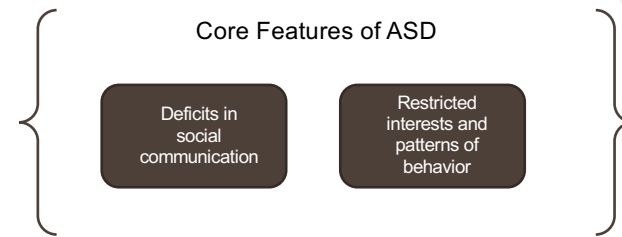


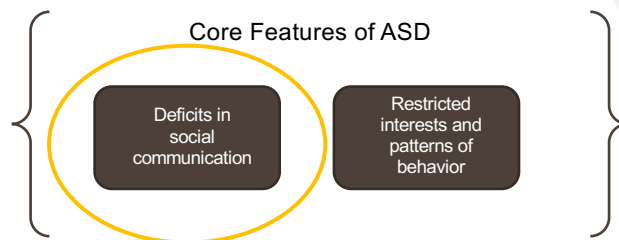
SOCIAL-COMMUNICATION AND AAC-BASED INTERVENTIONS FOR CHILDREN WITH ASD IN INCLUSIVE SETTINGS

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CORE FEATURES OF ASD



INTERVENTIONS



INCLUSION AND ASD

- Impairments in social function may lead to behavioral difficulties, which may prevent placement in inclusive settings (Camargo et al., 2016)
- Number of students with ASD continues to rise
- Expect to see the number of students with ASD served in inclusive settings to rise

Elsabbagh et al., 2012

EVIDENCE-BASED INTERVENTION

- Evidence-based practices for social communication
 - Camargo et al., 2016
 - Wong et al., 2014
- AAC
 - Picture Exchange Communication System (Ganz et al., 2012)
 - High-tech AAC (Ganz et al., 2017)
- No studies have evaluated the efficacy of social-communication or AAC interventions in inclusive settings for children with ASD

STUDY PURPOSE

- To evaluate the efficacy of evidence-based interventions for students with ASD in inclusive settings
- Determine the characteristics of studies that implemented evidence-based interventions in inclusive settings for students with ASD

STUDY PURPOSES AND RESEARCH QUESTIONS

1. To what extent are social-communication interventions being used in inclusive settings for children with ASD?
2. What are the characteristics of studies that evaluated social-communication interventions in inclusive settings?
3. To what extent is AAC being used in inclusive settings to teach social-communication skills to children with ASD?
4. What are the characteristics of studies that evaluated AAC interventions for children with ASD in inclusive settings?
5. What are the effects of social-communication studies implemented in inclusive settings?

METHOD

LITERATURE SEARCH

- Electronic Databases
 - PsychINFO
 - ERIC
 - Academic Search Complete
- Search Terms
 - 16 terms across two categories
 - *autism, autistic, autism spectrum, Asperger, developmental disorder, developmental disability, mental retardation, and intellectual disability* were each combined with *inclusion, inclusive, general education, regular education, mainstream, mainstreamed, and mainstreaming*

INCLUSION CRITERIA

- English
- Peer-reviewed journal
- Both IV and DV measured in inclusive setting in a k-12 school
- Include at least one participant with ASD between the ages of 3-22

QUALITY EVALUATION

	Meets without reservations	Meets with reservations	Does not meet standards
DS 1: Systematic manipulation of IV			
DS 2a: DV measured by more than one assessor			
DS 2b: IOA collected on at least 20% of data points	At least 20% of data points per phase	At least 20% of data points overall	Less than 20% of data points per phase
DS 2c: IOA scores meet minimum thresholds (≥80%)			
DS 3: Three attempts to demonstrate an effect			
DS 4: Each phase has a minimum of 3 data points	At least 5 data points per phase	At least 3-4 data points per phase	Less than 3 data points per phase

DESCRIPTIVE CODING

- Characteristic 1: Participant demographics
 - Gender
 - Grade level
 - Functioning level
 - High
 - Moderate
 - Low
 - Not reported

