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Full length article

Infants and toddlers in imaginary play situations: The genesis and conditions that support the development of imagination

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ABSTRACT

In line with contemporary views that problematise a stage-based approach to play, the study reported in this paper investigated the early forms of imaginary play of infants and toddlers. Results from two cohorts are presented in support of the genesis (11 infants; 1.1–2.0y; mean 1.6) and development of imagination as a psychological function (19 toddlers; 2.5–3.3ys; mean 2.9). Under the same conditions of an intervention of a Conceptual PlayWorld, the results show infants in imaginary situations gesturing imaginative intent, and the under three-year-olds engaged in more developed forms of imaginative play actions. Invited into imaginary play scenarios by educators, a dramatic tension between the infants' reality and their *playing of reality* was resolved through imitation, while the toddlers resolved emotional tensions in the drama of the imaginary play through emotional imagining (images). We concluded that there was a unique relationship between image formation, emotional imagining and the development of the psychological function of imagination. We argue that when imaginary play is made available to infants and toddlers that early forms of imagining are evident and suggest educators have a key role in creating conditions to support the development of imagination in group settings.

1. Introduction

Play is foundational to developmental psychology and to early childhood education. However, play continues to be a complex and disputed scientific concept. Stage-based theories of play (e.g., [Parten, 1933](#); [Smilansky, 1968](#)) have guided practices and research in early childhood and have a firm place in its history. But now researchers take departure from this stage-based views of play ([O'Connell & Bretherton, 1984](#); [Singer, 2013](#)). Contemporary thinking overcomes an individual and biological view of development as stage-based ([Hakkarainen et al., 2013](#)), and draw on [Vygotsky \(1966\)](#) to position the problem of imaginary play as a cultural phenomenon (e.g., [van Oers, 2013](#)). Despite these insights, what is missing from both theory and the empirically based literature, is understanding the genesis of imaginary play from infancy, as well as a knowledge of how imaginary play acts as a source of development before the crisis at age 3 ([Vygotsky, 1998](#)). Consequently, the theoretical problem that is the focus of this paper is: What is the genesis and form of the development of imagination and imaginary play? Genesis implies that imaginary play and imagination can develop. Therefore, alongside of this theoretical problem, is a practice-based contradiction that needs to be considered, because research has shown that a biological perspective still appears in the practices of centre-based settings ([Wragg, 2013](#)), as infant play is oriented to their body, toddlers play is directed to materials, and preschoolers are expected to engage in imaginary play. The study reported in this paper problematises this worldview and asks what are conditions that could support the development of the earliest forms of imaginary

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play?

To address the dual problem of this paper, we undertook an educational experiment (Hedegaard, 2008) to investigate the early forms of imaginary play using an intervention of a Conceptual PlayWorld (Fleer, 2024). We were interested to know how infants and toddlers become oriented to imaginary play, and if mature forms (Vygotsky, 1994) of imaginary play introduced into group settings could act as a source of development of the psychological function of imagination for this cultural age period. The cultural age period of infancy and toddlerhood is conceptualised in this paper from a cultural-historical perspective where the biological and cultural dimensions of development are dialectically related. However, the biological age of participants is also provided for clarity and rigour of the study design.

The paper begins with a cultural-historical interpretation of imagination and play and concludes with insights into the genesis and development of imagination for the under 3's through educator planned and supported imaginary play. The study design and results are reported in relation to exemplars of imaginary play practices from two cohorts of children and educators.

2. Imagination and imaginary play as a cultural-historical phenomenon

The premise underpinning the study reported in this paper is that imagination is not innate and biologically determined. Rather, it is a complex psychological activity developed in unity with a child's environment. This positions imagination as a cultural-historical rather than biologically determined function. In line with this, we take the view that imagination is a *creative reflection of reality* where a child develops the ability to *unify mentally different images into new combinations* (Vygotsky, 2004), and to *project into new contexts and realities* (Repina, 1974). The development of imagination brings forward the need for rich experiences that can be cumulatively drawn upon for such creative imagery and activity (Vygotsky, 2004). These experiences begin from infancy.

Infants develop images in relation to their experiences (Repina, 1974) - as might be observed in the *emotional anticipation* in a game of peek-a-boo, or when playing games with routines that end in tickling, or when on the knee of an adult jumping up and down in relation to a song, ending with a drop and catch action with squeals of laughter. It is because the infant comes to anticipate the event that *some form of imagining (image) is beginning to develop*. We also see emotional anticipation with toddlers, where a game of an adult chasing a toddler is greeted with anticipation of being caught. The emotional anticipation by the infant and toddler is suggestive of some form of image of the event that is about to happen. The sequence of the emotionally charged situations matter, including the temporal structure (initial and final) where the activity of the game gives a routine and structural form to the activity. There are also special forms of co-experiencing of the activity in relation to an emotional contradiction, such as not wishing to be caught as well as wanting to be caught; or enjoying the bouncing on the knee but anticipating the excitement of a safe fall. The emotional tension introduced by the adults to infants and toddlers begins to build an image of *emotional anticipation*. Zaporozhets (2003) suggested that emotional anticipation, "arises as a result of the child's special internal orienting-research activity, which forms on the basis of his [sic] practical interaction with surrounding reality" (Zaporozhets, 2003, p. 57).

Zaporozhets (2003) suggested that children develop *an emotional attitude* to their surroundings that we believe is directly linked with how images form when infants and toddlers play games involving emotional anticipation. Zaporozhets (2003) suggested that emotion is a special form of reflection of reality, which in the preschool years becomes a form of self-regulated reading of emotional anticipation: "In the course of this activity, a unique functional system forms, which integrally combines both affective and special cognitive processes. Developing within this system, the emotions are generalization, they become *intelligent* generalized, and anticipatory, while cognitive processes function in this system, acquire an affective nature and begin to perform a special role in meaning discrimination and meaning formation" (Zaporozhets, 2003, p. 57).

We suggest that for infants and toddlers, it is not so much an intellectualized self-awareness, but rather an emotional anticipation that supports the development of an early form of image production that is reflective of a child's emotional attitude and special form of reflection of reality to a given situation. For instance, Smolucha and Smolucha (2021 p. 1046) gave the following examples to illustrate how adults in social relations with infants bring early forms of image formation through finger play games, where the adult's hand acts as a prop or substitute object to support imagining: "... finger games with infants like Creepy Crawly, A Little Flea Went Walking, and Teddy Bear's Garden have been passed down through generations in some families. These games involve the use of the caregiver's hand as a substitute object for a spider, flea, or teddy bear. The caregiver's fingers move like legs as the hand moves up the baby's chest or arm to 'bite', tickle, or 'kiss' the baby. This represents a type of gotcha game with a little suspense, a little excitement, and then mutual laughter. Eventually the infant comes to regard the hand as a *make-believe* Spider, Bug, Or Teddy Bear. Eventually, the spider can transition into the *Itsy Bitsy Spider* finger game..." (Smolucha & Smolucha, 2021 p. 1046).

In this example, Smolucha and Smolucha (2021) not only show in practice how image formations are possible in the structure of a game but how in the early period of infancy a substitute object can support an imaginary moment of play activity.

Repina (1974) has suggested that when children listen to a story, some form of an image of the content from the story forms. Zaporozhets (2003) has shown that preschool children become emotionally engaged in the story narrative and anticipate the plot on subsequent readings of the story. He said, "During repeated readings [of the story], the emotional images that arose began to anticipate what was going to happen to the hero of the story in the future as the plot developed" (p. 61). We suggest that simple forms of anticipation can also be found when baby books with flaps are repeatedly read to infants, revealing (anticipation) something interesting, such as a tiger roaring, which could be considered as early forms of image-bearing dramatization as has been described by Zaporozhets (2003).

