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# The Efficacy of Joint Attention Interventions on Play Skills in Children with Autism Spectrum Disorder: A Systematic Review

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# The Efficacy of Joint Attention Interventions on Play Skills in Children with ASD: A Systematic Review

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## Background

- ❖ Children with Autism Spectrum Disorder (ASD) often present with social-communication deficits
- ❖ Two of these deficits are joint attention and play
- ❖ Joint attention is associated with positive outcomes in both language and social interaction
- ❖ Play is shown to improve overall social development and engagement
- ❖ Play can be classified as functional or symbolic
- ❖ ASD can be diagnosed as young as two years old
- ❖ Early intervention is known to improve long term outcomes in children with ASD
- ❖ Joint attention (JA) intervention research indicates positive gains in both joint attention and language skills.

## Objective

To determine if early joint attention interventions have any measurable positive effect on play skills.

## Methods

### Systematic Review Protocol

- ❖ Data sources: OVID MEDLINE, PsycINFO, ComDisDome, CINAHL, ERIC, & LLBA
- ❖ Inclusion criteria: Birth-5 years of age, formal diagnosis of ASD, peer-reviewed articles written in English, quantitative studies, articles published since 2000
- ❖ Research Method: Search terms included *joint attention intervention or training, JASPER, play, Autis\**, and *ASD*
- ❖ Researchers reviewed all abstracts to determine if they warranted full-text review
- ❖ Two researchers completed full-text review for each article identified
- ❖ Data extraction and quality of evidence were assessed for each article by one researcher
- ❖ *Figure One* shows the number of articles reviewed at each step and the number of articles rejected

## Selected References

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Shire, S. Y., Chang, Y., Shih, W., Bracaglia, S., Kodjoe, M., & Kasari, C. (2017). Hybrid implementation model of community-partnered early intervention for toddlers with autism: A randomized trial. *Journal of Child Psychology and Psychiatry*, 58(5), 612-622. doi:http://dx.doi.org/10.1111/jcpp.12672

Whalen, C., Schreibman, L., & Ingersoll, B. (2006). The collateral effects of joint attention training on social initiations, positive affect, imitation, and spontaneous speech for young children with autism. *Journal of autism and developmental disorders*, 36(5), 655-664.

Wong, C. S. (2013). A play and joint attention intervention for teachers of young children with autism: A randomized controlled pilot study. *Autism*, 17(3), 340-357.

## Results

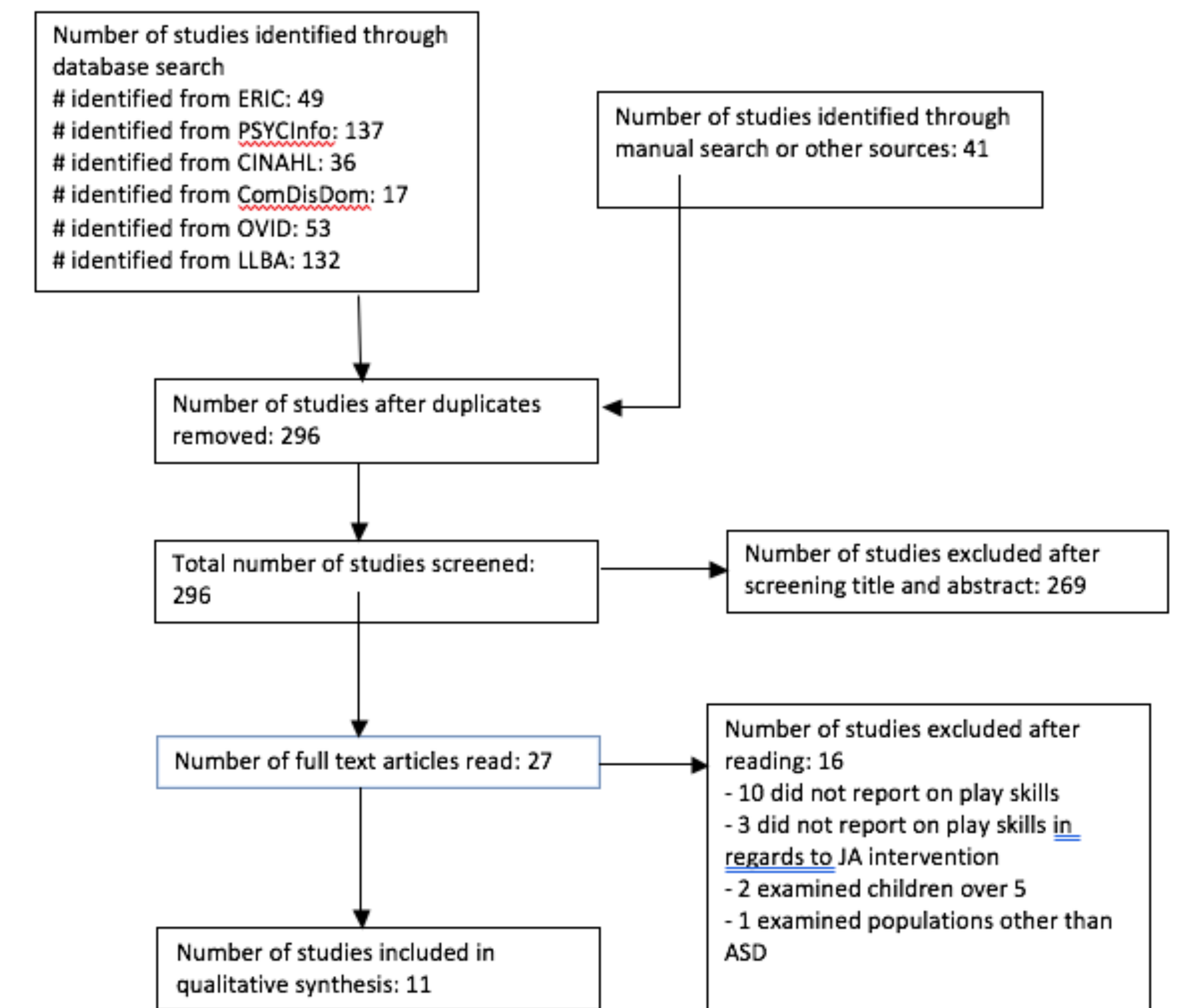
**Table 1: Study Descriptions and Outcome Results of Joint Attention Interventions on Play**

