

EVIDENCE-BASED PRACTICES FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDER:

**RECOMMENDATIONS FOR CAREGIVERS,
PRACTITIONERS, AND POLICY MAKERS**
(Caregiver Brief Report)

**Ontario Scientific Expert
Taskforce for the Treatment of
Autism Spectrum Disorder**

November 2018



Dear Reader,

In the summer of 2016, in response to intense public debate regarding the existing research evidence and best practices for the treatment of autism spectrum disorder (ASD), the Ontario Association for Behaviour Analysis (ONTABA) formed the Ontario Scientific Expert Task Force for the Treatment of Autism Spectrum Disorder (OSETT-ASD). Drawing upon the organization's membership, we assembled a group of behaviour analysts with prominent research and practice expertise. Over the next several months, the Task Force worked diligently to evaluate the current state of evidence that exists for this population in order to answer pertinent questions being posed by caregivers, advocates, policy makers, and practitioners across the province. We hoped that the report would serve as a guide in the development of policy and practices in Ontario that are evidence based and result in the best possible outcomes for individuals with ASD and their loved ones.

In the fall of 2018, a Caregiver Brief Report was created to accompany the comprehensive report. This report describes what is meant by the term "evidence-based practice", identifies models of intervention that are considered evidence based, and provides a summary of the existing research evidence for various interventions used with people with ASD. We hope this brief report will provide caregivers with easy access to accurate information about the research support for different interventions in order to make the best decisions for their child's care and treatment.

ONTABA would like to thank the many contributors to this Caregiver Brief Report, including select Task Force members, members of the ONTABA ASD Committee, and the ONTABA Board of Directors. This report is dedicated to our closest partners - the individuals, families, and caregivers to whom this work is of the utmost importance.

Sincerely,



Julie Koudys,
Ph.D., C.Psych., BCBA-D
Chair, OSETT-ASD



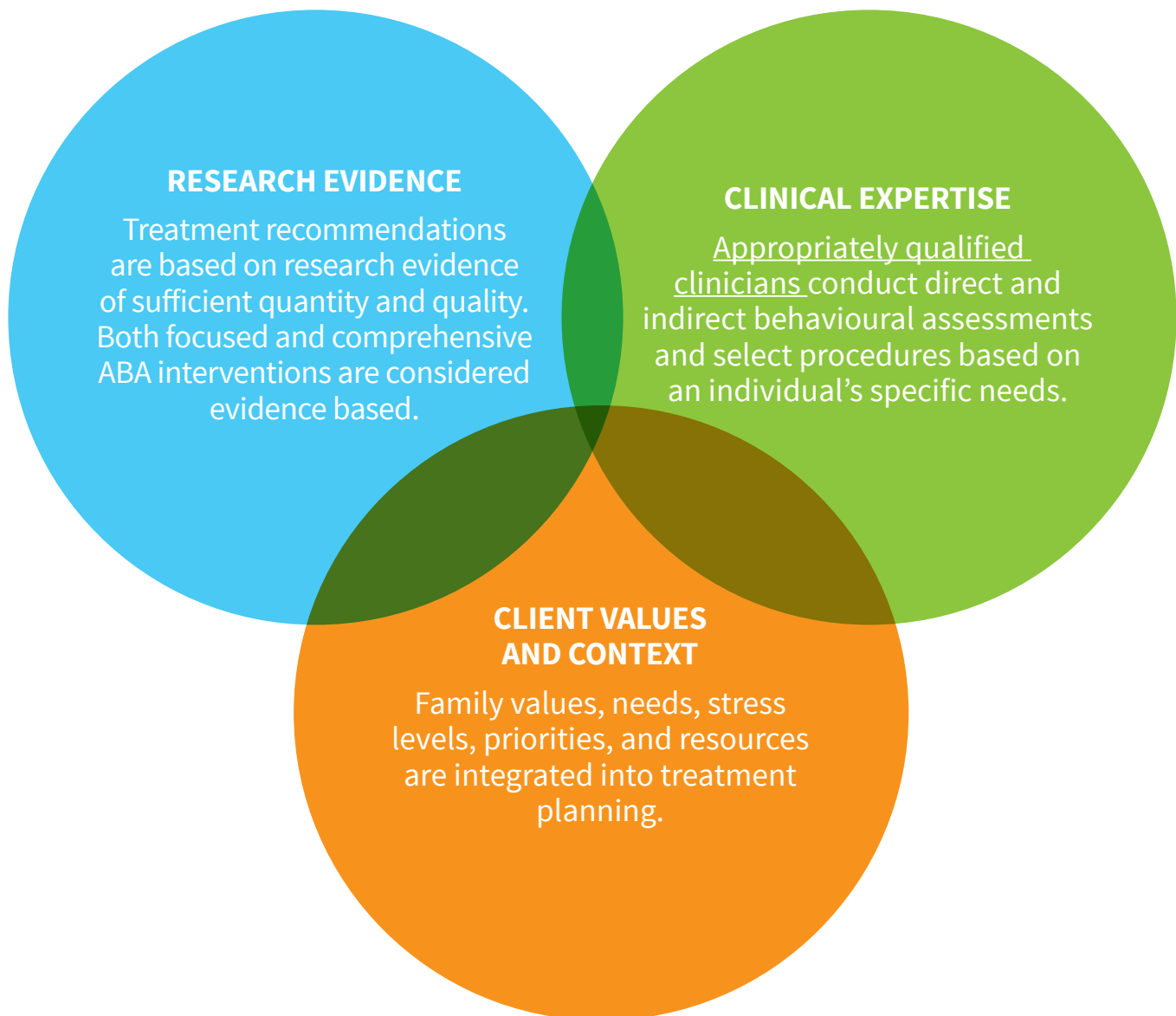
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WHAT IS EVIDENCE-BASED PRACTICE?

