The evidence base for educational interventions for people with autism: effectiveness, best practice and gaps in knowledge

Niš, Serbia March 13th & 14th 2017

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What does the evidence base tell us about 'best practice' for successful outcomes in autism education?

Emphasis on evidence-based practice (EBP) in autism

- Many researchers and guidelines argue for the importance of basing educational intervention on EBP → effectiveness

- **E.g. Autism Research-Policy-Practice Hub: http://www.autismrpphub.org/**

J Autism Dev Disord (2010) 40:149–166
DOI 10.1007/s10803-009-0842-0

ORIGINAL PAPER

Social Skills Interventions for Individuals with Autism: Evaluation for Evidence-Based Practices within a Best Evidence Synthesis Framework

Brian Reichow · Fred R. Volkmar

"Evidence-based practice is more than just the best evidence, it is the integration of best evidence with high-quality clinical skills, such as communication and assessment, as well as the application of evidence to the particular belief systems, values and context of the client's life."

Cluett (2006; p.36):
http://www.us.elsevierhealth.com/media/us/samplechapters/9780443101946/9780443101946.pdf

Outcomes

…an impact upon aspects of the **learning and participation** of children and young people with autism (e.g. their attainment levels, progress, attitude, confidence, self esteem and independence skills)
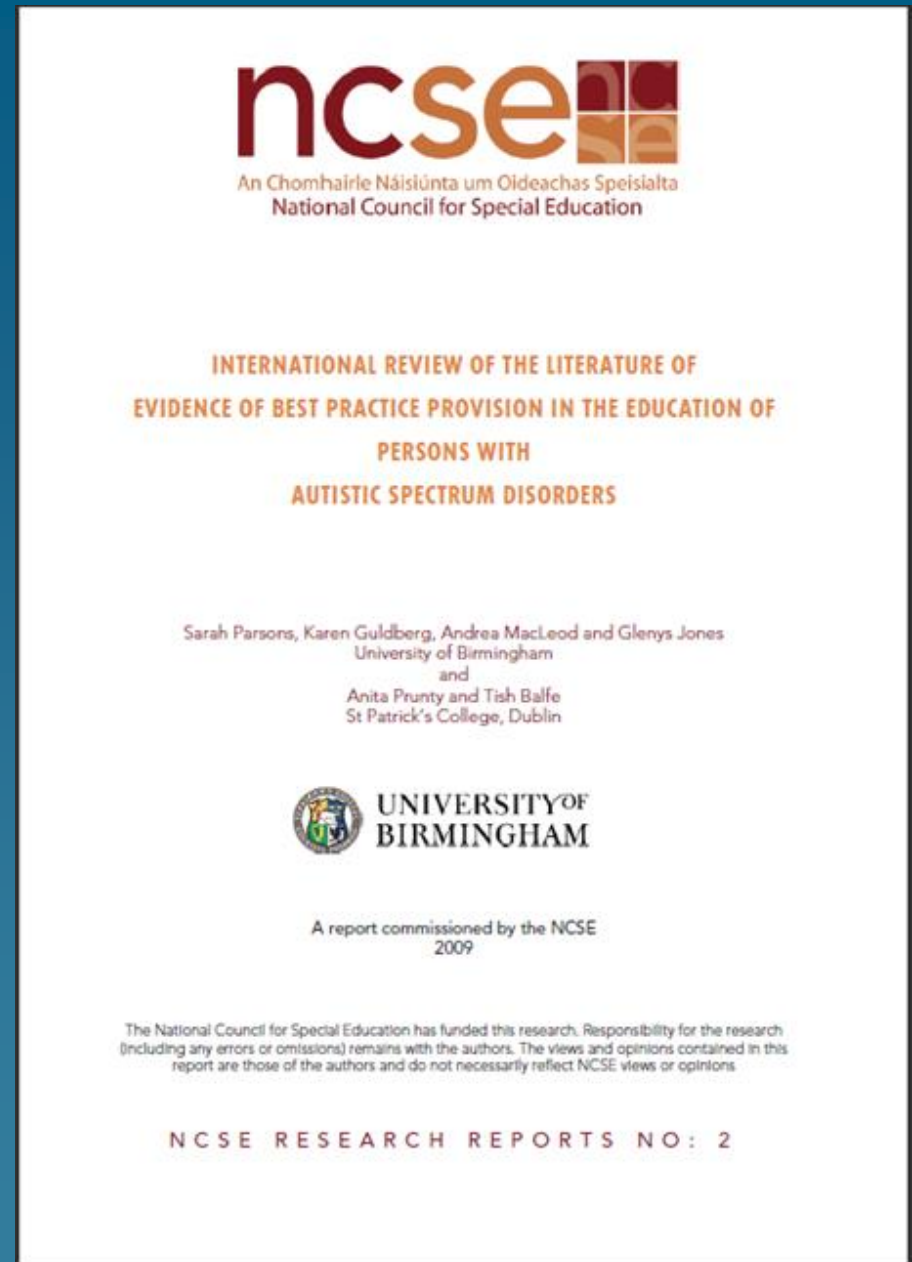
Rix et al (2006)