DESCRIPTIVE CODING

- Characteristic 2: Inclusion setting
 - General education whole group
 - General education small group
 - Pull out with peers
 - Reverse inclusion
 - Specials

DESCRIPTIVE CODING

- Characteristic 3: Target skill
 - Social interaction/engagement
 - Conversation
 - Play
 - Basic communication
 - Inappropriate social behavior
 - Other
- Characteristic 4: Intervention
 - Based on author report

DESCRIPTIVE CODING

- Characteristic 5: Social Validity
 - Descriptively based on author report

INTERRATER AGREEMENT

- Interrater agreement (IRA) data were collected on 20% of all included studies for the inclusion, quality, and descriptive evaluations
- IRA data was above minimum thresholds (>80%) for all evaluations

RESULTS

LITERATURE SEARCH

- Database search: 2,566
- Ancestral search: 66
- Total: 2, 632
- Studies that met inclusion: 175

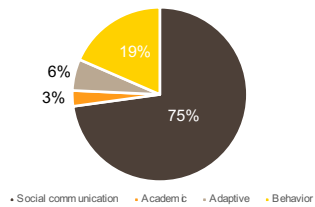
QUALITY EVALUATION

- 79 studies met the Basic Design Standards with or without Reservations
- 96 studies did not meet the Basic Design Standards
- Total of 79 studies included in the descriptive evaluations

QUESTION 1: TO WHAT EXTENT ARE SOCIAL-COMMUNICATION INTERVENTIONS BEING USED IN INCLUSIVE SETTINGS FOR CHILDREN WITH ASD?

QUESTION 1

Studies Based on Outcome Variable

**QUESTION 2: WHAT ARE THE CHARACTERISTICS OF STUDIES THAT EVALUATED SOCIAL-COMMUNICATION INTERVENTIONS IN INCLUSIVE SETTINGS?****QUESTION 2: PARTICIPANT INFORMATION**

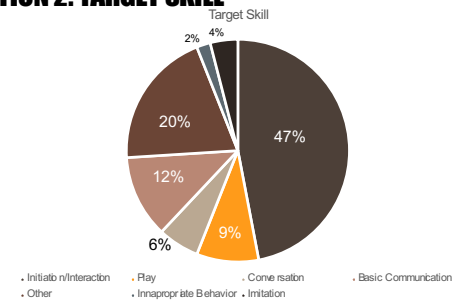
- Total participants: **428**
- Gender
 - Male: 88% ($n=378$)
 - Female: 10% ($n=42$)
 - Not reported: 2% ($n=8$)
- Age
 - Preschool: 25% ($n=106$)
 - Elementary: 49% ($n=210$)
 - Middle: 11% ($n=48$)
 - High: 15% ($n=64$)

QUESTION 2: PARTICIPANT INFORMATION

- Functioning Level
 - High: 29% ($n=126$)
 - Moderate: 26% ($n=112$)
 - Low: 12% ($n=53$)
 - Not reported: 39% ($n=167$)

QUESTION 2: PARTICIPANT INFORMATION

- Functioning Level
 - High: 29% ($n=126$)
 - Moderate: 26% ($n=112$)
 - Low: 12% ($n=53$)
 - Not reported: 39% ($n=167$)

QUESTION 2: TARGET SKILL**QUESTION 2: INTERVENTION**

- Peer-mediated instruction: 31% ($n=19$)
- Multicomponent interventions: 16% ($n=10$)
- Social stories: 12% ($n=7$)

Reported as percentage of studies

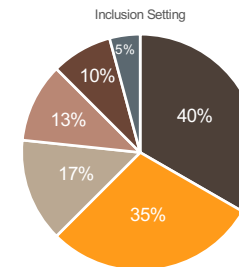
QUESTION 2: INTERVENTION

- Prompting: 8% ($n=5$)
- Reinforcement: 3% ($n=2$)
- Script training: 3% ($n=2$)

QUESTION 2: INTERVENTION

- Other: 43% ($n=26$)
 - Time delay
 - Computer assisted instruction
 - Self-monitoring
 - Video modeling
 - Pivotal Response Training
- Not reported: 6% ($n=4$)

