



Preference Testing: A Comparison of Two Presentation Methods

Jennifer Windsor

Department of Communication Disorders, University of Minnesota

Laura M. Piché and Peggy A. Locke

Ablenet Inc.

Paired and group presentation methods of preference testing were compared with eight learners with severe-profound developmental disabilities. Each presentation method was also compared with staff rankings of learners' preferences. Similar preferences were identified with both presentation methods. Although the paired presentation took more time to administer, it elicited more consistent preference information than the group presentation. Staff preference rankings were not highly correlated with either the group or paired presentation. However, items identified as most preferred by staff and by both presentation methods were similar.

In establishing initial target behaviors for many individuals with severe disabilities, it is essential to identify items or activities that will be highly

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Requests for reprints should be sent to Jennifer Windsor, University of Minnesota, Department of Communication Disorders, 115 Shevlin Hall, 164 Pillsbury Drive S.E., Minneapolis, MN 55455, USA.

motivating and likely to increase learners' responsiveness (Berg & Wacker, 1991). There are several ways to identify these items, including observation of learners' behavior and interviewing their significant others, for example, relatives and staff in residential facilities. Because preferred items tend to be reinforcing (Green et al., 1988; Pace, Ivancic, Edwards, Iwata, & Page, 1985), a key way of determining potential reinforcers has been to investigate learners' preferences. Items that are preferred by an individual tend to be highly individualized (Dattilo, 1986; Gutierrez-Griep, 1984; Pace et al., 1985), and the gestures to indicate choices and refusals may be idiosyncratic (Sigafos & Dempsey, 1992).

Establishing learners' preferences is important not only for identifying reinforcers, but also for facilitating learners' ability to be self-determined. Increasingly, educators have argued that individuals with severe-profound disabilities should be provided with the same opportunities as other citizens to participate in community, recreational, and vocational activities (Beukelman & Mirenda, 1992). This philosophy is reflected in the Individuals with Disabilities Education Act, which states that transition services for individuals with disabilities should take into account individuals' interests and preferences. In short, investigation of reliable methods of preference testing is important because it relates to the degree of control individuals with severe-profound disabilities can exert in their day-to-day lives.

Typically, systematic testing of preferences is accomplished by presenting items to a learner and observing the frequency and/or duration of item selection (Dattilo & Mirenda, 1987; Green et al., 1988; Keogh & Reichle, 1985; Wacker, Berg, Wiggins, Muldoon, & Cavanaugh, 1985). Although a variety of response formats have been used (e.g., approaching or gazing at an item, vocalizing, activating a switch), there are two distinct methods of presentation: presenting each of several items in isolation or presenting all items simultaneously (Reichle, York, & Sigafos, 1991). When items are presented in isolation, each item is typically shown to a learner for a brief interval, and the learner's preference or lack of preference is observed (Berg & Wacker, 1991). In this situation, preferences generally are determined by a learner's consumption of or approach toward an item or by the duration of attention directed to an item (e.g., Green et al., 1988; Pace et al., 1985).

When items are presented simultaneously, they may be presented in pairs or in a larger group. Typically, the paired presentation involves a series of paired comparisons in which each item is displayed with each other item the same number of times over a series of trials, the side of presentation being randomized across trials. In the group presentation, all items are shown to the learner at one time. Over a series of presentations, a learner's preference for one or more items is established. Versions of the paired presentation method have been used successfully to identify preferences in several studies (Dattilo, 1986; Fisher et al., 1992; Mithaug & Mar, 1980;

Parsons & Reid, 1990). The group presentation approach has been used successfully also (Mathy-Laikko et al., 1989).

Regardless of which presentation method is used with a given learner, staff reports of the same learner's preferences do not appear to closely match the systematic assessment results. For example, Parsons and Reid (1990) compared the results of their paired approach with staff opinions about which item in a pair would be more preferred. They found that for the preferred items identified through testing, only about 40% of the staff responses indicated that the items would be preferred. For nonpreferred items identified through testing, about 50% of responses indicated that the item would not be preferred. Similarly, Green et al. (1988) found no significant correlations between staff rank orders of most to least preferred items and rank orders obtained from the average percentage of approach behaviors to stimuli presented in isolation.

