

# 2 NİSAN OTİZM FARKINDALIK GÜNÜ ETKİNLİĞİ

# OTİZM FORUMU

"GÜNCEL KONULAR GÜNCEL TARTIŞMALAR"

*Her 36 çocuktan 1'i otizm tanılı mı?*



**PROF. DR. İBRAHİM H. DİKEN**  
ANADOLU ÜNİVERSİTESİ  
ENGELLİLER ARAŞTIRMA ENSTİTÜSÜ MÜDÜRÜ



**DOÇ. DR. ÜMİT İŞİK**  
BEBEK, ÇOCUK VE GENÇ PSİKIYATRİSTİ  
ÜMİT İŞİK AKADEMİ



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GAZİ ÜNİVERSİTESİ  
OTİZM VE GELİŞİMSEL BOZUKLUKLAR  
ARAŞTIRMA VE UYGULAMA MERKEZİ MÜDÜRÜ



1 NİSAN CUMARTESİ  
21.00-24.00



Zoom Toplantı Katılım Linki  
<https://zoom.us/j/92003854640>  
Toplantı Kimliği: 920 0385 4640





GOOD LUCK

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M.P.H.

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# **KONU-1**

**Her 36 ocuktan 1'i gerekten  
Otizimli mi?**

# 1 IN 36

## 8-YEAR-OLDS WERE IDENTIFIED WITH AUTISM IN 2020\*



\*Based on data collected in 2020 on 8-year-old children living in 11 communities across the US



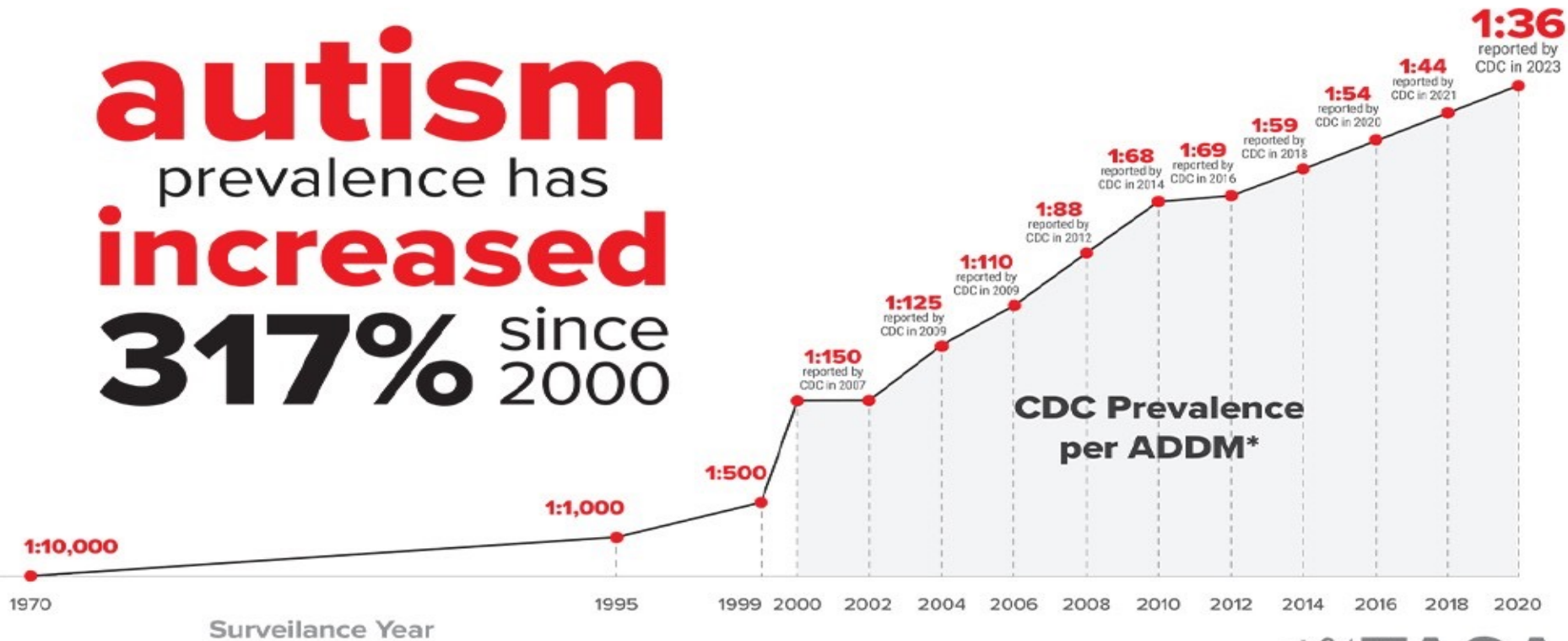
[bit.ly/ss7202a1](https://bit.ly/ss7202a1)

MARCH 24, 2023

**MMWR**

**MARCH 23, 2023 IRVINE, CA**  
**Autism Prevalence is Now 1 in 36,**  
**Signifying the 22% Increase in**  
**Prevalence Rates Reported by the**  
**CDC Since 2021**

**autism**  
prevalence has  
**increased**  
**317%** since  
2000



\*ADDM (Autism and Development Disabilities Monitoring Network)

## Morbidity and Mortality Weekly Report (MMWR)

# Prevalence and Characteristics of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2020

Surveillance Summaries / March 24, 2023 / 72(2);1–14

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[View suggested citation](#)

### Abstract

**Problem/Condition:** Autism spectrum disorder (ASD).

**Period Covered:** 2020.

**Description of System:** The Autism and Developmental Disabilities Monitoring (ADDM) Network is an active surveillance program that provides estimates of the prevalence of ASD among children aged 8 years. In 2020, there were 11 ADDM Network sites across the United States (Arizona, Arkansas, California, Georgia, Maryland, Minnesota, Missouri, New Jersey, Tennessee, Utah, and Wisconsin). To ascertain ASD among children aged 8 years, ADDM Network staff review and abstract developmental evaluations and records from community medical and educational service providers. A child met the case definition if their record documented 1) an ASD diagnostic statement in an evaluation, 2) a classification of ASD in special education, or 3) an ASD *International Classification of Diseases* (ICD) code.

