An evaluation of a high-probability instructional sequence to increase acceptance of food and decrease inappropriate behavior in children with pediatric feeding disorders

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Abstract

We evaluated the effects of escape extinction with and without a high-probability (high-p) instructional sequence on food acceptance and inappropriate behavior for children diagnosed with feeding problems. The high-p sequence consisted of three presentations of a response that was similar topographically (i.e., presentations of an empty nuk 1, liquid on a spoon, and a preferred liquid on a spoon) to the low-p response (i.e., presentation of a nuk with food, liquid from a cup, and presentation of a nonpreferred food). Acceptance of food increased in the presence and not the absence of the high-p sequence during initial withdrawals for two of the three children. In addition, the high-p sequence plus escape extinction was associated with reduced levels of inappropriate behavior relative to escape extinction alone for two children. Data are discussed in relation to behavioral momentum, motivating operations, and the relative contributions of the high-p instructional sequence and escape extinction in the treatment of feeding problems.

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Food refusal is a common problem in children with developmental disabilities (Palmer & Horn, 1978), which may be exhibited in a variety of ways. For example, a child may engage in head turning, batting at the spoon, crying, or tantruming to avoid eating. Other refusal behaviors may include clenching the teeth or refusing to open the mouth. Regardless of the specific topographies of inappropriate mealtime behavior exhibited by the child, a common aspect of food refusal is the child’s noncompliance with either explicit (e.g., “eat your peas”) or implicit (e.g., presentation of the spoon to the mouth) instructions to eat.

One method that has been used to treat noncompliant behavior is the high-probability (high-p) instructional sequence. In the high-p instructional sequence, an instruction with a low probability of compliance (low-p instruction) is preceded by instructions with a high probability of compliance (high-p instructions). For example, Mace et al. (1988) used the high-p sequence with four adults with mental retardation to increase compliance for low-p instructions. Subsequently, Zarcone, Iwata, Mazaleski, and Smith (1994) evaluated the effects of the high-p sequence on the compliance and self-injurious escape behavior (SIB) of two participants. The high-p sequence failed to increase compliance or decrease SIB when SIB continued to produce escape. When the high-p sequence was implemented in conjunction with escape extinction, SIB decreased for both participants.

Even though studies on the high-p sequence may have relevance to the treatment of feeding problems, few studies have evaluated the effectiveness of the high-p sequence with children with feeding disorders. And, unlike most of the literature on the high-p sequence in the treatment of noncompliance (e.g., Ducharme & Worling, 1994; Mace & Belfiore, 1990; Mace et al., 1988), the studies on feeding disorders have demonstrated either negative (Dawson et al., 2003) or transient (McComas et al., 2000) effects. Dawson et al. (2003) evaluated the effectiveness of the high-p sequence with and without escape extinction with one child diagnosed with a feeding disorder. Acceptance of food did not increase when the high-p sequence was implemented while refusal behaviors (e.g., head turning, batting at the spoon) produced escape. By contrast, acceptance increased when escape extinction was implemented independent of the presence or absence of the high-p sequence. The results of Dawson et al. (2003) were similar to Zarcone et al. (1994) in that the high-p sequence failed to compete with an ongoing reinforcement contingency for escape behaviors.

Similarly, McComas et al. (2000) compared a multicomponent treatment, which included escape extinction with and without the high-p sequence for one participant diagnosed with a feeding disorder. Compliance with the low-p request (acceptance of a bite of food) increased more rapidly when the high-p procedure was present (i.e., acceptance increased in the second session). However, levels of acceptance also increased in the absence of the high-p procedure after five sessions.

In sum, prior research has demonstrated largely positive effects with high-p sequences in the treatment of other forms of noncompliant behavior. However, limited research exists on the effects of high-p sequences with feeding problems. Moreover, this research suggests that high-p sequences either (a) do not contribute to the treatment of feeding problems (with or without escape extinction; Dawson et al., 2003), or (b) may result in small, transient effects during feeding treatments with escape extinction (McComas et al., 2000).

Thus, the purpose of the current investigation was to further investigate the effects of high-p sequences during the treatment of feeding problems. Specifically, we evaluated the relative contribution of escape extinction with and without the high-p sequence on levels of
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