

Cognitive Characteristics

Research by Woodcock, Oliver and Humphreys compared children with Prader-Willi syndrome to typically developing children and found that children with Prader-Willi syndrome:

- Find it more difficult to switch their attention from one task to another
- Find it more difficult to be able to do more than one task at the same time
- Find it more difficult to avoid reacting in one way when there are two possible responses they could give

An inability to switch attention from one task to another can cause outbursts of [challenging behaviour](#).

It was found that during tasks requiring task switching, individuals with Prader-Willi syndrome had less activity in the areas of the brain that people without the syndrome use to carry out task switching. These areas are at the front of the brain and at the side towards the top (the areas are known as frontal and-parietal brain areas).

Children with Prader-Willi syndrome are very good at finding all of the information they are looking for due to their persistence, despite taking longer to sort out the relevant pieces of information from the non-relevant pieces.

Other cognitive strengths in Prader-Willi syndrome lie in **visuo-spatial abilities** (visual representation and understanding of spatial relationships) which is shown through an aptitude for completing **jigsaw puzzles**. This appears to be more of a strength for those individuals with the [deletion genotype](#).

Mathematical abilities and short term memory have been shown to be particular areas of difficulty for individuals with Prader-Willi syndrome, Individuals may have difficulties with estimation particularly surrounding time, weight and quantity.