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**REPORT**

# Childhood fantasy play relates to adult socio-emotional competence

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**Abstract**

Childhood fantasy play and creation of imaginary companions are thought to confer socio-emotional benefits in children, but little is known about how they relate to socio-emotional competence in adulthood. A total of 341 adults (81 males) aged 18 and above ( $M = 31.47$ ,  $SD = 12.62$ ) completed an online survey examining their fantasy play as a child, their childhood imaginary companion status, and their adult socio-emotional competence. Adults who reported higher levels of childhood fantasy play were found to be significantly more prosocial, empathetic, and emotionally intelligent than their counterparts after controlling for demographic factors. Recall of a childhood imaginary companion, however, was significantly related only to higher scores for perspective-taking and did not explain unique variance in any adult competence measure. Findings suggest that engagement in fantasy play during childhood may be a precursor to later socio-emotional competence, while benefits previously associated with imaginary companions specifically may not extend into adulthood.

**KEYWORDS**

childhood play, fantasy play, imaginary companions, socio-emotional development

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## 1 | INTRODUCTION

Fantasy play (FP), including the creation of an imaginary companion (IC), has been linked to the development of key socio-emotional skills in early childhood, including Theory of Mind (ToM; Dore & Lillard, 2015; Giménez-Dasí et al., 2016; Lin et al., 2020; Taylor & Carlson, 1997), emotional competence (Giménez-Dasí et al., 2016; Goldstein & Lerner, 2017; Hoffmann & Russ, 2012; Taylor et al., 2004), interpersonal language (Papastathopoulos & Kugiumutzakis, 2007), and empathy (Brown et al., 2017), as well as less socially-oriented skills such as executive functioning (Carlson et al., 2014; Thibodeau et al., 2016) and creativity (Bunce & Woolley, 2021; Hoff, 2005; Hoffmann & Russ, 2012; Russ et al., 1999). What remains unclear, however, is whether individual differences in childhood play behaviours underpin variation in adult socio-emotional competence.

Despite a wealth of studies showing associations between socio-emotional development and both FP and IC play during childhood, there remains contention around the direction of causality. Given the universality and scheduled timing of the emergence of FP and IC play in early childhood, it has been proposed that it fulfils an evolutionary purpose by promoting socio-emotional development (Lillard, 2017). Indeed, more engagement in FP or creation of ICs has been associated with better performance on measures of ToM (Taylor & Carlson, 1997), self-regulation, and emotional comprehension (Berk et al., 2006; Giménez-Dasí et al., 2016; Goldstein & Lerner, 2017; Hoffmann & Russ, 2012; Lin et al., 2020; Slot et al., 2017) and is linked to higher likelihood of describing real friends in terms of mental characteristics (Davis et al., 2014). Over time, evidence has shown that those who created ICs at age 2 were found to have better ToM aged 5, while FP training has been found to improve perspective-taking (Burns & Brainerd, 1979), cooperation with peers (Shmukler & Naveh, 1980), language development (Smilansky, 1968), intelligence subsets, story interpretation, sequential memory, and empathy (Saltz & Johnson, 1974). However, it should be acknowledged that some researchers favour the “ToM first” stance (Dore et al., 2015), arguing that an advanced understanding of mental states may make a child more likely to engage in FP or create an IC. There is support for this view too, with Moriguchi et al. (2016), reporting that children's goal attributions to non-human agents at 12 months predicted children's IC status at 48 months. Even so, the general consensus is that fantasy and IC play support socio-emotional development (Giménez-Dasí et al., 2016; Kavanaugh, 2006; Taylor & Carlson, 1997), with the sense that even if IC creation or engagement in FP requires some level of pre-existing ability, it is likely the relationship would involve some reciprocity, with the play then promoting socio-cognitive development further.

A small number of studies, now fairly dated, have linked the creation of childhood ICs with outcomes in adulthood (Gleason et al., 2003; Kidd et al., 2010; Lasch, 2015). For example, adults who recall childhood ICs were found to score higher on measures of creativity, absorption, and achievement (Kidd et al., 2010), as well as dependent interpersonal style and internal state awareness (Gleason et al., 2003). Adults who recall ICs have also been found to seek more creative occupations (Myers, 1979), and creative writers are more likely to recall ICs than the general population (Taylor et al., 2003). Considering the fundamental role of socio-emotional skills in the success of social and interpersonal functioning throughout the lifespan, it is perhaps surprising that, to our knowledge, only one other study has directly examined how childhood FP relates to adult socio-emotional competence. Stewart and Kirkham (2020) report that childhood FP is predictive of young adults' affective ToM, suggesting a continuation of these socio-emotional skills into adulthood. Other studies of relevance to long-term socio-emotional outcomes have conflicting findings, with Taylor et al. (2003) showing that adult writers were more likely to recall childhood ICs and also scored more highly on empathy measures, while Kidd et al. (2010) reported no differences in social closeness between adults who did and did not recall childhood ICs.

