twenty-two individuals with developmental disabilities participated in two leisure-item preference assessments, spaced approximately 16 months apart. Results showed (a) an overall increase in item contact across assessments for 13 participants and (b) at least some overlap across assessments in the five most highly ranked items for every participant. These results highlight individual differences in the stability of preference over time and suggest the need for research to identify the determinants of temporal shifts in preference.

DESCRIPTORS: preference assessment, reinforcer identification

Research on the identification of reinforcers for persons with severe disabilities (e.g., see review by Ivancic, 2000) has focused almost exclusively on factors that influence preference at the time of assessment. By contrast, little is known about the stability of preference over time or the variables that affect it. In a preliminary study of stability of preference, Mason, McGee, Farmer-Dougan, and Risley (1989) conducted pre- and postassessments for 3 boys with autism across a 1-month period and reported preference changes across every one of eight stimulus classes. However, results of that study are difficult to interpret because (a) stimuli from the eight classes (e.g., food, leisure items, etc.) were mixed and assessed at the same time, (b) data were aggregated across all stimuli in a given class such that

preference for any individual stimulus was unknown, and (c) the small number of participants limited the generality of the results.

In this study, we assessed the degree of change evident in preferences exhibited by 22 adults with profound mental retardation over a 12- to 20-month period. Assessment focused on preference for leisure items, and change in preference was examined on both a within- and between-stimulus basis.

METHOD

Participants and Setting

Twenty-two adults (mean age, 41 years) who lived in a state residential facility participated. All had been diagnosed with profound mental retardation and exhibited one or more problem behaviors, although these did not interfere with their performance during the study. Sessions were conducted in a room (7.6 by 7.6 m) that contained tables, chairs, and assessment materials.

We thank Jay Cole, Juliet Conners, and Eileen Roscoe for their assistance in conducting the study.

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Procedure

Two assessments were administered to each participant approximately 16 months apart (range, 12 to 20 months). Fifteen leisure items were selected for each participant, and preference for these items was assessed using a variation of procedures described by DeLeon, Iwata, Conners, and Wallace (1999). During each trial, an experimenter handed one item to the participant for 2 min and did not interact with the participant except to return an item if it fell on the floor. Three trials were conducted for each stimulus (45 total trials) in a random sequence.

Response Measurement and Reliability

An observer used a stopwatch to record the duration of item manipulation (physical contact between either hand and an item) during each 2-min trial. A second observer recorded data independently during 33.3% of all trials. Trial-by-trial reliability was calculated by dividing the smaller duration by the larger duration and multiplying by 100%. Reliability averaged 92.9% (range, 80.4% to 100%).

Data Analysis

The total duration of contact for each item for each participant was calculated by summing the values across the three trials of each assessment. A within-stimulus change score from pretest to posttest was then calculated for each item by subtracting the pretest duration from the posttest duration. These change scores (15 per participant) were then averaged, yielding a mean change score for each participant. The 15 items in each participant's stimulus pool also were ranked according to the total duration of

item contact observed during each assessment. Stability in these rankings from pretest to posttest (between-stimulus change) was then examined by calculating a Spearman rank-order correlation for each participant.

