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Teachers' Corner

A Case Study: Charlie and The Effects of Organized Physical Activity on Autism



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Research suggests that individuals with autism spectrum disorder (ASD) spend less time engaging in physical activity when compared to peers without disabilities (Pan et al., 2016), but the benefits of physical activity among adolescents with ASD have shown improvements in behavior, health, and motor skills (Dillon et al., 2016). *Organized physical activity* (OPA; Dunton et al., 2012) is an intervention for individuals with ASD that combines the benefits of physical activity and the student's natural community setting. It involves structured physical training sessions supervised by an adult and coordinated by an organization or school (e.g., YMCA, Boys & Girls Clubs, intramurals, Boy Scouts).

In the winter of 2019–2020, the behaviors of Charlie*, an adolescent with ASD, were documented as he participated in an OPA—the high school swim team. Charlie's behaviors were then coded for themes related to the major developmental domains (i.e., social, emotional, physical, adaptive, cognitive) to determine any deviation from how his autism typically presents while in the context of his participation on the swim team.

Case: Charlie

Diagnosed with ASD prior to entering kindergarten, Charlie is a 16-year-old junior in a public Midwestern high school. Consistent challenges related to Charlie's diagnosis have impacted his life. Specifically, Charlie has had a lack of motivation toward physical activity, unhealthy relationships with food, delayed gross and fine motor skills, challenges with mental processing, lack of regard for responsibility, and difficulty interpreting social

and emotional settings. Finally, Charlie is resistant to joining actions and ideas when invited, but he will ultimately join with compliance when instructed to participate.

At Charlie's spring 2019 annual IEP meeting that involved planning his junior year, Mr. Johnson*, the high school swim team coach and Charlie's Resource & Life Skills teacher, led a discussion about Charlie's potential interests. Although not dedicated to the act of swimming, Charlie shared his enjoyment of being in water. The IEP team then decided that Charlie would become an active member of the swim team in the winter of 2019–2020 to meet the IEP fitness goal.

Coaching Strategies

Mr. Johnson implemented four strategies with Charlie to help make the swim season as enjoyable as possible. First, he empowered Charlie's teammates to provide unconditional support and acceptance. He encouraged teammates to cheer on Charlie during races and praise him afterward, regardless of the place in which he finished. Second, Mr. Johnson anticipated the stress participation in an OPA might cause Charlie, so he encouraged Charlie's family to openly communicate any concerns—personal or academic—they observed. Fourth, while Mr. Johnson was sensitive to the characteristics of ASD, he put forth much effort in treating Charlie like any other swim team member. Finally, the most important strategy (recommended by Charlie's family) was using his disposition toward passive compliance to his advantage. Mr. Johnson would give authoritative directions, use appropriate tone, and avoid punitive measures. For example, Mr. Johnson would say, "Today, Charlie, you are going to dive off the block." Considering Charlie's disposition and not relying solely on the IEP were pivotal in increasing his participation in new experiences, which manifested in other areas of his life.

Positive Effects of OPA

It is not always the case that a student with ASD will respond positively to an OPA, especially when asked to comply with others' requests or adjusting to rules and social norms (Ostfeld-Etzion et al., 2016). However, positive effects of OPA on Charlie were observed in the major domains of development.

Social

Increased verbal communication. During the swim season, Charlie began to "tell stories" to family members about

events that occurred during practice and the school day. Charlie's sharing demonstrated increased and varied vocabulary, expression, and gestures.

Initiated social encounters. Charlie willingly rode the bus to and from away swim meets, and he comfortably ate with the team after the meets. He also initiated participation in social events during the swim season, such as soliciting fundraiser pledges, utilizing locker room facilities, and expressing desire to tip the waitress after the end-of-season meal. Charlie's welding teacher even reported that Charlie began taking initiative in group projects.

Awareness of and attempts to join communal behaviors. Charlie's awareness of others in his life dramatically improved. He began to name his classmates and initiated spontaneous conversations with family members about current events (e.g., 2020 election, COVID-19 pandemic). Charlie also expressed the desire to go to a local coffee shop with his friends.

Emotional

Positive self-image. Charlie became more positively aware of himself. He self-selected dress clothes per the requirements on swim meet days. This new interest transferred to requesting specific styles (e.g., cowboy boots, flannel shirts). He also began to shave regularly without opposition, and he chose a new haircut style. Charlie even requested a speedo instead of jammers as his swim uniform.

Generalized confidence. Charlie's behaviors during the OPA were largely isolated. Yet, in one observed instance, he generalized his confidence from one context to another. After not finishing last in a race, he flirted with a female teammate by telling her he wished she did not have a boyfriend so he could date her.

Physical

Muscle coordination. Charlie always completed races in which he was entered, and it was common for him to place last. However, he did not finish last in two races near the end of the season due to increased strength and speed. In addition, Charlie eventually learned enough physical coordination to start from the block.

Adaptive

Increased desire for independence and responsibility. During the swim season, Charlie began an internship cleaning and sorting inventory at a local music shop. Participation in the internship even sparked a desire for his own money to spend.

Long-term effects. Near the end of the swim season, the COVID-19 pandemic emerged, causing a nationwide shutdown that affected many facets of Charlie's daily life. Remarkably, Charlie maintained some of the improved behaviors observed

during the swim season. He took initiative to exercise by walking his neighborhood, and he maintained consistent academic performance despite multiple transitions from in-person to on-line learning.

Cognitive

Improved grades. To be on the swim team, all members must meet a grade point average requirement. Charlie responded positively to this expectation by asking for help and initiating the use of the resource room for IEP accommodations. Charlie's efforts resulted in improved grades, which meant a decreased need for private tutoring.

Conclusion

Charlie's family has learned over to time to work Charlie's realities to his advantage. They have collectively learned to identify a behavior that is usually seen as a barrier for Charlie and reimagine how the behavior can be used to his advantage. In this case study, the family's effort to reimagine Charlie's passive compliance while he participated in an OPA had positive results.

Because human behavior is dynamic and not static, we do not know the causes of all the positive behaviors that were observed in Charlie during the 2019–2020 high school swim season. However, the observations clearly support the research on the benefits of organized physical activity among adolescents with ASD on the domains of development. ■

*pseudonyms

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