This study examined whether socio-emotional outcomes associated with childhood FP and IC play translate into adult socio-emotional competence. It was expected that IC status and engagement with FP in childhood would explain variance in adult socio-emotional competence, with having an IC and/or greater engagement in FP predicting stronger socio-emotional competence.

## 2 | METHOD

### 2.1 | Participants

BPS ethical guidelines were adhered to, and ethical approval was provided by the university's ethical review panel (reference: SREP/2019/062). An opportunity sample of 397 predominantly UK-based volunteers was recruited via social media and advertisements. Of these participants, 341 (81 male, 256 female, 2 self-specified as neither male nor female) adults aged 18 and above ( $M = 31.47$ ,  $SD = 12.62$ ) completed the survey and were included in the final data set. The majority of the sample had achieved either postgraduate/professional level qualifications (44.0%), or higher education (35.2%), with 15.8% having gone on to further education, 4.1% with high school qualifications, and 0.6% having no qualifications. The majority of participants were currently studying (37.0%), or in professional occupations (28.7%), with smaller proportions in caring, sales, or service roles (9.7%), managerial/senior roles (7.9%), associate professional or technical roles (4.7%), administrative roles (4.1%), unemployed (2.6%), in skilled trades (2.3%), in elementary-level roles (1.5) or operating industrial equipment (1.2%). One person declined to answer the questions about qualifications and occupation. No other demographic data were collected.

### 2.2 | Procedure and measures

This was a cross-sectional survey design. Participants accessed the survey online and completed it in their own time in a self-selected location. Upon accessing the survey, participants were first presented with an information sheet and provided their consent via a consent form. The survey began with demographic questions, including age, gender, and number of siblings, before asking participants to complete the measures below. All participants completed the measures in the order they are described below. Upon completion, participants were debriefed and offered the opportunity to be entered into a prize draw to win a retail voucher. Due to the anonymous nature of the survey participants were unable to withdraw their data after survey completion, however, they were informed of this during the consent process, and it was emphasised that they could end the survey at any time without giving a reason.

#### 2.2.1 | The retrospective childhood fantasy play scale

The Retrospective Childhood Fantasy Play Scale (Kirkham et al., 2019) is a self-report scale consisting of 11 items, examining participants' engagement and preference towards FP as a child. Participants indicated their agreement with statements on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. Total scores can range from 11 to 55, with higher scores indicating a greater preference for or engagement in FP in childhood. Internal reliability was excellent (Cronbach's  $\alpha = 0.90$ ).

#### 2.2.2 | The imaginary companion interview

The IC interview (Taylor & Carlson, 1997) was adapted to a 9-item self-report scale to examine adults' childhood IC status. After being informed that an IC 'can be classified as completely invisible, OR a doll/toy given a personality and played with for over 3 months', participants were asked whether they remembered having a childhood IC, and questions to determine the IC's form (IC or PO) and interactions. Responses were coded as reporting a childhood IC, including invisible and PO companions, or no childhood IC.

### 2.2.3 | The prosocialness scale for adults

The Prosocialness Scale for Adults (PSA; Caprara et al., 2005) is a 16-item self-report scale, assessing individual differences in adult prosocialness; including sharing, helping, taking care of, and feeling empathetic towards others and their needs or requests. Participants indicated their agreement with statements on a 5-point Likert scale, from (1) never/almost never true to (5) almost always/always true. Total scores can range from 16 to 80, with higher scores indicating greater prosocialness. Internal reliability was excellent (Cronbach's  $\alpha = 0.92$ ).

### 2.2.4 | The interpersonal reactivity index

The Interpersonal Reactivity Index (Davis, 1983) is a 28-item self-report scale examining four separate dimensions of empathy: (1) 'other-oriented' empathetic concern; (2) 'self-oriented' personal distress; (3) fantasy, examining 'tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies and plays', and (4) perspective-taking (Davis, 1983). Participants responded to statements on a 5-point Likert scale from (1) does not describe me well to (5) describes me very well. Each dimension comprised 7 items, with scores ranging from a possible 7–35, with higher scores indicating greater empathetic concern, personal distress, fantasy, and perspective-taking. Findings here are reported using the bifactor model suggested by Wang et al. (2020), which provides the measures of both total empathy (empathy = perspective-taking + empathetic concern), as well as perspective-taking as a representation of cognitive empathy, which is most theoretically relevant to our study, due to the role of perspective-taking within pretence and social understanding. Internal reliability for total empathy (Cronbach's  $\alpha = 0.83$ ) and cognitive empathy (Cronbach's  $\alpha = 0.75$ ) was good.

