

Beyond ABA: Interventions for students with ASD

## Hall (2018) Chapter 6:

Developmental  
social-relational  
transactional  
& other approaches to intervention

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After reading Chapter 6, my question was:  
“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?”

Yes!

Zachor, D. A., Vardi, S., Baron-Eitan, S., Brodai-Meir, I., Ginossar, N., & Ben-Itzchak, E. (2017). The effectiveness of an outdoor adventure programme for young children with autism spectrum disorder: A controlled study. *Developmental Medicine & Child Neurology*, 59, 550-556.

# Outdoor Adventure Therapy

Zachor et al.'s 2017 study:

- ▶ 3-7 year old children diagnosed with ASD
- ▶ 30 minutes per week for 13 weeks of outdoor adventure therapy
- ▶ 30 students in experiment treated with outdoor adventure therapy in addition to traditional ABA-based SPED kindergarten interventions
- ▶ 21 control children treated exclusively with behavioural and developmental ABA interventions.

# Evidence in Zachor et al., 2017.

## ▶ Measures used:

- ▶ Likert scale-based Teachers' Perceived Future Capabilities Questionnaire
- ▶ Vineland Adaptive Behaviour Scale (VABS)
- ▶ Social Responsiveness Scale (SRS)

## ▶ Results:

- ▶ Teachers reported improved skills in the SRS subdomains of social communication, social cognition, social motivation and interpersonal relationships
- ▶ ASD symptoms of restricted and repetitive mannerisms were reduced in intervention group while ABA control group actually increased their ASD symptoms

# Theoretical influences of Developmental Interventions in Ch.6

- ▶ Stern (1980): development of sense of self
  - ▶ Create opportunities for joint attention, theory of mind
  - ▶ Interpersonal interaction involves memory, current experiences and expectations
- ▶ Piaget: Cognition is a mediating factor
  - ▶ Child's ability to remember and learn contingent on active engagement with materials and environment
  - ▶ Affect or enjoyment during interaction helps develop speech, language, memory, intelligence

# Theoretical influences of Social-Relational Interventions in Ch.6

- ▶ Vygotsky: Social-emotional response is a mediating factor
  - ▶ use of scaffolding to increase a child's zone of proximal development
  - ▶ Cultural understanding of social interactions and language
- ▶ Bandura's Social Learning Theory:
  - ▶ Cognition plays a role in behaviour, not merely reinforcement
  - ▶ Emotional response and regulation can be learned through observation, especially if paired with a positive experience
- ▶ Sroufe (1995)
  - ▶ Emotions change behaviour (express, control, modulate)
  - ▶ Goal of socioemotional development is self-regulation of emotion

# Theoretical influences of Transactional Interventions in Ch.6

- ▶ TEACCH “Cultural Model” demonstrates a systems theory approach
- ▶ recognizes that a child’s innate characteristics and environment interact with and change each other over time
- ▶ Bronfenbrenner’s Ecological Systems Theory might encourage us to take the cultural aspects of ASD into consideration

# Theoretical influences of Naturalistic Developmental Behavioural Interventions (NDBIs) in Ch. 6

- ▶ Based on combination of behavioural & developmental theory
- ▶ Address range of domains: language, cognition, motor, social, play
- ▶ Embedded in daily routines, activities or natural environment
- ▶ Include child-initiation, turn-taking, use of varied settings/materials
- ▶ Embrace culture of ASD:
  - ▶ Focus on details instead of the big picture
  - ▶ Concrete thinking
  - ▶ Practice planning and sequencing
  - ▶ Scaffold generalization
  - ▶ Provide visual, physical structure embedded in the environment



# Similarities between NDBIs and Outdoor Adventure Therapy in Zachor et al.'s 2017 study

- ▶ Eg: Denver Model/Early Start Denver Model
  - ▶ Play-based, Positive affect emphasized,
  - ▶ Create interactions that are a source of pleasure
  - ▶ Joint attention/activity, through set-up and closing phases
- ▶ Eg: Pivotal Response Training
  - ▶ arrange environment to increase motivation
  - ▶ Incorporate potential reinforcers
- ▶ Eg: Relationship Development Intervention
  - ▶ Competence is goal, not joy, fun or laughter but activities can include climax or moment of uncertainty

# As an Environmental Educator...

- I've worked with many agencies that exclude through lack of awareness, training, resources & physical access
- When I tried to prioritize inclusivity, funding agencies dismissed leadership/outdoor/physical education as necessary for learners with exceptionalities
- However, "PowertoBe.ca," an outdoor adventure therapy NGO for youth with disabilities based out of Victoria, B.C. is highly sought after by young people with exceptionalities and their parents

# As a mother, I've noticed...

- ▶ Social constructivist and developmental theorists have deeply informed our ECE playscape for neurotypical children
- ▶ Pre-schools, daycare, Strongstart, play café, parent & tot activities are clearly influenced by:
  - ▶ Piaget
  - ▶ Vygotsky
  - ▶ Montessori
  - ▶ Bandura
  - ▶ Not Skinner!!
- ▶ Do children with ASD get to participate equitably in these spaces? It does not appear so.
- ▶ Wouldn't they benefit equally or even more than neurotypical children from play-based interventions with peers?
- ▶ Instead, behaviourism (through ABA) seems reserved for children with ASD. Why? Does the demand for EBPs sideline interventions that do not collect data as an intrinsic part of their process?

