

The Exceptionality of the Congenitally Blind

If movement and cognition are linked, then it follows that people who are born blind should provide additional clues about the development of thinking. Although more research is needed in the area of cognition and blindness, the few available studies have found various deficits associated with congenital blindness that very likely affect cognitive development. Young blind children are at a much higher risk for experiencing developmental delays and setbacks [269]. In congenitally blind children at school age, there are profound social cognition and communication deficits [270]. Alaerts found that the motor cortex of congenitally blind individuals was significantly less responsive than their sighted cohorts to auditory perception that typically induces motor responses [271]. An investigation by Brambring revealed significant developmental motor delays in congenitally blind children compared to their visually unimpaired peers [272]. Furthermore, it was also demonstrated that visual impairment generates structural and functional changes in the organization of the human brain [273]. In aggregate, even just these few studies imply that the platform for the functional development of cognition is fundamentally disrupted in the congenitally blind. This conclusion follows for at least two reasons. First, it is likely that blind children have more limited opportunities for purposeful movement, restricting the development of “action control” systems. Second, they are deprived of opportunities to learn through observation. There is literally no opportunity for integrating movement with vision, so that the dorsal stream is unable to specify the parameters for the control of action.