### 2.2.5 | The emotional intelligence scale

The Emotional Intelligence Scale (EIS; Schutte et al., 1998) is a 33-item self-report scale constructed following a factor analysis of the original 62-item scale based on Salovey and Mayer's (1990) model of emotional intelligence. The EIS assesses the appraisal, expression, and regulation of emotions in the self and others, and the utilisation of emotions in problem-solving. Participants stated their agreement with statements on a 5-point Likert scale, from (1) strongly disagree to (5) strongly agree. Total scores range from a possible 33–165, with higher scores indicating greater emotional intelligence. Internal reliability was good (Cronbach's  $\alpha = 0.89$ ).

## 2.3 | Analysis

Data were cleaned prior to analysis to ensure their integrity. Cases with a large proportion of missing data were removed from the final data set ( $n = 56$ ). Missing data analyses conducted with remaining cases ( $n = 341$ ) revealed a small proportion of missing data (<1%), thus imputation was not deemed necessary. It should be noted that for analyses including gender as a variable, only data from males and females were analysed due to the small number of those who self-specified ( $n = 2$ ).

Univariate and multivariate outliers were identified and inferential tests were conducted with and without them to understand their impact on interpretation, but findings were unaffected so all data was used unless otherwise indicated. Preliminary analysis was conducted to ensure no violations of assumptions for each test.

To characterise the sample and examine the relationship between demographic variables, measures of adult socio-emotional competence, and measures of childhood play, independent samples *t*-tests and Pearson product-moment correlations were conducted.

To assess the relationship between childhood play behaviours and adult socio-emotional competence, hierarchical multiple regressions (HMR) were then conducted with prosocialness, empathy, perspective-taking and emotional intelligence as outcome variables. For each regression, variables that correlated significantly with the outcome variable were entered as control variables in step 1 and for all, childhood FP and IC status were entered in step 2 to address the research aims.

### 3 | RESULTS

#### 3.1 | Sample characteristics and demographic analysis

Of adults participating, 38% reported having a childhood IC. Independent samples t-tests comparing groups with and without childhood ICs revealed no significant differences in adult socio-emotional competence measures, except for perspective-taking,  $t(338) = 2.04, p = 0.042$ , with those recalling childhood ICs scoring higher than those who did not (see Table 1). Childhood FP was positively associated with all adult socio-emotional competence measures (see Table 2).

Number of siblings was positively correlated with prosocialness and perspective-taking and was lower in those who recalled childhood ICs (see Tables 1, 2). Females scored higher than males on all measures of socio-emotional competence and had higher scores for childhood FP (see Supplement 1) but gender was not significantly associated with childhood IC status  $\chi^2(2) = 3.41, p = 0.182$ . Gender and sibling status were thus controlled for in subsequent analyses.

#### 3.2 | Predictors of adult socio-emotional competence

For all measures of adult socio-emotional competence (see Table 3), the introduction of childhood FP and childhood IC status in the second step of the HMRs explained significantly more variance than the demographic factors alone ( $\Delta R^2$   $p$ 's all  $< 0.05$ ). For all models, childhood FP only, and not childhood IC status, contributed

**TABLE 1** Descriptive statistics and t-test results comparing groups based on IC status.

	Comparisons with IC status				$\eta^2$
	Childhood IC ( $n = 130^a$ )		No childhood IC ( $n = 211^a$ )		
	M	SD	M	SD	
Age <sup>b</sup>	30.19	11.84	32.28	13.06	0.007
Siblings <sup>c</sup>	1.42	0.96	1.69	1.05	0.02*
Prosocialness <sup>d</sup>	63.52	11.27	62.41	9.85	0.003
Empathy <sup>e</sup>	53.28	8.89	51.78	7.82	0.008
Perspective-taking <sup>f</sup>	25.71	4.78	24.62	4.74	0.012*
Emotional intelligence <sup>g</sup>	121.73	15.51	121.88	14.18	<0.001
Childhood FP <sup>h</sup>	45.15	6.31	40.10	8.21	0.097***

<sup>a</sup>Unless otherwise stated.