Some behaviour analysts have defined evidence-based practice as "...a decision-making process that integrates (a) the best available evidence with (b) clinical expertise and (c) client values and context" (Slocum et al., 2014).



WHAT MODELS OF INTERVENTION ARE CONSIDERED EVIDENCE-BASED?

COMPREHENSIVE ABA INTERVENTIONS

MOST APPROPRIATE FOR	This model of intervention is appropriate for individuals who require intervention across multiple developmental domains (see page 3) at the same time and may include the reduction of challenging behaviours.
CAREGIVER INVOLVEMENT	Caregiver training (e.g., caregiver coaching, education sessions / workshops)
FORMAT	1:1 intervention, slowly moving to less intensive formats (e.g., dyads, small groups) as appropriate for the individual
INTENSITY	Generally 30-40 hours per week
DURATION	Average of 2-4 years
LOCATION	Home, centre, school, or other community settings

Comprehensive ABA interventions tend to address multiple domains or global outcomes and are delivered in an intensive format for a prolonged period of time

FOCUSED ABA INTERVENTIONS

MOST APPROPRIATE FOR	This model of intervention is appropriate when a limited number of intervention goals are identified, including specific skill deficit(s) (e.g., social initiation, using the toilet) and/or behavioural excesses (e.g., tantrums, aggression).
CAREGIVER INVOLVEMENT	Caregiver training, caregivers may implement interventions directly (i.e., mediator model)
FORMAT	1:1 intervention, small groups, consultation or mediator model
INTENSITY	Generally 10-25 hours per week
DURATION	Average of 6 months to 2 years
LOCATION	Home, centre, school, or other community settings

Focused ABA interventions generally refer to interventions that target a relatively small number of behaviours and skills selected for change and are implemented until the goals are achieved

Regardless of the model employed, all ABA services should use data to inform both assessment and intervention and involve carefully planned and monitored changes to each child's treatment plan and environment (e.g., environmental arrangements).

WHAT IS MEANT BY TARGET DOMAINS?

Skill deficits or behavioural excesses often fall within common domains and can assist with identifying goal areas and selecting appropriate interventions.