QUESTION 2: INCLUSION SETTING

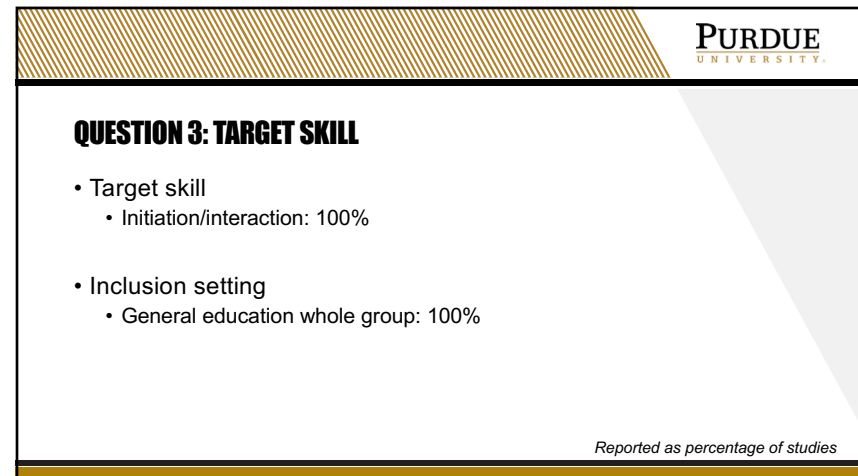
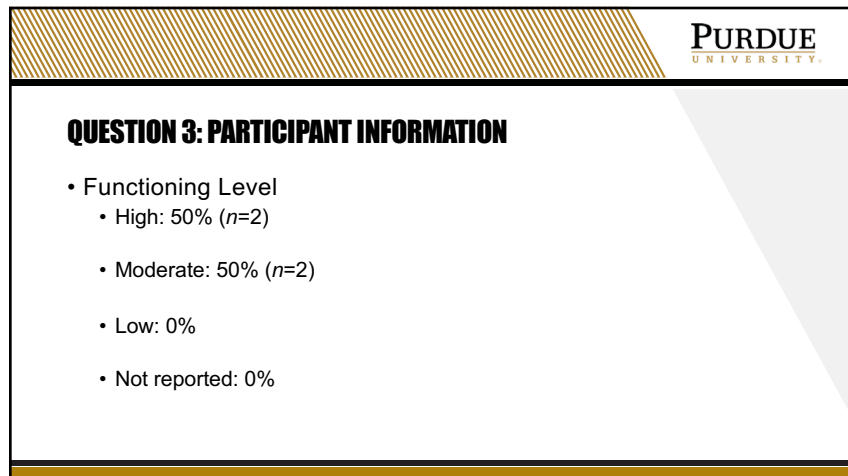
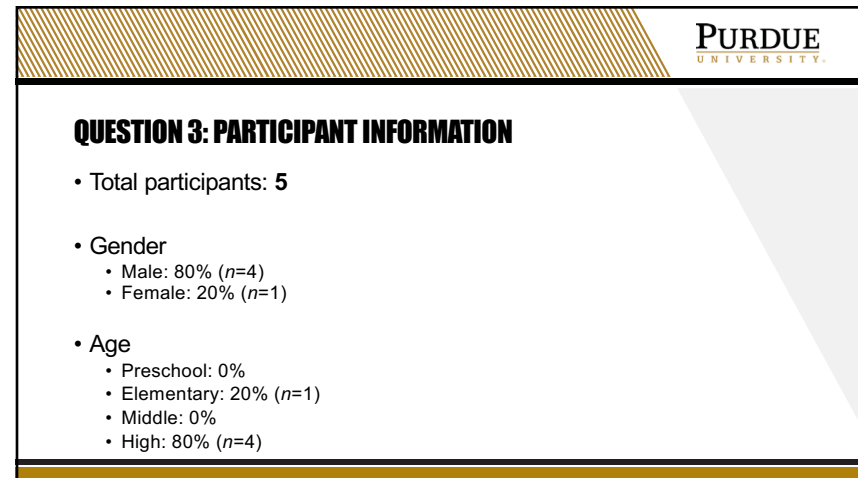
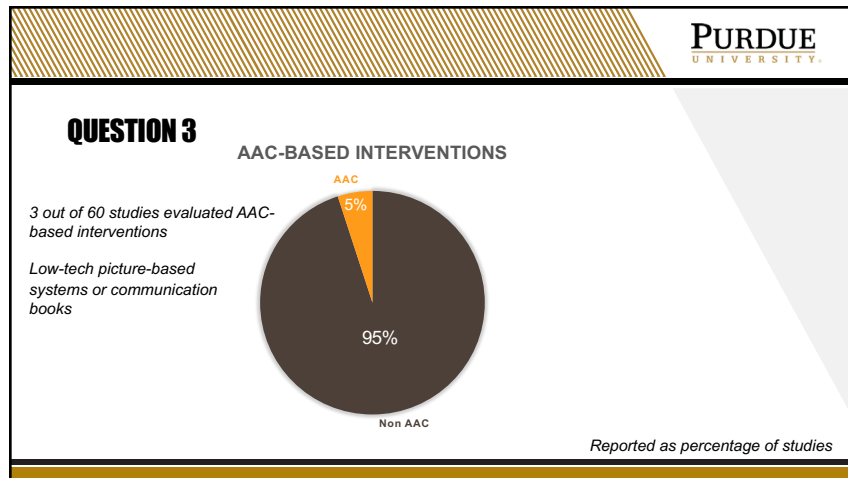