In Zaporozhets' (2003) research, preschool children role-played emotionally charged fairy-tale plots and developed an empathy for the hero in the fairy-tale and wanted to help the character solve the problem. He said, there is a "special kind of *emotional cognition*, during which the subject reflects reality in the form of emotional images." (p. 60). "The emotional image of the perceived events and

interrelations was formed” (p. 61). It is suggested that what emerges from the preschool children’s role-playing and/or reading of the fairytales, is an *emotionally coloured field of reflection of the perceived reality*. Zaporozhets’ (2003) suggest that this process is not straightforward, and that an emotional image must be mediated by the child’s *image field*, the *field of emotional-cognitive reflection*, and the *child’s reality*.

But for infants and toddlers the *emotionally coloured field of reflection* is possibly brought forward through co-experiencing with adults’ specific positions within a given situation that enable imaginary actions to be acted out, and to be emotionally experienced and lived through. And in this reading, children co-develop with the support of adults *an emotional attitude* to their environment. However, the relevance of *emotionally coloured field of reflection* for infants and toddlers’ development of imagination has not been studied.

There is also an interrelationship between a word and an image. Word-meaning (Vygotsky, 1987) as a form of generalisation, must have its roots in the accumulation of experience and the development of images. Verbal descriptions that accompany everyday life or as part of story reading/telling build these interrelationships between a word and an image. We know from Repina (1974) that when infants and toddlers imitate actions in imaginary situations, this represents an early form of imagining where the image formed is a reproduction of what they have heard or seen. As a form of *reproductive imagining*, this concept captures the idea of an image being related to reality, to the concreteness of situations, and to events not yet generalized. *Voluntary imagination* on the other hand, is when the child has a new image, such as new a character that is brought into a known story, where the child imagines a plot with the new character when role-playing in the imaginary situation (Repina, 1974). *Voluntary imagination* could be relevant to toddlers rather than infants, and *reproductive imagining* could give directions for a study of the genesis and conditions that support the development of imagination of infants.

Taken together, there are some key theoretical concepts that are relevant for a study into the genesis and conditions that support the development of the psychological function of imagination for infants and toddlers. They include, emotional anticipation, emotional attitude, emotionally coloured field of reflection, and emotional-cognitive reflection, which we suggest form the basis of emotional imagining (Zaporozhets, 2003). Alongside of emotional imagining, are the concepts of reproductive imagining and voluntary imagining (Repina, 1974). Knowing more about how infants and toddlers begin the process of imagining (genesis), could better support educators working in group settings, where they are charged with designing and implementing play-based programs (conditions for the earliest forms of imaginary play).

3. A cultural-historical interpretation of play

The writings of Vygotsky (1966) on play and the empirical research of Lindqvist into the aesthetics of play (Lindqvist, 2003) influenced our study but in quite different ways. We used Vygotsky’s conceptualisation of play (Vygotsky, 1966) and his theory of infant development (Vygotsky, 1998) to bring forward 3 key theoretical principles to guide our study – even though Vygotsky wrote primarily in relation to preschool children.

First, we had to identify in Vygotsky’s (1966) writing on play concepts relevant for studying the play of infants and toddlers. Vygotsky was interested in ‘how play itself arises in development – its origin and genesis’ (p. 62). Although he did not achieve this, he suggested that many theories of play had missed the idea of the child’s ‘motives for action’: “What is of the greatest interest to the infant has almost ceased to interest the toddler. This maturing of new needs and new motives for action is, of course the dominant factor, especially as it is impossible to ignore the fact that a child satisfies certain needs and incentives in play, and without understanding the special character of these incentives we cannot imagine the uniqueness of that type of activity which we call play” (p. 7).

This is suggestive of considering in research the content of the play and the infants’ motives for action, as was also noted by Lindqvist (2003). Relevant for our study of imaginary situations set up by adults, Vygotsky suggested that imaginary situations gave the possibilities for satisfying a child’s desire to do things that in reality they were not allowed, such as to drive a car. He argued that this imaginary play acted as the source of development of the preschooler. But Vygotsky did not show how desires in imaginary play could be met by infants and toddlers or what the context might be. His focus on imaginary play acting as a source of development inspired us to bring into imaginary situations content that could capture the interest of infants in group care settings and to study if and how these new situations supported early forms of imaginary play.

Second, the main criterion for distinguishing play from other forms of activity was the creation of an imaginary situation. Rather than being an attribute of play, Vygotsky (1966) argued that creating an imaginary situation is central to play activity. It is achieved through separating the visual field from meaning field. That is, in imaginary play ‘things lose their motivating force. The child sees one thing but acts differently in relation to what he [sic] sees. Thus, a situation is reached in which the child begins to act independently of what he sees.’ (p. 11). In so doing, the objects take on new meaning for the child, such as when an infant and toddler sees a pipe cleaner/prop in an imaginary situation of playing ants and uses the prop to look for food. In this imaginary situation, the infant shows new actions by acting ‘as if’ a baby ant is needing to be fed. The motivating force has changed for the child. But Vygotsky (1966) suggested this was not possible for toddlers to achieve. He said: “In a very young child there is such an intimate fusion ... between meaning and what is seen, that a divergence between the meaning field and the visible field is impossible” (p. 12).

He suggested this could only happen during the preschool years. It is only then that thought is separated for objects, such as when a pipe cleaner can become an ant or a tool. It is here that ‘Action according to rules begins to be determined by ideas and not by objects themselves’ (p. 12). Vygotsky claimed, ‘This is such a reversal of the child’s relationship to the real, immediate, concrete situation’ (p. 12). He suggested this process takes place over time as a child severs the object from the meaning of a word. Only then does the word ant, rather than the object (real ant), hold meaning for the child. The word can then act independently of the object. However, he did not give theoretical guidance on how this begins and under what conditions. Therefore, in our study we needed to capture, as Yonzon, et al. (2021) did, how objects are used in the imaginary situation and how infant actions change over time – as infants begin to respond

to words and gestures rather than objects in the imaginary situation.

Third, and profoundly, [Vygotsky \(1966\)](#) theorised that in early forms of play in an imaginary situation, there are always rules that are hidden, and it is through role-play action that they become consciously realised by the child. [Vygotsky \(1966\)](#) was interested in how role-play supported the development of the child – noting how the child ‘plays without realizing the motives of the play activity’ (p. 8). For example, he theorised that when two sisters aged 5 and 7, decide to pretend to be sisters, an interesting contradiction arises. In real life each is behaving as a sister, whilst in pretence, each must think about the behaviours associated with sisterhood – being kind, holding hands, caring for each other. [Vygotsky \(1966\)](#) argued that ‘What passes unnoticed by the child in real life becomes a rule of behavior in play’ (p. 9). Relevant for our study, was Vygotsky’s example and claim that in early forms of play in imaginary situations with dolls, that the child who is experiencing being cared for in their real lives, often shows caring actions with their dolls. Vygotsky explained that in this imaginary situation a child must imagine themselves as a mother/father and the doll their child. The play actions often follow known rules of care (feeding the baby, covering the baby with a blanket). He said these play actions represent ‘a specifically human form of conscious activity.’ ([Vygotsky, 1966](#), p. 8). But these actions are not simply copied. Copying is suggestive of doing the same actions of another, but without understanding. For [Vygotsky \(1987\)](#) the scientific meaning of imitation is shown through a child imitating actions with understanding. This distinction was important in our study.

