PLAY AND LANGUAGE DEVELOPMENT IN TODDLERS AT RISK FOR AUTISM SPECTRUM DISORDER

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Background: Play develops across the first years of life, beginning with object exploration in infancy and progressing to a range of pretend play behaviors that typically emerge during the toddler and preschool years. Early play is linked with several critical developmental areas such as cognition, social communication, and language. While substantial research has examined the play of preschoolers with developmental delays, including autism spectrum disorder (ASD), little is known about the play of toddlers with delays, particularly language delay (LD). Given the link between play and language development, this study aimed to examine play in 18-month-old toddlers with LD with and without ASD outcomes.

Methods: Toddlers with significant LD (n=32) or typical development (TD; n=62) were drawn from longitudinal studies of early LD as a risk factor for ASD. Toddlers with early LD were classified based on a diagnosis of ASD (LD-ASD; n=13) or non-ASD (LD-NonASD; n=19). A coding scheme (Figure 1) was used to code play from a video-recorded 15-minute parent-child interaction with a standard set of toys obtained at 18 months. The following play variables were examined: total number of play actions, proportion of actions across four play levels, and diversity of play (number of different play actions and different toys played with).

Results: Table 1 provides a summary of descriptive statistics. In general, toddlers in the LD-ASD group exhibited a profile of less total play and reduced diversity of play compared with toddlers with LD-NonASD and TD. Examination of the proportion of play actions across the four levels of play revealed that toddlers in the LD-ASD group showed a similar proportion of play actions across Play Levels 1-3, whereas toddlers in the LD-NonASD and TD groups showed proportionally less indiscriminate play (Level 1) and more functional/conventional play (Level 3). Within Play Level 3 (functional/conventional play), the specific types of actions varied by group, with toddlers with LD-ASD showing a majority of presentation/general combination play actions and toddlers in the LD-NonASD and TD groups engaging in more specific conventional combinations and doll/directed play than the LD-ASD group.

Conclusion: Preliminary findings from this study suggest that early LD was associated with less sophisticated play compared to TD, with differences greater for toddlers with ASD outcomes. While significant variability was observed, toddlers in the LD-NonASD group showed similar frequency and diversity of play to their TD peers. Play deficits in toddlers with LD may only become more apparent over time based on the development of the child's language and increasing play demands. Results suggest the importance of following this sample of children with LD over time to examine how play develops with age as well as the development of language social skills, including toddlers with LD with and without ASD.
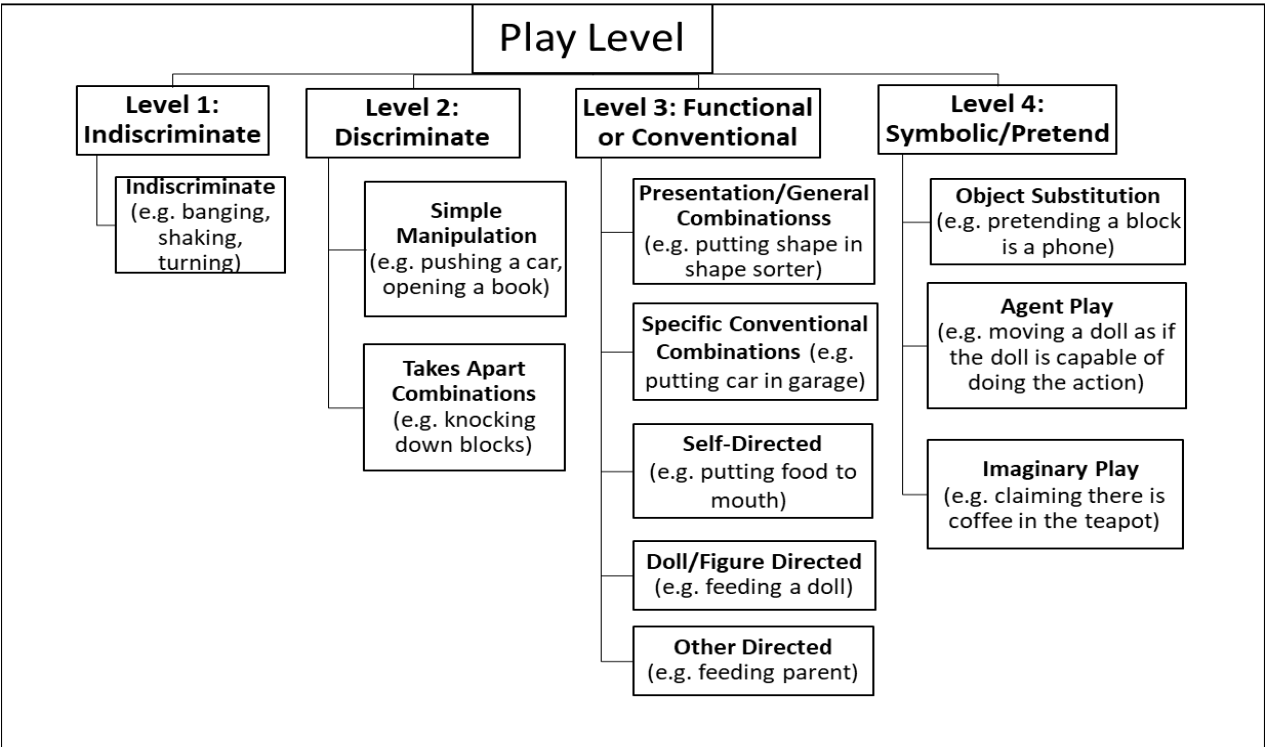
Figure 1. Play coding scheme. The play coding scheme was developed based on schemes used in previous studies (e.g., Baranek et al., 2005; Lifter, 2002; McDuffie et al., 1995; Thiemann-Bourque et al., 2012), as well as a review of relevant literature to determine other variables related to play and language development.

Table 1. *Descriptive Statistics and Group Differences in Play*

	Mean ± SD		
	LD-ASD	LD-NonASD	TD
Total Play Actions (raw count)			
Number of Play Actions (with indiscriminate)	73.8 ± 34.7	99.1 ± 28.9	95.2 ± 28.0
Number of Play Actions (without indiscriminate)	55.6 ± 38.5	83.1 ± 32.6	84.9 ± 27.2
Diversity of Play (raw count)			
Number of Different Play Actions	13.7 ± 9.1	24.0 ± 7.0	23.8 ± 7.0
Number of Different Toys Used	16.3 ± 10.1	25.0 ± 6.3	23.5 ± 7.7
Levels of Play (percentage)			
Level 1: Indiscriminate	33.9 ± 32.4	18.7 ± 15.0	11.2 ± 8.2
Level 2: Discriminate	31.8 ± 20.9	34.9 ± 12.3	36.8 ± 13.6
Level 3: Functional or Conventional	34.3 ± 27.2	46.3 ± 16.0	51.0 ± 12.6
Presentation/General Combinations	*62.9 ± 34.6*	*42.6 ± 27.4*	*35.1 ± 19.9*
Specific Conventional Combinations	*33.5 ± 36.0*	*52.1 ± 24.6*	*54.6 ± 19.9*
Self-directed	*3.4 ± 6.2*	*7.8 ± 16.5*	*4.5 ± 6.3*
Doll/Figure-directed	*---*	*1.5 ± 5.1*	*4.3 ± 8.7*
Other-directed	*0.2 ± 0.6*	*0.8 ± 2.0*	*1.5 ± 2.7*
Level 4: Symbolic	---	0.2 ± 1.0	1.0 ± 2.4