Skills Increased	Behaviours decreased
Social/Interpersonal	Challenging Behaviour
Academic	Restricted, Repetitive, Non-functional Behaviour/Interests
Communication	Sensory/Emotion Regulation
Cognitive/Higher Cognitive Functions	
Learning/School Readiness	
Motor	
Personal Responsibility/Adaptive	
Play	
Self-Regulation	
Joint Attention	
Vocational	
Placement	

WHICH ABA INTERVENTIONS ARE CONSIDERED EVIDENCE-BASED?

Antecedent-based Interventions*	Functional Behaviour Assessment*
Comprehensive Behavioural Treatment for Young Children (e.g., Early Intensive Behavioural Intervention)	Functional Communication Training*
Differential Reinforcement*	Parent Training Packages*
Discrete Trial Teaching*	Social Skills Training*
Extinction*	Prompting*
	Task Analysis*

Comprehensive ABA interventions incorporate a large array of *focused ABA procedures (e.g., functional behaviour assessment, prompting, reinforcement). For the complete list of evidence-based interventions, the reader is referred to Tables [6 \(page 31\)](#) and [7 \(page 32\)](#) of the comprehensive OSETT-ASD report.

CASE EXAMPLES

CASE 1

Client: Johnny

Age: 11 years

Diagnosis: ASD

Brief Profile: Johnny has several skill deficits across multiple domains (e.g., communication, social skills, adaptive skills). He also engages in high intensity and frequency aggression towards others, as well as self-injurious behaviour.

CONSIDER:

- i. Research Evidence:** Johnny's profile would suggest a comprehensive model of intervention is most appropriate given his needs across a number of target domains. Within his comprehensive ABA program, evidence-based focused ABA interventions which have been shown to develop relevant skills (e.g., task analysis and video modeling to teach adaptive skills) and reduce the occurrence of relevant behaviour excesses (e.g., functional behaviour assessment, functional communication training) should be used.
- ii. Clinical Expertise:** There is a Board Certified Behaviour Analyst (BCBA) involved who conducted a comprehensive behavioural assessment, including direct behavioural observations. The BCBA will work with the client and family to design and monitor a treatment plan. The treatment plan will be implemented by front line therapists.
- iii. Client Values and Context:** There are two younger siblings in the home, including an infant. Johnny is sometimes aggressive toward his siblings, and parents are very worried about the safety of others in the home. Both parents work full time and a grandmother assists with caring for the younger siblings during the day. Parents expressed feeling very stressed and are finding it difficult to divide their time between all 3 kids to meet everyone's needs.

OUTCOME/RECOMMENDATIONS FOR TREATMENT:

Model: Comprehensive ABA

Hours: 35 hours per week

Format: 1:1 intervention, small group instruction as appropriate

Location: Clinic and home

Parent Involvement: Parent training to take place at the clinic and/or in the home as appropriate and manageable for parents.

CASE 2

Client: Emily

Age: 5 years

Diagnosis: ASD

Brief Profile: Emily displays needs in a limited number of areas, including toilet training, initiating social play with peers, and managing frequent tantrums that involve crying, screaming, and flopping to the floor.

CONSIDER:

- i. Research Evidence:** Emily's profile would suggest a focused model of intervention is appropriate given her unique needs. Evidence-based focused ABA interventions which have been shown to develop relevant skills (i.e., naturalistic and peer-mediated intervention to teach social skills) and reduce the occurrence of relevant problem behaviour (e.g., functional behaviour assessment, extinction and differential reinforcement to address tantrums) should be used.
- ii. Clinical Expertise:** There is a Clinical Supervisor who is a Psychologist and Board Certified Behaviour Analyst-Doctoral level (BCBA-D) involved who conducted a behavioural assessment, including direct behavioural observations. The Clinical Supervisor will work with the client and family to design and monitor a treatment plan. The treatment plan will be implemented by front line therapists.
- iii. Client Values and Context:** Emily is an only child. Her mother is currently staying home to support Emily's development. Parents would prefer to keep Emily in school full time. Parents want to be actively involved in all aspects of Emily's ABA services.