In our study, we were interested in the idea of hidden rules becoming consciously realised in play. We expected that there are hidden rules that present themselves in group settings as contradictions. For instance, there are many institutional rules enacted in a framework of routines in childcare centres that are different to those experienced at home, such as, sitting in a group and not touching each other when listening to a story. Expected rules of self-restraint and self-regulation emerge for infants navigating their way in institutional settings. Infants potentially experience contradictions everyday between the institutional practices and rules across home and group care. [Vygotsky \(1987\)](#) theorised that contradiction is a driving force for consciousness of hidden rules, and when realised, he suggested it was a sign of a child’s development. [Vygotsky \(1987\)](#) theorised this through the relation between everyday practices lived by the child at the inter-psychological level (between people) which become part of the child’s lived consciousness at the intrapsychological level through interactions with others. In our cultural-historical study we drew on the contradiction between the lived everyday world and the imaginary situations created by the educators to look for signs of imaginary play actions of infants and toddlers.

4. Cultural-historical studies of infants engaged in imaginary situations

To inform our study, we also looked at the cultural-historical literature on imagination and play for the under threes. Using the search terms ‘infant, infancy, baby and toddler’, ‘imagination’, and ‘pretend play’ across three databases (A+ Education, ProQuest, and ERIC) from 1984 to 2024, a total of 238 papers were identified. A total of 50 papers and book chapters were reviewed after excluding articles unrelated to young children’s imagination, those not published in English, and duplicates. More focused reviews were conducted on 20 papers/chapters about infants and imagination, and 30 papers/chapters about toddlers and imagination. In reviewing these papers, we identified three broad themes relevant to the focus of our study.

4.1. *The role of adults in supporting the imaginary play of infants and toddlers*

Specifically relevant to our study into the genesis and conditions that support the development imaginary play, there are studies that create conditions for adult participation in infant and toddler play. Through the intervention of a Conceptual PlayWorld, adults are encouraged to be play partners with infants and toddlers ([Fleer, in press](#)), collectively solving a problem that emerges from the storybook. Under these conditions, [Fragkiadaki, Fleer and Rai, \(2022\)](#) showed a dialectic interrelation between the ideal and the real form of infants’ collective imagining that enabled infants to co-experience an imaginary situation. [Fragkiadaki, Fleer, & Rai, \(2022\)](#) found that when educators were in the imaginary situation as a play partner, a more advanced form of imagining was made available to infants. Their research showed that when infants join collective forms of imagining, they appeared to recognize and respond to the invitations to join into a collective imagining through imitation and the use of diverse signs. How the infants meet these new demands through their actions appeared to suggest the development of a motive orientation to the collective imagining within the activity settings. They argued that their narrative method sustains and enriches children’s play. But many from outside of a cultural-historical tradition continue to argue against adult involvement in children’s play ([Wrapp, 2013](#)), suggesting this restricts, rather than enhances their developmental potential.

Yet we found studies that showed the active guidance of adults in developing pretence in longstanding and more recent research. For instance, research by [O’Connell and Bretherton \(1984\)](#) who studied two different infant-mother play contexts of 15 boys and 15 girls over two observation periods 8 months apart (infants aged 20 months; 28 months) showed the importance of mother play in the development of pretence. The results identified that a greater diversity of play took place in mother-child collaboration (unrestricted), where active guidance by the mother in the play was determined. [O’Connell and Bretherton \(1984\)](#) concluded that: “...mothers do instruct their children and suggest a variety of activities... [but do not fine tune] their instruction to match their child’s level of skill. Rather, they appear to recognize the value of instruction but leave the selectivity to the child.... The child determines which of the mother’s suggestions will be incorporated into play activity and which will be ignored. ...the child appears to have a goal in mind and accepts assistance only in service of this goal” (p. 365; original emphasis).

Pretence by mothers was also identified in a study by [Lillard and Witherington \(2004\)](#) on real world representations and pretending events. They were interested to study pretenders’ behaviour and infant and toddler responses. They gave different instructions to mothers in a snack scenario with their infants/toddlers in a controlled experimental setting. Props (serving bowl, pitcher, napkin,

bowl, cup) were provided. One group of mothers was asked to pretend to have a snack using the props, and the other group was provided with real cheerios and juice and asked to have a real snack. When compared with the real situation, they found during pretence, mothers talked more (referencing actions), exaggerated their actions more (pretend drinking), smiled and laughed more, and looked more at their child. Important for our study, Lillard and Witherington (2004) also looked for signs of infant and toddler understanding of pretence (measured through smiles, laughs, pretend actions). They determined that mothers looking and smiling at their infants/toddlers serves as an important function in understanding pretence by the 18 month olds. They ask, but did not study, if older or younger children would draw on the same or different cues in understanding when an event is a pretend situation.

In a more recent study by Sidera et al. (2021) they investigated when children start pretending emotions with others in their play with a sample of 69 infants/toddlers aged 18 to 31 months. Relevant for our study, their results showed that parents simulated or exaggerated emotions in play, and the children generated 'pretend emotional expressions in a play context well before they can do so in real contexts' (p. 927). The relation between reality and pretence was not studied, but rather noted in their findings. Whilst they identified emotional pretence for toddlers as early as 18 months, they suggested that more needed to be known about when emotional pretence actually begins and under what conditions.

The role of the adult in supporting pretend play in group care settings has also been studied. For instance, in research by Hakkarainen et al. (2013), they explicitly researched the interactional conditions for children's play. They investigated how student teachers became genuine play-partners in the imaginary play of children aged birth to 6 years in a playroom on a university campus. They identified that adults needed to take an active role in children's play to enable rich imaginary play to occur. They found successful play interventions as: adults enter children's play; adults take an idea from the play of the children but develop it further; adults supported emotional involvement in play events; dialogical interaction and co-construction of the play featured; dramatic tension between character roles emerged; motivated plot engaged the adults; and anticipating when play needs new drama was foundational.

4.2. How pretence is introduced in group settings

There were studies that examined how pretence is presented to infants and toddlers in group settings (Fleer, 2024; Fragkiadaki et al., 2022, 2023). Like Hakkarainen et al. (2013), these studies noted the importance of the adults' active role in introducing pretence to infants in collective play situations. These studies showed that under the conditions of imaginary play, toddlers become oriented to the drama of the story where imaginary play enables motive development towards the play theme. Lindqvist (2003) set up a play theme in two different toddler rooms (1-3y) to gain deeper insights into toddlers' collective play, where she examined how children created meaning in their play when they saw the adults taking on a role 'as if' characters from a story. In the first theme, a children's story is told about a naughty kitten who causes havoc by sending grandma's ball of wool all over the house toppling things over. After the story, the theme of the play is introduced by adults using a thread of wool that takes the toddlers to investigate 'What happened here?' (up-turned furniture, mess in kitchen, etc). Lindqvist (2003) concluded that although the toddlers followed the adults, they were confused, and did not know the meaning of the pretend game being introduced. She argued that in this imaginary play situation, rules and roles are featured but the imaginary situation is too threatening for the children. When the story and play was re-introduced, but with the adults putting out a trail of wool as they told the story, the toddlers paid attention to the story and to the trail. In this second imaginary situation, the adults became characters role-playing being Henry who leads the children to Fluffville to find Fluff the cat (other teacher). Fluff and Henry dramatise silly actions (putting trousers on their head) teasing each other. When they get things wrong, the children laugh. Lindqvist (2003) found that after the dramatization of the educators, the children wanted to do all the same things as Henry and Fluff. She concluded that: "The children like playing with the adults. When the adults act out roles, the children know that they are playing and do not have to worry about "adult conventions". The adults show the children that they know how to play – that is to say, that they are aware of the results of play" (p. 76).