Systematic review of research evidence + review of expert guidance

2002-2008

100 research papers +

24 policy and expert guidance reports

Parsons et al (2009, 2011); Guldberg et al (2011)

ncse

An Chomhairle Náisiúnta um Oideachas Speisialta
National Council for Special Education

INTERNATIONAL REVIEW OF THE LITERATURE OF
EVIDENCE OF BEST PRACTICE PROVISION IN THE EDUCATION OF
PERSONS WITH
AUTISTIC SPECTRUM DISORDERS

Sarah Parsons, Karen Guldberg, Andrea MacLeod and Glenys Jones
University of Birmingham
and
Anita Prunty and Tish Balfe
St Patrick's College, Dublin

UNIVERSITY OF
BIRMINGHAM

A report commissioned by the NCSE
2009

The National Council for Special Education has funded this research. Responsibility for the research (including any errors or omissions) remains with the authors. The views and opinions contained in this report are those of the authors and do not necessarily reflect NCSE views or opinions

NCSE RESEARCH REPORTS NO: 2

http://ncse.ie/wp-content/uploads/2014/10/2_NCSE_Autism.pdf

Method

1. *Empirical Strand*: *systematic* searching of electronic databases focusing on empirical studies

2. *Expert Strand: selective* collation of articles, reports, reviews and guidance based on expert opinion / professional experience

	Empirical	Expert: Children and young people	Expert: post-compulsory education and adults
Early assessment & intervention	✓	✓	✓
Types of intervention	✓	✓	
Working with families	✓	✓	
Multi-agency approach		✓	✓
Staff training	✓	✓	
Social skills curriculum			✓
Social interaction, understanding and skills	✓		
Specific learning tools & approaches	✓		
Perspectives from people with autism	✓	✓	✓
Transitions		✓	✓
Improving access to Further / Higher Education			✓
Institutional considerations			✓
Diagnostic disclosure			✓

Mapping: empirical studies

Age of participants	49% of studies included preschool children (<5 yrs)
	33% primary aged children (5-11 yrs)
	10% secondary aged (11-16 yrs)
	8% post-compulsory education and adults (16 and older)
Numbers of participants	48% included 11 or fewer participants
Geographical spread	59% North America
	26% UK
	7% Rest of World
	5% Europe
	3% Ireland

Context

All research included took place in the home, community or in school/college-based settings

NOT in the laboratory /clinic

Main findings

- Younger children: 82% of research papers

- Most promising approaches:
  - *Early communicative behaviours* e.g. joint attention (e.g. Kasari et al., 2006)
  - *Peer-interactions* (Owen-DeSchryver et al, 2008; Whitaker, 2004)

- *Naturalistic, child-centred and led approaches* rather than adult-directed, prompt-dependent procedures

Kasari, Freeman and Paparella (2006)