<sup>b</sup>Childhood IC  $n = 124$ , no childhood IC  $n = 194$  due to missing data.

<sup>c</sup>Childhood IC  $n = 123$ , no childhood IC  $n = 202$  due to missing data and removal of six outliers that affected findings.

<sup>d</sup>Childhood IC  $n = 129$ , no childhood IC  $n = 207$  due to missing data.

<sup>e</sup>Childhood IC  $n = 127$  due to missing data.

<sup>f</sup>Childhood IC  $n = 129$  due to missing data.

<sup>g</sup>Childhood IC  $n = 125$ , no childhood IC  $n = 202$  due to missing data.

<sup>h</sup>Childhood IC  $n = 128$ , no childhood IC  $n = 206$  due to missing data.

\*Statistical significance:  $p < 0.05$ ; \*\*\* $p < 0.001$ .

**TABLE 2** Correlations between variables.

Variables	A	G	S	CFP	CIC	P	E	PT	EI
Age (A)	1								
Gender (G)	-	1							
Siblings (S)	-	-0.07	1						
Childhood FP (CFP)	0.20***	0.32***	-0.15**	1					
Childhood IC (CIC)	0.08	-0.09*	0.03	-0.31***	1				
Prosocialness (P)	-0.09	0.35***	0.12*	0.24***	-0.05	1			
Empathy (E)	-0.03	0.30***	0.10	0.30***	-0.09	0.69***	1		
Perspective-taking (PT)	-0.08	0.23***	0.12*	0.26***	-0.11*	0.57***	0.89***	1	
Emotional Intelligence (EI)	-0.04	0.21***	0.02	0.21***	0.01	0.55***	0.52***	0.49***	1

\*Statistical significance:  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

significant unique variance. For prosocialness, the final model ( $F(4, 315) = 16.01, p < 0.001$ ) showed that being more prosocial was predicted best by female gender ( $\beta = 0.32, p < 0.001$ ), with having greater numbers of siblings ( $\beta = 0.18, p = 0.001$ ) and higher levels of childhood FP predicting similar amounts of unique variance ( $\beta = 0.16, p = 0.007$ ). For empathy, the final model ( $F(3, 326) = 18.35, p < 0.001$ ) showed being more empathetic was predicted similarly well by female gender ( $\beta = 0.23, p < 0.001$ ) and higher levels of childhood FP ( $\beta = 0.24, p < 0.001$ ). For perspective-taking, the final model ( $F(4, 318) = 10.93, p < 0.001$ ) showed better perspective-taking was best predicted by higher levels of childhood FP ( $\beta = 0.22, p < 0.001$ ), with female gender ( $\beta = 0.17, p = 0.002$ ) and greater numbers of siblings ( $\beta = 0.18, p = 0.001$ ) also explaining significant unique variance. Lastly, in the final adjusted model for emotional intelligence ( $F(3, 317) = 8.36, p < 0.001$ ), better emotional intelligence was best predicted by higher levels of childhood FP ( $\beta = 0.19, p = 0.002$ ), with female gender ( $\beta = 0.16, p = 0.007$ ) also explaining significant unique variance. Given childhood IC status did not significantly explain unique variance, statistics from a 'best fitting' model that excludes this variable are available in Supplement 2; differences however were only slight.

Finally, given the significant group differences in perspective-taking between IC and non-IC groups, a post-hoc analysis (Supplement 3) was conducted to explore whether the reason childhood IC status did not explain significant unique variance in perspective-taking was due to shared variance with childhood FP. After removal of childhood FP from the regression model, IC status still did not predict significant unique variance, or explain significantly more variance in perspective-taking than demographic factors alone.

## 4 | DISCUSSION

Childhood FP, but not IC play, explained variance in all measures of adult socio-emotional competence beyond that explained by demographic factors, with higher reported engagement in childhood FP relating to higher competence. Adults with reported childhood ICs scored significantly higher than those without, only in perspective-taking.

Childhood FP was most influential in predicting empathy and perspective-taking, skills key to the enactment of social pretence. Role-taking in FP encourages children to step into characters' shoes, working through and understanding the thoughts and feelings of others (Golinkoff et al., 2006; Lillard et al., 2013). The importance of imagination to both skills, as well as FP, may partially explain the variance predicted. Adult prosocialness and emotional intelligence were also associated with higher levels of childhood FP. FP which is social in nature requires children to

**TABLE 3** Hierarchical multiple regression results for demographic and childhood play predictors of adult socio-emotional outcomes, including childhood IC status.