General education whole group · Specials · Pull out · General education small group · Reverse · Multiple
Reported as percentage of studies

QUESTION 2: SOCIAL VALIDITY

- Percentage of studies that reported SV: 53%
- Social validity measures:
 - Rating scales
 - Questionnaires
 - Interviews

QUESTION 3: TO WHAT EXTENT IS AAC BEING USED IN INCLUSIVE SETTINGS TO TEACH SOCIAL-COMMUNICATION SKILLS TO CHILDREN WITH ASD?



QUESTION 3: SOCIAL VALIDITY

- Percentage of studies that reported SV: 100%
- Social validity measures:
 - Rating scales
 - Questionnaires
 - Interviews

QUESTION 5: STRENGTH OF INTERVENTION EFFECT

	Strong	Moderate	None
Percentage of all studies	18%	68%	14%
Percentage of AAC studies	100%	N/A	N/A

DISCUSSION

STUDY PURPOSE & MAJOR FINDINGS

- Evaluate the state of the literature on social-communication and AAC-based interventions implemented in inclusive classrooms for children with ASD
- Evaluate the efficacy of social-communication interventions conducted in inclusive settings for children with ASD

MAJOR FINDING 1

- Most studies conducted in inclusive settings for children with ASD focus on social-communication skills
 - Social-communication deficits are a core feature of ASD
- Deficits in social-communication persist across settings and may contribute to children being removed from inclusive environments

MAJOR FINDING 2

- Dearth of studies on AAC interventions in inclusive settings
 - Of the 60 included studies, only 3 utilized AAC
- Likely because most of the studies were conducted in whole group general education settings
 - IDEA mandates that students with disabilities are served in the LRE and have access to the general curriculum
- Students who have more complex communication needs are likely served in self-contained settings with limited or no access to inclusive classrooms

MAJOR FINDINGS 3 & 4

- Narrow measures of social validity
 - Potentially biased in nature
- The majority of studies were found to have strong or moderate evidence of efficacy

LIMITATIONS

- Strength of outcome based on visual analysis and not an objective metric
- Population-specific. Results cannot be generalized to individuals with other developmental disabilities
- Only three databases were searched. Additional articles may not have been located

DIRECTIONS FOR FUTURE RESEARCH

- Examine the effects of AAC interventions in inclusive classrooms for children with low functioning ASD
- Examine more sensitive measures for evaluating social validity in inclusive classrooms
- Understand the barriers to implementing AAC in inclusive classrooms
- Utilize quantitative measures to evaluate the efficacy of social-communication interventions in inclusive classrooms

DISCUSSION TOPICS

- Use of meaningful social validity measures in ASD and AAC research
- Dissemination of research findings to applied settings and practitioners