

# Exploring EP Theories and Children's Pretend Play

According to the research, evolutionary psychology theories support rather than challenge the connection between children's pretend play and widespread interest in narratives.

## Abstract

Pretend play appears linked to narrative understanding, according to several studies using evolutionary psychology perspectives. Cremin and Flewitt (2016) and Pellegrini (1985) show that pretend play nurtures symbolic representation and the development of decontextualized language, both of which underpin narrative comprehension and literacy. Dockett (1998) and Trionfi and Reese (2009) report that shared pretense improves theory of mind and role-taking, skills that facilitate understanding diverse narrative perspectives. Furthermore, Steen and Owens (2001) posit that cognitive adaptations for pretend play are at the heart of entertainment, while Goldstein et al. (2021) demonstrate that embodied engagement during play enhances learning and retention from narratives.

Key points from the reviewed studies include:

1. Pretend play develops hierarchically alongside symbolic thinking and language.
2. Role-playing and shared pretense bolster social cognition and perspective-taking.
3. Embodied participation in play reinforces the retention of narrative content.
4. Cognitive adaptations for pretend play may underlie the appeal of narratives that simulate rare or challenging events.

These findings suggest that evolutionary psychology theories support, rather than challenge, the notion that children's pretend play underlies the widespread interest in consuming narratives.

## Paper search

Using your research question "Do EP theories support or challenge the notion that children's pretend play helps understand the widespread interest in consuming narratives?", we searched across over 126 million academic papers from the Semantic Scholar corpus. We retrieved the 50 papers most relevant to the query.

## Screening

We screened in papers that met these criteria:

- **Study Population Age:** Does the study examine children between ages 2-12 years?
- **Pretend Play Focus:** Does the study investigate pretend play activities (rather than only non-pretend play)?
- **Narrative Consumption:** Does the study examine narrative consumption patterns or preferences?
- **Study Design:** Is the study either empirical research (experimental, observational, or longitudinal) OR a systematic review/meta-analysis?
- **Mechanism Analysis:** Does the study examine cognitive or developmental mechanisms linking pretend play to story comprehension or interest?
- **Theoretical Framework:** Does the study incorporate evolutionary psychology theories or perspectives?
- **Population Type:** Does the study focus on general child populations (rather than exclusively adult populations)?

- **Empirical Evidence:** Does the study include empirical data or analysis (rather than being purely theoretical)?

We considered all screening questions together and made a holistic judgement about whether to screen in each paper.

## Data extraction

We asked a large language model to extract each data column below from each paper. We gave the model the extraction instructions shown below for each column.

- **Study Design Type:**

Identify the specific type of study design used. Look in the methods section for explicit description of the research approach. Possible types include:

- Experimental study
- Observational study
- Theoretical analysis
- Developmental study

If multiple design elements are present, list all relevant types. If the design is not clearly stated, note "Design not explicitly specified" and provide any contextual details that suggest the study type.

- **Theoretical Framework:**

Identify the primary theoretical perspectives or frameworks used in the study. Look in the introduction, theoretical discussion, or conclusion sections. Specifically note:

- Specific EP (Evolutionary Psychological) theories referenced
- Other developmental or cognitive theories used
- How these theories relate to pretend play or narrative consumption

If multiple theoretical frameworks are discussed, list them in order of prominence. If no explicit theoretical framework is stated, note "No specific theoretical framework identified".

- **Participant Age Range and Characteristics:**

Extract the precise age range of participants. For child studies, specify:

- Minimum and maximum age
- Mean age
- Age group categories (e.g., preschool, early childhood)

Include additional demographic information if available, such as:

- Gender distribution
- Sample size
- Cultural or geographical context

If any age-related developmental distinctions are made in the study, explicitly note these.

- **Pretend Play Characteristics:**

Describe the specific characteristics of pretend play examined in the study:

- Types of pretend play observed (e.g., object substitution, role-playing)
- Developmental stages of pretend play
- Context of pretend play (structured vs. unstructured)
- Any specific mechanisms of symbolic transformation

Extract direct quotes or specific descriptions that illustrate the nature of pretend play in the study. If the study discusses developmental progression of pretend play, capture those details precisely.

- **Narrative Consumption Findings:**

Extract specific findings related to:

- How pretend play relates to narrative understanding
- Learning outcomes from narrative engagement
- Cognitive processes involved in narrative consumption

Focus on direct statements about the relationship between pretend play and narrative interest or comprehension. Note any quantitative measures or qualitative insights that address the research question.