Outcomes	Empathy		Perspective-taking		Emotional intelligence			
	Model 1		Model 2		Model 1		Model 2	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Predictors	$R^2 = 0.15^{***}$	$R^2 = 0.17^{***}$ $\Delta R^2 = 0.02^*$	$R^2 = 0.09^{***}$	$R^2 = 0.14^{***}$ $\Delta R^2 = 0.05^{***}$	$R^2 = 0.08^{***}$	$R^2 = 0.12^{***}$ $\Delta R^2 = 0.05^{***}$	$R^2 = 0.05^{***}$	$R^2 = 0.07^{***}$ $\Delta R^2 = 0.03^{**}$
Siblings <sup>a</sup>	0.14 <sup>**</sup>	0.18 <sup>**</sup>	-	-	0.15 <sup>*</sup>	0.18 <sup>***</sup>	-	-
Gender	0.36 <sup>***</sup>	0.32 <sup>***</sup>	0.30 <sup>***</sup>	0.23 <sup>***</sup>	0.24 <sup>***</sup>	0.17 <sup>***</sup>	0.21 <sup>***</sup>	0.16 <sup>**</sup>
Childhood FP	0.16 <sup>**</sup>	0.16 <sup>**</sup>	0.24 <sup>***</sup>	0.24 <sup>***</sup>	0.22 <sup>***</sup>	0.22 <sup>***</sup>	0.19 <sup>**</sup>	0.19 <sup>**</sup>
Childhood IC status	0.02	0.02	0.01	0.01	-0.02	-0.02	0.08	0.08

<sup>a</sup>This predictor variable was not entered into the Empathy or Emotional Intelligence HMRs.

\*Statistical significance:  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

negotiate and compromise with peers about the direction of play to construct a fantasy that is mutually interesting (Gleason, 2017; Göncü & Vadeboncoeur, 2017). That FP can also be solitary, however, may explain why less variance in these competencies was accounted for by FP—yet solitary pretence does allow for the simulation of social experiences in the absence of others (Gleason, 2017).

Notably childhood IC status did not explain variance in any aspect of adult socio-emotional competence despite the small but significant group difference in perspective-taking, even after a post-hoc analysis examined possible suppression effects (see Supplement 3).

Differences in the nature of childhood IC and FP may explain differing relations to socio-emotional outcomes in adulthood. While FP is often social, IC play does not require interaction with real others. Children choose how to engage; exploring or avoiding situations they find uncomfortable without conflict from peers (Gleason, 2017). Perhaps this ability to be selective, and lack of ‘real others’ to reinforce positive prosocial behaviours, reduces the extent to which IC play can increase socio-emotional learning and influence outcomes in the longer-term. These explanations remain speculative, particularly given that the measure of FP used in the present study was inclusive of play not explicitly social.

Alternatively, the distinction may be due to timing of play. IC play is largely present in early years (Taylor, 1999), and less commonly in middle childhood and adolescence (Bouldin & Pratt, 1999; Hoff, 2005; Seiffge-Krenke, 1997; Taylor, 1999). Forms of FP, however, are thought to continue throughout the lifetime (Papastathopoulos & Kugiumutzakis, 2007; Smith & Lillard, 2012). Given that IC play has been associated with socio-emotional competence in childhood (Giménez-Dasí et al., 2016; Lin et al., 2020; Taylor & Carlson, 1997) and adolescence (Seiffge-Krenke, 1993, 1997; Taylor et al., 2010), it may be that outcomes associated with IC creation, but not FP more generally, are limited to earlier stages of development, and/or that with accumulation of real-life interactions, children without ICs catch up with socio-emotional advances conferred by an IC, while benefits in areas such as creativity continue into adulthood (Gleason et al., 2003; Kidd et al., 2010; Myers, 1979; Taylor et al., 2003).

#### 4.1 | Strengths, limitations, and future research

This study presents an important first step in examining the long-term socio-emotional benefits of imaginative play behaviours, yet readers should be mindful of the modest scope and study limitations. While resources required for a prospective longitudinal study were prohibitive, the retrospective online approach facilitated recruitment of a good sample size. Longitudinal and intervention studies are required, however, to determine causality. Although measures were not counterbalanced and the measures of childhood play behaviours relied on adult accounts of their own childhood play, the patterns observed between play behaviours and demographics align well with patterns observed in samples of children (see Supplement 4 for narrative discussion), supporting their validity.

