Teaching Play Skills

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Play skills are an integral part of child development in facilitating repertoires, such as exploration of functions of objects (Bruner, 1973), motor skills (Ozaydin, 2015), leisure interests (Barton, 2010), language, problem-solving (Boutot et al., 2005), sharing (Ginsburg, 2007), initiation (Zanolli et al., 1996), making choices, following rules (Vidoni & Ward, 2009), compromise (Francis et al., 2019), cooperation, negotiation (Gibson et al., 2017), creativity, flexibility (Bateson, 2005), coping skills (Hess & Bundy, 2003), awareness of others' thoughts and emotions (Barton & Pavilanis, 2012), entering others' play activities, managing conflicts (Ladd, 2005), building relationships (Hirsh-Pasek et al., 2009), school readiness, and literacy (Roskos & Christie, 2001).

In children of typical development, play skills tend to develop through natural reinforcers and require little teaching from adults (Lovaas, 2003), whereas children diagnosed with autism spectrum disorder (ASD) present with deficits in play skills and do not receive the natural benefits from play in the same ways that their typically developing peers do (Boutot et al., 2005). In addition to the benefits of play outlined above, children with ASD and other developmental disabilities (DD) are more likely to successfully integrate with typically developing preschoolers when they demonstrate proximity to peers, engage in social interactions, and play (Nelson et al., 2007). Moreover, positive behaviors related to play are correlated with social engagement (Hobson et al., 2013) and improvement in a child's social standing as it relates to their peers, which might be particularly helpful for children who suffer from peer exclusion (Rubin et al., 2007).

Research has demonstrated that interventions based in applied behavior analysis (ABA) can improve play skills (Lang et al., 2009). This chapter aims to provide practitioners with evidence-based behavioral strategies for teaching play skills.

Developmental Age and Types of Play

To lay the foundation and context for teaching this repertoire, the types of play and when they emerge in typical child development are described in Table 50.1 with approximate developmental age and available literature. Because the domain of play consists of a wide variety of behaviors and involves a wide range of complexity, the majority of studies teaching play skills identify

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Table 50.1 Approximate developmental age and types of play

Age of emergence	Type of play	Definition	References
0–10 months	Sensorimotor	Consists of indiscriminate and simple actions with objects, including physical manipulation, looking, picking up, dropping, banging, grasping, mouthing, etc., sometimes in a repetitive fashion; appears to serve a sensory function—No functional relationship between manipulation of the object and the object itself	Casby (1992), Lifter et al. (2011), Lydon et al. (2011), Nelson et al. (2017)
Occurs at all ages	Solitary	Consists of independent play, with and without toys	Salkind (2002), Nelson et al. (2017)
10–12 months	Relational	Emerges as non-functional manipulation involving the association of objects that are not functionally related (e.g., hitting two blocks together); develops into manipulation of objects that are functionally related (e.g., stacking blocks, pretending to comb hair, bouncing/rolling a ball, etc.)	Casby (1992), Lydon et al. (2011), Nelson et al. (2017), Patry and Horn (2020)
9–12 months	Functional pretend	Consists of manipulation of objects in a conventional manner (e.g., pushing a toy car, feeding a baby with a bottle, pretending to drink tea from a teacup, etc.); early pretend play is typically self-directed	Lifter et al. (2011), Lillard (2015), Lydon et al. (2011), Lee et al. (2017)
18–24 months	Symbolic pretend	Involves the manipulation of objects that represents some other action, often in the context of a play scheme and usually reality oriented; play sequences become more complex with chains of events and increased levels of planning (e.g., hosting a pretend tea party, playing house, etc.); object substitution emerges (i.e., using arbitrary objects as items related to the play sequence)	Boutot et al. (2005), Casby (1992), Lifter et al. (2011) Lillard (2015), Patry and Horn (2020)
24–36 months	Parallel	Consists of independent play in close proximity to peers that are playing in a similar fashion; includes referencing or acknowledging others and peers' actions	Francis et al. (2019), Nelson et al. (2020)
24–48 months	Associative	Children begin to interact during play more frequently while engaging in common activity, though there is a segregation of duties and a lack of organization (e.g., playing dress-up, doing crafts, building adjacent Lego structures, etc.)	Nelson et al. (2017)
30–48 months	Sociodramatic pretend	Play sequences with greater complexity including fantasy and dramatic play—Children pretend to be things outside of reality; imaginary objects are used and reliance on language to narrate play schemes; several play schemes are often linked together with multiple participants	Lillard (2015), Nelson et al. (2017), Patry and Horn (2020)
36–48 months+	Cooperative	Consists of more organized group play involving communication to achieve a common goal (e.g., building a fort, acting out a prolonged play sequence, creating a dance, etc.)	Nelson et al. (2017)
36–48 months	Constructive	Involves the assembly of objects to create something else (e.g., playing with blocks, building sandcastles, shaping clay, etc.)	Lillard (2015), Nelson et al. (2017), Salkind (2002)