Joint Attention Intervention

Structured Play Intervention

- Randomized controlled trial
- 58 children, 3-4 yrs old
- Therapist led intervention
- 5-6 weeks daily for 30 minutes
- Follow ups 1 and 5 years later
- Focus of intervention on
  - Engagement
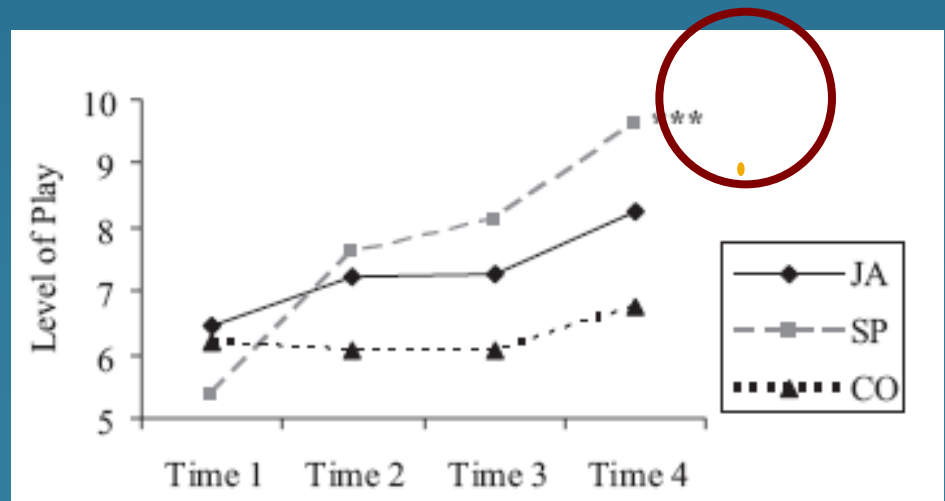 - Joint Attention
  - Play
  - Language