Study	Design Type	Quality Level	Type of JA Intervention	Comparison Group	Positive Change in Play Skills	No Change in Play Skills
Chang et al. (2016)	3 (RCT n<100)	7/10 High	JASPER	Waitlist Group	F	S
Goods et al. (2013)	3 (RCT n<100)	6/10, Moderate	JASPER	ABA-based intervention	Play type (type not specified)	
Kasari et al. (2001)	7 (Single subject, pretest-postest)	4/7 Moderate	JA Intervention	Compared to self at pre- & post-test levels		S, F
Kasari et al. (2006)	3 (RCT n<100)	7/10 High	JA Intervention	SP Intervention and Waitlist Group		S, F
Kasari et al. (2008)	3 (RCT n<100)	8/10 High	JA Intervention	SP Intervention and Waitlist Group	S	F
Kasari et al. (2010)	3 (RCT n<100)	8/10 High	JA Intervention	Waitlist Group	F	S
Kasari et al. (2014)	2 (RCT n>100)	7/10 High	Caregiver-Mediated Module (JASPER)	Caregiver Education Module (JASPER)	S	F
Kasari et al. (2015)	3 (RCT n<100)	8/10 High	Caregiver-Mediated (JASPER)	PEI	F	S
Shire et al. (2017)	2 (RCT n>100)	9/10 High	JASPER	Waitlist Group	F	S
Whalen et al. (2006)	7 (Single subject, multiple baseline)	4/8 Moderate	JA Intervention	Compared to each other at pre- and post-treatment		S, F
Wong (2013)	3 (RCT n<100)	9/10 High	SP-JA and JA-SP	Waitlist Group		S, F

Note: RCT = Randomized Clinical Trial; JA = Joint Attention Intervention; SP = Symbolic Play Intervention; JASPER = Joint Attention, Symbolic Play, Engagement, and Regulation; PEI = Psychoeducational Intervention; S = symbolic play skills; F = functional play skills

## Results, Cont.

**Figure 1: Flow Chart of Articles Assessed**



## Limitations of Studies Review

- ❖ Small sample size and duration of research intervention
- ❖ Selection Bias
- ❖ Lack of consistency with mediators, targeted skills, and environments across intervention approaches
- ❖ Inability to determine the causality of the increase in play skills

## Conclusions

- ❖ Mixed results regarding both functional and symbolic play skills
- ❖ Results indicate that while joint attention interventions may be effective in improving play skills in children with ASD, they were not shown to decrease play level

## Recommendations

- ❖ Future research should aim to:
  - ❖ Incorporate larger sample sizes from a geographically diverse population
  - ❖ Standardize joint attention interventions in terms of duration, frequency, and administrator
  - ❖ Better understand the collateral effects of joint attention interventions on foundational social communication skills
- ❖ Future systematic reviews should aim to review one single type of joint attention intervention