4.3. The use of props to support imaginary play of infants and toddlers

A number of studies identified the key role that props had in supporting infant imaginary play (Fleer, in press; Fragkiadaki et al., 2022; Lillard & Witherington, 2004; Yu et al., 2024). Repina (1974) has argued that the most creative forms of play bring into the narrative natural materials, rather than representative figurines of characters or roles. This has also been shown in the research of Bodrova and Leong (2005), who found that preschool children did not develop mature forms of imagining when always given fully formed objects, such as a barbie doll dressed as a police officer, because the children did not gain experience of how to move from their perceptual field and into an imaginary field. That is, children were not given the possibility of changing the meaning of the objects through their imagination, such as when they see a cushion and imagine it to be a doll. How props build and hold meaning for infants and toddlers could provide some insight into the genesis and development of imaginary play. But only a few studies have focused on the primary role of props in imaginary play for this cultural age period. For instance, Yonzon, et al., (2023) examined how props supported toddlers (4 toddlers aged 1.9–2.1 years) imagining over time, revealing that play materials were initially useful for the educator in establishing the characters and roles for imaginary play. Under the conditions of a Conceptual PlayWorld, she found that over time, less need for the props was evident as toddlers used and responded to gestures to signal early forms of imaginary intent. She suggested that props act as transitional objects in imaginary play; that embodied actions of imaginary intent follow, and props support a transition from the concrete to the abstract. These findings are suggestive of toddler image formation as early forms of imagining over time through the use of props. Yu et al. (2024) also identified the role of objects as important for the development of infant and toddler imagination. She introduced via 10 zoom sessions over 5 weeks a story reading time, with associated role-playing of the characters from the book by parents and their infants and toddlers (18 children, 4 to 24 months old, mean age of 10 months). Like Yonzon et al.

(2024) she used an intervention of a Conceptual PlayWorld. The study found three different ways that objects supported infant-toddler play, extending the research of Yonzon et al., (2024). The different roles and motives of the infants-toddlers were 1) exploration of concrete objects (sensorimotor-exploration motive), using cultural tools (artefacts), and props for infant-toddler engagement in the collective imaginary situations. Importantly, the dynamic nature of prop use was evident through how the object-meaning relations changed in the imaginary situation. The study concluded that material objects mediate play and imagination of infants and toddlers in different ways.

In summary, when the findings of these studies are considered in relation to the development of infant and toddler imagination through imaginary play, there appears to be evidence of adults' active involvement in infant and toddler imaginary play in mother-infant dyads, where pretence is signalled by the adults. This was also noted in group situations under the conditions of introduced imaginary play situations as part of intervention research. These studies collectively show that children as young as 18 months appear to develop understandings of pretence. But these same studies identified that the imaginary situations must be introduced through collective dramatic action, where objects transition infant and toddlers from a concrete perceptual field into an imaginary situation. The key roles taken by the adults in these group settings appeared to impact on infants co-experiencing of pretence.

When the theory and empirical studies are considered, we suggest that although [Vygotsky \(1966\)](#) focused on imaginary play and play development of preschool children, contemporary studies do give confidence in undertaking research into the genesis and conditions that support imaginary play in group settings.

5. Study design

Our study sought to understand how infants and toddlers under the conditions of imaginary play develop a motive orientation towards imaginary play in group settings. We wanted to know more about the genesis and conditions that support the development of the psychological function of imagination. In this study we defined the infant period to be younger than 2 years of age and the toddler period to be younger than 3 years of age. The study took place in two different culturally diverse childcare centres located in a city in the Southern part of Australia.

5.1. Sample

In this paper data from the early period of development (Cohort 1: Little Learners Academy for Infants) and just before the crisis of age 3 (Cohort 2: Discovery Early Learning for toddlers) are featured. The age of the children is presented in [Table 1](#) (infants) and [Table 2](#) (toddlers).

5.1.1. Little learners academy for infants

Families consented for their infant (1.1–2.0 years with a mean 1.6 years) to participate in the research. There were 6 boys and 5 girls. The children were from culturally diverse backgrounds (4 Australian-Chinese, 2 Australian-Colombian, 1 Australian-Indonesian, 1 Australian-Irish, 1 Australian-Indian, 1 Australian-European, and 1 Australian-Thai).

5.1.2. Discovery early learning for toddlers

For the under three-year-olds, 19 families consented for their child to participate in the study (2.5–3.3 years with a mean 2.9 years). There were 8 boys and 11 girls and who attended the childcare centre. The children were from culturally diverse backgrounds. The parents identified their children as: 1 Jewish, 1 Australian-Egyptian/Irish, 2 Australian-French, 2, Australian-Indian, 1 Australian-Indian/Greek, 1 Australian-Irish/Indian, 1 Australian-Greek/Italian, 5 Australian, 2 Australian-African, and 3 Australian-European).

5.2. Data collection

The researchers made digital observations using a hand-held camera to closely follow the infants and toddlers, whilst the second camera mounted on a tripod captured the practices of the whole room. This enabled close study of the children's gestures, whilst also

Table 1
Infant participants in the study (1.1–2.0 years with a mean 1.6 years).

Child (pseudonym)	Age (Year)	Age (Year and month) at time of study
Asha	1.6	1 year and 6 months
Eaden	1.3	1 year and 3 months
Freya	1.8	1 year and 9 months
Xingjie	1.4	1 year and 5 months
Leo	1.7	1 year and 8 months
Lei	1.1	1 year and 1 month
Opal	1.7	1 year and 7 months
Oscar	2.0	1 year and 11 months
Poppy	1.9	1 year and 10 months
Zaylee	1.5	1 year and 5 months
Ziad	1.3	1 year and 3 months

Table 2
Toddler participants in the study (2.5–3.3 years with a mean 2.9 years).

Child (pseudonym)	Age (Year)	Age (Year and month) at time of study
Aristos	2.7	2 years and 8 months
Caleb	3.1	3 years and 1 month
Connor	2.7	2 years and 8 months
Charlotte	2.8	2 years and 9 months
Dale	3.3	3 years and 3 months
Evelyn	2.5	2 years and 6 months
Elon	3.2	3 years and 2 months
Ela	2.9	2 years and 10 months
Ellie	3.0	2 years and 11 months
Joshua	3.0	2 years and 11 months
Josephine	3.0	2 years and 11 months
Lucy	2.7	2 years and 8 months
Luna	2.9	2 years and 10 months
Lachlan	2.8	2 years and 9 months
Paige	2.5	2 years and 5 months
Rylie	2.8	2 years and 9 months
Saisha	2.6	2 years and 7 months
Sanjana	2.9	2 years and 10 months
Zion	3.2	3 years and 2 months

maintaining an overview of practices taking place within the study site.

5.2.1. Infants: Little learners academy for infants

A total of 1022 mins (18.10 h) of digital data was generated over three weeks, of which 754mins (12.6 h) was the imaginary situations and play of the educators and infants, and the remainder was the planning and teacher reflections made in-situ (1.1 h).

5.2.2. Toddlers: Discovery early learning for toddlers

Six data collection visits generated a total of 169 min (2.8 h) of digital data. Of these data 155 min (2.6 h) was observations of the Conceptual PlayWorld in action, and the remainder was interview data. Six interviews were undertaken in the field (13 mins).

