

*INCREASING ACTIVITY ATTENDANCE AND ENGAGEMENT IN
INDIVIDUALS WITH DEMENTIA USING DESCRIPTIVE PROMPTS*

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The effects of providing descriptive prompts to increase activity attendance and engagement in 6 individuals with dementia were evaluated using a reversal design. The results showed that providing descriptive prompts increased activity attendance and engagement for all participants. The results support the use of antecedent interventions for increasing appropriate behavior by individuals with dementia.

DESCRIPTORS: attendance, dementia, descriptive prompts, engagement, stimulus control

Friman (2006) recently noted that the *Journal of Applied Behavior Analysis* contained only a handful of studies on geriatric issues such as interventions for individuals who suffer from dementia. Because the National Center for Health Statistics reported that approximately 40% of individuals who were admitted to nursing homes had a diagnosis of Alzheimer's disease or other disorders characterized by dementia (Jones, 2002), additional studies on this topic are clearly warranted.

Common problem behaviors exhibited by nursing home residents who have been diagnosed with dementia and related disorders include physical aggression, wandering, handling objects inappropriately, repetitive vocalizing, cursing, and screaming (Cohen-Mansfield, 2001; McCarthy, Blow, & Kales, 2004). Ice (2002) observed 27 nursing home residents for 13 hr per day and found that as a group they spent 65% of their time doing "little or nothing" and only 12% of their time engaged in social activities. Similarly, Kuhn, Fulton, and Edelman (2004) and Shore, Lerman, Smith, Iwata, and DeLeon (1995) found low activity levels among individuals with dementia who

resided in nursing homes. Kuhn et al. suggested that nursing home residents with dementia may be at a higher risk for understimulation because they lack the initiative to begin or sustain leisure activities. From an operant perspective, low activity engagement by individuals with dementia may be the result of weak stimulus control of activities. Specifically, as a function of neurological changes, some stimuli, such as verbal instructions or the sight of activities, may no longer evoke appropriate behavior even though reinforcement for such behavior is still available.

Engelman, Altus, and Mathews (1999) found that prompts, contingent praise, and opportunities to choose increased the daily living activities of several individuals with dementia. However, it is possible that prompts alone may have increased participants' engagement in appropriate activities. The purpose of the current study was to extend the results of Engelman et al. by evaluating the effects of an antecedent intervention that involved descriptive prompts for increasing activity engagement by individuals with dementia.

METHOD

Participants, Setting, and Materials

Six individuals (5 men and 1 woman) ranging from 57 to 87 years of age who had been diagnosed with dementia participated in this study. Three ambulated independently, 2 ambulated with the assistance of a wheelchair,

This study was completed in partial fulfillment of a Masters degree in Behavior Analysis by the first author at Saint Cloud State University, St. Cloud, Minnesota.

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and 1 required complete staff assistance for mobility. The study took place in a 403-bed nursing care facility. Observations were conducted in a room that contained five tables and approximately five chairs.

The targeted activities included engagement with playing cards, an art kit, drawing paper, bridge, puzzles, crosswords, bean bag toss, a ball to play catch, table air hockey, mini handheld games, battery operated blackjack, Connect Four, mental mind teasers, magazines, and a book with classic movie pictures. Activities were chosen based on a brief preference questionnaire that had been completed for each participant prior to the implementation of baseline. The questionnaire consisted of a list of 22 items that were identified verbally by each participant as either preferred or nonpreferred. The items chosen for the preference assessment were based on recommendations from the recreation therapist and item availability.

Target Behavior and Interobserver Agreement

For each participant, the dependent variables were presence and engagement. Presence was scored when a participant was in the designated activity room and standing or sitting within 1 m of any activity. Engagement was defined as any of the following: talking with another person in the room, manipulation of an activity item (e.g., holding a pen to write, lifting a bean bag to throw) or waiting for a turn in a game with another person. For a participant to be considered waiting for a turn, that participant had to be (a) within 1 m of another individual and an activity, (b) visually oriented toward the activity, and (c) speaking with another participant who was either currently or was recently engaged in the activity during the previous interval. Engagement was scored only if an individual also was present in the activity room.