One reason, suggested by Parsons and Reid (1990), as to why staff reports of preferences may differ from the results of systematic testing is that staff may be able to identify an individual's strongest preference but may be unaware of specific comparisons between pairs of items. Some support for this idea is suggested by the results of Green et al. (1988). Although no significant correlation between rankings was found, for each learner who demonstrated consistent preferences, at least one item ranked by staff as being highly preferred was ranked as highly preferred in testing.

A second reason why staff reports and systematic assessments may differ is that staff reports may be based on the frequency of a learner's acceptance of an item that is routinely offered by itself. For example, if a learner always eats a snack food that is offered, staff may perceive the snack to be a highly preferred food. However, in this situation there is no opportunity to observe differential preferences for a variety of snacks. Conversely, systematic assessments generally elicit a learner's active selections among several items.

The purpose of this study was twofold. The first aim was to compare the preference information obtained from learners with severe-profound disabilities using paired and group presentation methods. The learners' responses to the two presentation methods were compared on three measures of interest: ranking of preferences, consistency of preferences, and administration time. The second aim was to determine how closely the information from each presentation method matched preference rankings obtained from staff members who provided direct care to the learners. No studies have compared previously the efficacy of, or potential differences between, the group and paired presentation methods. Also, there is no research investigating whether or not staff preference reports are related more closely to one presentation method than another.

It is quite plausible that the group and paired presentation methods provide different information and have different advantages and disadvantages. For example, when a number of different items are presented in a series of paired trials, a ranking of preferred items may emerge. Conversely, when the same array of items is presented in a series of group trials, only the most preferred item may be selected. However, to provide the same number of opportunities for selecting a given item, many more trials must be used in a paired compared to a group presentation. Also, a group presentation that includes several items may create greater task demands than the paired presentation.

With regard to staff preference information, staff may be quite knowledgeable about some aspects of learners' preferences. Discrepancies between staff reports and systematic testing may partly reflect the conditions under which staff observe learners' preferences and the methods used to systematically test preferences. As noted previously, systematic assessments generally necessitate choices among items. Staff may observe learners in situations in which fewer opportunities for choices exist. On the other hand, if choices are available for learners in their day-to-day activities, staff perspectives possibly may be more accurate than systematic assessments because these perspectives are based on observations in natural contexts rather than contrived experiments.

METHOD

Subjects

Eight adults with severe-profound disabilities, four men and four women, participated in the systematic preference testing. These learners were residents at a group home in a large midwestern city in the United States. Learners for whom identification of preferences was an appropriate communication goal were considered as potential participants. The eight learners selected to participate had the cognitive, sensory, and physical skills necessary to complete the preference testing. Learner characteristics are outlined in Table 1. As shown in this table, the learners ranged in age from 17;6 to 29;10, and all had a diagnosis of severe-profound mental retardation. Learners were nonspeaking, communicating basic needs via idiosyncratic signs, facial expressions, body gestures, and/or challenging behaviors. One learner (John) had an electronic communication device but was not observed using it.

Although seven of the eight learners evinced cerebral palsy, all learners were able to reach for, grasp, and consume the items. In reviewing learners' medical records, it was found that a few learners were reported to have some degree of visual impairment. However, all learners were observed to

TABLE 1
Learner Characteristics

Name	CA	MA	Diagnosis	Ambulatory	Hand Dominance
Ross	17;6	1;10	Hydrocephaly Severe-profound MR	Yes	Right
Jerry	18;5	1;6	Cerebral palsy Severe-profound MR	Yes	Right
Gus	18;6	1;5	Cerebral palsy Severe-profound MR	Yes	Right
Christine	21;7	1;7	Cerebral palsy (spastic diplegia) Microcephaly Severe-profound MR	No	Right
John	23;6	2;1	Cerebral palsy (quadriparesis) Hydrocephaly Severe-profound MR	No	Left
Hallie	23;6	1;1	Cerebral palsy (spastic quadriplegia) Rhetts syndrome Severe-profound MR	No	Left
Robyn	26;4	0;11	Cerebral palsy Congenital rubella Severe-profound MR	No	Left
Sharon	29;10	1;1	Cerebral palsy Severe-profound MR	Yes	Right