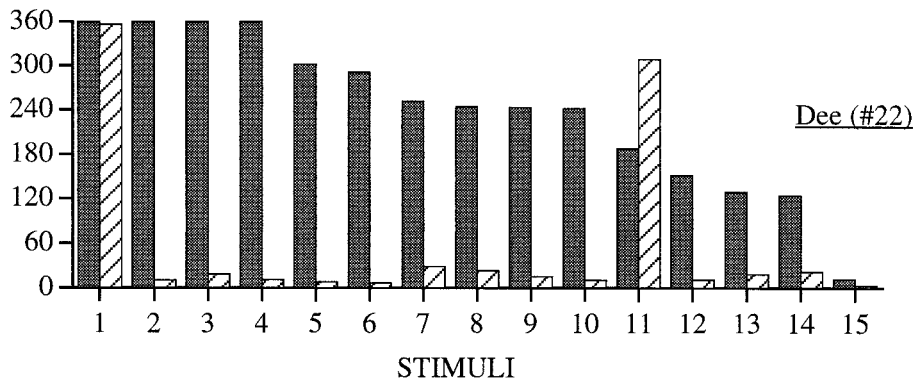
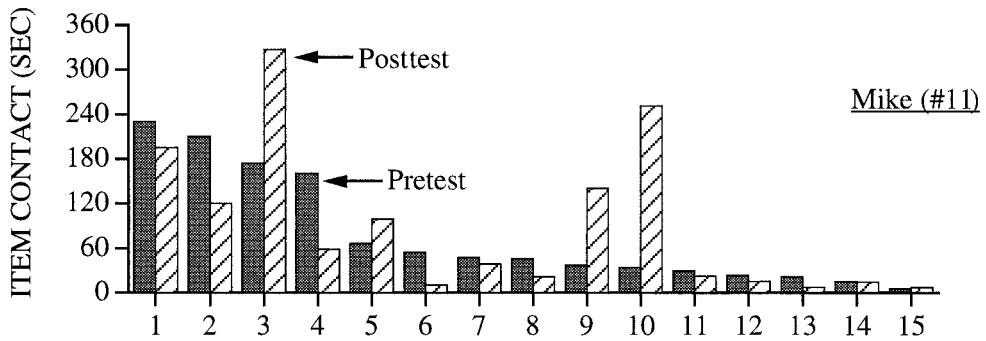
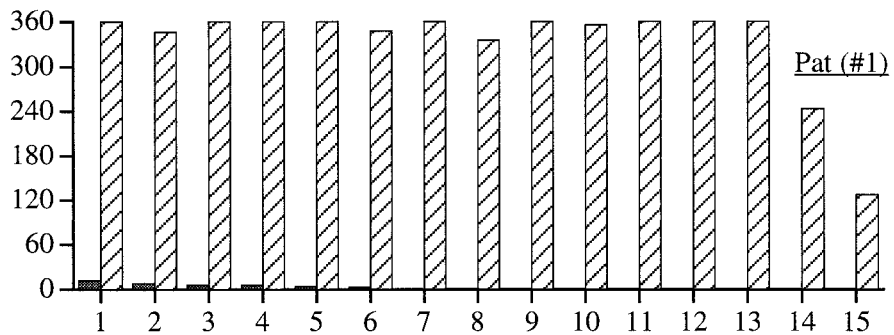
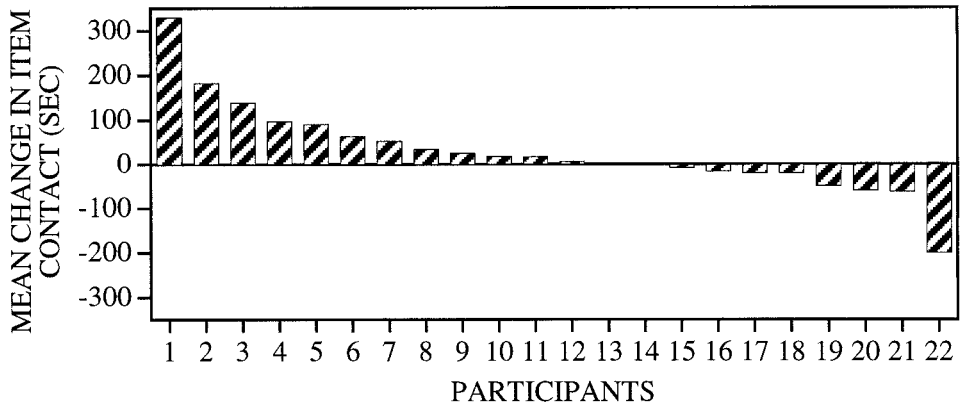
RESULTS AND DISCUSSION