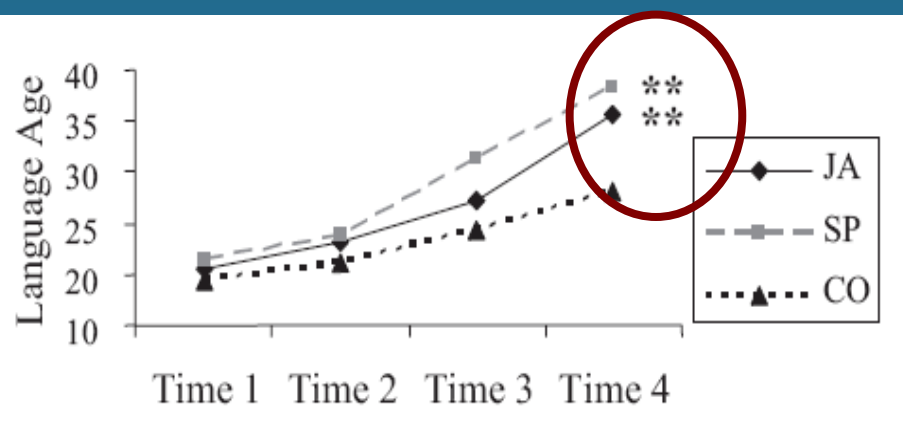# Change in joint attention and play

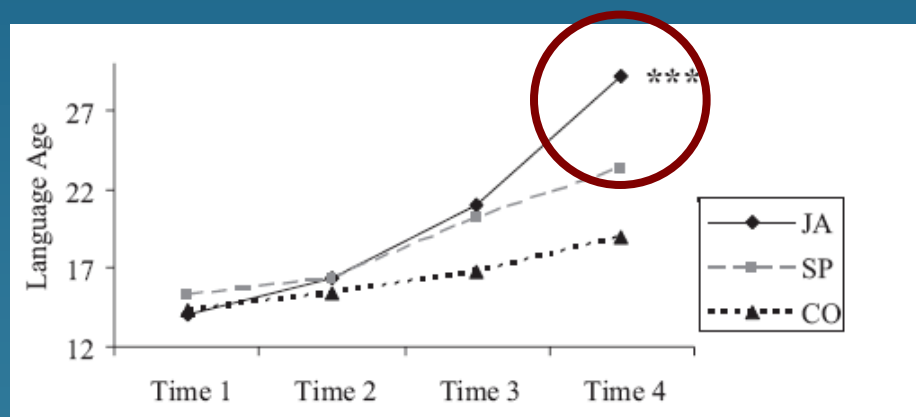Joint Attention Initiations

Play Level

Why are these targets important? They predict to later language outcomes

Follow up 1 year later: JA and SP groups better language

Follow up for Low Language Group: JA group best outcomes

Main features

- Active ingredient to early intervention is a focus on early developing core deficits
  - **Joint attention**
  - **Play**

- Follow up study 5 years later--joint attention and play skills still predict to language and cognitive outcomes

- 80% became verbal, with optimal outcomes (Kasari et al, 2012)

Behavioural approaches

- Intensive behavioural techniques successful in teaching specific skills, for some children, in some contexts

- Robust comparisons [e.g. Applied Behavioural Analysis (ABA) vs. nursery provision] produced mixed findings across studies

Importance of context

- Boyd et al (2008) explored the naturally occurring contextual classroom variables that promoted social interactions between young children with autism and their typically developing peers

- More social interactions with, and a higher rate of social initiations by, the children with ASD when:
  - groups were small or 1:1;
  - in *child directed* settings and activities;
  - with *lower adult involvement*

Importance of context

- Moes & Frea (2002) standardised, home-based functional communication intervention compared with contextualised approach that took into account family routines, beliefs and support systems

- Both approaches improved communication and decreased problem behaviours

- Effect was more pronounced in the contextualised condition and families also felt that this was more sustainable

Parents are vital

- **'Fine –tuning'** of behaviours between parents and children particularly effective:
  - Increasing responsiveness to children's bids for attention + shared attention (Aldred et al., 2004)
  - Enhancing parental interactive strategies through using a *Responsive Teaching* curriculum (Mahoney & Perales, 2003)
  - Specific techniques for managing behaviour + ongoing feedback with therapist (Sofronoff et al., 2004)

Key conclusion

One size does not fit all

One particular type of intervention or approach is unlikely to produce the best outcomes for all children included