OUTCOME/RECOMMENDATIONS FOR TREATMENT:

Model: Focused ABA

Hours: 15 hours per week

Format: Mediator training with parents in the home, group-based social skills program in the community

Location: Home, community

Parent Involvement: Parents will be trained on intervention procedures to target Emily's toileting skills, as well as tantrum behaviours and teach replacement skills.

LOOKING FOR MORE INFORMATION?

- If you would like more information on the types of interventions that are considered evidence-based **in general** for people with ASD, then refer to [Tables 6](#) and [7](#) (pages 31 and 32 of the comprehensive OSETT-ASD report).
- For information on the types of interventions that are considered **emerging** evidence-based practice, or those that are **not** evidence-based, refer to [Tables 8, 9](#) and [10](#) (pages 33 - 35 of the comprehensive OSETT-ASD report).
- If you would like to know which interventions are considered evidence-based **for specific target domains** (i.e., for specific areas of skill development or to address specific types of challenging behaviours) refer to [Table 12](#) (pages 38 and 39 of the comprehensive OSETT-ASD report).
- If you would like to know more about which interventions are considered evidence-based **for specific age ranges** refer to [Table 13](#) (pages 40 and 41 of the comprehensive OSETT-ASD report).
- For information on which interventions are evidence-based **for specific target domains for specific age ranges** refer to [Table 14](#) (pages 43 – 47 of the comprehensive OSETT-ASD report).

For a detailed description of the process by which interventions were determined to be evidence-based, the reader should refer to the comprehensive OSETT-ASD report.

SELECTED REFERENCES

Autism Special Interest Group (SIG) of the Association of Applied Behavior Analysis. (2007). Consumer guidelines for identifying, selecting, and evaluating behavior analysts working with individuals with autism spectrum disorders. Retrieved from Association of Professional Behavior Analysts website: <https://www.apbahome.net>

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National Autism Center. (2015). National standards project findings and conclusions (Phase 2). Randolph, MA: Author.

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Wong, C., Odom, S. L., Hume, K. Cox, A. W., Fettig, A., Kucharczyk, S., ... Schultz, T. R. (2014). Evidence-based practices for children, youth, and young adults with autism spectrum disorder. Chapel Hill, NC: The University of North Carolina, Frank Porter Graham Child Development Institute, Autism Evidence-Based Practice Review Group.

For an exhaustive reference list, please refer to the full OSETT-ASD report.

Table 6
Interventions Determined to be Evidence Based by the NAC and NPDC Reports

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
		NAC	NPDC
Not Evidence Based	Intervention Not Included: --		
COMPREHENSIVE INTERVENTION			
Comprehensive Behavioral Treatment for Young Children		✓	--
FOCUSED INTERVENTIONS			
Antecedent-based Interventions		--	✓
Behavioral Interventions*		✓	
Cognitive Behavioral Intervention		✓	✓
Differential Reinforcement of Alternative, Incompatible, or Other Behavior		--	✓
Discrete Trial Teaching		--	✓
Extinction		--	✓
Functional Behavior Assessment		--	✓
Language Training (production)		✓	--
Modeling		✓	✓
Natural Teaching Strategies (NAC); Naturalistic Intervention (NPDC)		✓	✓
Parent Training Package (NAC); Parent-implemented Interventions (NPDC)		✓	✓
Peer Training Package (NAC); Peer-mediated Instruction & Intervention (NPDC)		✓	✓
Pivotal Response Treatment® (NAC); Pivotal Response Training (NPDC)		✓	✓
Schedules (NAC); Visual Supports (NPDC)		✓	✓
Scripting		✓	✓
Self Management		✓	✓
Social Skills Package (NAC); Social Skills Training (NPDC)		✓	✓
Story-based Intervention (NAC); Social Narratives (NPDC)		--	✓
Prompting		--	✓
Reinforcement		--	✓
Response Interruption/Redirection		--	✓
Structured Play Groups		--	✓
Task Analysis		--	✓
Time Delay		--	✓
Video Modeling		--	✓

Note. Many specific interventions not listed in the NAC report (--) were grouped into the broader category of behavioral interventions* in the NPDC report.

