

“Pair First!” A Systematic Literature Review of Pairing

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ABSTRACT

Individuals with autism often exhibit challenging behaviors during instruction. Pairing—a proactive rapport-building procedure—aims to mitigate these issues. This systematic review analyzed 14 studies (N=14), identifying key strategies like offering preferred items and narrations of play. Results show mixed effects on challenging behaviors and behaviors targeted for increase.

INTRODUCTION

In the United States, 1 in 31 children (CDC, 2025) is diagnosed with autism spectrum disorder (ASD). Children with ASD often require intensive instruction to develop essential life and communication skills. Yet the demands of learning often evoke challenging behaviors (e.g., tantrums, task avoidance). Pairing focuses on building rapport and improving motivation of learning before teaching. While pairing is widely recommended in clinical practices, its empirical evidence base has not been formally synthesized until now. Following the population, intervention, comparison, outcomes, and study design (PICOS) framework, this systematic review synthesizes pairing's descriptive characteristics and clinical outcomes.

RESEARCH QUESTIONS

QUESTION 1. What are the characteristics of pairing procedures used in the identified studies?

QUESTION 2. What are the characteristics of staff-training procedures on implementation of pairing interventions?

QUESTION 3. With whom and where are pairing interventions evaluated, and what are the effects on targeted behaviors in individuals with ASD?

METHOD

Search & Inclusion

- The Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA; Figure 1)

