Intra-individual change in children's mental-attentional capacity from 17 to 29 months of age

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Relatively few longitudinal studies have investigated the cognitive development of toddlers in a population sample. The assessment of young children's intellectual capacity on a yearly basis appears difficult to achieve when relying on standardized tests such as the Bayley Scales of Infant Development or the Stanford-Binet Intelligence Scale. Indeed, these tools are time-consuming and costly to administer. More importantly, it is difficult to compare intellectual performance at different ages from infancy to preschool years. Thus, epidemiological research could benefit from alternative instruments providing indices of children's intellectual functioning spanning a wide age range. In the present study, the mental-attentional capacity of a representative sample of children from Quebec was assessed at 17, 29 and 41 months of age using an adapted version of the Imitation Sorting Task (IST; Alp, 1994). Children where asked to reproduce the interviewer's placement of different objects inside two containers. At 17, 29 and 41 months, children had to sort up to 3, 4 and 6 objects respectively. A latent class model (Clogg & Sawyer, 1981) was used to identify different types of children in the population. Data collected from the 17 and 29 months points are presented. At 17 months, the majority of toddlers were able to sort 1 or 2 objects correctly. At 29 months, most of them could place 2 or 3 objects. These results confirm previous findings obtained with non-representative samples of children at similar ages (Alp, 1988, 1994; Gopnik & Meltzoff, 1987). Furthermore, we were able to assess intra-individual change in children's ability to sort objects from 17 to 29 months of age. The findings indicate that children vary widely in terms of rate of growth of mental capacity from the second to the third year of development. This study suggests that the IST could be adapted successfully as a tool to assess cognitive functioning in a population sample of young children. The theoretical implications of these results will also be discussed