Further research is required to determine: the causal direction of the relationship between FP and socio-emotional competence; the role of interaction with real others or simulation alone during FP in the promotion of socio-emotional development; whether childhood IC creation does confer long-term competency in aspects of socio-emotional functioning that were not measured here (indeed, several studies detect socio-emotional benefits of ICs in some measures, but not others; Davis et al., 2011; Davis et al., 2014); and how the timing of play behaviours corresponds to the associated socio-emotional benefits. Character complexity, function, and relationships to the child may all affect skill development (Davis et al., 2018; Davis et al., 2023; Taylor, 1999), and external factors, such as religious beliefs and cultural context (Claiborne & Mika, 2020), should be considered.

## 5 | CONCLUSION

Higher levels of reported childhood FP, but not necessarily creation of an IC in childhood, relate to better socio-emotional competence in adulthood. Whether the relationship is directly causal or reciprocal in nature, the potential

for childhood FP to confer long-term socio-emotional benefits supports its continued application in educational curriculums, particularly given recent demonstrations of how events such as the Coronavirus-19 pandemic can limit children's access to real playmates (Cameron & Tenenbaum, 2021; Colao et al., 2020).

### AUTHOR CONTRIBUTIONS

**Abigail Halliday:** Conceptualization; data curation; formal analysis; investigation; methodology; project administration; writing – original draft. **Susanna Kola-Palmer:** Conceptualization; methodology; supervision; writing – review and editing. **Paige Davis:** Conceptualization; methodology; supervision; writing – review and editing. **Nigel King:** Conceptualization; methodology; supervision; writing – review and editing. **Jenny Retzler:** Conceptualization; methodology; supervision; writing – review and editing.

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The authors declare no conflicts of interest.

### PEER REVIEW

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### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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### REFERENCES

- Berk, L. E., Mann, T. D., & Ogan, A. T. (2006). Make-believe play: Wellspring for development of self-regulation. <https://doi.org/10.1093/acprof:oso/9780195304381.003.0005>
- Bouldin, P., & Pratt, C. (1999). Characteristics of preschool and school-age children with imaginary companions. *The Journal of Genetic Psychology*, 160(4), 397–410.
- Brown, M. M., Thibodeau, R. B., Pierucci, J. M., & Gilpin, A. T. (2017). Supporting the development of empathy: The role of theory of mind and fantasy orientation. *Social Development*, 26(4), 951–964.
- Bunce, L., & Woolley, J. D. (2021). Fantasy orientation and creativity in childhood: A closer look. *Cognitive Development*, 57, 100979. <https://doi.org/10.1016/j.cogdev.2020.100979>
- Burns, S. M., & Brainerd, C. J. (1979). Effects of constructive and dramatic play on perspective taking in very young children. *Developmental Psychology*, 15(5), 512–521. <https://doi.org/10.1037/0012-1649.15.5.512>
- Cameron, L., & Tenenbaum, H. R. (2021). Lessons from developmental science to mitigate the effects of the COVID-19 restrictions on social development. *Group Processes & Intergroup Relations*, 24(2), 231–236. <https://doi.org/10.1177/1368430220984236>

- Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults' prosocialness. *European Journal of Psychological Assessment*, 21(2), 77–89. <https://doi.org/10.1027/1015-5759.21.2.77>
- Carlson, S. M., White, R. E., & Davis-Unger, A. C. (2014). Evidence for a relation between executive function and pretense representation in preschool children. *Cognitive Development*, 29, 1–16.
- Claiborne, L. B., & Mika, C. T. H. (2020). 'No-body'is my friend: Cultural considerations of young children's imaginary companions' (Doctoral dissertation, The University of Waikato).
- Colao, A., Piscitelli, P., Pulimeno, M., Colazzo, S., Miani, A., & Giannini, S. (2020). Rethinking the role of the school after COVID-19. *The Lancet Public Health*, 5(7), e370.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Davis, P., Meins, E., & Fernyhough, C. (2011). Self-knowledge in childhood: Relations with children's imaginary companions and understanding of mind. *British Journal of Developmental Psychology*, 29(3), 680–686. <https://doi.org/10.1111/j.2044-835X.2011.02038.x>
- Davis, P. E., Meins, E., & Fernyhough, C. (2014). Children with imaginary companions focus on mental characteristics when describing their real-life friends. *Infant and Child Development*, 23(6), 622–633. <https://doi.org/10.1002/icd.1869>
- Davis, P. E., Simon, H., Meins, E., & Robins, D. L. (2018). Imaginary companions in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48, 2790–2799.
- Davis, P. E., Slater, J., Marshall, D., & Robins, D. L. (2023). Autistic children who create imaginary companions: Evidence of social benefits. *Autism*, 27(1), 244–252.
- Dore, R. A., & Lillard, A. S. (2015). Theory of mind and children's engagement in fantasy worlds. *Imagination, Cognition and Personality*, 34(3), 230–242. <https://doi.org/10.1177/0276236614568631>
- Dore, R. A., Smith, E. D., & Lillard, A. S. (2015). How is theory of mind useful? Perhaps to enable social pretend play. *Frontiers in Psychology*, 6, 1559. <https://doi.org/10.3389/fpsyg.2015.01559>
- Giménez-Dasí, M., Pons, F., & Bender, P. K. (2016). Imaginary companions, theory of mind and emotion understanding in young children. *European Early Childhood Education Research Journal*, 24(2), 186–197. <https://doi.org/10.1080/1350293X.2014.919778>
- Gleason, T. R. (2017). The psychological significance of play with imaginary companions in early childhood. *Learning & Behavior*, 45(4), 432–440. <https://doi.org/10.3758/s13420-017-0284-z>
- Gleason, T. R., Jarudi, R. N., & Cheek, J. M. (2003). Imagination, personality, and imaginary companions. *Social Behavior and Personality*, 31(7), 721–738. <https://doi.org/10.2224/sbp.2003.31.7.721>
- Goldstein, T. R., & Lerner, M. D. (2017). Dramatic pretend play games uniquely improve emotional control in young children. *Developmental Science*, 21(4), e12603. <https://doi.org/10.1111/desc.12603>
- Golinkoff, R. M., Hirsh-Pasek, K., & Singer, D. G. (2006). Why play= learning: A challenge for parents and educators. In *Play= learning: How play motivates and enhances children's cognitive and social-emotional growth* (pp. 3–12). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195304381.003.0001>
- Göncü, A., & Vadeboncoeur, J. A. (2017). Expanding the definitional criteria for imaginative play: Contributions of sociocultural perspectives. *Learning & Behavior*, 45(4), 422–431. <https://doi.org/10.3758/s13420-017-0292-z>
- Hoff, E. V. (2005). Imaginary companions, creativity, and self-image in middle childhood. *Creativity Research Journal*, 17(2–3), 167–180. <https://doi.org/10.1080/10400419.2005.9651477>
- Hoffmann, J., & Russ, S. (2012). Pretend play, creativity, and emotion regulation in children. *Psychology of Aesthetics, Creativity, and the Arts*, 6(2), 175–184. <https://doi.org/10.1037/a0026299>
- Kavanaugh, R. D. (2006). Pretend play and theory of mind. In L. Balter & C. S. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 153–166). Psychology Press. <https://psycnet.apa.org/record/2006-01388-007>
- Kidd, E., Rogers, P., & Rogers, C. (2010). The personality correlates of adults who had imaginary companions in childhood. *Psychological Reports*, 107(1), 163–172. <https://doi.org/10.2466/02.04.10.PRO.107.4.163-172>
- Kirkham, J. A., Lloyd, J., & Stockton, H. (2019). Development and validation of the retrospective childhood fantasy play scale. *Imagination, Cognition and Personality*, 38(3), 315–344. <https://doi.org/10.1177/0276236618794880>
- Lasch, C. (2015). Personality and creativity correlates in adults with childhood imaginary companions. [Dissertation, Scripps College] Scripps College. [https://scholarship.claremont.edu/scripps\\_theses/669/](https://scholarship.claremont.edu/scripps_theses/669/)
- Lillard, A. S. (2017). Why do the children (pretend) play? *Trends in Cognitive Sciences*, 21(11), 826–834. <https://doi.org/10.1016/j.tics.2017.08.001>
- Lillard, A. S., Lerner, M. D., Hopkins, E. J., Dore, R. A., Smith, E. D., & Palmquist, C. M. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1–34. <https://doi.org/10.1037/a0029321>
- Lin, Q., Zhou, N., Wan, Y., & Fu, H. (2020). Relationship between Chinese children's imaginary companions and their understanding of second-order false beliefs and emotions. *International Journal of Psychology*, 55(1), 98–105. <https://doi.org/10.1002/ijop.12546>

