



Contents lists available at ScienceDirect

Journal of Experimental Child Psychology

journal homepage: www.elsevier.com/locate/jecp



The effects of fantastical pretend-play on the development of executive functions: An intervention study



Rachel B. Thibodeau^{a,*}, Ansley T. Gilpin^a, Melissa M. Brown^b,
Brooke A. Meyer^a

^a Department of Psychology, University of Alabama, Tuscaloosa, AL 35487, USA

^b Department of Family Sciences, Texas Woman's University, Denton, TX 76204, USA

ARTICLE INFO

Article history:

Received 29 June 2015

Revised 6 November 2015

Available online 5 February 2016

Keywords:

Executive functions

Fantasy orientation

Pretend-play

Intervention

Cognitive development

Pretense

ABSTRACT

Although recent correlational studies have found a relationship between fantasy orientation (FO; i.e., a child's propensity to play in a fantastical realm) and higher order cognitive skills called executive functions (EFs), no work has addressed the causality and directionality of this relationship. The current study experimentally examined the directionality of the observed relationship between FO and EF development in preschool-aged children through an innovative play intervention employing a randomized controlled design. A sample of 110 children between the ages of 3 and 5 years were randomly assigned to one of three conditions: fantastical pretend-play intervention, non-imaginative play intervention, or business-as-usual control. Results revealed that children who participated in a 5-week fantastical pretend-play intervention showed improvements in EFs, whereas children in the other two conditions did not. Within the fantastical pretend-play condition, children who were highly engaged in the play and those who were highly fantastical demonstrated the greatest gains in EFs. These data provide evidence for the equifinal relationship between fantasy-oriented play and EF development, such that engaging in fantasy-oriented play may be one of many ways to directly enhance EF development.

© 2016 Elsevier Inc. All rights reserved.

* Corresponding author.

E-mail address: rthibodeau@crimson.ua.edu (R.B. Thibodeau).

Introduction

Due to recent declines in academic performance throughout the United States, there has been a surge of research during the past 10 years aimed at understanding the development of cognitive control. This accumulation of research demonstrates the importance of cognitive control not only to everyday functioning but also to academic achievement, job performance, and overall well-being (Dunn, 2010; Eakin et al., 2004; Moffitt et al., 2011; St Clair-Thompson & Gathercole, 2006). One of the main foci that has emerged from the body of research on cognitive control is a category of cognitive abilities referred to as executive functions (EFs).

Executive functions are defined as higher order thinking processes that allow individuals to override more automatic thoughts and behaviors for more adaptive and goal-directed responses (Carlson, 2005). Some of the most important cognitive processes included under the umbrella term of executive function are working memory, inhibitory control, and cognitive flexibility (Miyake et al., 2000; St Clair-Thompson & Gathercole, 2006). Working memory is defined as the temporary storage of information, which allows individuals to manipulate information as they cognitively process it (Baddeley, 1983, 1992). Inhibitory control refers to individuals' ability to suppress an automatic prepotent response (Stroop, 1935; Wright, Waterman, Prescott, & Murdoch-Eaton, 2003). Finally, cognitive flexibility, also referred to as attentional shift, refers to individuals' ability to shift their attention back and forth between two different domains (Monsell, 1996).

Unfortunately, research indicates that EF abilities do not automatically develop and mature over the lifespan but rather benefit from rich environmental experiences (Center on the Developing Child at Harvard University, 2011). In fact, children raised in adverse environments (e.g., environments characterized by abuse and neglect) exhibit serious deficits in cognitive, attentional, and behavioral control, suggesting that EFs are at risk for disruption at an early age (Center on the Developing Child at Harvard University, 2011). Therefore, the literature calls for research investigating the development of EFs during early childhood.

As Vygotsky (1978) theorized, complex pretend-play may provide a natural environmental experience in which cognitive skills can be developed. Specifically, Vygotsky reasoned that imaginative play is instrumental to the development of children's ability to think about objects and events that are not immediately present (i.e., internal systems of representation; Vygotsky, 1967). As children enter the preschool years, their play becomes more abstract and less dependent on actual objects or props (Woolley & Tullos, 2008). For example, children at this age will pretend to bounce an imaginary ball or pretend to cook and eat an imaginary meal. Because they are able to use abstract concepts in their play, children at this age are able to enrich their play with fantastical themes.

The term fantasy orientation (FO) refers to children's propensity to play in a fantastical realm and is often operationalized in children as the extent to which they engage in imaginary play and whether or not they have imaginary companions (Taylor, 1999). Although there are clear individual differences in children's level of FO (Taylor & Carlson, 1997), to date few studies have investigated the impact of children's level of FO on their cognitive control. One possibility is that having more advanced EFs provides individuals with the capacities needed to engage in fantasy-oriented behaviors. However, this explanation is less likely given that incidence rates of high fantastical thinking are consistent during childhood and adulthood (Woolley, 1997) and that fantasy is measured as a part of the openness personality trait that is stable across the lifespan (McCrae, 1987, 1993). By contrast, research indicates that EFs develop as individuals progress through childhood (Diamond & Taylor, 1996). Another possibility is that the act of engaging in fantasy-oriented behaviors facilitates the development of EFs. Similar to the cognitive flexibility needed for bilingualism, the act of engaging in imaginary play and having imaginary companions requires that children switch back and forth between fantasy and reality (Estes, Wellman, & Woolley, 1989; Golumb & Kuersten, 1996) and, thus, use working memory to remember pretense rules and scripts, inhibit using pretense scripts in real life, and shift attention back and forth between reality and pretense. Therefore, it seems logical that FO would be related in some fashion to EF development.

Sound empirical evidence of a relationship between FO and EF has only recently emerged. Specifically, Pierucci, O'Brien, McClinnis, Gilpin, and Barber (2014) interviewed preschoolers between the ages

Download English Version:

<https://daneshyari.com/en/article/917914>

Download Persian Version:

<https://daneshyari.com/article/917914>

[Daneshyari.com](https://daneshyari.com)