Notice of the Final Oral Examination for the Degree of Doctor of Philosophy

of

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MSc (University of Victoria, 2012)
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“The Effects of Executive Function and Attention Training for Children: The Role of Motivation and Self-Concept”

Department of Psychology

Friday, October 14, 2016
9:30am
David Turpin Building
Room A136

Supervisory Committee:
Dr. Kimberly Kerns, Department of Psychology, University of Victoria (Co-Supervisor)
Dr. Sarah Macoun, Department of Psychology, UVic (Co-Supervisor)
Dr. Catherine Costigan, Department of Psychology, UVic (Member)
Dr. Gina Harrison, Department of Education Psychology & Leadership Studies, UVic (Outside Member)

External Examiner:
Dr. Leanne Tamm, Department of Pediatrics, University of Cincinnati & Cincinnati Children's Hospital

Chair of Oral Examination:
Dr. Li-Shih Huang, Department of Linguistics, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

The purpose of this study was to evaluate the efficacy of a cognitive and metacognitive intervention program (Caribbean Quest; CQ), on improving cognitive and social self-concepts (i.e., evaluative self-perceptions, including self-efficacy beliefs), executive function (EF), and attention. The effect of motivation on cognitive training derived benefits also was assessed. Motivation was examined both in terms of motivation specific to engagement in the CQ intervention (i.e., state motivation) and children’s intrinsic motivation for learning situations in general. In addition, the relationship between age, motivation, and self-concept was investigated.

Participants included fifty-five boys, ranging in age from 6 to 12 years, with deficits in EF and attention (29 controls, $M = 8.38$ years; 26 intervention, $M = 8.35$ years). The CQ intervention was delivered to children at school by trained educational assistants (EAs). On average, children completed 12 hours of intervention over 6 weeks. During CQ training sessions, EAs provided support to children in their game play, helping them to monitor their performance and utilize cognitive and metacognitive strategies. Each participant completed a battery of tests before and after the intervention, including measures of cognitive function, self-concept, working memory (WM), sustained attention, and intrinsic motivation. Teachers also provided ratings of children’s intrinsic motivation. Following CQ sessions, children’s state motivation was assessed.

Pre- and post-test analyses did not reveal significant intervention effects for self-concept. However, given developmental differences in self-evaluations for children less than eight years of age as compared to children aged eight years and older, self-concept was analyzed separately within younger and older age groups. Results indicated that children younger than eight years of age showed significant improvements on cognitive and social self-concept compared to the control group, suggesting that self-concept may be more modifiable in younger children. Transfer effects of cognitive training to neuropsychological measures of WM and attention were not significant, although findings trended in the direction of higher benefit for the intervention group. For participants in the intervention group, child-reported intrinsic motivation, but not teacher-reported or state motivation, predicted the extent of change on the self-concept questionnaire and the sustained attention task. Results indicated cognitive self-concept and state motivation increased with age for the younger group of children; for the older group of children, state motivation decreased with age.

In sum, results support the use of a cognitive and metacognitive training intervention for improving cognitive and social self-concepts in children with EF and attention deficits. These findings highlight the importance of motivation as a key determinant of change and training derived gains. Future studies should further explore the relationship between motivation and training derived gains to better understand factors that might limit or enhance the effectiveness of cognitive intervention, as well as examine the value of concurrently targeting motivational factors in cognitive intervention.