5.2.3. Educator interviews

The interviews were semi-structured and took place at the end of each session. Educators were asked two key questions about implementing imaginary play for infants, 'What did you find challenging/surprised by? Segments of data from the filmed interviews were prepared as audio files and transcribed.

5.3. Procedure

The educators attended a 2-h workshop where the intervention of a Conceptual PlayWorld was introduced through a planning proforma and case studies using videos. The second hour of the workshop was devoted to supporting the educators to plan their own Conceptual PlayWorld.

The educators used the children's book of *The March of the Ants* by Ursula Dubosarsky and Toby Riddle (2021) as a foundation for the imaginary situations they planned and implemented. There are 5 characteristics planned: 1) selecting a dramatic story (March of the Ants); 2) setting up an imaginary play space; 3) entry and exist routine; 4) personally meaningful problem arises that the children solve in their play; and 4) educators and all the children are character from the storybook. The storybook was read many times to the children. For the drama, the ants were hungry, and they needed food. The children received a phone call from the Queen Ant asking for their help. For Cohort 2 the educators set up a scenario where the Queen Ant was stuck behind a large board and needed to be freed. The educator hid behind a large prop of an ant and called out to the children for help. Once freed, she explained in character as the Queen Ant, that she was hungry and asked the children to feed her.

The educators were supported by the researchers with both the planning of their program and with weekly reflections. Cohort 1 *Little Learners Academy for Infants* implemented 10 sessions of imaginary play, and Cohort 2 *Discovery Early Learning for toddlers* implemented 6 sessions of imaginary play.

5.4. Data organisation and analysis process

Step 1: Digital data were logged, summaries of each session made, spreadsheets of recorded sessions prepared with an overview of dates, times, quantity of data, and a summary of observation session. Field notes were prepared for each session. Folders of digital data were created which included photographs, planning documents, and relevant email communications over the period of the data collection.

Step 2: An overview PowerPoint of the data set was prepared for each observation visit. Both screen shots of typical practices and children's responses were captured and linked with transcribed interview data related to each of the sessions.

Step 3: Data were iteratively viewed and tagged in relation to the imaginary situations and how the infants and toddlers were responding to the new situations created by the educators.

Step 4: Tagged data were viewed again in relation to a focus infant (Cohort 1) or by examining how the toddlers interacted together with their educators when in the imaginary situation (Cohort 2). Cohort 1 spend longer creating imaginary play situations, whilst Cohort 2 had less time in the imaginary play situations.

Step 5: We looked for patterns across the tagged data in relation to research question, and we also used the theoretical concepts from cultural-historical theory as presented above, to examine the density of data in relation to moments of imaginary play actions. To support the analysis, we specifically examined how the infants and toddlers entered into the activity setting, met the new demands of the imaginary play situations, and how they contributed and shaped the activity setting. This approach is in keeping with a cultural-historical approach to data analysis as outlined by Hedegaard (2008).

6. Findings

The results of the study are presented in two sections. The first is related to infants in imaginary situations and the second is focused on toddlers in imaginary play. The former gives more content than the latter, to enable the genesis of imaginary play to be better elaborated and contrasted with the play of toddlers before the crisis of age 3.

6.1. Infants in imaginary situations

In this first section, data are primarily reported in relation to one focus infant - Poppy (1y 10 m). Her orientation to the new demands found within the recurrent practices of the imaginary situation changed more slowly than for the other infants (over the 3 weeks), and this gave a rich case for studying how the imaginary situation acted as source of development of imaginary play for her.

6.1.1. Dynamic tension between everyday reality and playing reality

In the first observation (Episode 1) we follow Poppy. In this observation we see the educators put in place posters to support the imaginary situation they planned for the infants. We also see some infants (Freya, Opal and Zaid) engage in the experience, whilst Poppy shows she is more interested in the reality of the ants, wanting to go outside where they have previously seen the ants.

Episode 1- Session 7: The infants are gathered around laminated pages from the March of the Ants book. Both educators go with the children to attach the laminated pages of the book onto the wall opposite the couch so they can pretend to feed the ants on returning from acting 'as if' ants gathering food.

Teacher Karen sings the Ants go Marching song and reads the book. The children are listening and imitating gestures, such as eating and drinking like ants - Opal (1 yr 7 m) in particular makes mouth movements and moves her feet up and down as though marching. At the end of the story Karen announces they will go on a march, and she hands out baskets and spades. They march into the central area of the room 'as if' ants. Teacher Mya receives a phone call from the Queen Ant, and relays to the children that they need to find food for the ants. Poppy takes the basket and spade and goes to the door ready to go outside.

Teacher Mya pretends to feed the ants in the pictures on the wall 'as if' there is food in her baskets. Poppy hangs back at the door watching on. She does not seem to want to be in the imaginary situation. Karen and later Mya encourage her into the imaginary situation. Poppy stays put. After some time, Poppy watches the feeding of the pretend ants from a distance. After the ants are all fed, they go outside to look for real ants.

Interpretation: Poppy appears motivated to find the real ants. She does not seem to be interested in being in the imaginary situation pretending to march like ants and to feed the baby ants in the colony pretend food using baskets and spades. Karen recognises that Poppy is interested in the real ants, rather than the imaginary situation of the Queen Ant inviting the children to feed her babies. Poppy's actions contrast with the other infants who appeared to follow Karen's lead and feed the baby ants.

As van Oers (2013) has argued, "It is obvious that children can only create imaginations of activities they are somehow familiar with" (p. 190). Karen introduced into her program the study of ants in their natural environment, and this gave content that the infants could draw upon when acting 'as if' ants. Mya also brought into the centre room an imaginary situation of the Queen Ant phoning the children to ask for their help. Opal was excited by the pretence. But Poppy showed through her actions of going to the door, that she wanted to be in the real rather than the imagined situation. In line with 'motives for action' (Vygotsky, 1966) van Oers (2013) suggests that role-play from a "...cultural-historical point of view basically starts out from what is culturally given. In order words, culturally given activities (practices) are made playful in the child's role play. ... it is the child's personal imagination of the activity that motivates the content and actual course of a role play activity, in origin the activity is a cultural entity" (p. 190).

By Karen and Mya changing the indoor area into an imaginary situation from the storybook that the children were familiar with, they were able to bring to the infants, opportunities for role-play. Through the phone call from the Queen Ant, they brought a new way of experiencing both the story (in role-play) and the outdoor real experiences of looking at ants. Van Oers (2013) suggests that 'This makes role play essentially a cultural phenomenon, dependent on cultural decisions that allow (some level of) playfulness in an activity, or not.' (van Oers, 2013, p. 190).

Episode 2- Session 8: The children have just heard the story of the March of the Ants. As before, they go off on their expedition. Poppy shows she is wanting to go outside and stands by the back door. Karen encourages Poppy to join in the imaginary play. Poppy joins in for a while as the educators and infants pretend to find food and water and pretend to eat and drink it. Karen suggests they have fruit for afternoon tea and eat like the ants.

Karen dishes out fruit from the central platter to the children's bowls and they eat mostly in silence with Karen and Mya

emphasising how nice the fruit is and suggesting the ants might like watermelon. Karen invites Poppy to put a little of each food in a bowl (Fig. 1) which they later take out to the ants to see if the ants like it (Fig. 4).

When everyone finishes eating, they clean up and put on hats and sunscreen and Karen takes the fruit outside. Poppy is first to the door (Fig. 2).

Poppy was also first to reach the area by the steps where they had previously found ants (Fig. 3). Karen puts down the watermelon and squeezes some juice (Fig. 4).

