Use of a modified ride-on car may aid in providing children with disabilities essential social interaction with peers

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Background

Children with disabilities engage in fewer social interactions than their typically developing peers (Diamond & Hong, 2010; McConkey et al., 2013). Stigma associated with disability can often result in active isolation and the lack of social invitations and friendships (McConkey et al., 2013). Preschool-aged children (three to five years old) without disabilities are aware that their peers with disabilities require adaptive equipment to perform basic motor skills (Diamond & Tu, 2008). The presence of adaptive equipment likely makes a disability more obvious to a typically developing child, thus making a child with a disability less desirable to play with (Diamond & Hong, 2010).

The lack of social invitations received by children with disabilities can result in many negative outcomes in the future, including poor academic performance, aggressive-disruptive behavior and further social isolation (Odom et al., 2006). Because social development is enhanced by interactions with children without disabilities, it is important that children with disabilities have many opportunities to interact with their typically developing peers (Diamond & Tu, 2008).

By creating a modified, toy-like, ride-on car, we provided one child with the opportunity to achieve social interaction with his typically developing peers. This intervention has potential to stimulate further social development and prevent the negative outcomes that come from social rejection. The ride-on car may also eliminate the stigma of the child’s disability and prevent intimidation of the child’s peers, thus increasing overall peer interactions.

Methods

- 42 preschool-aged children without disabilities and one child with a physical disability (“Child X”) participated in this study.
- Child X was a 4.5-year-old male and has a medical history of ventricular septal defect, bilateral clubfoot, and bilateral peroneal neuropathy. He wears a solid ankle foot orthosis and uses a walker to aid mobility.
- The ROC was a 12-volt car that could travel forward, backward, and steer left and right. The ROC was modified so that in order for activation to occur, Child X was required to pull himself from a sitting to a standing position.
- Child X, as well as his typically developing peers, was observed in the gym and in the playground first with his walker and then during use of the modified ROC.
- The social interactions of Child X and his 42 classmates were video-recorded and coded using momentary time sampling to assess play behaviors. Behaviors were defined by Howes’ Peer Play Scale as either solitary: a child is more than three feet away from peers and teachers are not interacting with anyone; parallel: a child is within three feet of a peer or teacher but with no direct interaction, peer interaction: direct verbal and/or physical interaction with a peer, or teacher interaction: direct verbal and/or physical interaction with a teacher (Howes & Matheson, 1992).

Results

- Social interaction- Gym
  - Solitary interaction decreased by 10%
  - Parallel interaction increased by 12%
  - Peer interaction increased by 1%
  - Teacher interaction decreased by 2%

- Social interaction- Playground
  - Solitary interactions increased by 3%
  - Parallel interactions decreased by 4%
  - Peer interactions increased by 13%
  - Teacher interactions decreased by 10%

Discussion

Child X’s social interactions changed with the use of his ROC. In the gym, the biggest observed difference between using the crutches and the car is the shift to more parallel interaction. In the playground setting, there is a shift towards peer interaction and away from teacher interaction while Child X is using the ROC.

These results highlight the effects of different adaptive equipment on the social interactions of children with physical disabilities. This study suggests that the presence of toy-like adaptive equipment may aid in providing children with physical disabilities the necessary peer interactions for a healthy social life in the future. These findings are useful for clinicians and teachers because they provide information regarding the differences in providing a child with toy-like adaptive equipment versus traditional adaptive equipment. Future research should continue to explore the benefits of toy-like adaptive equipment as well as the specific aspects of this equipment that make a child more desirable as a social partner.

References


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