Aspects of the Neuropsychological Development and Assessment of New Zealand Children

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Abstract

Typical neuropsychological development in school age children is an under-researched area. There is insufficient research on age effects on performance, relationships between multiple cognitive abilities and between these abilities and academic achievement. In addition to this, there has been no research conducted on neuropsychological assessment practices with children in New Zealand (NZ). This thesis explored patterns of neuropsychological development in typically developing children and provides clarity on the current practices of psychologists conducting neuropsychological assessment with children in NZ.

Study 1 explored the age effects on neuropsychological measures for typically developing children aged 6 to 11 years. Firstly, the scaled scores of NZ children were compared with overseas normative groups and found to be within ±0.4 of a standard deviation for all tests except for finger tapping and animal sorting (NEPSY-II). Secondly, age effects were found for all measures of cognitive abilities which is consistent with previous research. Post-hoc findings identified that the most significant improvement occurred between ages 6 and 9 years. The existence of differences between NZ and USA samples, specifically found for animal sorting and finger tapping (NEPSY-II), indicates that New Zealand normative data would be beneficial for some subtests used in neuropsychological assessments.

Study 2 investigated the relationships between cognitive domains and school achievement in typically developing New Zealand children. Correlational analyses found that the majority of the relationships between the cognitive domains were moderate to weak, which is consistent with overseas literature. The findings were mixed in regards to the relationships between neuropsychological ability and school achievement. Most significant relationships with overall school achievement were found in the domains of social perception and working

memory, followed by processing speed, executive functioning and language. While this was congruent with the hypothesis of the study and with the literature, the finding of a non-significant relationship between motor skills and academic achievement was incongruent. Investigating these relationships across age groups revealed that age 6, 10 and 11 years are the periods of middle childhood with the strongest relationships between neuropsychological ability and achievement.

Study 3 was a survey of psychologists who routinely undertook cognitive and neuropsychological assessments with New Zealand children. The WISC-IV was the most commonly used comprehensive measure to assess cognitive and neuropsychological function of New Zealand children and the most commonly used rating scales are the ABAS, CBCL and CCBRS. The results of the survey indicated that test selection appears to be based on familiarity and access. The focus on the diversity of New Zealand culture in the literature was reflected in the finding that the majority of the survey respondents considered it important to obtain normative data for New Zealand children (80.3%).

In summary, these findings provide clarity around patterns of performance of typically developing children and informs the practice of neuropsychological assessment with New Zealand children.

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Ehara taku toa i te toa takitahi engari, he toa takitini

(Success is not the work of one, but the work of many)

Table of Contents

List of Figures

Chapter 9

List of Tables