Interpretation: In this episode there is a small shift in Poppy's actions. Whilst she shows a keen interest in being outside, she remains in the imaginary situation that the educators introduced. As with the previous imaginary play sessions the educators expand the infants' experiences by feeding real ants, as Karen explains:

Poppy was very fixated on how the antenna were moving, that she could see, and then she was putting her fingers up and wiggling her fingers. So, you know, trying to replicate what she could see.

In the next episode we see a qualitative change in how Polly enters into the imaginary situation.

Episode 3- Session 9: After finishing afternoon tea, Poppy goes to the display table and brings a pipe-cleaner ant to the afternoon tea table where the other children are still eating. She puts it on the floor. Karen links this action to the ants marching and Poppy looks down to the pretend ant in the same crouching manner as she does when studying the real ants outside (Fig. 5 left side). Karen gives her a piece of watermelon from afternoon tea to feed the ant. Poppy feeds the watermelon to the pipe cleaner ant (Fig. 5 right side). Poppy then goes over to the display table and begins feeding the ants (Fig. 6). Karen swaps the real watermelon for a plastic watermelon as she wipes Poppy's hands and adds a box of different kinds of plastic fruit to the table. She names each piece of pretend fruit as Poppy pretends to feed the model ants (Fig. 7). Other children join in.

After feeding the pipe cleaner ants, Poppy enthusiastically takes the pretend food and begins pointing to the ant in the posters (Fig. 8). Karen joins her and narrates each action from the story on the poster, as Poppy points to the ants (with food or water).

Interpretation: Poppy didn't want to feed the babies in the colony in Episode 1, but in Episode 3 the display table gives her content to initiate pretending to feed ants. However, there is a qualitative change in Poppy's orientation to the imaginary situation. Poppy becomes more oriented to the pretence through feeding the pipe cleaner ant real food, and then later she goes to the table of pretend ants and feeds them real watermelon. With suggestions from Karen, they substitute the real food for pretend food. There is an orientation towards pretence that Poppy appears to join in with now, even though she also shows interest in being outside with the real ants.

During interview Mya noted how the infants were becoming oriented to the imaginary situation and how the props initially supported them to act 'as if' ants eating and drinking water, but later they were able to use actions of pretending to drink (Fig. 9) to signal pretence to each other.

We know from previous research that group care settings are complex places of people, routines, and rules (Singer, 2013) and when an imaginary situation is brought into this environment, very new conditions are created for the infants. The everyday situation - the perceptual field - is imagined as something else. As was noted by Karen 'we do it (imagining) in our room where we eat, sleep and play and there's not backdrops or added furniture'. It is not just the perceptual field of what the infants see that changes in the imaginary situation, but also how the routines change, such as going on expeditions with their baskets and their spades in search of food after receiving a phone call from the Queen Ant. Like Hakkarainen et al. (2013) the narrative of the story with the recurrent practices of going on an expedition, created drama and oriented the infants to imaginary situations. Karen identified how the routines changed, when they eat their snacks 'as if' ants, and how the imagining becomes the leading orientation to the areas within the centre. These insights are in keeping with what is expected in the imaginary play of preschool children, 'The child sees one thing but acts differently in relation to what he sees.' (Vygotsky, 1966, p 11). But our study showed how infants can also imagine what they see differently, as Karen noted: 'we clear the space a little bit to allow the children's imagination to be the main focus, and you don't need that much to do a [imaginary situation of a] PlayWorld. It's right there within the children's minds and ideas'. Our study showed that changing the meaning of the perceptual field (snack time) to be something new activity (eating 'as if' ants) in the imaginary situation (story of March of the Ants) was possible for infants too, but realised through both the image of the ants (seen outside/books) and the props (pipe cleaner ants and plastic food).

6.2. Toddlers in imaginary play

In this section of the paper is presented an example of an imaginary play situation of a group of toddlers engaged in early forms of imagining where the storybook of *The March of Ants* was used by the educators. Whilst the previous section showed through the practices of the educators, how Poppy became oriented to imaginary play over time, in this section we illustrate one example of how educators introduce in a group setting a dramatic and emotionally charged imaginary situation where they act as play partners.

6.2.1. Motivated conditions of the drama of the story with a problem to solve

In the example that follows, the educators use the imaginary situation with the drama of the Queen Ant needing to be rescued (work as team) to motivate and orient the children towards collective imagining. The session with the dramatic situation is undertaken towards the end of the imaginary play program after the children and educators have co-experienced many adventures marching like ants, looking for food, and caring for baby ants in the colony. The children are excited by the imaginary play that is presented through the Conceptual PlayWorld, and appear to be highly motivated (Episode 1), which in turn supports them to become oriented towards what might be suitable food for the Queen Ant (Episode 2) through the imaginary play actions they co-experience with the educators.

Episode 1- Session 6: Clara (Educator) is in character as the Queen Ant. She is stuck behind a board and is calling out to the children "Help. Help" in a soft voice (Fig. 10). Nishant (Educator) asks, "Can you hear that?". The children jump up and look to where the calls



Fig. 1. Karen put food into a bowl for the ants.



Fig. 2. Poppy reaches the door first.



Fig. 3. Finding real ants.



Fig. 4. Feeding watermelon to the ants.



Fig. 5. Poppy initiates an imaginary play situation.



Fig. 6. Poppy takes the watermelon to the display table and feeds the ants. Karen swaps the real fruit for pretend plastic watermelon piece.



Fig. 7. Poppy feeds the ant with a pretend strawberry.



Fig. 8. Poppy points to ants and Karen responds.

are coming from. Joshua (2 yr 1 m) says, “Arrr. Hear that!”. The children all walk towards the sound of calls for help, with Nishant following behind the children. Clara is acting ‘as if’ she is the Queen Ant who is stuck behind a board. She calls out “Help” and Nishant asks the children, “How are we going to get her out?” as the Queen Ant bangs on the board loudly. Sanjana (2 yr 10 m) looks behind the board, but the others stay with Nishant looking worried.

The Queen Ant puts up her antennae above the board and some of the children jump up and down whilst giggling and appear to be swept along with the excitement of the Queen Ant being stuck. Others stay watching the antennae and look to Nishant, as she says, “How are we going to get her out?”. She directs her attention to Sanjana, and asks, “What are we going to do?”. Sanjana emphatically says, “We get them out”. Some of the children look to the back of the board. Sanjana also asks, “What we do?” and Rylie (2 yr 10 m) responds, “Get her out”. Then they go back to the other side of the board where the Educator is acting in role ‘as if’ the Queen Ant is stuck. Now all the children are squealing with delight and moving up and down as they look at the antennae above the board. Nishant asks again, “How are we going to get the Queen Ant out?”. The children jump and down, and Sanjana says “I get her” lifting her arms as though she wishes to jump up and retrieve her from the top. The Queen Ant says, “Help get me out. Maybe if you work as a team of ants, you might be able to save me?”. Nishant suggests maybe they could be a team of ants and move the board back. All the children call “yes”. The children rush to the side and pull the board back, squealing and laughing as the Queen Ant is fully revealed (Fig. 10). Sanjana runs up and hugs the Queen Ant.

Interpretation: The first part of the episode (Fig. 10) shows how the educators create motivating conditions for the toddlers when



Fig. 9. Pretending to eat and drink water like ants.



Fig. 10. The Queen Ant is stuck. How do we help her?