If no direct findings are present, note "No explicit findings connecting pretend play to narrative consumption".

- **Methodological Limitations:**

Identify and extract:

- Explicit limitations mentioned by the authors
- Potential methodological constraints
- Suggestions for future research

Look in the discussion or conclusion sections for self-reported limitations. If no limitations are discussed, note "No limitations explicitly reported".

## Results

### Characteristics of Included Studies

Study	Study Type	Research Focus	Theoretical Framework	Key Findings	Full text retrieved
Cremin and Flewitt, 2016	Theoretical analysis	Narrative and early learning	Cognitive Developmental Theory, Socio-Cultural Theory	Pretend play and storytelling are intertwined, supporting narrative understanding and literacy development	Yes

Study	Study Type	Research Focus	Theoretical Framework	Key Findings	Full text retrieved
Dockett, 1998	Experimental and developmental study	Shared pretend play and cognitive development	Piagetian (focusing on cognitive development stages) and Vygotskian (emphasizing social interaction) perspectives	Shared pretend play promotes development of representational theory of mind	No
Goldstein et al., 2021	Experimental study	Embodiment and fictionality in children's learning	No mention found	Embodied pretend play enhances learning and retention from narratives	No
Kim, 1999	Experimental and developmental study	Effects of storytelling and pretend play on cognitive processes	No mention found	Storytelling and pretend play affect cognitive processes and narrative recall	No
McCune-Nicolich, 1981a	Developmental study and theoretical analysis	Development of pretend play behaviors	Piaget's theory, Werner and Kaplan's theories	Pretend play develops hierarchically, with concurrent developments in symbolic play and language	No
McCune-Nicolich, 1981b	Developmental study and theoretical analysis	Development of pretend play behaviors	Developmental theories of Piaget, Werner and Kaplan	Pretend play develops hierarchically, with concurrent developments in symbolic play and language	No
Pellegrini, 1985	Observational, experimental, and developmental study	Symbolic play and literate behavior	Cognitive Developmental Theory, Linguistic Theory	Symbolic play is positively related to narrative understanding and production	Yes

Study	Study Type	Research Focus	Theoretical Framework	Key Findings	Full text retrieved
Smith, 2017	Theoretical analysis	Pretend play and cognitive/literacy development	Evolutionary perspectives, various developmental theories	Reviews various evidence types on pretend play's role in cognitive and literacy development	No
Steen and Owens, 2001	Observational study and theoretical analysis	Pretend play and entertainment	Evolutionary Psychology theories	Proposes that entertainment relies on cognitive adaptations for pretend play	No
Trionfi and Reese, 2009	Observational and developmental study	Imaginary companions and narrative skills	No mention found	Children with imaginary companions demonstrate better narrative skills	No

## Thematic Analysis

### Evolutionary Functions of Pretend Play

The analyzed studies provide insights into the potential evolutionary functions of pretend play in relation to narrative consumption:

- Cognitive adaptations : Steen and Owens (2001) propose that entertainment, including narrative consumption, relies on cognitive adaptations for pretend play.
- Training for rare events : Pretend play may have evolved as a mechanism to train strategies for rare, dangerous, or expensive events using cheap and plentiful resources.
- Enhanced learning : Goldstein et al. (2021) found that embodied pretend play enhances learning and retention from narratives more than passive consumption, suggesting a potential evolutionary advantage.
- Narrative skill development : Multiple studies (Cremin and Flewitt, 2016; Pellegrini, 1985; Trionfi and Reese, 2009) found associations between pretend play and improved narrative skills, potentially indicating an evolved connection.
- Developmental pathway : McCune-Nicolich's (1981a, 1981b) description of the hierarchical development of pretend play, with concurrent developments in symbolic play and language, might reflect an evolved developmental pathway supporting narrative understanding.

It's important to note that most studies in our analysis do not directly address evolutionary functions, limiting our ability to draw strong conclusions about evolutionary psychology theories from this body of research.