(continued)

Table 50.1 (continued)

Age of emergence	Type of play	Definition	References
May emerge around 12 months, most prominent between 48 and 60 months	Physical/Rough & Tumble	Includes activities such as climbing, swinging, jumping, chasing, pretend fighting/wrestling accompanied with smiles and laughter	Lillard (2015) Nelson et al. (2017)
60 months	Games with rules	Characterized by commonly known procedures and rules that are either predetermined or spontaneously derived within the group	Lillard (2015), Nelson et al. (2017), Salkind (2002)

the broader category of play and provide operational definitions relevant to the skills targeted for each intervention. Although this is a good strategy when researching these topics, conceptual accounts may assist in the future direction and research of play. A behavioral conceptual account of all forms of play is not available as far as we are aware, outside of one article that proposes a behavioral perspective specific to symbolic play (see Lee, Qu, et al., 2020b). Conceptual accounts of the types of play listed in Table 50.1 may be beneficial for a more comprehensive account of these behaviors and the identification of effective teaching strategies to promote the full range of play skills.

Research on Effective Play Strategies

The following sections review the empirical basis for behavior analytic intervention strategies related to teaching play skills. An overview of each approach is provided, along with the current state of the research and considerations for implementation.

Structured Versus Naturalistic Instructional Approaches

There are several prominent instructional approaches to teaching play skills that are supported by behavior analytic research. These range from structured approaches (e.g., discrete trial teaching, video modeling) to less structured, naturalist approaches (e.g., pivotal response training, peer-mediated interventions). The various approaches and teaching strategies supported by research are outlined below for teaching skills categorized as play.

Discrete Trial Teaching (DTT)

Discrete Trial Teaching (DTT) is a structured approach with materials selected by an adult implementer, clear directions, prompting, shaping, and contrived reinforcement (Tarbox & Najdowski, 2008). It has effectively taught early play responses, including extended play sequences using task analyses (Oppenheim-Leaf et al., 2012a) and teaching from simple object manipulation to complex play themes (Lifter et al., 2011). DTT is effective in conditioning toys and play as reinforcers and correlates with decreases in stereotypical behavior among learners with ASD (Eason et al., 1982). Procedures have been embedded in DTT programs to enhance the efficacy of instruction, such as embedded instructive feedback and modeling (Grow et al., 2017). Additionally, research has shown that DTT is an efficacious approach to maintain and generalize established play skills (Eason et al., 1982).

Promoting Creativity, Variability, and Generative Responding. A concern of structured intervention strategies such as DTT is that some interventions do not always establish responses that look natural, or the interventions result in limited novel or creative responding. However, research indicates that increasing variety in play can reduce stereotypy and improve indices of happiness (Lang et al., 2014). Procedures to enhance variability and generalization of skills are often incorporated into DTT play interventions. These include self-management of token delivery for variable

responding (Newman et al., 2000), lag schedules of reinforcement to enhance creativity (Galizio et al., 2020), and extinction of previously reinforced play behavior to promote novel responding (Lalli et al., 1994).

