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Approach–avoidance and happiness indicators in natural environments: a preliminary analysis of the Stimulus Preference Coding System

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Abstract

Two studies assessed the reliability and utility of the Stimulus Preference Coding System (SPCS) to measure approach, avoidance, and happy and unhappy behaviors in persons with developmental disorders. Study 1 took place in an institutional setting. The nine participants were all adults with mental retardation and multiple associated disabilities. Inter-observer reliability ranged from 72% to 100%. Study 2 took place in an after-school setting. The four participants were children diagnosed with autism and mental retardation. Inter-observer agreement ranged from 70% to 91%. Approach and avoidance behaviors were a function of staff person and task. The SPCS may be useful in identifying reinforcers, promoting happiness, analyzing task and staff effects, and clarifying the relationship of stimulus preference to psychopathology.

Keywords: Psychopathology; Inter-observer agreement; Stimulus preference

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Pace, Ivancic, Edwards, Iwata, and Page (1985) demonstrated that stimulus preference assessment can be used to identify stimuli that function as reinforcers in people with mental retardation. Subsequently, there has been a substantial increase of research on the topic (e.g., Fisher et al., 1992; Green, Reid, Canipe, & Gardner, 1991; Higbee, Carr, & Harrison, 2000).

1. Methods of presentation

Researchers have developed three methods of stimulus preference assessment: single, dual, and multiple stimulus presentations. In the single stimulus presentation, each stimulus is presented individually. Participant behavior is observed and recorded as approaches, avoids, or behaves in a neutral manner. Green et al. (1988) used this method, which seems particularly suitable for clients who do not communicate preferences through spoken words, sign language, or functional communication using a mechanical device. Both Pace et al. (1985) and Green et al. (1988) demonstrated that preferred items are more likely to function as reinforcers than non-preferred items. However, this method is limited because it is more time consuming than other methods (Fisher et al., 1992). Further, since there is a choice between approaching the presented item and doing nothing, there is a tendency for high rates of approach responses to many stimuli, perhaps leading to less differentiation of the ranking of item preferences than with other methods (Fisher et al., 1992).

In response to these limitations, Fisher et al. (1992) developed the dual stimulus presentation, or forced-choice assessment. In the dual stimulus presentation, two stimuli are presented at once to an individual, and he or she is encouraged to choose one. For example, a child may be given the option of putting a puzzle together or playing with toy cars. The actual selection (e.g., puzzle or cars), or the amount of time dedicated to one stimulus as compared to the other, determines which stimulus is more preferred. The more often a particular item is chosen over other stimuli, or the more time spent with the stimulus, the more likely the stimulus could serve as a reinforcer. This method has been shown to effectively identify preferred stimuli, which may in turn function as reinforcers (Fisher et al., 1992; Piazza, Fisher, Hanley, Hilker, & Derby, 1996).

In the multiple stimulus presentation method, all stimuli are presented simultaneously, and the person chooses one (DeLeon, Iwata, Conners, & Wallace, 1999). Once the person has picked up and handled the item for a length of time, the item may be replaced on subsequent trials (multiple stimulus preference assessment with replacement) or removed for all subsequent trials (multiple stimulus preference assessment without replacement) (DeLeon & Iwata, 1996). A variation of multiple stimulus preference assessment is a free operant assessment in which a person is presented with all the items at once and allowed to interact with the stimulus items in any order. The items are ranked according to the duration of time that the person interacts with the item (Ringdahl, Vollmer, Marcus, & Roane, 1997).

2. Definitions of approach and avoidance behavior

During the single stimulus preference assessment, an individual's behavior is observed and classified as an approach or avoidance behavior. Persons typically approach a stimulus