Table 7

Interventions Determined to be Evidence Based by One Report and Emerging by One Report

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
Not Evidence Based	Intervention Not Included: --	NAC	NPDC
Exercise		✓	✓
Functional Communication Training		✓	✓
Picture Exchange Communication System®		✓	✓
Technology-based Intervention (NAC); Technology-aided Instruction & Intervention (NPDC)		✓	✓

Table 8

Interventions Determined to be Evidence Based by the NAC and NPDC Reports

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
Not Evidence Based	Intervention Not Included: --	NAC	NPDC
Aided Language Modeling		--	✓
Augmentative & Alternative Communication Devices		✓	
Behavioral Momentum Intervention		--	✓
Collaborative Coaching		--	✓
Cooperative Learning Groups		--	✓
Developmental Relationship-based Treatment		✓	--
Direct Instruction		--	✓
Exposure Package (NAC); Exposure (NPDC)		✓	✓
Handwriting without Tears		--	✓
Imitation-based Intervention		✓	--
Independent Work Systems		--	✓
Initiation Training		✓	
Joint Attention-Symbolic Play Instruction		--	✓
Language Training (production & understanding)		✓	--
Massage Therapy		✓	--

Table 8 (Continued)

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
Not Evidence Based	Intervention Not Included: --	NAC	NPDC
Multi-component Package		✓	--
Music Intensity		--	✓
Music Therapy		✓	✓
Reciprocal Imitation Training		--	✓
Reductive Packages		✓	--
Removal of Restraints		--	✓
Schema-based Strategy Instruction		--	✓
Self-Regulated Strategy Development Writing Intervention		--	✓
Sensory Diet		--	✓
Sensory Integration & Fine Motor Intervention		--	✓
Sentence-combining Technique		--	✓
Sign Instruction		✓	--
Social Communication Intervention		✓	--
Structured Teaching		✓	--
Task Taking Strategy Instruction		--	✓
Theory of Mind Training		✓	✓
Toilet Training		--	✓
Touch-point Instruction		--	✓
Touch Therapy		--	✓

Table 9

Interventions Determined to be Emerging or Not Evidence Based

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
Not Evidence Based	Intervention Not Included: --	NAC	NPDC
Auditory Integration Training		✓	✓

Table 10

Interventions Determined to be Not Evidence Based by NAC and NPDC Reports

Evidence Based or Established	Emerging or Some Evidence	Level of Evidence	
Not Evidence Based	Intervention Not Included: --	NAC	NPDC
Animal-assisted Therapy		✓	--
Concept Mapping		✓	--
DIR/Floor Time		✓	--
Facilitated Communication		✓	--
Gluten-free/Casin-free Diet		✓	--
Movement-based Intervention		✓	--
SENSE Theatre Intervention		✓	--
Sensory Intervention Package		✓	--
Shock Therapy		✓	--
Social Behavioral Learning Strategy		✓	--
Social Cognition Intervention		✓	--
Social Thinking Intervention		✓	--

Table 12
Evidence-based Interventions by Target Domain

Intervention	Report		DOMAIN														
	NAC	NPDC	Skills Increased												Behaviours Decreased		
			Social / Interpersonal	Academic	Communication	Cognitive / Higher Cognitive Functions	Learning / School Readiness	Motor	Personal Responsibility/ Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted / Repetitive	Emotional Regulation
Comprehensive Intervention																	
Comprehensive Behavioral Treatment for Young Children	✓	--															
Focused Interventions																	
Antecedent-based Interventions	--	✓															
Behavioral Interventions	✓	--															
Cognitive Behavioral Intervention Package (NAC); Cognitive Behavioral Intervention (NPDC)	✓	✓															
Differential Reinforcement of Alternative, Incompatible, or Other Behavior	--	✓															
Discrete Trial Teaching	--	✓															
Exercise	✓	✓															
Extinction	--	✓															
Functional Behavior Assessment	--	✓															
Functional Communication Training	✓	✓															
Language Training (production)	✓	--															
Modeling	✓	✓															
Natural Teaching Strategies (NAC); Naturalistic Intervention (NPDC)	✓	✓															
Parent Training Package (NAC); Parent-implemented Interventions (NPDC)	✓	✓															