**Results:** For 2020, across all 11 ADDM sites, ASD prevalence per 1,000 children aged 8 years ranged from 23.1 in Maryland to 44.9 in California. The overall ASD prevalence was 27.6 per 1,000 (one in 36) children aged 8 years and was 3.8 times as prevalent among boys as among girls (43.0 versus 11.4). Overall, ASD prevalence was lower among non-Hispanic White children (24.3) and children of two or more races (22.9) than among non-Hispanic Black or African American (Black), Hispanic, and non-Hispanic Asian or Pacific Islander (A/PI) children (29.3, 31.6, and 33.4 respectively). ASD prevalence among non-Hispanic American Indian or Alaska Native (AI/AN) children (26.5) was similar to that of other racial and ethnic groups. ASD prevalence was associated with lower household income at three sites, with no association at the other sites.

### Article Metrics

Altmetric:



Citations:

Views:

Views equals page views plus PDF downloads

[Metric Details](#)

On This Page

[Introduction](#)

TABLE 1. Surveillance sites and data sources used for surveillance in each site — Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2020

Site	Surveillance area description	Total population aged 8 yrs	% American Indian or Alaska Native*	% Asian or Pacific Islander	% Black	% Hispanic	% White	% Two or more races	Types of data sources used <sup>†</sup>	Education data sources (% population coverage) <sup>‡</sup>	% of requested records fully accessible for chart review
Arizona	Part of one county in metropolitan Phoenix	13,118 <sup>§</sup>	3.1	2.9	6.8	41.8	40.3	5.1	Health, education, Medicaid	100	100
Arkansas	21 counties in central Arkansas	15,432	0.3	1.3	24.2	9.1	60.8	4.2	Health, education	100	100
California	Part of one county in metropolitan San Diego	15,828 <sup>§</sup>	0.3	11.9	7.1	49.4	23.1	8.3	Health, education, state developmental disability services	100	100
Georgia	Two counties in metropolitan Atlanta	21,921	0.1	7.4	51.1	11.8	25.7	3.9	Health, education	97.6	85.9
Maryland	Five counties in suburban Baltimore	21,278	0.2	9.5	23.9	9.0	51.2	6.1	Health, education, early intervention	100	71.5
Minnesota	Parts of three counties in the Twin Cities metropolitan area	16,150 <sup>§</sup>	1.1	16.3	23.3	10.9	41.8	6.6	Health, education	100	100
Missouri	Five counties in metropolitan St. Louis	24,561	0.1	3.4	23.8	4.8	63.0	4.8	Health, education	50.3	99.9
New Jersey	Two counties in New York metropolitan area	18,940	0.2	6.3	30.5	33.6	26.6	2.8	Health, education	100	95.8
Tennessee	11 counties in middle Tennessee	25,588	0.2	3.4	17.2	13.5	60.4	5.3	Health, education	100	66.3
Utah	Three counties in northern Utah	24,734	0.6	4.2	1.8	20.7	68.4	4.2	Health, education, early intervention	100	87.6
Wisconsin	Eight counties in southeastern Wisconsin	28,789	0.3	5.5	17.0	17.4	54.8	5.0	Health, education, early intervention, Medicaid claims, state-funded long-term care program	100	100
<b>Total</b>		<b>226,339</b>	<b>0.5</b>	<b>6.3</b>	<b>20.8</b>	<b>18.5</b>	<b>48.7</b>	<b>5.1</b>	—	<b>99.9</b>	<b>91.8</b>

\* Persons of Hispanic origin might be of any race but are categorized as Hispanic; all racial groups are non-Hispanic.

<sup>†</sup> Health sources include records from medical and service providers that evaluate children with developmental disabilities.

<sup>‡</sup> For public schools in the surveillance area. In the absence of direct access to education sources, education data could be collected if they were included in a child's medical or service records.



# THERE IS NO EPIDEMIC OF AUTISM. IT'S AN EPIDEMIC OF NEED

BY JOHN ELDER ROBISON AND DENA GASSNER MARCH 23, 2023

This increase may sound scary. But as autistic adults and as parents of children with autism, we advise you to relax. There is no “epidemic of autism.” Instead, what we face is an epidemic of need.

The main reason we are finding more autism is simple: Clinicians are getting better at spotting [what was always there](#). There is [no simple test for autism](#), so diagnosing it requires substantial training in observational techniques. As a result, diagnosis can vary significantly depending on the population and the competence of clinicians. The CDC reports significant variations in autism rates from state to state and [evhttps://www.statnews.com/2023/03/23/autism-epidemic-cdc-numbers/en](https://www.statnews.com/2023/03/23/autism-epidemic-cdc-numbers/en) from one school district to another. Yet there is little biological evidence to explain this. In another example of the variation, prior reports found more autism in white children.