Another approach to teaching a generalized repertoire of play skills, as opposed to teaching specific isolated play behaviors, involves matrix training, which refers to a generative instructional approach wherein skills with overlapping components are arranged in a matrix allowing various recombination of each of the component skills (Goldstein, 1983). This approach focuses on teaching a small subset of component play skills, followed by tests for generalization to other scenarios and skill sets to determine if the learner responds to novel combinations of the trained skills (see Curiel et al., 2020 for a review). For example, Hatzenbuhler et al. (2019) used matrix training to teach one of four character–action–vocalization combinations and demonstrated generalization to novel character–action pairs. Responding to untrained pairs in this manner is referred to as *recombinative generalization* (Goldstein, 1983). Several studies have shown that matrix training is an effective and efficient approach to training independent and interactive pretend play skills (Dauphin et al., 2004; Hatzenbuhler et al., 2019; MacManus et al., 2015) and can be combined with other evidence-based teaching strategies.

Matrix training may be useful when intervention time or access is limited and a generalized behavioral repertoire is ideal, such as during pretend play activities that require a broader and more flexible repertoire. In contrast, this approach may not be appropriate for play activities in which specific rules should be followed, such as card and board games, sports, or other structured activities. Although only a few studies have specifically evaluated matrix training for teaching play skills, the results are encouraging for the use of this approach.

Pivotal Response Training (PRT)

Pivotal response training (PRT) is an instructional approach that enhances motivation and generalization of skills, especially when implemented with learners with ASD (Pierce & Schreibman, 1995). PRT focuses on teaching behaviors considered critical to the development of other complex behavioral repertoires, referred to as *pivotal behaviors,* including responsivity to multiple cues, motivation, self-management, and child initiations (Carrero et al., 2014). A play intervention based on PRT would enhance motivation for a play activity by using a child-directed approach and allowing the learner to choose the toy or activity of interest. For example, reciprocal imitation training based on PRT has been effective in spontaneous object imitation, and learners with ASD have demonstrated collateral improvements in language, pretend play, and joint attention (Ingersoll & Schreibman, 2006). Additionally, natural forms of reinforcement are provided for any correct attempt related to the target play behaviors; therefore, the child accesses reinforcement at a higher rate compared to other intervention strategies (Stahmer, 1999). Research shows that PRT-based interventions are effective for teaching manipulative play (Malone & Langone, 1999), pretend play (Lydon et al., 2011), symbolic play (Stahmer, 1995), and sociodramatic play (Thorp et al., 1995), with generalization demonstrated across toys/activities and people.

PRT may be beneficial, especially early in treatment, when levels of motivation are low and high levels of maladaptive behaviors may disrupt treatment gains related to play skills (e.g., Hart et al., 1968). Additionally, this approach may be beneficial when access to opportunities to generalize skills is limited, for example, with learners who are not in inclusive settings and may not have access to peers or siblings outside of treatment. For learners who are somewhat isolated from social interaction, enhancing opportunities for generalization of these skills is critical to future success in general education settings or other inclusive environments. Additionally, PRT strategies may help supplement other structured approaches to enhance the acquisition of play skills.

Comparing DTT and PRT

Comparisons between DTT and PRT have mixed results on their efficacy of teaching play skills. For example, Strauss et al. (2014) showed that a flexible, as opposed to a structured, approach resulted in higher play and more appropriate engagement with peers. Lee et al. (2020a) showed the emergence of symbolic play in only one of three participants in free play observation (i.e., a naturalistic setting) following teaching specific symbolic play actions (i.e., structured trials). Jobin (2020) directly compared PRT and DTT in skill acquisition for early learners with ASD and found that both intervention approaches led to improvement of various skills. Results showed that the same participant might respond differently based on skill and dimension, which supports the idiosyncratic nature of ASD. A more structured teaching strategy may be necessary to teach initial play skills before expanding to more stimuli, expanded trials, or more naturalistic settings (Wong et al., 2007).

