

## **Module: Differential Reinforcement of Other Behaviors**

### **Overview of Differential Reinforcement of Other Behaviors**

Bogin, J., & Sullivan, L. (2009). *Overview of differential reinforcement of other behaviors*. Sacramento, CA: The National Professional Development Center on Autism Spectrum Disorders, M.I.N.D. Institute, University of California at Davis School of Medicine.

Differential reinforcement of other behaviors means that reinforcement is provided for desired behaviors, while inappropriate behaviors are ignored. Reinforcement can be provided: (a) when the learner is *not* engaging in the interfering behavior, (b) when the learner is engaging in a specific desired behavior other than the inappropriate behavior, or (c) when the learner is engaging in a behavior that is physically impossible to do while exhibiting the inappropriate behavior. Differential reinforcement (DR) is a special application of reinforcement designed to reduce the occurrence of interfering behaviors (e.g., tantrums, aggression, self-injury, stereotypic behavior). The rationale for DR is that by reinforcing behaviors that are more functional than the interfering behavior or that are incompatible with the interfering behavior, the functional behavior will increase, and the interfering behavior will decrease.

#### **Evidence**

Differential reinforcement of other behaviors meets the criteria for an evidence-based practice with six single-subject design studies.

#### **With what ages is differential reinforcement effective?**

Differential reinforcement is effective for a range of learners. The evidence base supports the use of differential reinforcement for children from ages four to twelve. In middle school settings, differential reinforcement may be integrated into self-management plans.

#### **What skills or intervention goals can be addressed with differential reinforcement?**

Differential reinforcement procedures are most commonly used to reduce challenging or interfering behaviors as well as to increase pro-social or desired behaviors. Within the articles that comprise the evidence base, differential reinforcement has been shown to be effective in reducing interfering behaviors and to increase communication/language skills.

#### **Where has differential reinforcement been effectively used?**

Differential reinforcement can be used in a variety of settings. For example, differential reinforcement can be used effectively in both classroom and home environments. Educators working with learners can use differential reinforcement as part of a self-management system or as part of an educator directed behavior plan.

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### **Evidence Base**

The studies cited in this section document that this practice meets the NPDC on ASD's criteria for an evidence-based practice. This list is not exhaustive; other quality studies may exist that were not included.

#### **Preschool**

Newman, B., Tuntigian, L., Ryan, C. S., & Reinecke, D. R. (1997). Self-management of a DRO procedure by three students with autism. *Behavioral Interventions, 12*(3), 149-156.

#### **Elementary and Middle School**

Adelinis, J., Piazza, C., & Han-Leong, G. (2001). Treatment of multiply controlled destructive behavior with food reinforcement. *Journal of Applied Behavior Analysis, 34*(1), 97-100.

Lee, R., McComas, J. J., & Jawor, J. (2002). The effects of differential and lag reinforcement schedules on varied verbal responding by individuals with autism. *Journal of Applied Behavior Analysis, 35*(4), 391-402.

Newman, B., Tuntigian, L., Ryan, C. S., & Reinecke, D. R. (1997). Self-management of a DRO procedure by three students with autism. *Behavioral Interventions, 12*(3), 149-156.

Piazza, C., Moes, D., & Fisher, W. (1996). Differential reinforcement of alternative behavior and demand fading in the treatment of escape-maintained destructive behavior. *Journal of Applied Behavior Analysis, 29*(4), 569-572.

Taylor, B., Hoch, H., & Weissman, M. (2005). The analysis and treatment of vocal stereotypy in a child with autism. *Behavioral Interventions, 20*, 239-253.

Shabani, D., & Fisher, W. (2006). Stimulus fading and differential reinforcement for the treatment of needle phobia in a youth with autism. *Journal of Applied Behavior Analysis, 39*(4), 449-452.

### **Selected Additional References**

Bregman, J. D., Zager, D. & Gerdtz, J. (2005). Behavioral interventions. In F. R. Volkmar, R. Paul, A. Klin, & D. Cohen (Eds.) *Handbook of autism and pervasive developmental disorders (3<sup>rd</sup> Edition)* (pp. 897-924). New York: John Wiley & Sons, Inc.

Charlop-Christy, M. H., & Haymes, L. K. (1996). Using obsessions as reinforcers with and without mild reductive procedures to decrease inappropriate behaviors of children with autism. *Journal of Autism and Developmental Disorders, 26*(5), 527-546.

Gunter, P. L., Fox, J. F., McEvoy, M. A., Shores, R. E., & Denny, R. K. (1993). A case study of the reduction of aberrant, repetitive, responses of an adolescent with autism. *Education and Treatment of Children, 18*(2), 186-197.

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- Horner, R. H., Carr, E. G., Strain, P. S., Todd, A. W., & Reed, H. K. (2002). Problem behavior interventions for young children with autism: A research synthesis. *Journal of Autism and Developmental Disorders, 32*(5), 423-446.
- Kelley, M. E., Lerman, D. C., & Van Camp, C. M. (2002). The effects of competing reinforcement schedules on the acquisition of functional communication. *Journal of Applied Behavior Analysis, 35*, 59-63.
- Scotti, J. R., Ujcich, K. J., Weigle, K. L., Holland, C. M., & Kirk, K. S. (1996). Interventions with challenging behavior of persons with developmental disabilities: A review of current research practices. *The Journal of the Association for Persons with Severe Handicaps, 21*(3), 123-134.