- [HTTPS://WWW.STATNEWS.COM/2023/03/23/AUTISM-EPIDEMIC-CDC-NUMBERS/](https://www.statnews.com/2023/03/23/autism-epidemic-cdc-numbers/)

# **KONU-2**

**Kanıt Temelli Raporlar mı?**

**Bilimsel Dayanaklı Uygulamalar mı?**

NAC, 2009

The National Autism Center's

NPDC, 2013

NAC, 2015

# OSB KANIT TEMELLİ UYGULAMA RAPORLARI

NCAEP, 2020

National



Autis

Connie Wong, Samuel L. Odom,  
Kara Hume, Ann W. Cox, Ange  
Suzanne Kucharczyk, Matthe  
Joshua B. Plavnick, Veronica P

Autism Evidence-Based Practice Review  
Frank Porter Graham Child Development Institute  
University of North Carolina at Chapel Hill



NAC  
National Autism Center  
A Center of May Institute

Findings and Conclusions  
National Standards


EVIDENCE-  
FOR A



NAC  
National Autism Center  
A Center of May Institute

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

Jessica R. Steinbrenner, Kara Hume, Samuel L. Odom,  
Kristi L. Morin, Sallie W. Nowell, Brianne Tomaszewski,  
Susan Szendrey, Nancy S. McIntyre,  
Şerife Yücesoy-Özkan, & Melissa N. Savage



The National Clearinghouse on  
Autism Evidence & Practice  
NCAEP • BRIDGING SCIENCE AND PRACTICE

## Emerging Interventions for Individuals Under Age 22

Emerging Interventions are those for which one or more studies suggest they may produce favorable outcomes. However, before we can be fully confident that the interventions are effective, additional high quality studies are needed that consistently show these interventions to be effective for individuals with ASD. Based on the available evidence, we are not yet in a position to rule out the possibility that Emerging Interventions are, in fact, not effective.

A large number of studies fall into the Emerging level of evidence. We believe scientists should find fertile ground for further research in these areas.

The following interventions have been identified as falling into the Emerging level of evidence:

- Augmentative and Alternative Communication Devices
- **Developmental Relationship-based Treatment**
- Exercise
- Exposure Package
- Functional Communication Training
- **Imitation-based Intervention**
- **Initiation Training**
- Language Training (Production & Understanding)
- Massage Therapy
- Multi-component Package
- Music Therapy
- Picture Exchange Communication System
- Reductive Package
- Sign Instruction
- **Social Communication Intervention**
- Structured Teaching
- Technology-based Intervention
- Theory of Mind Training

## Unestablished Interventions for Individuals Under Age 22

Unestablished Interventions are those for which there is little or no evidence in the scientific literature that allows us to draw firm conclusions about their effectiveness with individuals with ASD. There is no reason to assume these interventions are effective. Further, there is no way to rule out the possibility these interventions are ineffective or harmful.

The following interventions have been identified as falling into the Unestablished level of evidence:

- Animal-assisted Therapy
- Auditory Integration Training
- Concept Mapping
- **DIR/Floor Time**
- Facilitated Communication
- Gluten-free/Casein-free diet
- Movement-based Intervention
- SENSE Theatre Intervention
- Sensory Intervention Package
- Shock Therapy
- Social Behavioral Learning Strategy
- Social Cognition Intervention
- Social Thinking Intervention

There are likely many more interventions that fall into this category for which no research has been conducted or, if studies have been published, the accepted process for publishing scientific work was not followed. There are a growing number of interventions that have not yet been investigated scientifically. These would all be Unestablished Interventions. Further, any interventions for which studies were published exclusively in non-peer-reviewed journals would be Unestablished Interventions.

# NAC, 2009 & NPDC RAPOR ÖRTÜŞMELER

**Table 1.**  
**Evidence-Based Practices from**  
**NPDC and NSP**  
**(Hume & Odom, 2011)**

Overlap Between Evidence-Based Practices Identified by the National Professional Development Center (NPDC) on ASD and the National Standards Project (NSP)											
Evidence-Based Practices Identified by the National Professional Development Center (NPDC) on ASD	Established Treatments Identified by the National Standards Project (NSP)										
	Antecedent Package	Behavioral Package	Story-based Intervention Package	Modeling	Naturalistic Teaching Strategies	Peer Training Package	Pivotal Response Treatment	Schedules	Self-Management	Comprehensive Behavioral Treatment for Young Children	Joint Attention Intervention
Prompting	X			X						The NPDC on ASD did not review comprehensive treatment models. Components of The Comprehensive Behavioral Treatment of Young Children overlap with many NPDC-identified practices.	The NPDC on ASD considers joint attention to be an outcome rather than an intervention. Components of joint attention interventions overlap with many NPDC-identified practices.
Antecedent-Based Intervention	X										
Time delay	X										
Reinforcement		X									
Task analysis		X									
Discrete Trial Training		X									
Functional Behavior Analysis		X									
Functional Communication Training		X									
Response Interruption/Redirection		X									
Differential Reinforcement		X									
Social Narratives			X								
Video Modeling				X							
Naturalistic Interventions					X						
Peer Mediated Intervention						X					
Pivotal Response Training							X				
Visual Supports								X			
Structured Work Systems								X			
Self-Management									X		
Parent Implemented Intervention	The NSP did not consider parent-implemented intervention as a category of evidence-based practice. However, 24 of the studies reviewed by the NSP under other intervention categories involve parents implementing the intervention.										
Social Skills Training Groups	Social Skills Training Groups (Social Skills Package) was identified as an emerging practice by the NSP.										
Speech Generating Devices	Speech Generating Devices (Augmentative and Alternative Communication Device) was identified as an emerging practice by the NSP.										
Computer Aided Instruction	Computer Aided Instruction (Technology-based Treatment) was identified as an emerging practice by the NSP.										
Picture Exchange Communication	Picture Exchange Communication System was identified as an emerging practice by the NSP.										
Extinction	Extinction (Reductive Package) was identified as an emerging practice by the NSP.										

## Pivotal Response Treatment®

NAC, 2015,  
KANITLANMIŞ  
UYGULAMALAR

### Established Intervention



Pivotal Response Treatment® focuses on targeting “pivotal” behaviors related to motivation to engage in social communication, self-initiation, self-management, and responsiveness to multiple cues. Key to the delivery of PRT® is parent involvement and implementation in the natural environment such as the home, community, and school setting.

### Basic Facts



Number of articles reviewed:

NSP1 = **11** NSP2 = **6**

Effective ages: Children 3-9 years

Skills increased:

- interpersonal (NSP1)
- learning readiness (NSP2)
- communication and play (NSP1&2)

### Detailed Description



Pivotal Response Treatment® is also referred to as Pivotal Response Training®, Pivotal Response Teaching®, and the Natural Language Paradigm. Like Naturalistic Teaching Strategies, PRT® aims to teach children to respond to various teaching opportunities within their natural environment, and to increase independence from prompting. There are many pivotal areas targeted in PRT®. For example, motivation, self-initiation, self-management, and responding to multiple cues are typically addressed.