Updates

- More recent reviews and published guidelines draw similar conclusions

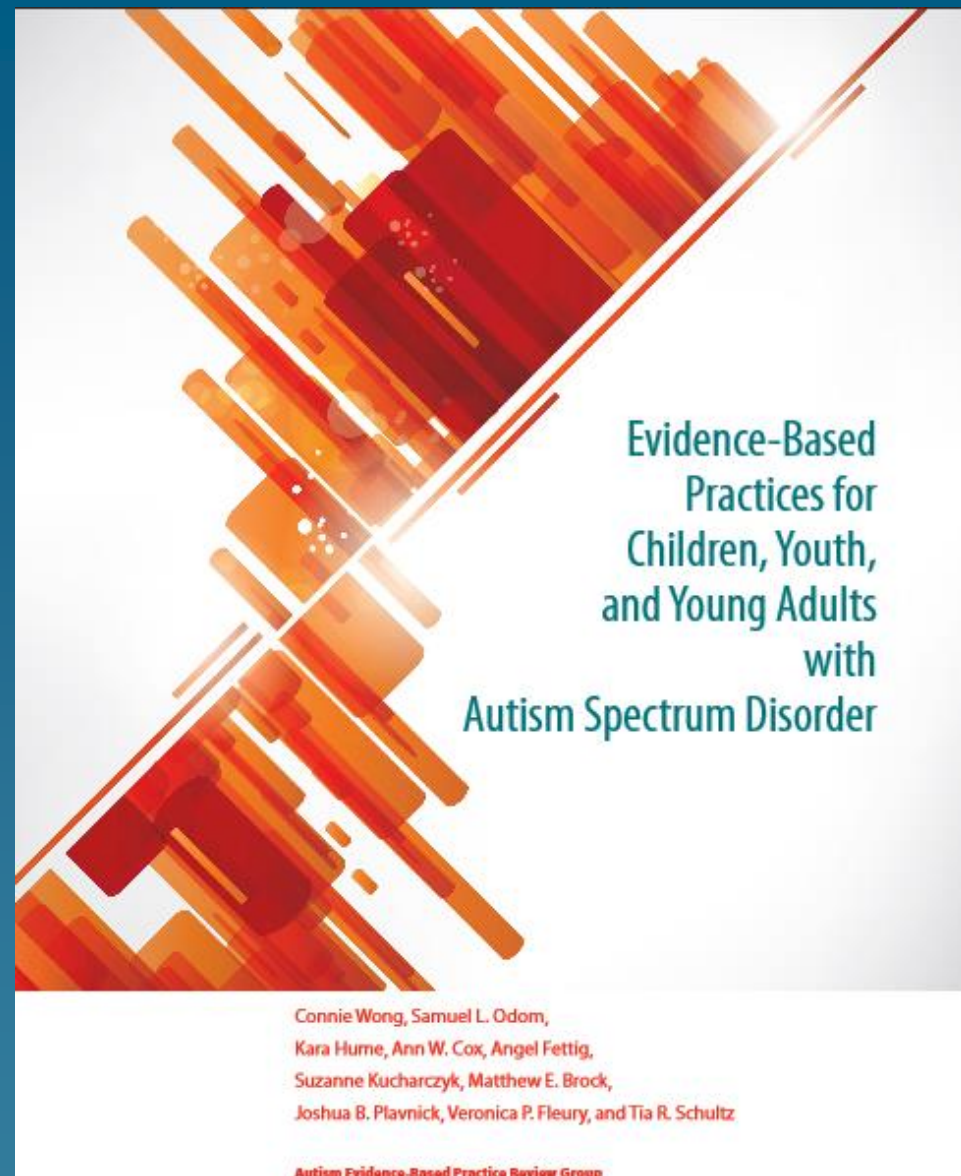**Educating Persons with Autistic Spectrum Disorder – A Systematic Literature Review**

Caroline Bond, Wendy Symes, Judith Hebron,
Neil Humphrey and Gareth Morewood, University of Manchester

http://ncse.ie/wp-content/uploads/2016/07/4_NCSE-Educating-Persons-with-ASD-No20.pdf

85 'best evidence' studies

- Most evidence for early intervention:
  - Joint attention approaches
  - Comprehensive interventions (behavioural + combinations of approaches)

- Most evidence for school-aged children:
  - Peer-mediated interventions
  - Multi-component social skills
  - Behavioural interventions for challenging behaviours

'…recognition that a range of supports and interventions should be available so that provision can be individualised to the needs of the child in collaboration with parents / carers.'

Bond et al., (2016; p.5)

- Wong et al., (2014)

- Identified 27 evidence-based approaches

- A range of approaches including behavioural, peer-mediated, naturalistic, video-modelling

Evidence-Based
Practices for
Children, Youth,
and Young Adults
with
Autism Spectrum Disorder

Connie Wong, Samuel L. Odom,
Kara Hume, Ann W. Cox, Angel Fettig,
Suzanne Kucharczyk, Matthew E. Brock,
Joshua B. Plavnick, Veronica P. Fleury, and Tia R. Schultz

Autism Evidence-Based Practice Review Group

http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf

National Institute for Health and Care Excellence (NICE) Guidance (2014)

Quality statement 5: Treating the core features of autism: psychosocial interventions

Quality statement 6: Treating the core features of autism: medication

...psychosocial interventions to help address the core features of autism.

Rationale

Psychosocial interventions should be considered for people with autism and their families and carers, because evidence suggests that they can help in the management of the core features of autism for some people. Different types of psychosocial interventions should be considered, depending on the age and needs of the person. Current practice suggests that the availability of psychosocial interventions for people with autism is variable.