- Moriguchi, Y., Kanakogi, Y., Todo, N., Okumura, Y., Shinohara, I., & Itakura, S. (2016). Goal attribution toward non-human objects during infancy predicts imaginary companion status during preschool years. *Frontiers in Psychology, 7*, 221. <https://doi.org/10.3389/fpsyg.2016.00221>
- Myers, W. A. (1979). Imaginary companions in childhood and adult creativity. *The Psychoanalytic Quarterly, 48*(2), 292–307. <https://doi.org/10.1080/21674086.1979.11926878>
- Papastathopoulos, S., & Kugiumutzakis, G. (2007). The intersubjectivity of imagination: The special case of imaginary companions. *Advances in Consciousness Research, 68*, 219. <https://doi.org/10.1075/aicr.68.17pap>
- Russ, S. W., Robins, A. L., & Christiano, B. A. (1999). Pretend play: Longitudinal prediction of creativity and affect in fantasy in children. *Creativity Research Journal, 12*(2), 129–139. [https://doi.org/10.1207/s15326934crj1202\\_5](https://doi.org/10.1207/s15326934crj1202_5)
- Saltz, E., & Johnson, J. (1974). Training for thematic-fantasy play in culturally disadvantaged children: Preliminary results. *Journal of Educational Psychology, 66*(4), 623–630. <https://doi.org/10.1037/h0036930>
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*(2), 167–177. [https://doi.org/10.1016/S0191-8869\(98\)00001-4](https://doi.org/10.1016/S0191-8869(98)00001-4)
- Seiffge-Krenke, I. (1993). Close friendship and imaginary companions in adolescence. *New Directions for Child and Adolescent Development, 1993*(60), 73–87. <https://doi.org/10.1002/cd.23219936007>
- Seiffge-Krenke, I. (1997). Imaginary companions in adolescence: Sign of a deficient or positive development? *Journal of Adolescence, 20*(2), 137–154. <https://doi.org/10.1006/jado.1996.0072>
- Shmukler, D., & Naveh, I. (1980). Modification of imaginative play in preschool children through the intervention of an adult model. *South Africa Journal of Psychology, 10*(3–4), 99–103. <https://doi.org/10.1177/008124638001000307>
- Slot, P. L., Mulder, H., Verhagen, J., & Leseman, P. P. (2017). Preschoolers' cognitive and emotional self-regulation in pretend play: Relations with executive functions and quality of play. *Infant and Child Development, 26*(6), e2038. <https://doi.org/10.1002/icd.2038>
- Smilansky, S. (1968). *The effects of sociodramatic play on disadvantaged preschool children*. Wiley.
- Smith, E. D., & Lillard, A. S. (2012). Play on: Retrospective reports of the persistence of pretend play into middle childhood. *Journal of Cognition and Development, 13*(4), 524–549. <https://doi.org/10.1080/15248372.2011.608199>
- Stewart, S. L. K., & Kirkham, J. A. (2020). Predictors of individual differences in emerging adult theory of mind. *Emerging Adulthood, 10*, 558–565.
- Taylor, M. (1999). *Imaginary companions and the children who create them*. Oxford University Press on Demand.
- Taylor, M., & Carlson, S. M. (1997). The relation between individual differences in fantasy and theory of mind. *Child Development, 68*(3), 436–455. <https://doi.org/10.1111/j.1467-8624.1997.tb01950.x>
- Taylor, M., Carlson, S. M., Maring, B. L., Gerow, L., & Charley, C. M. (2004). The characteristics and correlates of fantasy in school-age children: Imaginary companions, impersonation, and social understanding. *Developmental Psychology, 40*(6), 1173–1187. <https://doi.org/10.1037/0012-1649.40.6.1173>
- Taylor, M., Hodges, S. D., & Kohányi, A. (2003). The illusion of independent agency: Do adult fiction writers experience their characters as having minds of their own? *Imagination, Cognition and Personality, 22*(4), 361–380. <https://doi.org/10.2190/FTG3-Q9T0-7U26-5Q5X>
- Taylor, M., Hulette, A. C., & Dishion, T. J. (2010). Longitudinal outcomes of young high-risk adolescents with imaginary companions. *Developmental Psychology, 46*(6), 1632–1636. <https://doi.org/10.1037/a0019815>
- Thibodeau, R. B., Gilpin, A. T., Brown, M. M., & Meyer, B. A. (2016). The effects of fantastical pretend-play on the development of executive functions: An intervention study. *Journal of Experimental Child Psychology, 145*, 120–138.
- Wang, Y., Li, Y., Xiao, W., Fu, Y., & Jie, J. (2020). Investigation on the rationality of the extant ways of scoring the interpersonal reactivity index based on confirmatory factor analysis. *Frontiers in Psychology, 11*, 1086. <https://doi.org/10.3389/fpsyg.2020.01086>

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