- Motivation can be enhanced by increasing choice, making learning materials meaningful by: building a direct relationship between the target behavior and the reinforcer; incorporating both new and mastered tasks into the day; and reinforcing reasonable attempts (none of us do new tasks perfectly!).
- Self-initiation involves teaching children to take action in the world so they can be more independent.
- Self-management involves teaching children to regulate their own behavior by tracking their progress and accessing reinforcers for their successes.
- Responding to multiple cues involves teaching children to respond to the diverse statements of others, or to different kinds of materials.

## Parent Training Package

NAC, 2015,  
KANITLANMIŞ  
UYGULAMALAR

### Established Intervention



The Parent Training Package category is new to the NSP. NSP1 focused on the elements of the interventions used in studies in which parents acted as therapist or received training to implement various strategies. NSP2 made the change to highlight parents' and caregivers' integral role in providing a therapeutic environment for their family members with autism spectrum disorder (ASD).

### Basic Facts



Number of articles reviewed:

NSP1 = **37\*** NSP2 = **11**

Effective ages: Children and adolescents 0-18 years

Skills increased:

- interpersonal and play (NSP1&2)

Behaviors decreased:

- general symptoms (NSP2)
- problem behaviors (NSP2)
- restricted, repetitive, nonfunctional behavior, interests, or activity (NSP2)

*\*The 37 studies identified in NSP1 were re-categorized into the current Parent Training category. The majority of the 37 in NSP1 were previously categorized in the Behavioral Package.*

### Detailed Description



Parent training can take many forms including:

- *In vivo* individual training
- Group training
- Support groups with an educational component
- Training manuals

Examples of skills parents learned to use include:

- Strategies to develop imitation skills
- Commenting on the child
- Expectant waiting to elicit communication
- Appropriate sleeping routines
- Joint attention
- Development of play date activities

# Naturalistic Teaching Strategies

## Established Intervention



Naturalistic Teaching Strategies (NTS) are a compilation of strategies that are used to teach children skills in their home, school, and community. The basic concepts include using materials in the environment and naturally occurring activities as opportunities to increase adaptive skills. These strategies are primarily child-directed.

## Basic Facts



Number of articles reviewed:

NSP1 = 27 NSP2 = 3

Effective ages: Children 0-9 years

Skills increased:

- interpersonal and play (NSP1)
- learning readiness (NSP2)
- communication (NSP1&2)

## Detailed Description



When using NTS, consider the following guidelines:

- Observe your child to find out what motivates him or her, and then structure teaching interactions around those interests.
- Use materials your child is likely to encounter on a daily basis. For example, if you want to teach her to identify items that fall into the category "things you play with," you might use dolls, blocks, and cars that are available at home and at school.
- Teach skills in a variety of situations and settings (such as the home and community) while using a variety of materials (e.g., teach numbers by using different items such as pieces of candy or silverware).
- Provide consequences that are naturally found in the environment and have a direct relationship to the activity you are completing. For example, food might be a natural and direct reinforcer at lunch and toys might be a natural and direct reinforcer during "playtime."
- Provide loosely structured teaching sessions that vary based on the child's interests for that day. For example, if you are teaching your child to request objects of different sizes, you may need to use dolls rather than teddy bears if she shows a greater interest in dolls that day. Different names have been given to the intervention strategies included in the NTS category. These include: focused stimulation, incidental teaching, milieu teaching, embedded teaching, responsive education, and prelinguistic milieu teaching.



Table 3.1 Evidence-based practices, definitions, and number of articles across review periods

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
Antecedent-Based Interventions (ABI)	Arrangement of events or circumstances that precede an activity or demand in order to increase the occurrence of a behavior or lead to the reduction of the challenging/interfering behaviors.	29	20	49
Augmentative and Alternative Communication (AAC)	Interventions using and/or teaching the use of a system of communication that is not verbal/vocal which can be aided (e.g., device, communication book) or unaided (e.g., sign language)	9	35	44
Behavioral Momentum Intervention (BMI)	The organization of behavior expectations in a sequence in which low probability, or more difficult, responses are embedded in a series of high probability, or less effortful, responses to increase persistence and the occurrence of the low probability responses.	8	4	12
Cognitive Behavioral/ Instructional Strategies (CBIS)	Instruction on management or control of cognitive processes that lead to changes in behavioral, social, or academic behavior.	7	43	50
Differential Reinforcement of Alternative, Incompatible, or Other Behavior (DR)	A systematic process that increases desirable behavior or the absence of an undesirable behavior by providing positive consequences for demonstration/non-demonstration of such behavior. These consequences may be provided when the learner is: a) engaging in a specific desired behavior other than the undesirable behavior (DRA), b) engaging in a behavior that is physically impossible to do while exhibiting the undesirable behavior (DRI), or c) not engaging in the undesirable behavior (DRO).	27	31	58
Direct Instruction (DI)	A systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.	2	6	8
Discrete Trial Training (DTT)	Instructional approach with massed or repeated trials with each trial consisting of the teacher's instruction/presentation, the child's response, a carefully planned consequence, and a pause prior to presenting the next instruction.	16	22	38
Exercise and Movement (EXM)	Interventions that use physical exertion, specific motor skills/ techniques, or mindful movement to target a variety of skills and behaviors.	6	11	17
Extinction (EXT)	The removal of reinforcing consequences of a challenging behavior in order to reduce the future occurrence of that behavior.	13	12	25
Functional Behavioral Assessment (FBA)	A systematic way of determining the underlying function or purpose of a behavior so that an effective intervention plan can be developed.	11	10	21
Functional Communication Training (FCT)	A set of practices that replace a challenging behavior that has a communication function with more appropriate and effective communication behaviors or skills.	12	19	31
Modeling (MD)	Demonstration of a desired target behavior that results in use of the behavior by the learner and that leads to the acquisition of the target behavior.	10	18	28
Music-Mediated Intervention (MMI)	Intervention that incorporates songs, melodic intonation, and/or rhythm to support learning or performance of skills/behaviors. It includes music therapy, as well as other interventions that incorporate music to address target skills.	3	4	7
Naturalistic Intervention (NI)	A collection of techniques and strategies that are embedded in typical activities and/or routines in which the learner participates to naturally promote, support, and encourage target skills/behaviors.	26	49	75

continued on next page

Table 3.1 Evidence-based practices, definitions, and number of articles across review periods