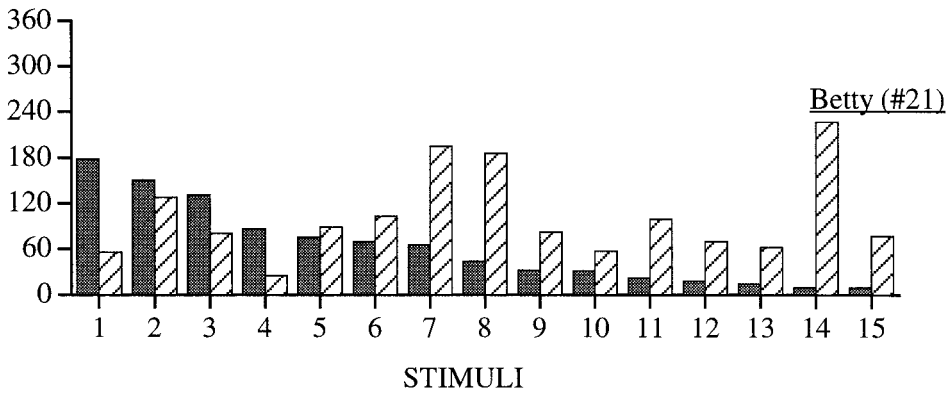
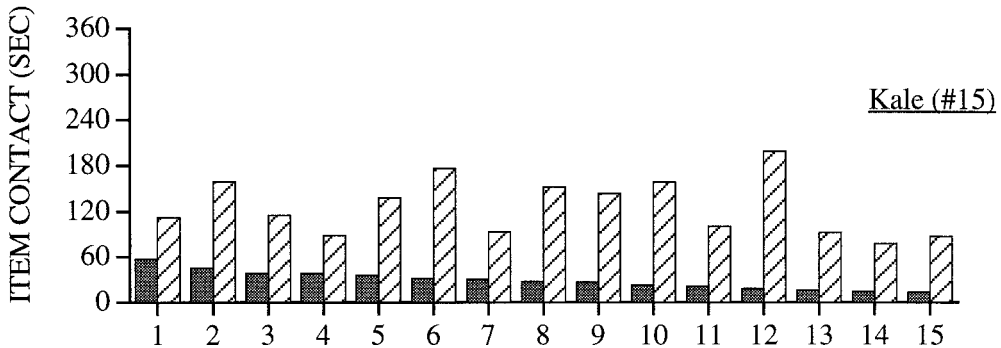
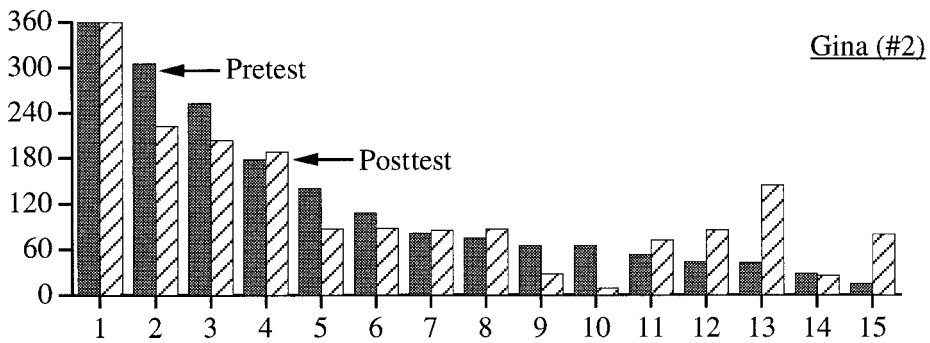
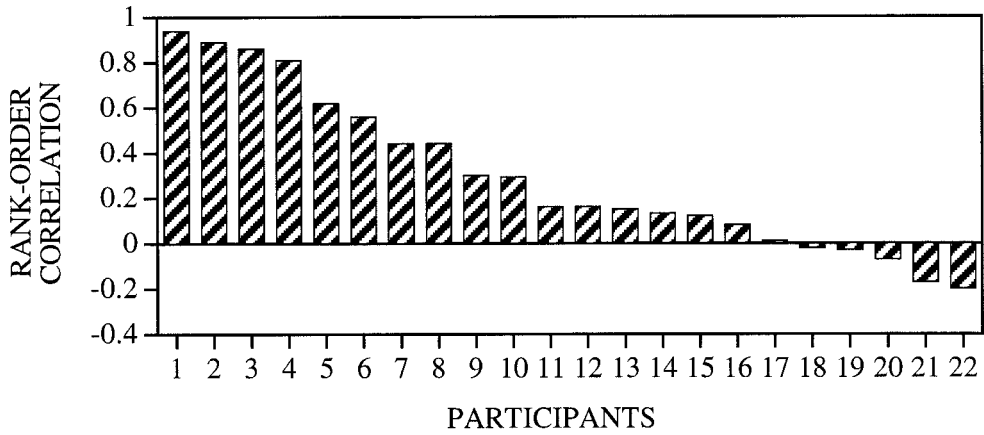
Figure 1 (top panel) shows participants' mean change scores in descending order. These composite scores indicate that 13 participants showed an overall increase in item contact across assessments but do not reveal how contact time was distributed across items. Item-by-item change scores reflected a large degree of variability. The bottom panel of Figure 1 shows item-by-item comparisons for 3 participants who showed large positive, negligible, and large negative change scores. Pat's (Participant 1, top panel) large positive change (+330 s) reflected increased contact with every item during her second assessment. By contrast, Mike (Participant 11, top panel), whose mean change score was +17 s, engaged in more contact with some items (Items 3, 9, and 10) but less with others (Items 2 and 4) from pretest to posttest. Dee (Participant 22, top panel) showed a large negative change (−200 s). However, her decrease in item contact was somewhat selective: Contact with the item ranked 1st in her pretest remained high, and contact with the item ranked 11th in her pretest increased noticeably.