Note. The Slosson Intelligence Test for Children and Adults-Revised (Slosson, 1985) was used to determine MA for Jerry, Christine, John, Hallie, Robyn, and Sharon. The Wisconsin Behavior Rating Scale (Song et al., 1980) was used to determine MA for Ross and Gus.

CA = chronological age at start of study, given in years and months; MA = most recent estimate of mental age reported in learner's file; MR = mental retardation.

discriminate the items used in the preference testing and to visually scan each array without difficulty. Moreover, there was no evidence that any degree of visual impairment affected any learner's ability to function in daily activities.

For each of these eight learners, six staff who provided direct care for the learner participated. Each staff member interacted with a given learner(s) on a daily basis in one of four activities rooms of the group home. Staff members included qualified mental retardation professionals, resident advocates, and other direct care staff. A total of 23 staff, 7 men and 16 women, participated. Each staff member gave a subjective ranking of learners' preferences.

Stimuli for Preference Testing

Small portions of food and drink were used as items in the two presentation arrays for all learners (i.e., one group presentation and one paired

presentation). Although edibles may not be the most appropriate reinforcers, they were selected to use in the study because food and drink were the primary reinforcers in these learners' programmed activities. Prior to the start of the study, three staff at the group home who knew a given learner, as a group, listed six foods believed to be liked by that learner. These six items were used as stimuli in the presentation arrays. The foods included a range of snack foods (e.g., Jello™, popcorn, yogurt, banana) and drinks (e.g., milk, soda, iced tea).

Procedure for Preference Testing

Group presentation. The preference testing using the group presentation was carried out by five presenters (the authors and two graduate assistants) who used a standard presentation format. Although the time of day of the preference testing depended on availability of each learner, testing was not carried out immediately subsequent to a meal or snack. Each learner sat opposite a presenter in a quiet room with a tray containing the foods on a table or lap tray directly in front of the learner. Four learners had no drink in their arrays. So as to prevent these learners from not selecting an item (e.g., a salty pretzel) because they were thirsty, a glass of water was made available.

All six foods identified as stimuli for a given learner were displayed at one time. Small pieces of the foods were placed at equal intervals on a tray, about 2 in. apart. Thus, the food on the far right of the tray was about 14 in. from the food on the far left of the tray. The six foods were simultaneously presented to the learner over a series of 10, randomly ordered trials. Thus, learners were given 10 opportunities to select a particular food. The foods were arranged randomly in a given trial, with the restriction that each food appear at least once and no more than twice in each position on the tray across trials. This ensured that the foods appeared an equivalent number of times on the right and left side of the tray. In each trial, the presenter asked learners "which one do you want?" when foods were presented. To aid familiarity with the small portions of food, the first time in each administration that a food was shown to a learner it was labeled by the presenter.

Most learners were able to grasp all food portions and raise them to their mouths without difficulty. In instances in which learners were unable to easily move the food from the tray to their mouths, the presenter helped them after a clear attempt at grasping the food was identified. This sort of help has been used previously (Sigafoos & Dempsey, 1992). For example, presenters spooned ice cream and other soft foods into learners' mouths after they had been selected.

Paired presentation. Preference testing using the paired presentation was carried out by the same presenters under the same conditions as for the group presentation. In the paired presentation, two of the six foods were displayed at one time. The two foods were placed 2 in. apart on a tray. For one learner who exhibited some challenging behaviors (Ross), the tray could not be used in the paired presentation. Instead, items were placed on the table about 1 ft apart. Two foods were simultaneously presented to the learner in a series of 30 randomly ordered trials. Paired items were arranged so that each different food was paired with the other five foods twice. That is, as in the group presentation, there were 10 opportunities to select a particular food. In one pairing of two given foods, one food portion was on the right side of the tray. In the other pairing, the same food was on the left side.