Clara calls “Help, help” and through how Nishant amplifies this, “Can you hear that?”. Nishant co-experiences the drama with the children by imbuing the play with emotionality, but also through suggesting a helping response, “How are we going to get her out?”. Sanjana responds “We get them out” but is unsure about how. However, in the second part of the episode (Fig. 11) when the Queen Ant’s antennae emerges, the drama of the situation appears to be collectively experienced though an emotional response by the children of squealing with delight.

In Episode 2 Nishant and the Queen Ant move to the side of the room where all the toddlers can easily see the cardboard prop and



Fig. 11. Helping the Queen Ant to get freed.

their educator Clara (Fig. 12).

Episode 2- Session 6: Nishant says, “The Queen Ant is hungry and thirsty. Where shall she go and eat? Can someone help her?”. At first the children look at her, appearing to wonder how to feed her. The Queen Ant suggests they could look in the home corner for some food. Immediately, all the children enthusiastically rush over and retrieve food from the home corner, which they take to her (Fig. 12) and pretend to feed her by placing the plastic objects to her ant mouth (prop). As the children try to feed her, she comments in character about if the food is suitable for her.

Sanjana rushes over with a plastic spider and says, “I got some food”. The Queen Ant says in a kind voice, “Oh a spider. I don’t eat spiders.” Joshua rushes over with a butterfly and pushes it to the Queen Ants mouth. She says gently and softly, “And that’s a butterfly. Thank you for the insect”.

Joshua, Rylie and Sanjana stand with food and push it to the Queen Ant’s mouth, as she says, “Can I have some food?”. She then points to the insects and says, “They are my friends”.

The children continue to go back and forth from the home corner to feed the Queen Ant. Eventually the Queen Ant says on receiving plastic fruit, “Oh yummy”. As Sanjana feeds the Queen Ant plastic food, she repeats, “Yum, yum, yum”, and “Oh yum, yum. yum. Cherries”. Thank you”.

Charlotte (2 yr 9 m) rushes over with a bottle of water and gives the Queen Ant a drink. Nishant is sitting to the side narrating, and says, “Charlotte (2yrs 9m) brought her a drink. Thank you Charlotte”.

Interpretation: In Episode 2 (Fig. 12) the children and the educators are acting ‘as if’ Clara is the Queen ant, as is evident through how the children feed the ant rather than Clara when Nishant says she is hungry: “The Queen Ant is hungry and thirsty”. Even though the toddlers can clearly see Clara, they are oriented to the prop of the Queen Ant. Their focus is on the imaginary play situation that has been created through the drama of the story of where the Queen Ant has been freed but is hungry and thirsty. The interactions between Clara as a narrator of the story and Nishant as a player ‘acting as if’ she is the Queen Ant are in sync with each other, allowing for an emotional amplification of the drama of the story to be developed between the educators, and which the toddlers co-experience as emotional and dramatic. The drama is resolved when the toddlers act ‘as if’ they are imaging the food (props) and their actions (feeding), as is evident in how quickly they rush to the home corner and find food and feed the Queen Ant.

Collectively, the toddlers appear to be emotionally engaged with the problem, as seen through their actions, and appear to be motivated to act in play. The ‘motives for action’ (Vygotsky, 1966) within the imaginary situation are highly visible as the toddlers seek to help the pretend Queen Ant. It is through their actions that we see a merging of the “meaning field and the visual field” in the imaginary play situations (Vygotsky, 1966, p. 12). The toddlers appear to imagine their visual field differently to what they see and give it new meaning. This is consistent with that shown by Poppy over time. As Vygotsky (1966) theorised for preschool children but not toddlers, the children’s actions show imaginary play intent under the conditions of a dramatic and emotionally charged situation. The actions of the toddlers suggest that imaginary play is possible for this early age when educators become play partners living the narrative of the imaginary play with them. The results add to what has previously reported in the play literature.

7. Discussion

The study reported in this paper examined the dual problem of what might be the genesis and form of the development of imagination (theoretical problem) and what were the conditions that supported the development of these early forms of imaginary play (practice problem). Under the same conditions of an intervention of a Conceptual PlayWorld of storybook of the March of the Ants, the results show infants in imaginary situations gesturing imaginative intent, and the toddlers engaged in more developed forms of imaginative play actions. We identified a set of characteristics that were pivotal for infants (7.1–7.2) and for toddlers (7.3) and theorise how imaginary play creates a contradiction between the children’s reality and *playing of reality* which was resolved through imitation by the infants (Fig. 13 top section), while the toddlers resolved the emotional tensions in the drama of the imaginary play



Fig. 12. The children feed the ant, but some of the food given to her are her friends.

through imaginary play actions of helping (roles and rules) (Fig. 13 bottom section). The latter could represent a form of emotional imagining of the toddlers. This can be conceptualised as a change from reproductive imagining of infants to voluntary 'as if' imagining of toddlers. We theorise that both collectively contribute to the development of imagination prior to the crisis of the 3-year-old. The characteristics deemed relevant are presented below.

7.1. A contradiction between the infants' everyday reality and their playing of reality

7.1.1. A contradiction between the real situation (everyday reality) and the imaginary situation (playing the reality) is a dramatic and productive force for development

The introduction of imaginary situations in group care settings is a new cultural practice for infants in Australia. As Singer (2013) has remarked, mostly infant and toddler rooms are sites of routines. But in our study, by changing the centre practices to include the introduction of imaginary situations, a productive contradiction between real and imaginary situations arose. Our study showed that the imaginary situations put new demands on Poppy as she tried to resolve her motive orientation to be outside looking at real ants, and the educators' collective imaginary play indoors looking for food after receiving a call from the Queen Ant asking for help. The contradiction between the everyday reality and the playing of the reality was dramatic for Poppy.

In our study we identified a change in how Poppy entered the imaginary play over time and we took this as a sign of an early form of imaginary play emerging over ten weeks. We found that it was within the recurrent practices of the imaginary situations that Poppy became increasingly oriented to imaginary play. Poppy's actions changed between Episode 1 and 3. She became oriented to the imaginary situation as she observed the other children act 'as if ants' or 'as if' in a colony feeding ants. But she also showed her own initiative in the imaginary situation as she fed the pretend pipe cleaner ant real food, and then role-played this with the pipe cleaner ant and plastic food. In the outdoor area, she also observed the ants drinking the juice of the watermelon. Poppy decided when and how she would enter into the imaginary situation. As O'Connell and Bretherton (1984) showed in their study, the infants decided on which of the mother's suggestions they would incorporate into play activity and which they would ignore. By presenting the actions of poppy over three periods from a set of ten sessions of imaginary play of the story of The March of the ants, we could begin to better understand how imaginary situations gave new conditions for a motive development towards imaginary play and imagining.

7.1.2. Visual field/meaning field of infants in imaginary play situations

The imaginary situation in the centre created contradictory conditions for Poppy between the real ants and the props. Through the storyline and the props alongside of investigating real ants outside, Poppy observed both pretence and the real situation. The contradiction between the real and the imagined form of the ants (pipe cleaner ant) in the imaginary situation (on the floor next to the snack table) merged. We saw through Poppy's action of squatting down to look at the pipe cleaner ant 'as if' it was a real ant, an early form of pretence – she was changing the visual field (pipe cleaner) and giving it new meaning, acting 'as if' it was a real ant. Through her actions (not words) of studying a pipe cleaner ant, she created an imaginary situation at snack time. She brought her past experience (content) of studying real ants outside into the imaginary situation inside. This could be an early form of imaginary play when the perceptual and imaginary fields are heightened and merge through acting out the storyline with props.