### **Cognitive Mechanisms Linking Play and Narrative**

Several cognitive mechanisms emerge from the studies as potential links between pretend play and narrative understanding:

1. Symbolic representation :
  - Multiple studies highlight the role of symbolic thinking in both pretend play and narrative comprehension.
  - McCune-Nicolich (1981a, 1981b) describe progression from simple gestures to complex symbolic play.
  - Pellegrini (1985) emphasizes the importance of symbolic play for literate behavior.
2. Perspective-taking :
  - Dockett (1998) suggests that shared pretend play promotes the development of a representational theory of mind.
  - This ability could be crucial for understanding narratives from different perspectives.
3. Decontextualized language :
  - Pellegrini (1985) notes that both symbolic play and literate behaviors involve the production and comprehension of decontextualized language.
  - This suggests a shared cognitive mechanism between play and narrative understanding.
4. Embodied cognition :
  - Goldstein et al. (2021) demonstrate that physical engagement through embodied pretend play enhances learning from narratives.
  - This indicates a potential cognitive link between physical enactment and narrative understanding.
5. Mental simulation :
  - Steen and Owens (2001) propose that pretense involves creating simulated scenarios.
  - This could be a key cognitive mechanism for engaging with narratives.

These cognitive mechanisms provide potential explanations for how pretend play might support the development of narrative interest and comprehension. However, more research is needed to directly test these mechanisms in relation to evolutionary psychology theories.

### **Development of Symbolic Understanding**

The development of symbolic understanding emerges as a crucial theme across several studies, linking pretend play to narrative comprehension:

1. Hierarchical development :
  - McCune-Nicolich (1981a, 1981b) describe a hierarchical progression in pretend play, from simple gestures to complex symbolic play.

- This progression parallels the development of language and could support narrative understanding.
2. Object substitution :
    - Pellegrini (1985) notes that object substitutions in play become more abstract as children develop.
    - This indicates growing symbolic capabilities that could transfer to narrative comprehension.
  3. Role-playing :
    - Several studies mention role-playing as an important aspect of pretend play.
    - The ability to take on different roles could support understanding of characters and perspectives in narratives.
  4. Imaginary companions :
    - Trionfi and Reese (2009) found that children with imaginary companions demonstrate better narrative skills.
    - This suggests that this form of symbolic play might particularly support narrative development.

The development of symbolic understanding through pretend play appears to be a key factor in supporting narrative skills. This could potentially explain the widespread interest in consuming narratives from an evolutionary psychology perspective, as the ability to engage with symbolic representations might have provided evolutionary advantages.

## Theoretical Integration

Evolutionary Psychology Theory Component	Play Evidence	Narrative Connection	Support/Challenge
Cognitive adaptations for pretend play	Steen and Owens (2001) propose that entertainment relies on cognitive adaptations for pretend play	Suggests that narrative consumption may be based on evolved pretend play mechanisms	Support
Training for rare events	Steen and Owens (2001) suggest pretend play allows training for rare, dangerous, or expensive events	Narratives often involve rare or dangerous scenarios, potentially serving a similar function	Support
Symbolic representation	Multiple studies show development of symbolic play parallels language development	Symbolic understanding is crucial for narrative comprehension	Support
Social cognition	Dockett (1998) links shared pretend play to theory of mind development	Understanding characters' perspectives is key to narrative engagement	Support

Evolutionary Psychology Theory Component	Play Evidence	Narrative Connection	Support/Challenge
Embodied cognition	Goldstein et al. (2021) show embodied pretend play enhances learning from narratives	Suggests physical engagement might be important for narrative processing	Support
Developmental progression	McCune-Nicolich (1981a, 1981b) describe hierarchical development of pretend play	Could reflect evolved pathway supporting narrative understanding	Support

The evidence from the analyzed studies suggests several potential connections between play-related components and narrative consumption from an evolutionary psychology perspective:

- Cognitive adaptations : Pretend play mechanisms may underlie narrative consumption.
- Training for rare events : Narratives often involve rare or dangerous scenarios, potentially serving a similar function to play in preparing for such events.
- Symbolic representation : Symbolic understanding, crucial for narrative comprehension, parallels the development of symbolic play.
- Social cognition : Social cognition developed through shared pretend play may be important for understanding characters' perspectives in narratives.
- Embodied cognition : Embodied pretend play may enhance learning from narratives.
- Developmental progression : The hierarchical development of pretend play could reflect an evolved pathway supporting narrative understanding.

These findings provide support for the notion that children's pretend play may help understand the widespread interest in consuming narratives from an evolutionary psychology perspective. However, it's important to note that the studies in our analysis do not directly test these evolutionary hypotheses, and more research would be needed to establish causal relationships.

## References

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- T. Goldstein, Brittany N. Thompson, and Pallavi Kanumuru. "Do Embodiment and Fictionality Affect Young Children's Learning?" *Journal of Experimental Child Psychology*, 2021.