Presentation order. A single administration (either the group or paired presentation) was performed in each assessment session. The group and paired presentations were consecutively ordered across administrations. Four of the learners began with the group presentation; the other four learners began with the paired presentation. Seven of the eight learners took part in five administrations of both presentation arrays (i.e., 5×10 trials of the group presentation and 5×30 trials of the paired presentation). Due to illness, one learner (Hallie) did not take part in the final group administration. The 10 administrations (9 for Hallie) took place over a 2-month period.

Scoring. The total number of each item selected in each presentation was calculated. An item in a given trial was scored as selected by a learner if the learner attempted to grasp the food and then consumed it. In instances in which learners attempted to take more than one food, the first food taken was scored as the one selected. Trials were scored as "no response" if the learner did not initiate a selection after 20 s or pushed the food away. For calculating the time to administer each presentation, the beginning of an administration was operationally defined as the presenter placing the tray of foods before a learner and asking "which one do you want?" The end of an administration was defined as the moment when a learner selected an item in the last trial.

Procedure for Staff Rankings

For the learner(s) for whom they provided direct care, each staff member was given a sheet containing a list of the six items used in the preference testing. Each staff member was asked to rank the learner's preferences for the foods from 1 (*most liked*) to 6 (*least liked*). Each staff member completed the sheet individually with no discussion with other staff.

RESULTS

Interrater Reliability

To obtain a measure of interrater reliability for the learners' selections in the preference testing, 3 of the 10 administrations to each learner (9 in the case of Hallie) were selected randomly and scored independently by two raters (two of the authors). Thus, of the total of 1,590 selections (including no responses) by the group of learners, 500 responses (31.5%) were scored twice. Four hundred ninety-six (99.2%) of the 500 responses were scored identically by the two raters.

Comparison of Presentations

The group and paired presentations were compared on the four dimensions of interest previously outlined: (a) identification and ranking of preferences, (b) consistency of preferences across administrations, (c) time to administer, and (d) relation with staff rankings of preferences. The results on each of these dimensions are described as follows.

Identification and ranking of preferences. The total percentage of each food item selected by each learner is shown in Figure 1. As the graphs show, the learners appeared to demonstrate differential preferences for certain foods in both the group and paired presentations. The frequency of learners' no responses was low, with two exceptions being Christine and Sharon. All of Christine's no responses occurred in the first administration and appeared to reflect either lack of familiarity with or desire to perform the preference testing. Sharon always responded in the group presentation but did not respond in 26 instances (17.3%) in the paired presentation. With one exception, no responses occurred only when neither of Sharon's two most preferred items (chocolate chip cookie and graham cracker) was in an array.

A separate one-sample χ^2 test for each learner indicated that all learners showed a significant difference in item selection in the paired presentation. Respectively, the χ^2 values for Ross, Jerry, Gus, Christine, John, Hallie, Robyn, and Sharon were $\chi^2(5, N = 150) = 14.52, p < .05$, $\chi^2(5, N = 150) = 47.92, p < .05$, $\chi^2(5, N = 150) = 29.12, p < .05$, $\chi^2(5, N = 150) = 26.64, p < .05$, $\chi^2(5, N = 150) = 37.88, p < .05$, $\chi^2(5, N = 150) = 28.96, p < .05$, $\chi^2(5, N = 150) = 33.76, p < .05$, and $\chi^2(5, N = 50) = 49.84, p < .05$. All learners except Christine demonstrated a significant difference in item selection in the group presentation. Using the same order of learners, the χ^2 values were $\chi^2(5, N = 50) = 65.59, p < .05$, $\chi^2(5, N = 50) = 147.65, p < .05$, $\chi^2(5, N = 50) = 24.41, p < .05$, $\chi^2(5, N = 50) = 10.36, p > .05$, $\chi^2(5, N = 50) = 35.94, p < .05$, $\chi^2(5, N = 50) = 20.94, p < .05$, $\chi^2(5, N = 50) = 30.41, p < .05$, and $\chi^2(5, N = 50) = 165.35, p < .05$.