Presence and engagement were measured concurrently, using 1-min momentary time sampling (with paper and pencil) during 40-min sessions. Vibrating pagers prompted the observers to collect data at the beginning of each

interval. Each participant was observed for approximately 3 s. If a participant was not present, it generally took 1 s to identify the absence and 1 s to record it. Subsequently, the observer waited an additional second and then observed the next person in a predetermined sequence. The mean percentage of intervals in which individuals were present was calculated based on the number of participants in the study who were present within the facility. The percentage of intervals in which participants were physically present in the activity room was calculated by totaling the numbers of intervals present, dividing by the total number of intervals (40), and then multiplying by 100%. The percentage of intervals in which participants were engaged was calculated by totaling the number of intervals engaged and dividing by the number of intervals scored as present and then multiplying by 100%. For both dependent measures, interobserver agreement was calculated by dividing the total number of agreements by the total number of agreements plus disagreements and multiplying by 100%. Interobserver agreement was assessed for 27% of baseline and 42% of treatment conditions; scores were 97% or higher across conditions for each participant.

Experimental Design and Procedure

A reversal (ABAB) design was used to evaluate the effects of descriptive prompts on participants' presence in the activity room and the effects of low-frequency prompts on engagement with activities. Observations took place on weekdays from approximately 4:00 p.m. to 5:00 p.m. During baseline, activities were arranged in the designated activity room. The same activities were available across all sessions. Each participant was asked if he or she knew the location of the room and was then given a general prompt to attend the activity room (e.g., "there are activities in the room by the elevators"). Assistance was offered to individuals who could not ambulate independently. Individuals were not awakened if they were sleeping during the activity period. Each

participant missed two or more scheduled sessions across phases ($M = 4$; range, 2 to 7) because he or she was either sleeping or absent from the facility grounds. For each session, data collection began 2 min after the last participant was given the general prompt. The available activities were described to participants after they entered the room. Participants were informed that they could leave the activity room at any time, and no subsequent prompts were provided. If a participant inquired about an activity, he or she was told, "You should do that on your own."

During the descriptive prompts condition, sessions were the same as in baseline except that if the general prompt did not evoke a commitment to attend (e.g., the participant saying, "yes, I am coming"), a descriptive prompt was delivered. A descriptive prompt involved a specific description of one or more of the available activities that was known to be of interest to the individual based on either the preference questionnaire or engagement in an activity during a previous session (e.g., an experimenter saying, "Are you sure you won't go? There will be crossword puzzles."). Individuals who were dependent on staff assistance for mobilization were assisted to the activity room only after they verbally committed to attend. These procedures were repeated later for any participant who was not present at the midpoint of each session. After entering the activity room, if a participant did not choose an activity within 2 min, staff modeled engagement in a specific activity and then provided a verbal prompt for the individual to engage in that activity. Staff provided one brief (10 to 15 s) statement of praise (e.g., "You are really good at that game!") to each participant contingent on engagement during each descriptive prompt session.

RESULTS AND DISCUSSION

Figure 1 shows the percentage of intervals during which the participants were present and

engaged with activities. During the initial baseline, presence ($M = 17\%$) was low and activity engagement ($M = 78\%$) was decreasing across sessions. Following the introduction of descriptive prompts, presence ($M = 75\%$) and engagement ($M = 92\%$) increased. The removal of descriptive prompts decreased both presence ($M = 17\%$) and engagement ($M = 44\%$) to prior baseline levels. Finally, the reintroduction of descriptive prompts again increased both presence ($M = 69\%$) and engagement ($M = 79\%$). (The results for individual participants are available from the fourth author.)

The results of the current study suggest that descriptive prompts increased the number of individuals in areas furnished with activities and the amount of time each engaged with those activities. Although praise was delivered during each session (once to each participant) contingent on activity engagement, it is unlikely that such a thin schedule of reinforcement supported each participant's activity engagement. Instead, it is more probable that descriptive prompts evoked behavior that ultimately contacted natural sources of reinforcement generated by engagement with the activities, engagement with other individuals, or both. Alternatively, it is possible that descriptive prompts functioned as an establishing operation for stimulation produced by the specified activity. For example, hearing a staff person say "there are crossword puzzles" may have established crossword puzzles as a reinforcer and thereby evoked behavior that historically produced access to crossword puzzles (i.e., walking to the room by the elevators). Regardless of the mechanism responsible for the behavior change observed in this study, the results extend those of Engelman et al. (1999) by showing that providing descriptive prompts, with limited programmed reinforcement, increased the presence of individuals in the activity room and engagement with activities.