Figure 2 (top panel) shows the rank-order correlations for all participants (participant designations do not correspond to those used in Figure 1). Positive correlations were obtained for 16 participants. The bot-

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Figure 1. Mean change in item contact from pretest to posttest across participants (top panel); selected item-by-item comparisons for 3 participants showing large positive (Pat), negligible (Mike), and large negative (Dee) changes in duration of item contact from pretest to posttest (bottom panel).





tom panel of Figure 2 shows item-by-item comparisons for 3 participants whose item rankings during the pretest and posttest showed high positive, negligible, and negative correlations. Gina (Participant 2, top panel) showed a high degree of stability in her item rankings ($r = .89$): Her four highest ranked items on the pretest received identical rankings on the posttest. Kale (Participant 15, top panel) increased his contact with every item from pretest to posttest, but his uniformly low level of contact during the pretest and the unsystematic nature of his increases in contact during the posttest yielded a negligible correlation ($r = .12$). Betty (Participant 21, top panel) showed little consistency in her item rankings ($r = -.17$): Only one of her four highest ranked items on the pretest (Item 2) remained in the top four positions in the posttest.

Results of the study showed that (a) 13 participants increased their overall duration of item contact from pretest to posttest, and (b) 10 participants showed somewhat stable patterns of relative preference (i.e., a rank-order correlation exceeding .25). However, given the high degree of between-subject variability evident in the data, results do not provide a firm basis for predicting whether (or for whom) preference for leisure materials is likely to remain stable or whether periodic reassessment is required to accommodate temporal shifts in preference. One aspect of our results may be helpful in this respect. Although the median pretest–posttest rank-order correlation was modest ($r = .11$), a more consistent pattern emerged based on comparisons of only those items that were ranked highly. Agreement between pretest and posttest rankings for

three of the five most highly ranked pretest items was observed for 13 of the 22 participants, and agreement for at least one of the five items was observed for every participant. In other words, if one selected as reinforcers only those items ranked in the top third of the distribution based on a preference assessment comprised of 15 items, preference for these items might be expected to be maintained across a considerable amount of time.

Several limitations of the study should be noted. First, the pretest–posttest intervals were somewhat long and varied. Second, the extent to which our findings might generalize either across populations or stimulus classes is unclear. The most significant limitation of the present analysis is that it was entirely descriptive; no manipulations were undertaken to identify the determinants of stability in preference. Nevertheless, the methods of data analysis illustrated in this study seem to be well suited to experimental analyses of variables that maintain, enhance, or otherwise influence preference over time, such as mere exposure, establishing operations (Michael, 1982), or active attempts by therapists or parents to establish and strengthen leisure-item engagement.

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Figure 2. Rank-order correlations between items from pretest to posttest across participants (top panel); selected item-by-item comparisons for 3 participants showing large positive (Gina), negligible (Kale), and negative (Betty) correlations in item rankings from pretest to posttest (bottom panel).

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STUDY QUESTIONS

1. What is the relevance of information about the stability of preference across time for practitioners and researchers?
2. Summarize the basic procedures used by the authors to assess preference.
3. What dimensions of preference did the within- and between-stimulus change scores reflect, and how were they calculated?
4. Summarize the response patterns depicted in the lower panel of Figure 1.
5. How did the overall rank-order correlations compare with ranking agreements for highly ranked items?
6. What were some of the limitations of the study?
7. What types of variables may contribute to changes in reinforcer preference across time?
8. Describe how the methods used in this study might be extended to identify some of the determinants of stability in preference.

Questions prepared by Stephen North and John Adelinis, The University of Florida