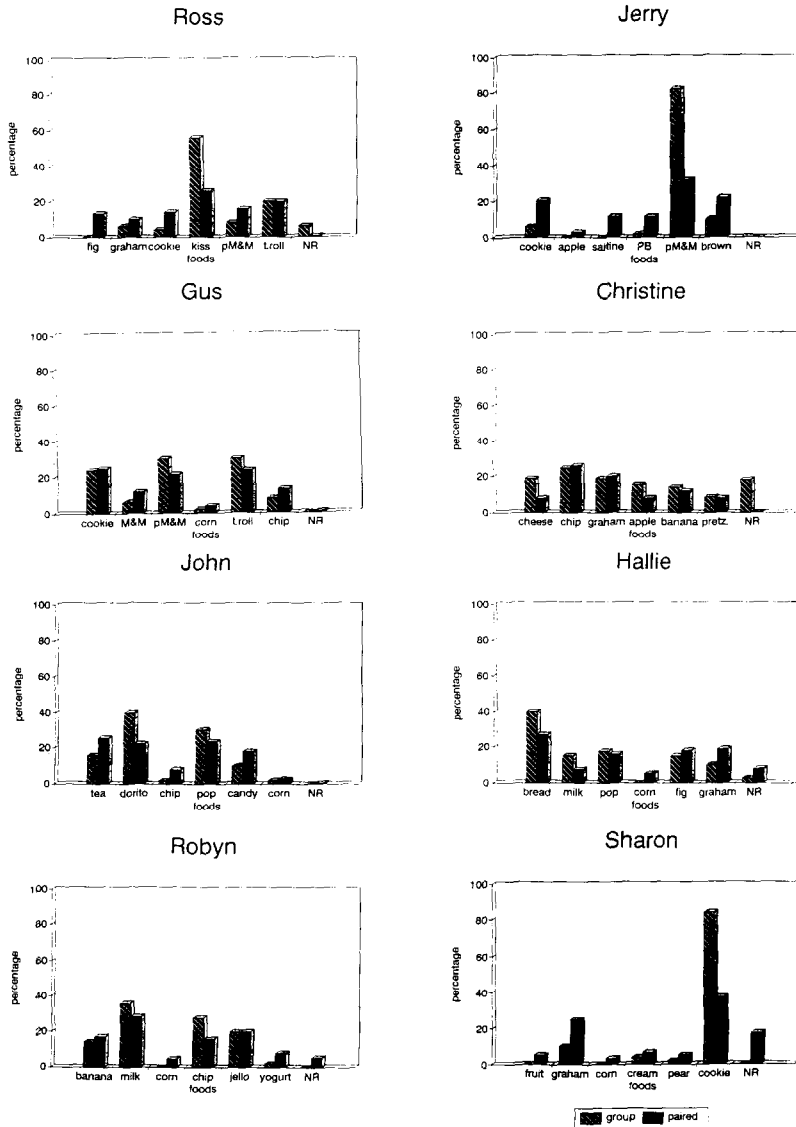


FIGURE 1. Learners' preferences for items. fig = fig newton, graham = graham cracker, cookie = chocolate chip cookie, kiss = Hershey's chocolate kiss, pM&M = peanut M&M™, t.rol = tootsie roll, NR = no response, corn = popcorn, tea = iced tea, PB = peanut butter sandwich, cheese = cheese ball, pretz. = pretzel, fruit = fruit cocktail, cream = ice cream.