Peer- and Sibling-Mediated Play Interventions

Peer-Mediated Interventions. Peer-mediated intervention (PMI) refers to the inclusion of typically developing, similar-age peers trained in intervention strategies. PMI is effective for teaching play to individuals with ASD (Dueñas et al., 2019), DD (Garfinkle & Schwartz, 2002), visual impairment (Ozaydin, 2015), and socially isolated peers in educational settings (Milam et al., 2020). Several recent studies have investigated PMI combined with other evidence-based interventions, such as the system of least prompts (SLP; Barton et al., 2018), progressive time delay (PTD; Francis et al., 2019), video modeling (Dueñas et al., 2019), self-monitoring (Shearer et al., 1996), PRT (Pierce & Schreibman, 1995), and matrix training (Hatzenbuhler et al., 2019). These studies resulted in gains in target play skills and generalization to untrained play scenarios. In addition, two PMI treatment packages, *Stay, Play, Talk* (van Rhijn et al., 2019) and *Keys to Play* (Nelson et al., 2007), are effective interventions to teach play to early learners.

Many successful interventions can be embedded in a PMI format while maintaining or increasing efficacy. For guidance on PMI, several resources are available within the literature. Terpstra et al. (2002) provided recommendations for utilizing various effective strategies, including PMI, into specialized and inclusive classrooms. Further, it is important to consider the type of play and materials required as the availability of toys may promote or deter isolated versus collaborative play (Watkins et al., 2017). Patry and Horn (2020) provided guidance on considerations for selecting toys, identifying and preparing appropriate peers, and determining the appropriate level of adult guidance when using PMI (Wolfberg, 2003 as cited in Patry & Horn, 2020). Furthermore, recommendations for effectively training typically developing children to promote play skills can be found in Oppenheim-Leaf, Leaf, Dozier et al. (2012b).

The general conclusions are that PMI is not only effective but can also: be used in inclusive educational settings, promote generalization and maintenance of target skills, and result in positive social validity ratings from stakeholders (see Chan et al., 2009 or Watkins et al., 2015 for reviews). Additionally, several studies have utilized larger-scale implementation and evaluations of these interventions through group-comparison research designs providing additional evidence that PMI is effective even when scaled (see Chang & Locke, 2016 for a review).

Sibling-Mediated Interventions. Due to the positive effects of PMI to teach social and play skills, several studies have investigated the benefits of using typically developing siblings as trainers to prompt and reinforce appropriate behaviors with promising results (Akers et al., 2018; Oppenheim-Leaf et al., 2012b).

There are several benefits to including siblings in play interventions, especially in early childhood and with siblings close in age. First, siblings may be more available to participate within the home setting than attempting to schedule play dates with typically developing peers. This is pertinent if the learner is in a specialized education setting or private placement having little contact

with peer models. Second, siblings may be more willing to participate in these interventions because they are motivated to learn how to better interact with their siblings. Third, these interventions may maintain skills because the siblings will have more access to the learner than a peer would due to living in the same house and likely having similar schedules. Fourth, when a sibling or peer is paired with a high magnitude of reinforcement, it may increase the likelihood of the child with ASD to engage rather than play alone (Hoch et al., 2002).

