Abstract

Following the work of Frith (1970a 1970b, 1989) and Hermelin and O’Connor (1971), it was suggested that autistic people are impaired in their ability to integrate input, that is, in their ability to make connections between concurrent stimuli or between current stimuli and stored information. In order to test this hypothesis, the performance of autistic subjects was compared to that of retarded and normal control subjects on three types of tasks; analogy tasks, perspective taking tasks and card sorting tasks.

Four analogy tasks were used. On three tasks involving pictures of everyday objects there was a complex pattern of results, however, overall, autistic subjects tended to perform more poorly than control subjects although the difference between groups was not always significant. On a task involving geometric figures, the retarded subjects performed more poorly than the other subjects while the autistic subjects and the normal subjects performed similarly. A probable reason for some of the unexpected results is a ceiling effect among the very high functioning subjects in the high I.Q. group for whom more complex tests may have been appropriate.

Two kinds of perspective taking tasks, social and visual, were used. It was hypothesised that autistic subjects’ performance on social perspective taking tasks would be enhanced by increasing the predictability and reducing the transience of stimulus materials. Therefore autistic and control subjects were tested on Baron-Cohen et al.’s (1985) theory of mind task and on two other social perspective taking tasks that involved more predictable interactions
and nontransient cues. The autistic subjects differed significantly from the control subjects in their ability to perform Baron-Cohen’s task but not the other tasks. As well, the autistic subjects performed significantly differently on the two types of tasks. The failure of the autistic subjects on the Baron-Cohen task with their concurrent success on the other tasks can be attributed to differences in the predictability of the protagonists’ reactions and the transience of the stimuli used in these tasks.

A visual perspective taking task required subjects to consider the visual perspective of several other people, represented by dolls. In this multi-observer task they made far more errors than normal or retarded controls, thus further implicating autistic subjects’ difficulty in integration of multiple perspectives.

Contrary to expectations, autistic subjects did not perform significantly differently from control subjects on the Wisconsin Card Sorting Task. Lack of group differences may in part be due to the relatively poor performance of the control subjects rather than unexpectedly good performance by the autistic subjects. Autistic subjects performed significantly better on a revised version of the Wisconsin card sorting test which made the sorting rules explicit than they did on the original version.

Results in all three domains, analogy, perspective taking and card sorting, supported the hypothesis that autistic people have an impaired ability to integrate information.