A similar ranking of preferences across presentations was apparent for most learners. As shown in the first column of Table 2, the Kendall rank correlation coefficient indicated that the group and paired rankings for each

TABLE 2
Kendall Rank Correlation Coefficients Between Mean
Group, Paired, and Staff Rankings

	Group-Paired Correlation	Staff-Group Correlation	Staff-Paired Correlation
Learner	$\tau(N = 6)$	$\tau(N = 6)$	$\tau(N = 6)$
Ross	.733*	-.067	.200
Jerry	1.000**	.828*	.690*
Gus	.759*	.286	.483
Christine	.694	.447	.828*
John	.621	.429	.345
Hallie	.483	.414	.067
Robyn	.733*	.207	-.069
Sharon	.963**	.644	.412
<i>M</i>	.748	.399	.370

* $p < .05$. ** $p < .01$.

learner tended to be at least moderately correlated. The mean correlation across learners was $\tau = .748$. The significance of each correlation was tested by determining the probability of the obtained value of τ occurring under the null hypothesis of no correlation (Siegel, 1956). Table 2 indicates that the correlation between the group and paired rankings was significant for five of the eight learners. (The staff correlations shown in Table 2 are discussed later.)

The same item(s) was identified as being the most preferred (i.e., was selected with the highest frequency) in the two presentations for six of the eight learners. Two learners, Gus and John, each selected different items with the highest frequency in the two presentations. The same item(s) was identified as being the least preferred by seven of the eight learners (i.e., all except Ross). Using these gross measures, the two presentations may be considered to yield reasonably similar information, that is, that preferences may be systematically identified and ranked.

However, closer inspection of Figure 1 indicates a difference in the type of information obtained with each presentation. In the group presentation, four of the learners showed a clear preference for one item. Ross selected a chocolate kiss in 56.00% of opportunities, Jerry selected a peanut M&M™ in 82.00%, Hallie selected bread and butter in 40.00%, and Sharon selected a chocolate chip cookie in 84.00% of opportunities. These relatively high selection frequencies were not demonstrated in the paired presentation. Here, although the same items were the most preferred, the frequency of selection was lower and closer in frequency to the second most preferred item (i.e., 26.00%, 32.00%, 26.67%, and 37.33% for Ross, Jerry, Hallie, and Sharon, respectively).

Consistency of preferences. One way of establishing the value of the presentation arrays in reliably identifying stable preferences is to assess the extent of correlation across successive administrations of each presentation. As shown in Table 3, the Kendall rank coefficient of concordance indicated that mean correlations across administrations were $W = .486$ and $W = .631$ for the group and paired presentations, respectively. As for the Kendall rank correlation coefficient, the significance of each correlation was tested by determining the probability of the obtained value of W occurring under the null hypothesis of no correlation. All correlations for the paired presentation were significant; five of the eight correlations for the group presentation were significant. Thus, the paired presentation tended to elicit more consistent preferences across administrations than did the group presentation.

Time to administer presentations. Because there were 10 trials in the group presentation and 30 trials in the paired presentation, it was anticipated that it would take longer to administer the paired presentation. This was indeed found to be so. Across learners, the time taken to complete a group presentation ranged from 3 to 10 min ($M = 7$ min). The time taken to complete a paired administration ranged from 10 to 22 min ($M = 16$ min). This time difference does not include the time taken to set up each presentation array prior to an administration. Whereas the administration time was under the learners' control, the set up time was under the experimenters' control and could have been influenced by any perception that one set up would take longer than another. If set up time had been included, it is possible that the obtained difference in time between presentations would have been less.

TABLE 3
Kendall Rank Coefficients of Concordance
Among Administration Rankings

	Group Correlation	Paired Correlation
Learner	$W(N = 6)$	$W(N = 6)$
Ross	.477*	.556**
Jerry	.609**	.869**
Gus	.390	.558**
Christine	.181	.513*
John	.725**	.528*
Hallie	.471	.601**
Robyn	.485*	.612**
Sharon	.552*	.809**
<i>M</i>	.486	.631

* $p < .05$. ** $p < .01$.

Staff ranking of preferences. Table 4 indicates that the preference rankings among the six staff members for a given learner primarily yielded low to moderate correlations. Values obtained using the Kendall coefficient of concordance ranged from .038 to 1.00. The mean correlation was $W = .445$. The correlation among staff rankings was significant for only three learners: Jerry, John, and Sharon. To determine the degree of relation between staff preference rankings and each presentation, the correlation between the average staff preference ranking and preference ranking for each presentation was obtained for each learner. As shown in Table 2, the mean staff-group and staff-paired Kendall rank correlation coefficients were equivalently low ($\tau = .399$ and $\tau = .370$, respectively). The staff and group rankings were significantly correlated only for Jerry. The staff and paired rankings were significantly correlated only for Jerry and Christine.