# Methodological Rigour of Zachor et al.'s 2017 study

## Higher Quality MM studies

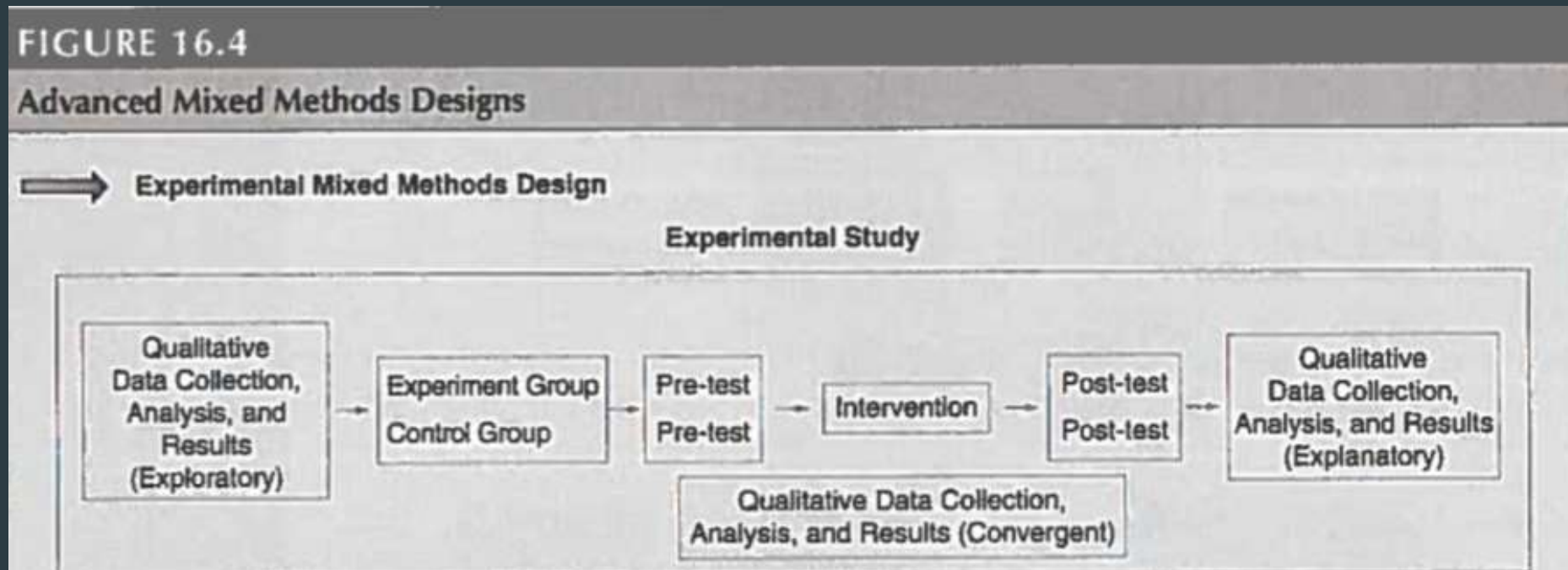
- ▶ Use of “mixed methods” in title
- ▶ Details rigorous Quan & Qual methods
- ▶ Specifies how databases were integrated
- ▶ Identifies, sequences and diagrams MM design procedures
- ▶ Cites MM literature to frame study
- ▶ Detailed picture with generalizable results

## Lower Quality MM studies

- ▶ Refers to “quan and qual” or forms of Q & Q data
- ▶ No/few details on data collection
- ▶ Does not use or mention database integration
- ▶ Does not specify, explain or diagram type of MM design
- ▶ Does not review relevant literature
- ▶ Confuses reader instead of deepening understanding

# Strengths of Zachor et al.'s 2017 study

Uses approved sequence of an Experimental Mixed Methods Design



(Creswell, 2015, p. 548)

# References

Creswell, J. C. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (5<sup>th</sup> ed.). Boston, MA: Pearson.

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. (2017). The effectiveness of an outdoor adventure programme for young children with autism spectrum disorder: A controlled study. *Developmental Medicine & Child Neurology*, 59, 550-556.