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Cognitive studies in children with mild mental retardation with externalizing behavioural disorders

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Summary

This study had an exploratory character. The aim was to gain more insight into the complex behaviour of children with mild mental retardation and externalizing behavioural disorders. This study is one of the first to focus on such a complex target-group. The goals were: making recommendations for future research, discovering tendencies central to behaviour and improving the treatment that such children receive. The children in this study are institutionalized and have a long history of care prior to their admission. Outpatient care proved to be inadequate because of their severe complex behavioural problems, which are difficult to treat. These children have been diagnosed as mildly mentally retarded (MMR) with Attention Deficit/Hyperactivity Disorder (ADHD) and Conduct Disorder (CD). As well as the official diagnoses, the children have many comorbid problems. They are limited in their cognitive skills, have attentional deficits and memory problems, are impaired in their social functioning, are aggressive and impulsive, come from stressful family backgrounds and are often abused. There are few studies concerning dual-diagnosis children. The number of MMR children with comorbid problems is increasing and there is a lack of scientific knowledge about this (target-) group. This study will focus on attentional abilities and impulsiveness, which are related to the disorders mentioned above. The many comorbid problems made it difficult to create an ideal design, because it was impossible to deal with all the variables present in the target group. The children in this target group will play a central role in this study and, depending on the research question, will be compared to control groups. Therefore it has been decided to take a broad approach and carry out seven experiments.

About half of the children in the target group were receiving medication during the experiments. This was a low dosage of pipamperon, usually not the first choice of drug used to treat ADHD and CD; it is an anti-psychotic drug. In the Netherlands and Belgium it is also prescribed for mentally retarded patients with integration disabilities. It is unusual to combine medicated and non-medicated subjects in the same group. However, a number of statistical analyses revealed that medication had no effect on the experimental tasks, and in addition the nonmedicated group did not perform any differently from the medicated group when compared to the normal control group.

In chapter one, the relevant characteristics relating to MMR, ADHD and CD were described along with a number of studies dealing with dual-diagnosis children.

Chapter two was devoted entirely to attentional abilities. Three experiments were executed, each measuring a particular aspect of attention. In the first, it appeared that the target-group children performed poorly compared to the normal group when they had to carry out a task in which they had to monitor themselves (self-paced). In the two other tasks, which were computer-paced, they performed equally well, and in some cases even better than the norm.

In chapter three the concept of impulsiveness was explored. In the first experiment a task was executed which distinguishes between inattention errors and impulsiveness errors. It appeared that children with disorders in the target-group did not make more inattention errors, but did make more impulsiveness errors. In the second experiment the suppression of immediate arousal stimulated by an acoustic signal was measured. It appeared that the children in the target-group with externalizing disorders had many difficulties in suppressing immediate arousal.

In chapter four, two experiments were executed. The first experiment was a sustained-attention task. Problems in sustained attention have been described in MMR as well as in ADHD. In most of the experimental variables, the performance of the target-group was equal to the normal control group, in others it was even better than the norm. However on an index of impulsiveness errors, they tended to perform poorly. No difference was found in time-on-task behaviour. Therefore, a second experiment was executed to determine if state regulation is related to task performance in the target-group. The core problem in children with ADHD, whose intelligence is within the normal range, is not impulsiveness, but deficient state regulation, which results in impulsiveness. Therefore a Go-No-Go task with different presentation rates was executed to determine whether the problems seen in children with ADHD of normal intelligence was mirrored in the target-group. This was not the case. The target group in this study made, regardless their behavioural state, many impulsiveness errors.

Chapter five gave additional statistical analysis. It appeared that impulsiveness errors made in several different tasks are related to one another. A factor analytical study also found an arousal or hyperresponsiveness factor in the target-group.

The main conclusion of chapter six was that attentional abilities of children with MMR and externalizing disorders are intact. A subsidiary finding was that MMR children with externalizing disorders were impulsive in all situations. Impulsiveness, therefore, is a

handicap in itself, above and beyond the specific diagnoses. Some possible explanations are given.