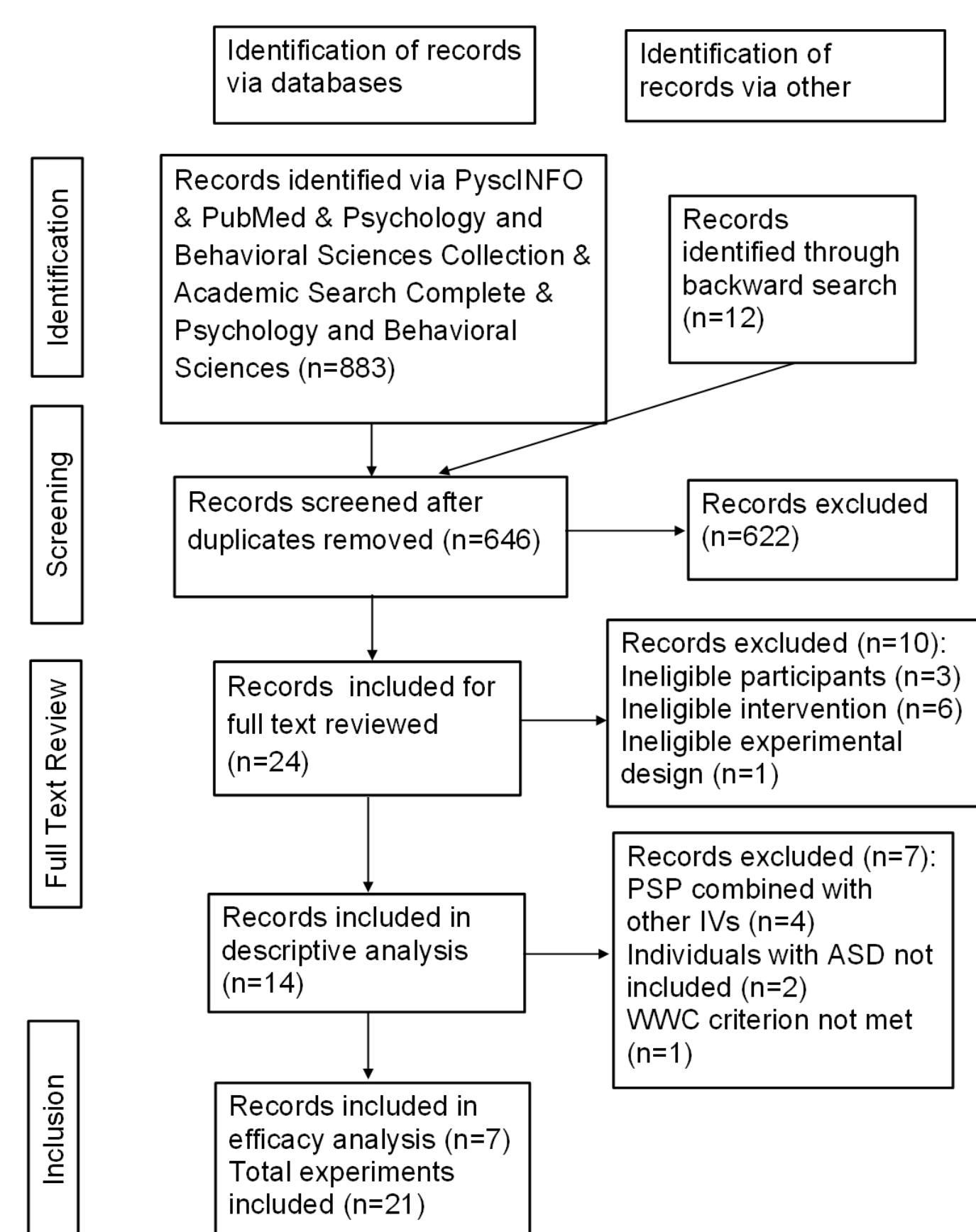
Coding

- Descriptive coding (N=14): research question 1 & 2
- Outcome coding (n=7, total experiments n=21): research question 3

Inter-Observer Agreement(IOA)

- Presenting author (primary coder): 100% citations & SCARF-UI
- Secondary & Third Coders: 100% of studies
- Fourth Coder: SCARF-UI Coding 100%
- IOA: prior to discrepancy discussion 98%; final 100%