Evidence-Based Practice	Definition	Empirical Support		
		1990-2011 (n)	2012-2017 (n)	1990-2017 (n)
Parent-Implemented Intervention (PII)	Parent delivery of an intervention to their child that promotes their social communication or other skills or decreases their challenging behavior.	13	42	55
Peer-Based Instruction and Intervention (PBII)	Intervention in which peers directly promote autistic children's social interactions and/or other individual learning goals, or the teacher/ other adult organizes the social context (e.g. play groups, social network groups, recess) and when necessary provides support (e.g., prompts, reinforcement) to the autistic children and their peer to engage in social interactions.	19	25	44
Prompting (PP)	Verbal, gestural, or physical assistance given to learners to support them in acquiring or engaging in a targeted behavior or skill.	55	85	140
Reinforcement (R)	The application of a consequence following a learner's use of a response or skills that increases the likelihood that the learner will use the response/skills in the future.	53	53	106
Response Interruption/ Redirection (RIR)	The introduction of a prompt, comment, or other distractors when an interfering behavior is occurring that is designed to divert the learner's attention away from the interfering behavior and results in its reduction.	13	16	29
Self-Management (SM)	Instruction focusing on learners discriminating between appropriate and inappropriate behaviors, accurately monitoring and recording their own behaviors, and rewarding themselves for behaving appropriately.	14	12	26
Sensory Integration® (SI)	Interventions that target a person's ability to integrate sensory information (visual, auditory, tactile, proprioceptive, and vestibular) from their body and environment in order to respond using organized and adaptive behavior.	1	2	3
Social Narratives (SN)	Interventions that describe social situations in order to highlight relevant features of a target behavior or skill and offer examples of appropriate responding.	15	6	21
Social Skills Training (SSST)	Group or individual instruction designed to teach learners ways to appropriately and successfully participate in their interactions with others.	18	56	74
Task Analysis (TA)	A process in which an activity or behavior is divided into small, manageable steps in order to assess and teach the skill. Other practices, such as reinforcement, video modeling, or time delay, are often used to facilitate acquisition of the smaller steps.	9	4	13
Technology-Aided Instruction and Intervention (TAII)	Instruction or intervention in which technology is the central feature and the technology is specifically designed or employed to support the learning or performance of a behavior or skill for the learner.	10	30	40
Time Delay (TD)	A practice used to systematically fade the use of prompts during instructional activities by using a brief delay between the initial instruction and any additional instructions or prompts.	16	15	31
Video Modeling (VM)	A video-recorded demonstration of the targeted behavior or skill shown to the learner to assist learning in or engaging in a desired behavior or skill.	35	62	97
Visual Supports (VS)	A visual display that supports the learner engaging in a desired behavior or skills independent of additional prompts.	34	31	65

Table 4.1 Comparison of evidence-based practices across review periods

Evidence-Based Practices from 1990-2017	Evidence-Based Practices from 1990-2011	Reason for Change	Manualized Interventions Meeting Criteria (MIMCs)
Antecedent-Based Intervention	Antecedent-Based Interventions		
Augmentative and Alternative Communication		Distinguished from Technology-Aided Instruction and Intervention as a separate practice	PECS®
Behavioral Momentum Intervention			
Cognitive Behavioral/ Instructional Strategies	Cognitive Behavior Intervention	Expanded category to include academic-focused cognitive interventions	
Differential Reinforcement of Alternative, Incompatible or Other Behaviors	Differential Reinforcement of Alternative, Incompatible or Other Behaviors		
Direct Instruction			
Discrete Trial Training	Discrete Trial Training		
Exercise and Movement	Exercise	Expanded category to include mind-body interventions (e.g., yoga)	
Extinction	Extinction		
Functional Behavioral Assessment	Functional Behavioral Assessment		
Functional Communication Training	Functional Communication Training		
Modeling	Modeling		
Music-Mediated Intervention			
Naturalistic Intervention	Naturalistic Intervention		JASPER Milieu Teaching PRT
Parent-Implemented Intervention	Parent-Implemented Interventions		Project ImPACT Stepping Stones Triple P
	PECS®	Moved to <i>Augmentative and Alternative Communication</i> as MIMC	
Peer-Based Instruction and Intervention	Peer-Mediated Instruction/ Intervention	Expanded category to include adult-mediated interventions with peers	
	Pivotal Response Training	Moved to <i>Naturalistic Intervention</i> as MIMC	
Prompting	Prompting		
Reinforcement	Reinforcement		
Response Interruption/ Redirection	Response Interruption/Redirection		
	Scripting	Moved to <i>Visual Supports</i>	
Self-Management	Self-Management		
Sensory Integration®			
Social Narratives	Social Narratives		Social Stories™
Social Skills Training	Social Skills Training		PEERS®
	Structured Play Groups	Moved to <i>Peer-Based Instruction and Intervention</i>	
Task Analysis	Task Analysis		
Technology-Aided Instruction and Intervention	Technology-Aided Instruction and Intervention	NOTE: Speech-Generating Devices were moved to <i>Augmentative and Alternative Communication</i>	FaceSay® Mindreading
Time Delay	Time Delay		
Video Modeling	Video Modeling		
Visual Supports	Visual Supports		