Interventions Utilizing Visual Strategies and Supports

Video Modeling

Video modeling (VM) refers to an intervention strategy that utilizes pre-recorded videos of individuals (e.g., adults, peers, learner) engaging in the target behavior. VM has been used across a variety of behaviors and settings and is one of the more prominent methods for teaching play skills, especially with learners with ASD because they often require visual modifications and visual supports to facilitate learning outcomes (Fragale, 2014). Additionally, it removes the social interaction requirement often involved with in vivo modeling, which some researchers attribute to its success at enhancing motivation to attend to and engage in the behaviors modeled through this medium (Cardon & Wilcox, 2011; Charlop-Christy et al., 2000). VM has a reasonably large evidence base in the behavior analytic literature and has been used across a variety of skills (see Park et al., 2019; Shukla-Mehta et al., 2010 for reviews).

Specific to teaching play skills, VM has been used to increase independent toy play (Paterson & Arco, 2007), game play (Charlop-Christy et al., 2000), and play-based language, including initiations and responses (Ezzeddine et al., 2020); however, the majority of VM studies focus on teaching pretend play (Akmanoglu et al., 2014; Dueñas et al., 2019; Hine & Wolery, 2006; Lee, Qu, et al., 2020b; Lydon et al., 2011; MacManus et al., 2015). VM also enhances learning outcomes related to play skills when combined with other intervention strategies, including PMI (Dueñas et al., 2019), activity schedules (Blum-Dimaya et al., 2010), matrix training (Dauphin et al., 2004; MacManus et al., 2015), and errorless learning strategies, such as graduated guidance (Akmanoglu et al., 2014).

VM interventions may have several benefits over in vivo intervention strategies with research supporting that VM may be more efficient and efficacious for some learners (Charlop-Christy et al., 2000; Cardon & Wilcox, 2011). Although research on VM has faced some criticism related to inconsistent results for promoting maintenance and generalization of acquired play skills (Lee, Qu, et al., 2020b), recent studies have demonstrated that VM interventions are effective, cost efficient, can be implemented with a variety of learners across a variety of settings, promote generalization, and can be easily combined with other intervention strategies to promote play skills (Hine & Wolery, 2006; Lee, Qu, et al., 2020b). For example, incorporating multiple exemplar training into VM interventions enhances generalization (Dupere et al., 2013). Furthermore, generative learning instructional strategies, such as matrix training combined with VM, have demonstrated that generalization is possible with this approach (Dauphin et al., 2004; MacManus et al., 2015).

Activity Schedules

Activity schedules involve pictures that provide steps needed to complete a behavioral chain related to tasks. They have been prepared using photographs/pictures, symbols, and text (McClannahan & Krantz, 1999) presented in either a notebook, checklist format (Bryan & Gast, 2000; Cuhadar & Diken, 2011; MacDuff et al., 1993; See Rehfeldt et al., 2004 for how to make activity schedules), or electronically (e.g., Brodhead et al., 2018; Kurkcuoglu et al., 2015). Common prompts to use activity schedules include graduated guidance (Bryan & Gast, 2000), least-to-most prompts (Pierce et al., 2013), and progressive time delay (e.g., Carlile et al., 2013), with the goal to fade prompts when possible (e.g., Akers et al., 2016). Reinforcement is

usually provided for completing the activity schedule (Kimball et al., 2004). Often, activity schedules can teach learners to combine previously mastered play skills into lengthier play sequences (e.g., coloring, building with blocks, and putting together a puzzle) when given one discriminative stimulus such as, "Check your schedule" (McCollow et al., 2016). Activity schedules can also teach play skills that learners do not have in their repertoire by including each step of the play activity (Cuhadar & Diken, 2011). Systematic reviews of studies conducted with individuals with ASD (Knight et al., 2015) and intellectual disability (ID; Spriggs et al., 2016) have found activity schedules to effectively teach leisure or play skills. Additionally, a meta-analysis has found activity schedules to be effective for improving leisure skills of individuals with ID (van Dijk & Gage, 2019).

