

Elsom, S. D. (1981). Self-management of hyperactivity: Children's use of jogging. (Doctoral dissertation, Pacific Graduate School of Psychology, 1980). *Dissertation Abstracts International*, 41, 3176B.

ABSTRACT

SELF-MANAGEMENT OF HYPERACTIVITY:
CHILDREN'S USE OF JOGGING

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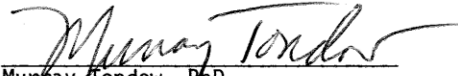
The usefulness of the constriction model of hyperactivity in formulating treatment strategy, and the treatment efficacy of jogging training were examined using three replications with an 18-week, N = 1, time series A-B intensive design. The constriction model postulates: (a) constricted responsiveness to sensory stimulation when brain approach/avoidance centers are insufficiently activated, and (b) constricted range of tolerated stimulation intensity when approach/avoidance centers are activated, with resulting short-term approach to high-intensity stimuli, followed by avoidance of continuing stimulation. Four 9 to 10-year-old hyperactive boys participated three times weekly in an individualized 10-week jogging training program. They were monitored for changes in: (a) approach/avoidance center activation, (b) stimulation intensity tolerance, (c) hyperactive behavior, (d) attention, (e) tonic autonomic arousal, (f) anxiety, (g) depression, and (h) locus of control. Jogging appeared to mimic typical effects of low dosages of stimulants in three boys with apparent CNS dysfunction (birth anoxia or precipitous birth, poor motor coordination, learning disabilities) as follows: (a) approach/avoidance centers appeared activated; (b) expanded range of tolerated

stimulation intensity; (c) parent-rated hyperactive behavior was unchanged, while teacher-rated hyperactive behavior was significantly decreased ($\underline{z} = 2.23, p < .025$); (d) auditory attention performance showed an increasing trend ($\underline{z} = 1.59, p = .056$), and visual attention performance was significantly enhanced ($\underline{t} = 13.35, p < .00005$); (e) heart rate was significantly increased ($\underline{z} = 1.98, p < .05$, 2-tailed test), skin temperature was significantly increased ($\underline{z} = 2.03, p < .025$), while skin conductance and blood pressure were unchanged; (f) self-reported anxiety was unclear; (g) self-reported postexercise depression showed a decreasing trend ($\underline{z} = 1.56, p = .059$), self-reported general depression was significantly decreased ($\underline{z} = 1.93, p < .05$), and parent-rated depression was significantly decreased ($\underline{z} = 2.21, p < .025$); and, (h) locus of control was unchanged. In one boy who showed evidence of emotional problems without apparent CNS dysfunction, only attention improved. It is concluded that the constriction model is useful in formulating treatment strategy, and jogging appears equivalent in efficacy to low dosages of stimulants in treating hyperactive children with CNS dysfunctioning.

SELF-MANAGEMENT OF HYPERACTIVITY:
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This dissertation by Susan D. Elsom, directed and approved by the candidate's committee, has been accepted and approved by the Faculty of the Pacific Graduate School of Psychology in partial fulfillment of the requirements for the degree of

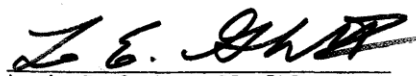
DOCTOR OF PHILOSOPHY



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