This correlational information gives an overly pessimistic view of the relation between staff preference reports and the systematic presentations. For a given learner, the foods ranked as most and least preferred by the group of six staff members tended to match those foods so identified by the systematic testing. For four of the eight learners (Jerry, Christine, Robyn, and Sharon), the same food was identified as most preferred by staff and by the paired and group presentations. For two other learners (Gus and John), the food identified as most preferred by staff was so identified by either the paired or group presentation. There was less agreement between the systematic testing and staff rankings for the least preferred foods. For three learners (Ross, Jerry, and Sharon), the food identified as least preferred by staff was identified as least preferred by either the paired or group presentation.

The most and least preferred foods identified by average staff rankings are shown in Table 5. The number of staff (out of a possible total of six)

TABLE 4
Kendall Rank Coefficients of
Concordance Among Staff Rankings

Learner	Correlation $W(N = 6)$
Ross	.292
Jerry	1.000*
Gus	.038
Christine	.206
John	.886*
Hallie	.149
Robyn	.319
Sharon	.673**
<i>M</i>	.445

* $p < .05$. ** $p < .01$.

TABLE 5
Most and Least Preferred Foods Identified by Average Staff Rankings

Learner	Most Preferred	Least Preferred
Ross	fig newton (4)	graham cracker (4)
Jerry	peanut M&M™ (6)	saltine (6)
Gus	cookie (1)	chip (2)
Christine	chip (1)	banana (2)
John	dorito (5)	candy (5)
Hallie	milk (3)	popcorn (1)
Robyn	milk (4)	Jello™ (3)
Sharon	cookie (4)	fruit cocktail (1)

Note. The numbers in parentheses next to each food indicate the number of staff members (out of a possible of six) who ranked the food as most and least preferred by the learner.

who ranked each of these foods as the most and least preferred is shown in Table 5 also. As these numbers indicate, there was variability among individual staff rankings of most and least preferred foods. For example, although the average staff ranking identified the cookie as most preferred by Gus, only one of the six staff members ranked the cookie as the most preferred. That is, although the cookie was ranked highly by most staff members, different foods were identified as most preferred by different staff members. Discussion with staff members indicated that this variability in choice of the most preferred food was because all the foods were felt to be liked by learners.

The systematic assessments and staff rankings of least preferred items were most discrepant with regard to one particular item, popcorn. Popcorn was found to be least preferred in both the group and paired presentations for all five of the learners who had this food in their arrays. On the other hand, popcorn was ranked by staff as least preferred for only one learner (Hallie). At least two possible reasons lie behind this marked difference in preference information. First, staff members indicated that popcorn was often given as a snack to learners. Thus, learners may have chosen other preferred foods in the systematic assessments because they were not routinely available. (This would not explain, however, why some learners frequently chose other frequently available foods such as milk and Jello™.) Second, it may be that staff rankings were based on observation of the learners' acceptance of a food proffered alone rather than their active choice among a variety of foods. If this is so, staff reports may be valid measures of a learner's behavior but may be measuring a different behavior than systematic assessments.

The results of this study demonstrate four major findings. For these learners and staff:

1. Similar preferences were identified and were ranked comparably in both the group and paired presentations.
2. The consistency of preferences across administrations was higher with the paired than with the group presentation.
3. The paired presentation took two to three times as long to carry out as the group presentation.
4. For most learners, staff preference rankings were not significantly correlated with either the group or paired presentations. However, items identified in systematic testing and by staff rankings as the most preferred tended to be the same. Staff rankings and systematic testing of least preferred items were less likely to be in agreement.

