Differential outcomes training improves face recognition memory in children and in adults with Down syndrome

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Previous studies have demonstrated that the differential outcomes procedure (DOP), which involves paring a unique reward with a specific stimulus, enhances discriminative learning and memory performance in several populations. The present study aimed to further investigate whether this procedure would improve face recognition memory in 5- and 7-year-old children (Experiment 1) and adults with Down syndrome (Experiment 2). In a delayed matching-to-sample task, participants had to select the previously shown face (sample stimulus) among six alternatives faces (comparison stimuli) in four different delays (1, 5, 10, or 15. s). Participants were tested in two conditions: differential, where each sample stimulus was paired with a specific outcome; and non-differential outcomes, where reinforcers were administered randomly. The results showed a significantly better face recognition in the differential outcomes condition relative to the non-differential in both experiments. Implications for memory training programs and future research are discussed. © 2014 Elsevier Ltd.

Children

Differential outcomes effect

Down syndrome

Facial recognition memory

accuracy

adolescent

adult

article

child

clinical article

clinical effectiveness

controlled study

depth perception

differential outcome training

Down syndrome

face

facial expression

female

human

learning and memory test

male

mental performance

outcome assessment

recognition

short term memory

verbal memory

working memory

conditioning

discrimination learning

Down syndrome

middle aged

pattern recognition

preschool child

psychology

reinforcement

reward

Adult

Child

Child, Preschool

Conditioning (Psychology)

Discrimination Learning

Down Syndrome

Face

Female

Humans

Male

Middle Aged

Pattern Recognition, Visual

Reinforcement (Psychology)

Reward