Table 3.2 Focused intervention practices with some evidence

Current Review: 1990-2017	Description	Evidence	Exclusion
Animal Assisted Intervention	Interventions that incorporate the use of a dog to improve performance of targeted behaviors or skills	Becker et al. (2017)	Insufficient evidence
Auditory Integration Training	Systematic exposure to modulated tones resulting in changes in parent reported problem behavior	Edelson et al. (1999)	Insufficient evidence *No new evidence
Collaborative Model for Promoting Competence and Success (COMPASS) *Previously called Collaborative Coaching	Systematic consultation between parent and teacher and ongoing coaching across the school year to help the team promote achievement of IEP goals utilizing evidence-based practices	Ruble et al. (2010) Ruble et al. (2013)	Only one research group *Some new evidence
Exposure	Increasing (for accelerating behaviors) or decreasing (for decelerating behaviors) the stimulus intensity or conditions to promote the occurrence of the desired response	Bishop et al. (2013) Ellis et al. (2006) Hodges et al. (2017) Seiverling et al. (2012)	Insufficient evidence *Some new evidence
Massage *Previously called Touch Therapy	Systematic massage using moderate pressure on the head/neck, arms/hands, torso, and the legs/feet.	Field et al. (1997)	Insufficient evidence *No new evidence
Matrix Training	Teaching approach that facilitates generalization of taught information to related but untaught information through the arrangement of components of desired skills (e.g., words) along the horizontal and vertical axes of a rectangle, then systematically teaching combinations of components across the resulting matrix	Frampton et al. (2016) MacManus et al. (2015)	Insufficient evidence
Outdoor Adventure	Group camp-style activities that incorporate songs, rope courses, and debriefs focusing on teamwork, trust, communication, facing fears, and self-determination	Zachor et al. (2017)	Insufficient evidence
Perceptual Motor	A series of tasks that target body awareness, motor planning, bilateral motor integration, balance skills, fine motor coordination, functional vision skills, and oral motor skills	Afshari (2012)	Insufficient evidence
Person-Centered Planning	Team-based process for selecting and organizing the services and supports that an individual may need to live in the community directed by the learner	Hagner et al. (2012)	Insufficient evidence
Punishment *See discussion section for commentary on this practice	Consequence that is applied to a behavior that has the effect of reducing the future occurrence of that behavior (e.g. verbal reprimand, response cost)	DeRosa et al. (2016) Dominguez et al. (2014) Dupuis et al. (2015) Pelios et al. (2003)	Insufficient evidence *Some new evidence
Sensory Diet	Sensory based activities integrated into child routines to meet sensory needs	Fazlıoğlu & Baran (2008)	Insufficient evidence *No new evidence
Systematic Transition in Education Programme for Autism Spectrum Disorder (STEP-ASD)	Intervention that supports parents, students, and school teams in individualized planning for and executing the transition from primary to secondary school and addressing related behavioral and emotional issues.	Mandy et al. (2016)	Insufficient evidence

Select topics to **Find What Works** based on the evidence

- Literacy
- Mathematics
- Science
- Behavior
- Children and Youth with Disabilities
- English Learners
- Teacher Excellence
- Charter Schools
- Early Childhood (Pre-K)
- K-12 Kindergarten to 12th Grade
- Path to Graduation
- Postsecondary

WELCOME TO THE WHAT WORKS CLEARINGHOUSE

The What Works Clearinghouse (WWC) reviews the existing research on different *programs, products, practices, and policies* in education. *Our goal* is to provide educators with the information they need to make evidence-based decisions. We focus on the results from *high-quality research* to answer the question "What works in education?" Find more information **about the WWC**.

HIGHLIGHTS



What Works Clearinghouse 2018 Year in Review

The WWC focused on creating trainings, videos, infographics, and summaries to help users identify and apply relevant research. See our infographic to learn more.



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INTERVENTION REPORTS



PRACTICE GUIDES



REVIEWS OF INDIVIDUAL STUDIES

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Institute of Education Sciences  
 550 12th Street, SW  
 Washington, DC 20202  
 (202)245-6940

U.S. Department of Education



A summary of the effectiveness of an intervention in an outcome domain, based on the quality of research, the statistical significance of findings, the magnitude of findings, and the consistency of findings across studies.

### Effectiveness Rating Key



**Positive:** strong evidence that intervention had a positive effect on outcomes.



**Potentially Positive:** evidence that intervention had a positive effect on outcomes with no overriding contrary evidence.



**Mixed:** evidence that intervention's effect on outcomes is inconsistent.



**No Discernible:** no evidence that intervention had an effect on outcomes.



**Potentially Negative:** evidence that intervention had a negative effect on outcomes with no overriding contrary evidence.



WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION



# Lovaas Model of Applied Behavior Analysis

The Lovaas Model of Applied Behavior Analysis is a type of behavioral therapy that initially focuses on discrete trials: brief periods of one-on-one instruction, during which a teacher cues a behavior, prompts the appropriate response, and provides reinforcement to the child. Children in the program receive an average of 35-40 hours of intervention per week that consists of in-home one-to-one instruction, facilitated peer play, inclusion and support in regular education classrooms, and generalization activities for transfer of skills to natural environments. In addition, parents are trained in instructional techniques. The intervention generally lasts about 3 years.