Intervention	Report		DOMAIN														
	NAC	NPDC	Skills Increased												Behaviours Decreased		
			Social / Interpersonal	Academic	Communication	Cognitive/ Higher Cognitive Functions	Learning/ School Readiness	Motor	Personal Responsibility/ Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted / Repetitive	Emotional Regulation
Peer Training Package (NAC); Peer-mediated Instruction & Intervention (NPDC)	✓	✓															
Picture Exchange Communication System®	✓	✓															
Pivotal Response Treatment® (NAC); Pivotal Response Training (NPDC)	✓	✓															
Prompting	--	✓															
Reinforcement	--	✓															
Response Interruption/Redirection	--	✓															
Schedules (NAC); Visual Supports (NPDC)	✓	✓															
Scripting	✓	✓															
Self Management	✓	✓															
Social Skills Package (NAC); Social Skills Training (NPDC)	✓	✓															
Story-based Intervention (NAC); Social Narratives (NPDC)	✓	✓															
Structured Play Groups	--	✓															
Task Analysis	--	✓															
Technology-based Intervention (NAC); Technology-aided Instruction & Intervention (NPDC)	✓	✓															
Time Delay	--	✓															
Video Modeling	--	✓															
TOTAL	14	27	27	23	29	12	26	12	20	2	22	4	16	8	24	5	4

Note. Exercise, functional communication training, Picture Exchange Communication System®, and technology-based Intervention (NAC); technology-aided instruction & intervention (NPDC) were determined to be “emerging” interventions by the NAC and are denoted by an orange cell.

Table 13
Evidence-based Interventions by Age Group

Intervention	Report		0-5	6-14	15-22	22 + (NAC only)
	NAC	NPDC				
Comprehensive Intervention						
Comprehensive Behavioral Treatment for Young Children	✓	--				
Focused Interventions						
Antecedent-based Interventions	--	✓				
Behavioral Interventions	✓	--				
Cognitive Behavioral Intervention Package (NAC); Cognitive Behavioral Intervention (NPDC)	✓	✓				
Differential Reinforcement of Alternative, Incompatible, or Other Behavior	--	✓				
Discrete Trial Teaching	--	✓				
Exercise	✓	✓				
Extinction	--	✓				
Functional Behavior Assessment	--	✓				
Functional Communication Training	✓	✓				
Language Training (Production)	✓	--				
Modeling	✓	✓				
Natural Teaching Strategies (NAC); Naturalistic Intervention (NPDC)	✓	✓				
Parent Training Package (NAC); Parent-implemented Interventions (NPDC)	✓	✓				
Peer Training Package (NAC); Peer-mediated Instruction & Intervention (NPDC)	✓	✓				
Picture Exchange Communication System®	✓	✓				
Pivotal Response Treatment® (NAC); Pivotal Response Training (NPDC)	✓	✓				
Prompting	--	✓				
Reinforcement	--	✓				
Response Interruption/Redirection	--	✓				
Schedules (NAC); Visual Supports (NPDC)	✓	✓				
Scripting	✓	✓				
Self Management	✓	✓				
Social Skills Package (NAC); Social Skills Training (NPDC)	✓	✓				
Story-based Intervention (NAC); Social Narratives (NPDC)	✓	✓				
Structured Play Groups	--	✓				
Task Analysis	--	✓				
Technology-based Intervention (NAC); Technology-aided Instruction & Intervention (NPDC)	✓	✓				
Time Delay	--	✓				
Video Modeling	--	✓				
TOTAL	14	27	28	30	21	5

Note. Exercise, functional communication training, Picture Exchange Communication System®, and technology-based Intervention (NAC); technology-aided instruction & intervention (NPDC) were determined to be “emerging” interventions by the NAC and are denoted by an orange cell.