More findings (Parsons et al., 2009)

- Expert evidence supported a range of provision to cater for diversity of need

- Vital to include parents → good psycho-educational information is needed; stress levels need to be taken into account

- Views of children, young people and adults with autism → essential to informing provision

Overall

http://complexneeds.org.uk/modules/Module-4.1-Working-with-other professionals/All/m13p050b.html#

Decisions regarding education and support should be based on:

- needs and preferences of the person with autism

- views of parents, practitioners and providers

- in combination with what we know from research

Best practice

Range of provision

Collaboration

Training

Intervene early; 'voice' + peer interaction

All different

- Parsons et al (2009; 2011)

BUT, significant gaps…

- Lack of evidence about relative benefits / strengths of general and special educational provision → no empirical evidence focused on this

- Lack of detail in many papers about the participants and the context / nature of the intervention

- Worrying absence of older children and adults in research

Intervention research to benefit people with autism: How old are the participants?

Timothy L. Edwards, Erin E. Watkins, Amin D. Lotfizadeh, Alan Poling *

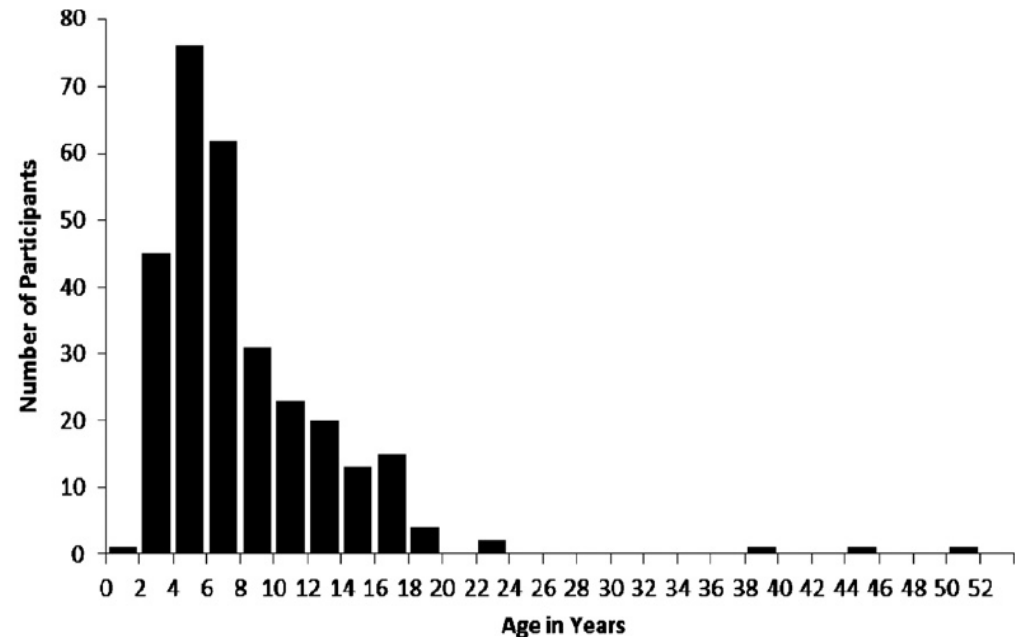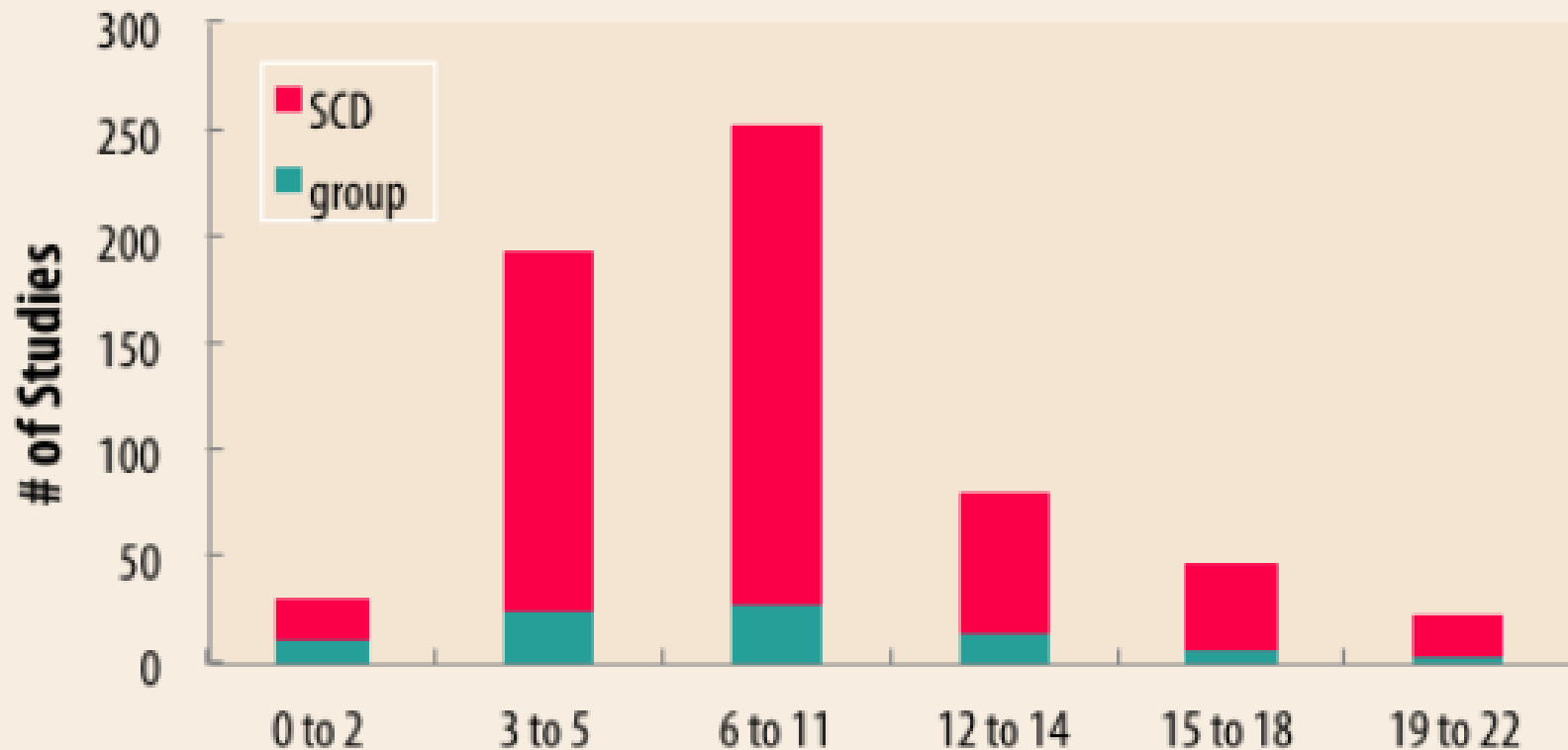Western Michigan University, United States

Fig. 2. Number of participants in each two-year age category (data based on 295 participants from 87 articles).

1.7% were > 20 years

Figure 3. Ages of Participants in Studies

Wong et al., (2014; p.18)

'The achievements and first-hand perspectives of children and adults with ASD need to be regarded as priorities for future research to inform policy and practice'

– Parsons et al, 2009; p.99

It is essential that research can…

'…shed light on which children benefit most from which interventions and the intensity and length of treatment necessary to effect a change'

(Kasari, 2000; p.457)

Main messages

- No single type of educational approach will work best for all children

- Evidence-based practice incorporates views of parents and professionals as well as research evidence

- There is a concerning absence of adults and older children with autism from the evidence base

- Collaboration between stakeholders is needed to address all of these areas

Research funders

Thanks for listening ☺

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