Low-tech photographic activity schedules have been used to: (a) increase playground activities (Akers et al., 2016; Machalicek et al., 2009); (b) teach the steps necessary to play with toys (e.g., blocks, Mr. Potato Head, bowling; Cuhadar & Diken, 2011); (c) get learners to engage in a sequence of activities (e.g., memory game, blocks, art, dollhouse, kitchen (MacDuff et al., 1993; Morrison et al., 2002); (d) play hide-and-seek with peers (Brodhead et al., 2014); and (e) teach peers with ASD who could already follow activity schedules independently to use a joint activity schedule to play previously mastered games (e.g., Don't Break the Ice®) together in a classroom (Betz et al., 2008).

High-tech activity schedules are useful for teaching various play skills to individuals with ASD. Computer-mediated activity schedules, combined with video modeling, have been used to increase play bids (Kimball et al., 2004). The iPod Touch® has been used to increase play skills (e.g., basketball, frisbee golf) in a classroom (Carlile et al., 2013). Video-based matrix training has been combined with an activity schedule notebook to teach sociodramatic play (Dauphin et al., 2004). Computer-assisted activity schedules with photographs on PowerPoint® have increased functional pretend play (e.g., dolls, cars, setting a table; Kurkcuoglu et al., 2015). And, activity schedules on an iPad® have increased the varied game play of the iPad's applications (Brodhead et al., 2018). One advantage of presenting activity schedules through electronics is that children with ASD may prefer instruction delivered by a computer over a human (Romanczyk et al., 1999). Since computers are difficult to carry around, activity schedules implemented on computers should be transferred eventually to a folder (see Kimball et al., 2004 for an example) or a smaller device.

Prerequisites for teaching learners to follow activity schedules include object and picture matching/sorting, discrimination of an object when placed on a background (McClannahan & Krantz, 1999), and picture-location identification (Brodhead et al., 2014). A beneficial feature of activity schedules is that choice-making can be embedded into creating them (Stromer et al., 2006). Unfortunately, in some cases, when the activity schedule was removed, responding did not maintain (e.g., Betz et al., 2008; Brodhead et al., 2014).

Script Training

Script training involves the use of written (visual) or audio-recorded scripts of various lengths that include phrases that the learner should say during a social interaction (Barnett, 2018). This intervention has been deemed evidence-based by a recent systematic review (Akers et al., 2016). Script training is sometimes embedded into activity schedules (Akers et al., 2018) and is often used in classrooms (Barnett, 2018). It has been used with children with ASD to increase social interactions during toy play (Akers et al., 2018; Groskreutz et al., 2015; Wichnick et al., 2010), art activities (Krantz & McClannahan, 1993), board games (Hundert et al., 2014), and sociodramatic play (Hundert et al., 2014). Script training has mostly been used to teach initiations; however, it is also used to teach responding to others' initiations (Wichnick et al., 2010). Although, overall effective, the research shows inconsistent results in generalization and maintenance of play skills acquired using script training; therefore, it is necessary to incorporate strategies to promote

generalization and maintenance when utilizing this intervention strategy.

Script training alone has improved the variability of responding in social communication (Betz et al., 2011). Likewise, when script training has been combined with lag reinforcement schedules, it has improved the variability of conversational language (Lee & Sturmey, 2014). With advances in technology, some researchers are investigating methods to mainstream visual interventions, such as script training, to digital formats (Murdock et al., 2013) with generally positive outcomes. As technological applications of these interventions become more widely available, further research should evaluate and compare these methods to determine best practices.

Social Stories

A Social Story™ typically includes a combination of written and visual information depicting a social situation, scenario, or problem, along with a description of appropriate behaviors that the learner engages in given the situation in context (Gray & Garand, 1993). Numerous studies have investigated the extent to which interventions incorporating social stories play a role in establishing new behavior and reducing challenging behavior. Some researchers report benefits or moderate efficacy, and others recommend that more research is necessary to consider this an efficacious intervention strategy (Karkhaneh et al., 2010; Test et al., 2011; Wahman et al., 2019). The current state of the research on social stories shows variable results (Zimmerman & Ledford, 2017); however, social stories continue to be widely utilized to promote appropriate social behavior, especially in special education settings.