## Reviewed Research

Early Childhood Education for Children with Disabilities

August 2010 [EVIDENCE SNAPSHOT](#) [INTERVENTION REPORT \(158 KB\)](#) [REVIEW PROTOCOL](#)

Outcome domain	Effectiveness rating	Studies meeting standards	Grades examined	Students	Improvement index
Cognition		1 study meets standards	PK	28	
Communication/ Language		1 study meets standards	PK	23	--
Functional abilities		1 study meets standards	PK	23	--
Social-emotional development		1 study meets standards	PK	23	--

WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION



# Functional Behavioral Assessment-based Interventions

Functional behavioral assessment (FBA) is an individualized problem-solving process for addressing student problem behavior. An assessment is conducted to identify the purpose or function of a student's problem behavior. This assessment process involves collecting information about the environmental conditions that precede the problem behavior and the subsequent rewards that reinforce the behavior. The information that is gathered is then used to identify and implement individualized interventions aimed at reducing problem behaviors and increasing positive behaviors. Accordingly, the studies evaluating FBA examine different FBA-based interventions identified for each student. FBA-based interventions can be used to address diverse problem behaviors, such as disruptive and off-task behaviors, noncompliance, and inappropriate social interactions.

## Reviewed Research

Children Identified With Or At Risk For An Emotional Disturbance

December 2016 [EVIDENCE SNAPSHOT](#) [INTERVENTION REPORT \(977 KB\)](#) [REVIEW PROTOCOL](#)

Outcome domain	Effectiveness rating	Studies meeting standards	Grades examined	Students	Improvement index
Problem behavior		8 studies meet standards	K-12	21	N/A
School engagement		15 studies meet standards	K-12	32	N/A
Social-emotional development	N/A	3 studies meet standards	1-8	4	N/A

WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# First Step to Success

*First Step to Success* is an early intervention program designed to help children who are at risk for developing aggressive or antisocial behavioral patterns. The program uses a trained behavior coach who works with each student and his or her class peers, teacher, and parents for approximately 50-60 hours over a 3-month period. *First Step to Success* includes three interconnected modules: screening, classroom intervention, and parent training.

## Reviewed Research

Children Identified With Or At Risk For An Emotional Disturbance

March 2012 [EVIDENCE SNAPSHOT](#) [INTERVENTION REPORT \(390 KB\)](#) [REVIEW PROTOCOL](#)

Outcome domain	Effectiveness rating	Studies meeting standards	Grades examined	Students	Improvement index
Emotional/internal behavior	++	1 study meets standards	K	46	10
External behavior	+++	2 studies meet standards	K-3	243	28
Other academic performance	++	1 study meets standards	1-3	194	13
Reading achievement	0	1 study meets standards	1-3	193	--
Social outcomes	++	1 study meets standards	1-3	197	23

WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# The Incredible Years

The Incredible Years is composed of training programs for children, parents, and teachers. The child program is designed for children (ages 0-12) with challenging behaviors and focuses on building social and emotional skills. Lessons can be delivered to children referred for difficult behavior or to an entire classroom as a preventative measure. The program consists of 20- to 30-minute lessons 2-3 times a week; these lessons are reinforced by small-group activities, practicing skills throughout the day, and communicating with parents. Lessons cover recognizing and understanding feelings, getting along with friends, anger management, problem solving, and behavior at school. Parent training programs focus on positive discipline, promoting learning and development, and involvement in children's life at school.

## Reviewed Research

Children Identified With Or At Risk For An Emotional Disturbance

Early Childhood Education for Children with Disabilities

November 2011 [EVIDENCE SNAPSHOT](#) [INTERVENTION REPORT \(434 KB\)](#) [REVIEW PROTOCOL](#)

Outcome domain	Effectiveness rating	Studies meeting standards	Grades examined	Students	Improvement index
External behavior	++	1 study meets standards	PK-2	51	20
Social outcomes	++	1 study meets standards	PK-2	51	18

WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# Direct Instruction

Direct Instruction refers to a family of interventions that includes all Direct Instruction products (DISTAR and Language for Learning), as well as to all versions past and present. Direct Instruction includes teaching techniques that are fast-paced, teacher-directed, and explicit with opportunities for student response and teacher reinforcement or correction.

## Reviewed Research

Early Childhood Education

May 2007

[EVIDENCE SNAPSHOT](#)

[INTERVENTION REPORT \(301 KB\)](#)

[REVIEW PROTOCOL](#)

Outcome domain	Effectiveness rating	Studies meeting standards	Grades examined	Students	Improvement index
Cognition	-- <b>0</b> ++	<a href="#">1 study meets standards</a>	PK-K	164	--
General Mathematics Achievement	-- <b>0</b> ++	<a href="#">1 study meets standards</a>	PK-K	164	--
Oral language	-- <b>0</b> ++	<a href="#">1 study meets standards</a>	PK-K	164	--
Print knowledge	-- <b>0</b> ++	<a href="#">1 study meets standards</a>	PK-K	164	--



WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# Milieu Teaching

*Milieu teaching* is a practice that involves manipulating or arranging stimuli in a preschool child's natural environment to create a setting that encourages them to engage in a targeted behavior. For example, a teacher might place a desirable toy in a setting to encourage a child to request that toy (where requesting a toy is the desired target behavior). Typically, *milieu teaching* involves four strategies that a teacher will utilize to encourage a child to demonstrate a target behavior: modeling, mand-modeling, incidental teaching, and time-delay. Through adult modeling and functional consequences associated with child requests, targeted language behaviors can be improved in children who may have language delays or disabilities.

## Reviewed Research


Early Childhood Education for Children with Disabilities


April 2012


[EVIDENCE SNAPSHOT](#) [INTERVENTION REPORT \(465 KB\)](#) [REVIEW PROTOCOL](#)

Outcome domain ⓘ	Effectiveness rating ⓘ	Studies meeting standards ⓘ	Grades examined ⓘ	Students ⓘ	Improvement index ⓘ
Communication/ Language	-- <b>0</b> --++	<a href="#">1 study meets standards</a>	PK	40	--

## Related Reviews

 **Using a mand-model procedure to teach preschool children initial speech sounds.**

 **Generalized effects of enhanced milieu teaching.**

 **Effects of a milieu teaching strategy in a storybook context on the acquisition, maintenance, and generalization of expressive language by young children with development disabilities.**

 **Facilitating early language development with milieu intervention procedures.**

## WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# Play-Based Interventions

*Play-based interventions* are practices designed to improve socio-emotional, physical, language, and cognitive development through guided interactive play. During play sessions, an interventionist uses strategies including modeling, verbal redirection, reinforcement, and indirect instruction to sustain and encourage child play activities. Through the use of appropriate play materials and the direction of the interventionist, the goal is for young children with disabilities to be better able to explore, experiment, interact, and express themselves.