Figure 1:
PRISMA
Flowchart

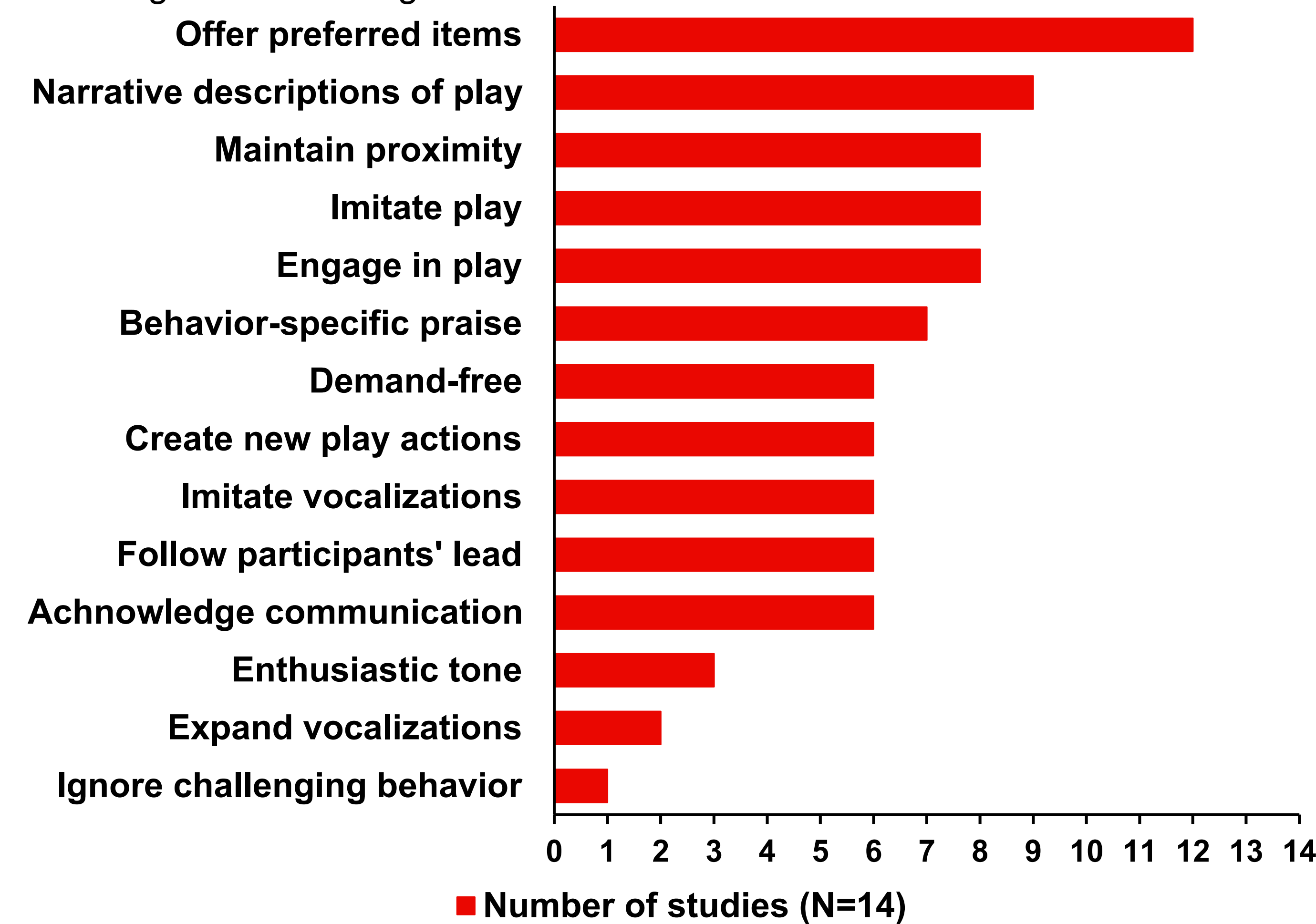


Pairing has mixed effects on target behaviors. Current pairing practice relies on offering preferred