



Symbolic play and language development



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ARTICLE INFO

Article history:

Received 6 July 2014

Received in revised form 8 December 2014

Accepted 3 January 2015

Keywords:

Symbolic development

Play

Babbling

Speech

Mother responsiveness

ABSTRACT

Symbolic play and language are known to be highly interrelated, but the developmental process involved in this relationship is not clear. Three hypothetical paths were postulated to explore how play and language drive each other: (1) direct paths, whereby initiation of basic forms in symbolic action or babbling, will be directly related to all later emerging language and motor outputs; (2) an indirect interactive path, whereby basic forms in symbolic action will be associated with more complex forms in symbolic play, as well as with babbling, and babbling mediates the relationship between symbolic play and speech; and (3) a dual path, whereby basic forms in symbolic play will be associated with basic forms of language, and complex forms of symbolic play will be associated with complex forms of language. We micro-coded 288 symbolic vignettes gathered during a yearlong prospective bi-weekly examination ($N = 14$; from 6 to 18 months of age). Results showed that the age of initiation of single-object symbolic play correlates strongly with the age of initiation of later-emerging symbolic and vocal outputs; its frequency at initiation is correlated with frequency at initiation of babbling, later-emerging speech, and multi-object play in initiation. Results support the notion that a single-object play relates to the development of other symbolic forms via a direct relationship and an indirect relationship, rather than a dual-path hypothesis.

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1. Introduction

1.1. Relationship between symbolic play and language

Symbolic play, or pretend play, and language are known to be highly interrelated (DeLoache, 2002; McCune, 2010; Smith & Jones, 2011). Both rely on representational capacity, namely, employing one element as a signifier to represent another element (McCune, 2010). In pretend play, objects or situations are used or performed in a way that does not exist in the immediate reality, whereas in language, a vocal symbol (a word) represents an internal meaning that is related to entities or events in the real world (McCune, 2010). Furthermore, both behaviors, pretend play and language, share a similar developmental architecture, progressing from the most basic to more advanced forms. The transition from basic to advanced forms is evident by an increase in the number of representational units that an infant can combine to create a coherent symbolic act (McCune, 2010; Piaget, 1962; Zittoun, 2010).

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1.2. The development of symbolic play

Symbolic play begins at the pre-symbolic level, when infants are capable of recognizing the real relationship between familiar objects and their related actions (e.g., drinking from a cup; Fein, 1981; McCune, 1995). Generally, the transition to symbolic play is evident when the infant uses sound effects or gestures, indicative of the referent behaviors (e.g., tossing the head back to drink; McCune, 1995). As symbolic ability increases, infants become more capable of combining mental representations of several signifier-signified relationships into sequences or organizing them into a hierarchical order (e.g., making mixing motions, feeding a doll with a stick). Infants reach the pre-symbolic level between 8 and 11 months of age, and the first milestone of symbolic play is typically evident at around 11–12 months of age (Fein, 1981; McCune, 1995, 2010).

1.3. The development of language

Language, like symbolic play, begins with basic forms. The development of language begins with babbling (vocalizations consisting of syllable repetition, e.g., bababa). Babbling is considered to be a major milestone in early language development, which, in most typically developing infants, emerges before the ability to talk, generally before 10 months of age (Iverson, Hall, Nickel, & Wozniak, 2007; Molemans, Van Den Berg, Van Severen, & Gillis, 2012). Speech is considered a developmental continuation of babbling (Petitto, Holowka, Lauren, Levy, & Ostry, 2004). This phase is then followed by the production of single-word utterances, a transition that typically occurs at approximately 12 months of age (Huttenlocher, Waterfall, Vasilyeva, Vevea, & Hedges, 2010; Osório, Meins, Martins, & Soares, 2012).

However, this notion of babbling as a verbal precursor has been challenged since babbling is also shown to follow rhythmic motor activity, such as repetitive arm movements that accompany repetitive vocalization (Iverson et al., 2007). According to this view, babbling may represent a vocal play designed to train the motor challenges that are involved in speaking.

McCune (1995) emphasized that children undergo language-related transitions at the same time as, or following, the proposed structurally equivalent representational development of play. For example, children who exhibit hierarchical combination in play (e.g., stirring milk and then feeding the doll) also succeed in producing syntactic combinations in language (e.g., “I need paper and crayons”). Therefore, McCune (1995) ascribed a parallel pattern of development to symbolic play and language.

1.4. Theoretical hypothesis of the mechanisms involved in symbolic play and language development

Our aim in this study was to deepen the understanding of the mechanisms involved in the development of symbolic play by examining the relationships between budding motor capacities and verbal developmental milestones during spontaneous play. Based on the above assumptions and literature, three developmental paths were tested in the current study (see Fig. 1): (1) the direct-path hypothesis, whereby initiation of basic forms in symbolic action or babbling will be directly related to all later emerging language and motor outputs (Bejarano, 2011; Piaget, 1962; Smith & Jones, 2011; Thelen, Schöner, Scheier, & Smith, 2001); (2) the indirect mediated path, whereby basic forms in symbolic action will be associated with more complex forms in symbolic play, as well as with babbling, and this relationship with babbling will be related to speech (an additional possibility is that babbling will link to speech that will, in turn, be related to complex symbolic play forms (Petitto et al., 2004)); and (3) the dual-path hypothesis, whereby basic forms in symbolic action will be linked to basic forms in language, i.e., to babbling, and complex symbolic play forms will be linked to complex language forms, such as single words, or vice versa (McCune-Nicolich, 1981; McCune, 2010).

The direct-path hypothesis implies that the earliest steps in the development of symbolic activity would emerge first, followed by babbling and language. Alternatively, it is conceivable that babbling would precede early symbolic play milestones and serve as a precursor to symbolic activity. The rationale here may be that babbling provides children with oral motor practice, thereby facilitating motor development of other organs, such as manual manipulation of toys (Iverson et al., 2007).

We examined the framework that the development of symbolic play may be related to later-emerging language, as compared with the notion that both systems develop simultaneously. Therefore, we expected that a prospective, longitudinal, bi-weekly follow-up design would enable us to explore this chicken-and-egg riddle by adding a temporal dimension to the well-established relations of symbolic play and language (Iverson et al., 2007; Piek, 2002). More specifically, this study explored the role of early symbolic acts and early babbling activity in the development of complex symbolic play and the development of language to further broaden the knowledge on the first building blocks of these behaviors. Therefore, we documented the age of initiation and the frequency of first use of each new milestone using a prospective bi-weekly follow-up of each child. We postulated the following main effects hypotheses:

- The development of a symbolic act would begin from simple actions that require the grasping of one object, progressing to the grasping of two objects, and performing a sequence of actions (Piek, 2002). Age of initiation of play activity with a single object would predict the age of initiation of multi-object play.
- Audio-vocal output during play will begin with babbling. This phase will be followed by single-word or simple phrases that have a general holistic meaning (i.e., mama, doll, dog; Molemans et al., 2012; Tomasello, 2006). Age of initiation of

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