

Article Presentation Summary

Chapter six of Hall's *Autism Spectrum Disorders: From Theory to Practice* (2018) focuses on developmental, social-relational, transactional and other approaches to intervention. Given that the two previous chapters focused on ABA interventions, I hoped this chapter might introduce other types of interventions that prioritize social emotional development through peer interaction in the natural environment, if only to point out weaknesses. I was disappointed to find that chapter six was still dominated by one-on-one, adult-to-child behavioural interventions that only incorporate a few elements of play-based social interaction with parents instead of clinicians.

I do think these child-led, responsive, culturally-embedded, socio-emotional and cognitive learning approaches have merit. However, my background as an environmental educator has made me more curious about the state of research and evidence for the benefits of more intensely playful and socially interactive nature-based, teamwork-oriented programs designed to include young people with disabilities in outdoor physical activities with neurotypical peers. Hall claimed to summarize prominent *naturalistic* approaches based on Piaget, Vygotsky, Bandura and contemporary social constructivist and developmental theorists' work in chapter six (2018). However, I was left wondering, "Are there any recent, controlled, experimental studies that empirically measure the impacts of outdoor adventure programs on the key impairments of young people with ASD that do not rely on ABA?"

Zachor et al.'s 2017 study answered my question directly. The authors used the Social Responsiveness Scale (SRS), the Likert scale-based Teachers' Perceived Future Capabilities Questionnaire and the Vineland Adaptive Behaviour Scale (VABS) mentioned by Hall in chapter

six (2018) to demonstrate that just 30 minutes per week for 13 weeks of outdoor adventure therapy improved skills in the SRS subdomains of social communication, social cognition, social motivation and interpersonal relationships in 3-7 year old children diagnosed with ASD (Zachor et al., 2017). ASD symptoms of restricted and repetitive mannerisms were reduced in the 30 students treated with outdoor adventure therapy, while the 21 control children treated exclusively with behavioural and developmental ABA interventions actually increased their ASD symptoms.

The evidence Zachor et al. give supports their interpretation that the four ropes course activities offered were so inviting, fun and exciting that they drew the participants in to engage deeply in empathizing and communicating with each other to solve physical challenges, overcoming difficulties and gaining confidence in skills that they might normally try to avoid (2017). The students were invited to take turns to individually climb up and over a rope ladder, swing in a rope hammock, balance and walk along on a rope bridge, and use a rope “elevator” as a group to pull a harnessed peer upwards. The extensively trained outdoor adventure staff designed the activities to require coping with heights, moving in space, trusting instructors and peers, sharing responsibility for the safety of peers, asking for help, and enjoying opportunities to rest and relax in the natural environment (Zachor et al., 2017). The students had to be aware of and coordinate motor movements in their physical environment and use a theory of mind to practice executive functions such as planning, inhibition, and mental flexibility (Hill, 2004).

While the potential for bias in this random, controlled, experimental study could be eliminated if independent raters instead of teachers who knew which students were in the experimental group had conducted the questionnaires, the teachers had no invested interest in the

study. The fidelity of implementation was ensured by the consistent involvement of a qualified senior field guide hired by an independent non-profit organization to design the intervention.

References

Hall, L.J. (2018). *Autism spectrum disorders: From theory to practice*. New York, NY: Pearson.

Zachor, D. A., Vardi, S., Baron-Eitan, S., Brodai-Meir, I., Ginossar, N., & Ben-Itzhak, E.

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