## Reviewed Research

[Early Childhood  
Education for Children  
with Disabilities](#)

April 2012



[EVIDENCE SNAPSHOT](#)



[INTERVENTION REPORT \(1.1 MB\)](#)



[REVIEW PROTOCOL](#)

As of April 2012, no studies of Play-Based Interventions were found that fell within the scope of the Early Childhood Education for Children with Disabilities review protocol and met WWC evidence standards. Therefore, the WWC is unable to draw any research based conclusions about the effectiveness or ineffectiveness of Play-Based Interventions to improve outcomes in this area.

## Related Reviews



**Improving the  
social  
communication  
skills of at-risk  
social preschool  
children in a play  
context.**

WWC SUMMARY OF EVIDENCE FOR THIS INTERVENTION

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# Pivotal Response Training

Pivotal response training (PRT) is an intervention designed for children with Autism Spectrum Disorders. This practice focuses on pivotal (core) areas affected by autism, such as communication and responding to environmental stimuli. PRT sessions typically begin with a parent or teacher providing clear instructions to a child, having the child help choose a stimulus (such as a toy), and focusing the child's attention. The parent or teacher then encourages the desired behavior (for example, asking for the toy or choosing "toy" from a list of words) by providing rewards if the child implements or attempts to implement the desired behavior. Parents and teachers often model the appropriate behavior or use the stimulus with the child. Activities that maintain existing behaviors are interspersed with activities eliciting new behaviors. The complexity of the required responses increases as training progresses. Parents, teachers, and peers collaboratively implement the practice at school, at home, and in the community. PRT can be used with autistic children aged 2-18. PRT is also known as Pivotal Response Therapy, Pivotal Response Treatment®, or Natural Language Paradigm.

## Reviewed Research

Children and Students with an Autism Spectrum Disorder

December 2016

EVIDENCE SNAPSHOT

INTERVENTION REPORT (980 KB)

REVIEW PROTOCOL

Outcome domain ⓘ	Effectiveness rating ⓘ	Studies meeting standards ⓘ	Grades examined ⓘ	Students ⓘ	Improvement index ⓘ
Communication/ Language	-- 0 -- ++	<u>2 studies meet standards</u>	PK	85	--

# KONU-3

“MÜDAHALE ŞART”

AMA

“NASIL BİR MÜDAHALE???”

# OSB & PARADİGMA DEĞİŞİMİ



# OTİZM

SOSYAL GÜLÜMSEME  
ANLAMSIZ BAKMA  
GECİKMİŞ KONUŞMA  
UYKUSUZLUK  
SINIRLI İLGİ LANİ  
ORTAK DİKKAT  
STEREOTİP  
GECİKMİŞ KONUŞMA  
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SÖZCÜK DAĞARCIĞI  
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DUYUSAL HASSASİYET  
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ETKİLEŞİM BAŞLATMA  
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SOSYAL GÜLÜMSEME  
DUYUSAL HASSASİYET  
ORTAK DİKKAT  
ADINATEPKİ

**“One size does not meet all!”**  
(Tek beden herkese uymaz!!!)



# DOĐRU BİLİNER YANLIŞ/EZBER

- **KÜÇÜK OSB'LI ÇOCUKLARLA**  
**SADECE**  
**OYUN/İLİŞKİ TEMELLİ**  
**UYGULAMA ÇALIŞILMALIDIR!!!**



# DOĐRU BİLİNER YANLIŞ/EZBER

- **HER OSB GÖSTEREN ÇOCUĐA**  
**HAFTADA 40 SAAT YOĐUN-**  
**YAPILANDIRILMIŞ**  
**DAVRANIŞSAL UYGULAMA**  
**YAPILMALIDIR!!!**

## Autistic Spectrum Conditions

High functioning  
autism, Asperger's,  
or PDD

Classic Autism

Extreme ability  
in some areas

Above  
average I.Q.

Average  
I.Q.

Mild learning  
disability

Moderate learning  
disability

Severe learning  
disability

İLİŞKİ TEMELLİ UYGULAMALAR + YOĞUN DAVRANIŞÇI UYGULAMALAR

ERGOTERAPİ/DUYUBÜTÜNLEME+DİLVEKONUŞMATERAPİSİ+FİZİKSEL EĞİTİM+  
BESLENME+ UYKU+EŞLİK EDEN PSİKİYATRİK DURUMLARA İLAÇLA MÜDAHALE+...+....

# 2 NİSAN OTİZM FARKINDALIK GÜNÜ ETKİNLİĞİ

# OTİZM FORUMU

“GÜNCEL KONULAR GÜNCEL TARTIŞMALAR”

*Her 36 çocuktan 1'i otizm tanılı mı?*



**PROF. DR. İBRAHİM H. DİKEN**  
ANADOLU ÜNİVERSİTESİ  
ENGELLİLER ARAŞTIRMA ENSTİTÜSÜ MÜDÜRÜ



**DOÇ. DR. ÜMİT İŞİK**  
BEBEK, ÇOCUK VE GENÇ PSİKIYATRİSTİ  
ÜMİT İŞİK AKADEMİ



**PROF. DR. NEJDET KARASU**  
GAZİ ÜNİVERSİTESİ  
OTİZM VE GELİŞİMSEL BOZUKLUKLAR  
ARAŞTIRMA VE UYGULAMA MERKEZİ MÜDÜRÜ



1 NİSAN CUMARTESİ  
21.00-24.00



Zoom Toplantı Katılım Linki  
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Toplantı Kimliği: 920 0385 4640