Some limitations to this study should also be noted. First, prior to the intervention, very few of

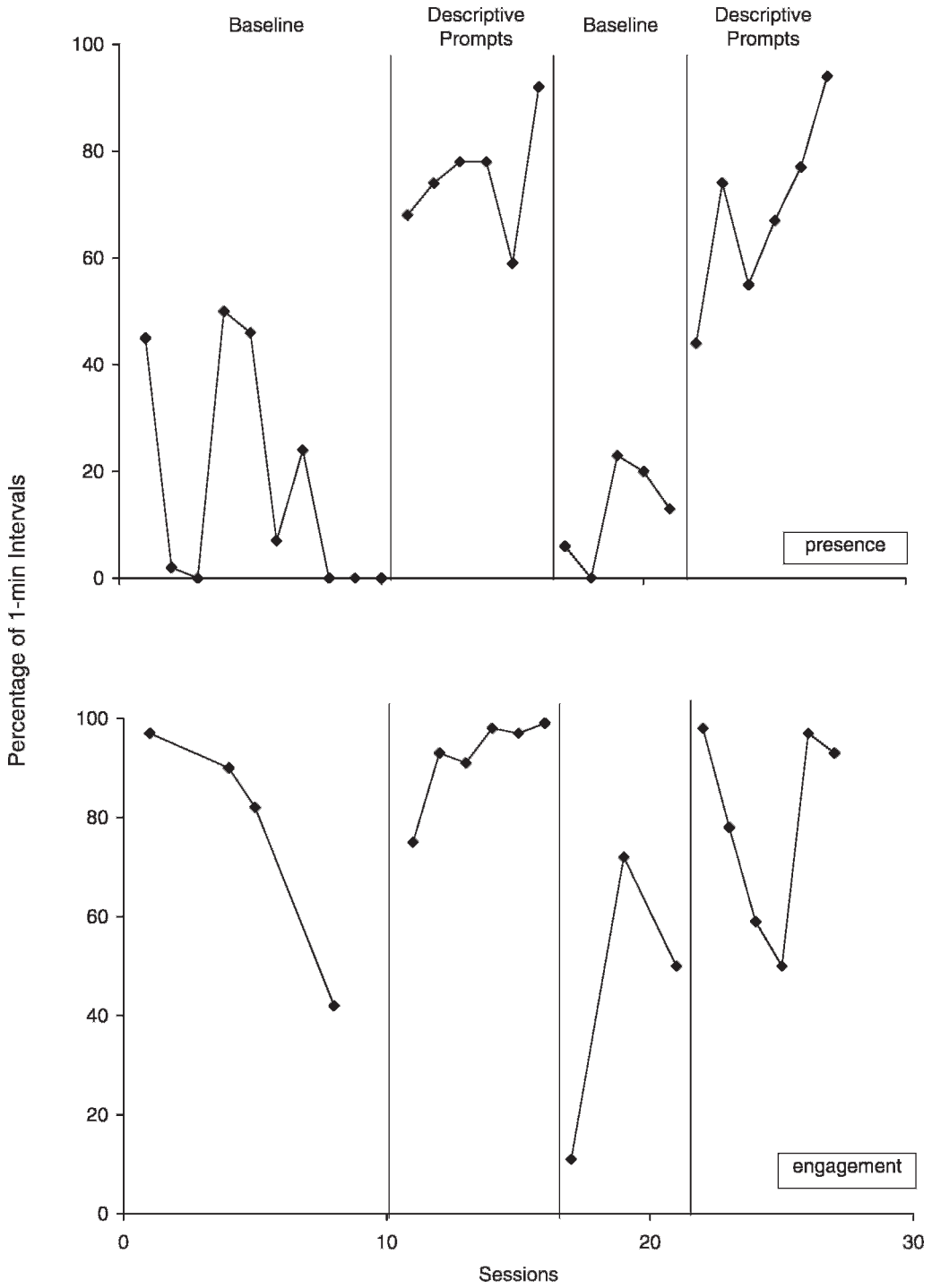


Figure 1. The percentage of intervals during which participants were present (top) and engaged in an activity (bottom) across phases.

the participants entered the activity area. Thus, it is possible that participants' engagement with activities would have increased if the intervention had simply increased participants' attendance to the activity area. Second, data on the occurrence of appropriate social interactions (i.e., talking with other participants) during the activity sessions were not collected. Third, follow-up data were not collected to evaluate the continued use of descriptive prompts by staff or the transfer of stimulus control to a general prompt. Finally, although descriptive prompts increased engagement during the course of this investigation, it is possible that the evocative effects of those prompts may have diminished across time if the participants' dementia worsened.

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