Table 14 (Continued)

Intervention	Report		DOMAIN												Behaviours Decreased					
			Skills Increased																	
	NAC	NPDC	Social/Interpersonal	Academic	Communication	Cognitive/Higher Cognitive Functions	Learning/School Readiness	Motor	Personal Responsibility/Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted/Repetitive/Non-functional	Interests	Sensory/Emotional Regulation		
Exercise	✓	✓	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5		
			6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14	6-14		
			15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22	15-22		
Extinction	:-	✓																		
Functional Behavior Assessment	:-	✓																		
Functional Communication Training	✓	✓																		
Language Training (Production)	✓	:-																		
Modeling	✓	✓																		
Natural Teaching Strategies (NAC); Naturalistic Intervention (NPDC)	✓	✓																		
Parent Training Package (NAC); Parent-implemented Intervention (NPDC)	✓	✓																		

Note. No evidence for a particular age group is denoted by a white cell.

Table 14 (Continued)

Report		DOMAIN															Behaviours Decreased			
		Skills Increased																		
Intervention	NAC	NPDC	Social/Interpersonal	Academic	Communication	Cognitive/Higher Cognitive Functions	Learning/School Readiness	Motor	Personal Responsibility/Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted/Repetitive/Non-functional Interests	Sensory/Emotional Regulation			
			0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22	0-5	6-14	15-22
Peer Training Package (NAC); Peer-mediated Instruction & Intervention (NPDC)	✓	✓																		
Picture Exchange Communication System® (PECS)	✓	✓																		
Pivotal Response Treatment® (NAC); Pivotal Response Training (NPDC)	✓	✓																		
Prompting	--	✓																		
Reinforcement	--	✓																		
Response Interruption/Redirection	--	✓																		
Schedules (NAC); Visual Supports (NPDC)	✓	✓																		
Scripting	✓	✓																		

Note. No evidence for a particular age group is denoted by a white cell.

Table 14 (Continued)

Intervention	Report		DOMAIN												Behaviours Decreased		
			Skills Increased														
	NAC	NPDC	Social/Interpersonal	Academic	Communication	Cognitive/Higher Cognitive Functions	Learning/School Readiness	Motor	Personal Responsibility/Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted/Repetitive/Non-functional	Sensory/Emotional Regulation
Self-Management	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
			6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14
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Social Skills Package (NAC); Social Skills Training (NPDC)	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
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Story-based Intervention (NAC); Social Narratives (NPDC)	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
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			15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22
Structured Play Groups	--	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
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			15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22
Task Analysis	--	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
			6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14
			15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22
Technology-based Intervention (NAC); Technology-aided Instruction & Intervention (NPDC)	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
			6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14
			15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22
Time Delay	--	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
			6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14
			15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22

Note. No evidence for a particular age group is denoted by a white cell.

Table 14 (Continued)

Intervention	Report		DOMAIN																			
	Report		Skills Increased																		Behaviours Decreased	
	NAC	NPDC	Social/Interpersonal	Academic	Communication	Cognitive/Higher Cognitive Functions	Learning/School Readiness	Motor	Personal Responsibility/Adaptive	Placement	Play	Self-Regulation	Joint Attention	Vocational	Challenging Behaviour	Restricted/Repetitive/Non-functional	Interests	Sensory/Emotional Regulation				
Video Modeling	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5
	✓	✓	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14	6 - 14
Behavioral Interventions	✓	✓	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22	15 - 22
	✓	✓	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5	0 - 5

Note. No evidence for a particular age group is denoted by a white cell. A dash mark (—) denotes that studies reviewed for interventions by the NPDC report did not look at outcomes for participants over the age of 22 years.



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