DISCUSSION

A relatively small number of learners participated in this study, and, thus, the results should be interpreted cautiously. Given this caveat, the findings suggest that both group and paired presentation methods and staff reports yield valuable information about individuals' preferences. In comparing the two presentation methods, group presentation had the advantage of a shorter administration time (excluding set up time). Conversely, the paired presentation elicited a more consistent indication of preferences across administrations. In general, staff rankings of preferences were not well correlated either among staff identifying preferences for the same learner or with the systematic assessments. However, as in Green et al. (1988), staff frequently identified the same items as being the most preferred as did the systematic assessments.

A key difference between presentations is the type of information obtained from each. Because the group presentation allows access to all items at one time, a preferred item(s) may be selected almost exclusively. On the other hand, because a preferred item may not be present in a given paired array, the learner must choose a less preferred item or not respond. Choosing less preferred items may tend to create a more distinct ranking of preferences than is likely in a group presentation. Not responding also becomes a viable option when a preferred item is not present in a paired array. This use of no response is best exemplified by Sharon. Her no responses occurred when preferred items were not present in the paired array.

Both systematic assessments yield information relevant to the day-to-day activities of individuals with disabilities. For example, in this study, Sharon's strong preference for chocolate chip cookies and Jerry's preference for peanut M&Ms™ suggest that these foods may be useful reinforcers in intervention aimed at enhancing communicative behaviors. Ranking (rather than rating, for example) was used to determine learners' preferences for the food items. However, regardless of the specific rank of

an item, it should be remembered that all items ranked highly may play an important role in a learner's choices. For example, although cookies, peanut M&Ms™, and tootsie rolls received different rankings in Gus's assessments, it is clear from Figure 1 that all three foods were highly preferred by Gus and that there was little difference among the rankings.

Staff discussion of similarities and differences in results obtained from systematic assessments and staff rankings would be valuable. For example, some staff members who observed the systematic assessments in this study commented on their surprise at a learner's preferences. Conversely, some staff members confirmed their beliefs about a learner's preferences.

It is necessary to investigate the relative merits of systematic assessments with a wider range of items. Although food items were appropriate choices for the learners in this study, other choices including day-to-day events could have been made available to the learners (e.g., giving or receiving a hug, watching TV, working on an activity). If the results of preference testing are to have a large impact on the daily lives of individuals with severe-profound disabilities, events and objects that are relevant to their daily lives should be used in systematic assessments.

There are three methodological limitations of the study to be noted. First, all the foods used in the presentation arrays were considered by some staff members to be liked, at least to some extent, by the learners. Although there were significant differences in selection frequency across items, the preferences demonstrated in this study often fell below the conventional criterion used to indicate a preference (i.e., an average of 80% selection across trials; Green et al., 1988; Pace et al., 1985). This result is most likely because all the items in the presentation arrays were potentially liked (versus some liked and some disliked).

Second, as Shevin (1982) suggested, it is possible that consuming one type of food (e.g., salty potato chips) a number of times led to an increase in selecting another type of food (e.g., soda) during the same administration. The three learners who had food in their arrays may have preferred a drink item over a food item when they were thirsty. To circumvent this possibility in future research, choices could be limited to either food or drink items.

In this study, although it is possible that learners' drink selections indicated thirst, it is unlikely that any learners satiated on a particular food during any one administration. Although learners ate three times as many food portions in a paired presentation as in the group presentation, satiation on small portions of food tends to require many more opportunities to consume the food than the 10 given per administration in this study.

Third, it is possible that the learners' preferences changed between the time of the first and last administrations. However, learners were exposed to no new foods over this period (which may have become to be more preferred than foods in the presentation arrays). Moreover, the authors' and

staff's impressions were that preferences remained essentially stable over this period. Although these limitations may restrict interpretation of some aspects of the study, it is unlikely that they influenced the results obtained from the paired and group comparisons differentially. To this extent, the central findings remain robust. To more fully understand the relative merits of different forms of preference testing, additional research is necessary with a larger number of learners. It would be valuable to contrast the presentation methods with items that are believed to be nonpreferred as well as preferred items. Also, the relation between the two simultaneous presentation methods used here and the method in which items are presented in isolation is needed.

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