items, narrations of play, and proximity. Component analysis and refined measurement are needed.

DATA ANALYSIS/RESULTS

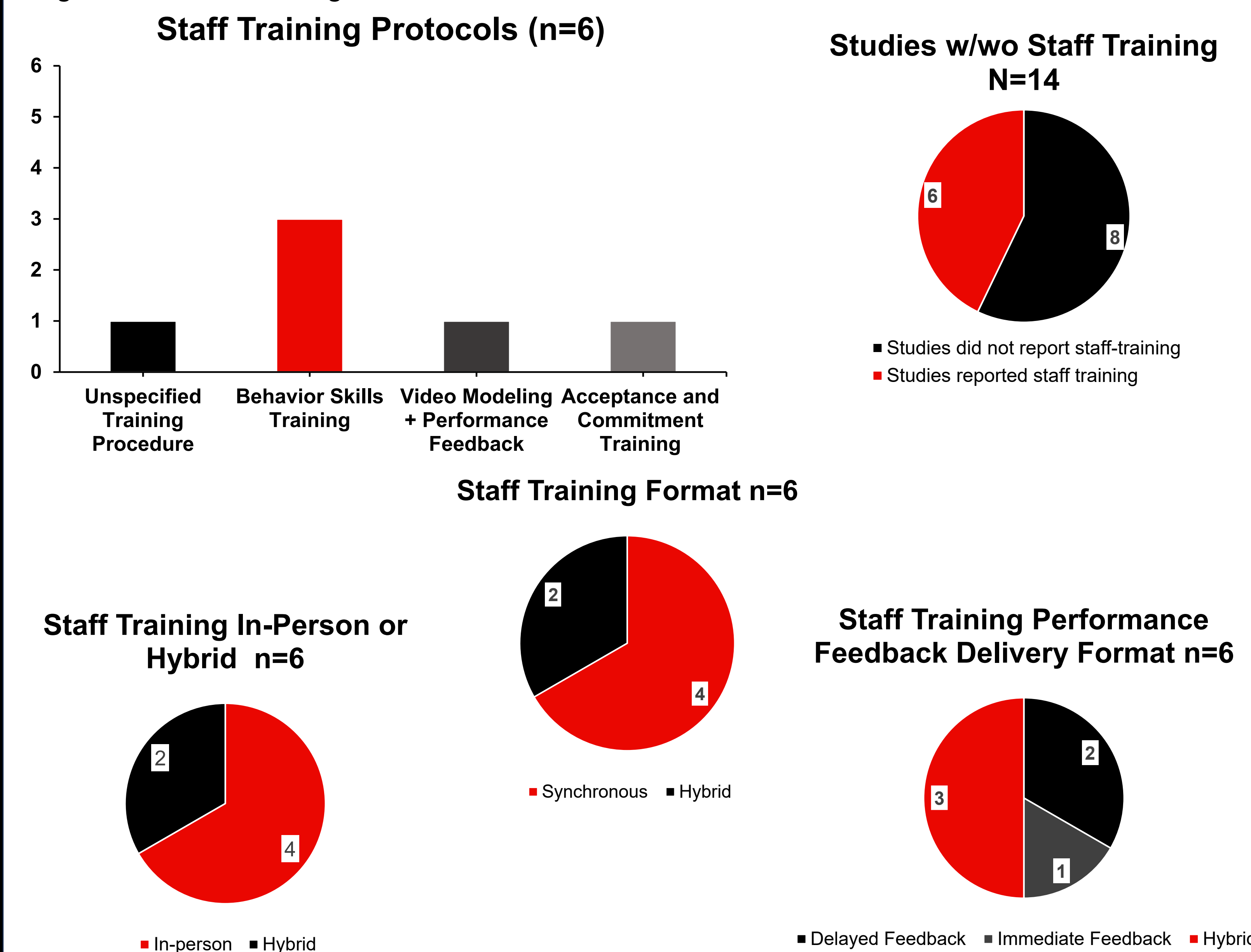
Research Question 1:

Figure 2: Pairing Skills Ranking



Research Question 2:

Figure 3: Staff Training Protocols



Research Question 3:

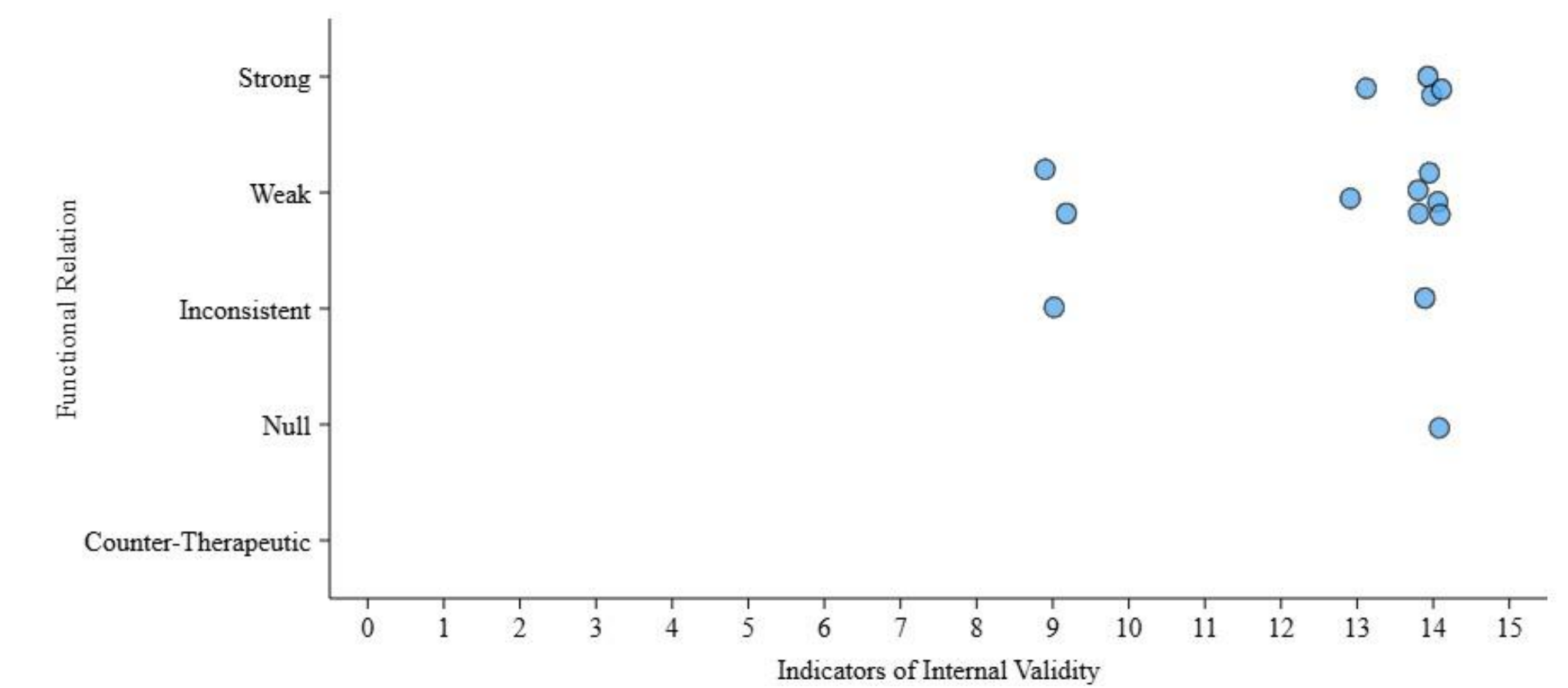
Table 2. Participants Characteristics

Individual with ASD Participant Characteristics	
Number (percentage) of participants	
Review n=21	
Gender	
Male	15 (71%)
Female	6 (29%)
Not Reported	
Age	
≤5 years	13 (62%)
>5 years	8 (38%)
Reported Diagnosis	
Autism only	15 (71%)
Autism with comorbidities	6 (29%)
Functional Language	
Yes	8 (38%)
No	7 (33%)
Not Reported	6 (28%)

Table 3. Settings

PSP Intervention Setting (n=21)	
Setting	Number of Experiments
School	6
Behavior Intervention Clinic	3
University-Based Clinic	4
Early Intervention Setting	4
Group Home	3
Clinic (Unspecified)	1

Figure 4. SCARF Coding Results



Note. Blue dots represent dependent variables (n = 15) across 21 experiments in seven articles.

Main Findings

- **Internal Validity:** 85% of evaluated studies (n=7) achieved high-quality indicators (scores >13), ensuring the reliability of the effects shown.
- **Targeted Behaviors:** most research (67%; n=15) focused on increasing positive repertoires rather than just decreasing problem behavior.
- **Impact on Challenging Behavior:** results were mixed, with a strong functional relation (FR) found in 40% (2 out of 5) of the relevant experiments.
- **Impact on Skill Acquisition:** pairing had lesser effects on increasing target behaviors, with only 20% (2 out of 10) of experiments showing a strong functional relation.)

DISCUSSION

Future Directions

- **Component Analysis:** isolate individual pairing skills (e.g., proximity vs. interactive play) to determine which specific elements drive the most change.
- **Integrated Protocols:** investigate the synergistic effects when combining pairing with other evidence-based treatment procedures.
- **Broadening Outcomes:** shift focus on engagement and learning promotion to address currently inconsistent results in task engagement & life skills.
- **Optimized Training:** develop more efficient, socially valid training models for practitioners to improve implementation fidelity.

Limitations

- **Sample Size:** limited number of identified studies.
- **Insufficient Evidence for Definitive Conclusions:** unclear about the universal efficacy of pairing.
- **Methodological Variability:** differences in how pairing was defined and implemented across identified studies.

This Systematic Review Has Been Pre-Registered. PROSPERO ID: CRD420261355970