In regard to promoting play skills, several studies have incorporated this strategy in the acquisition of skills-related game play (Quirmbach et al., 2009) and independent and interactive play (Barry & Burlew, 2004). The results of studies using social stories to teach play, although reporting positive outcomes, should be interpreted with caution. With any study, it is necessary to evaluate the intervention strategies based on the level of rigor, demonstration of experimental control, and if inclusion of other treatment strategies confounds the results without analyzing the individual treatment components.

Due to the overall inconsistent results within the literature on the efficacy of social stories, practitioners and educators should utilize other evidence-based approaches for teaching play, as described in this chapter, as primary intervention strategies. If social stories are included, it is recommended to use them as an additional component to well-established interventions until more research emerges on the use of social stories to teach play behavior.

Treatment Packages

Treatment packages are common behavioral interventions that involve multiple components such as prompting, task analyses, reinforcement procedures, and so on. Treatment packages have been utilized to teach various types of play, such as pretend play (Barton & Wolery, 2010), symbolic play (Lee et al., 2017), parallel and dramatic play (Nelson et al., 2017), as well as diversity in play (Frey & Kaiser, 2011). Treatment packages have been effective in increasing components in peer play such as identifying peers' play preferences during cooperative play (Najdowski et al., 2018), sharing (Bryant & Budd, 1984), and generalization of pretend play skills (Barton, 2015).

Formally developed and manualized treatment packages to teach play are available. Three such treatment packages are *Joint Attention Symbolic Play Engagement and Regulation* (JASPER; Kasari et al., 2014), *Advancing Social-Communication and Play* (ASAP; available digitally, Watson et al., 2011), and *Play20* (Sipila-Thomas et al., 2020). All of the interventions focus on play and the social aspects associated with play. ASAP is developed from JASPER with some key differences: ASAP is targeted across a year while JASPER spans 3 months (Boyd et al., 2018). ASAP has a stronger emphasis on what to teach rather than how to teach it.

This allows for more independence for interventionists. However, it does not include the interventionist coaching embedded in JASPER (Boyd et al., 2018). JASPER has been effective within-participant (Lawton & Kasari, 2012), and both ASAP and JASPER are supported by randomized control trials (Boyd et al., 2018; Chang et al., 2016). Research on Play20 shows that it was effective with three participants, but research is still emerging (Sipila-Thomas et al., 2020).

Several studies have conducted component analyses to determine which elements of a treatment package increase efficacy. Adding an abolishing operation to a treatment package can increase functional play and decrease stereotypy (Lang et al., 2010). A verbal description before modeling an action can increase play imitation (Jahr et al., 2000). Santarcangelo et al. (1987) found that differential reinforcement of alternative behavior (DRA) alone was insufficient for increasing appropriate toy play and required a task analysis and prompting. A multi-component intervention that included the concurrent presentation of modeling and prompting was more effective for teaching independent play of block constructions than modeling or prompting alone (Quigley et al., 2018). There are no findings that any sole intervention or component is most effective for teaching play. Further, findings on maintenance and generalization for treatment packages are mixed, with some studies reporting maintenance and generalization (Barton & Wolery, 2010; Stahmer & Schreibman, 1992) and others showing low maintenance levels and mixed results with novel responses for symbolic play targets at a 10-month follow-up (e.g., Lee et al., 2017).

Conclusion

In summary, play skills are critical to many areas of development. There is a plethora of research on the use of various applied behavior analytic intervention strategies to enhance play skills as described throughout this chapter ranging from naturalistic interventions in inclusive settings incorporating peer models to structured interventions and manualized treatment packages. Although there is a fairly strong evidence base for a variety of intervention strategies for increasing play skills, the broad range of skills within this repertoire requires continued attention from researchers and practitioners alike to identify the most effective strategies for various populations based on the type and complexity of play targeted for intervention.

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