Much of the writings of Vygotsky (1966) on early forms of imaginary play are associated with how the child changes the meaning of actions and objects in their perceptual field. That is, the stick is imagined as a hobby horse, and the child changes their behaviour to become a horse rider. What is physically in the perceptual field changes its meaning in the imaginary situation. This idea was theorised by Vygotsky (1966) in relation to the preschool child. It is suggested that to break with the visual field and imagine what is seen as something else, is beyond what is possible for infants and toddlers (Vygotsky, 1966). However, we saw imagining when the children took the spades and spoons to feed themselves pretend food from plastic baskets. We can explain this through drawing on Vygotsky's (1987) concept of imitation. We observed the infants and toddlers all acting 'as if' characters from the story, where they regularly made the same actions as the educators. We saw this with the toddlers pretended to feed the 1 m cardboard black ant held by an educator, even though they could clearly see the adult behind the prop, as shown in Fig. 12.

These examples are suggestive of the children imitating with some understanding, rather than simply copying, and this supports the view that they could disconnect from their visual field and play within an imaginary situation. That is, by changing the meaning of their actions in relation to the props, we suggest this showed that they were able to build a new relationship with the objects in their environment, by imagining them in relation to the story, and the drama of feeding the baby ants who were hungry. By doing this, we suggest they were being oriented towards imaginary play and developing early forms of imagining (image-bearing). Therefore, we believe that co-experiencing imaginary play has an important role in creating the conditions for developing the psychological function of imagination before the preschool period. This finding adds to our understandings about the early forms of imagining.

7.1.3. Synthesis of the imaginary and real form for infants

We saw that the imaginary play situations created by the educators gave possibilities for observing the genesis of imaginary play, as the synthesis of the contradiction between real form of everyday reality and an imaginary form were shown to be dynamic and evolving. A synthesis of the real and the imagined appeared in the new actions of Poppy. For instance, Poppy in the real situation of snack time was introduced to a new play theme of feeding the pipe cleaner ant a piece of watermelon from the snack table. After feeding the pipe cleaner ant as suggested by the educator, she took the initiative to use the play theme in another context and began feeding another pretend ant. Through her actions, educators could better understand how the imaginary play had commenced its journey from Episode 1 to Episode 3. This can be explained by Vygotsky's (1994) when he points to a contradiction in child development. That which you wish for a child to develop, must also be available to children in their environment from the very beginning. It

was through the educators creating imaginary situations, alongside of real situations that followed the same theme (March of the Ants), that Poppy had available to her both an imaginary situation and play themes and real content to bring into early forms of imaginary play. This finding adds to Vygotsky's (1998) cultural-historical theorisation of child development, by showing how Poppy needed both the real content of feeding ants, and the content of a play theme and an imaginary situation available to her in her environment. Taken together, we suggest that a tension between the real situation and the imaginary situation for infants is a dynamic and productive force for the development of early forms of imagination.

7.2. Emotional tension appears to support the development of imagination prior to the crisis of the 3-year-old

7.2.1. Emotional attitude of toddlers

In our study we found that the imaginary situation taken from the storybook of the March of Ants, gave a narrative that could be brought into both the infants and the toddlers' play. An imaginary situation of the March of the ants was co-experienced by both cultural age periods. But there were differences in the way the educators supported the imaginary play narrative that appeared to be related to the emotional tension introduced into the play narrative. We found that the toddlers were swept along with the actions and drama of the Queen Ant calling and asking for help. As might be expected, the moments of sustained imaginary play were longer than those supported by the educators working with infants. Finding food and feeding the Queen Ant appeared to be both personally meaningful and dramatic to the toddlers. This was particularly evident in the initiated play actions of the toddlers who were responsive to the play problem, and attentive to the needs of the Queen Ant who was stuck and hungry. In keeping with Zaporozhets (2003), we suggest that for the toddlers they exhibited an emotional attitude associated with the story line and problem scenario, where helping the Queen Ant mattered. As identified in previous intervention studies for preschool children (Fleer, 2019), we identified that the toddlers iteratively experienced the drama of the story and the dramatic role-playing conditions of rescuing the Queen Ant.

7.2.2. Drama as a productive force for the development of toddler's imagination

Our study showed that the drama of the play problem acted as a dynamic force that oriented the toddlers to wanting to help the characters in their play. We saw this when, "Nishant says, "The Queen Ant is hungry and thirsty. Where shall she go and eat? Can someone help her?". We found throughout the data, many examples of how the problem in the imaginary play situation was emotionally experienced, and this appeared to create the motivated action of wanting to help. For instance, in role playing being the Queen Ant stuck behind a board, the second educator invited the children to solve the problem, "How are we going to get the Queen Ant?". The children jump and down, saying "I get her" lifting their arms as though they wish to jump up and retrieve her from the top. Vygotsky (1984) theorised in education the important role of drama to any situation. We suggest the play problem was a lived emotionally experienced and charged situation for the toddlers.

7.2.3. Toddlers co-experiencing 'as if' imaginary situations

Imaginary play appeared to be an important carrier of the play plot within the social circle of all the children, and where they were all acting 'as if' everyone was in the same imaginary play narrative of the March of the Ants Conceptual PlayWorld. We found that co-experiencing the problem in the drama of the imaginary play 'as if' the situation of their teacher behind a model Queen Ant was no longer the teacher, but the Queen Ant, appeared to support the toddlers' imaginary play. We saw this when the toddlers began to feed the cardboard model rather than the teacher. The drama of the hungry Queen Ant was designed into the educational experiment through the story narrative, but it was the toddlers who brought this drama and play content into the child-initiated play.

Summary: Taken together, there appears to be a unique relationship between image formation, emotional imagining and the development of the psychological function of imagination under the condition of a Conceptual PlayWorld intervention. We have formulated this as a model as shown in Fig. 13a (infants) and Fig. 13b (toddlers).

The model (Fig. 13a) shows a relationship between the infants' reality and the playing of their reality in the Conceptual PlayWorld, whereby imitative actions with a level of awareness, resolved the contradiction experienced (as the example of Poppy showed) between what infants see (captured in model as visual field) and the image it represents in play (shown in model as image field). We suggest for infants, it is through everyday situations in the imaginary playing of infant realities that pathways are created for images to form through the emotional anticipation, and this is always presented as the ideal form from the educator to the infants.

But for toddlers there is an emotional tension (Fig. 13b) between their everyday realities (left side) and playing the drama (right side). We suggest it is the drama and emotional imagining that acted as the gateway through which images of solutions (image field) in social interaction (roles and rules – e.g., feeding the Queen Ant pretend food) appeared to support the development of imagination (bottom left) as a psychological function. We suggest that the different dimensions of emotional imagining discussed in this section are tied to the drama of the problem (emotional tension) which we believe acted as a productive force in the development of the toddler's imagining and imaginary play actions. We suggest this was enabled through the practices of the educators who 'acted 'as if' the toddlers understood the imaginary play situation (bottom of Figure 13b) created through the Conceptual PlayWorld. This gave conditions for voluntary 'as if' imagining by the toddlers. This was shown in relation to how emotional imagining builds within the image field of the toddlers as they become motivated towards imaginary play through helping the characters solve the problem.

We suggest that the development of imagination can be captured through a change from infants' imitative actions as a form of reproductive imagining (Fig. 13a top) that is being co-experienced, to toddlers' voluntary imaginary play actions (Fig. 13b top) under the motivated conditions of helping the characters in the Conceptual PlayWorld. The gradual formation of an image emerges in imaginary play situations for both infants and toddlers. Conscious awareness enters the gate created through the emotional anticipation associated with the infants' reality and the toddlers playing of story plot where emotional imagining is supported.

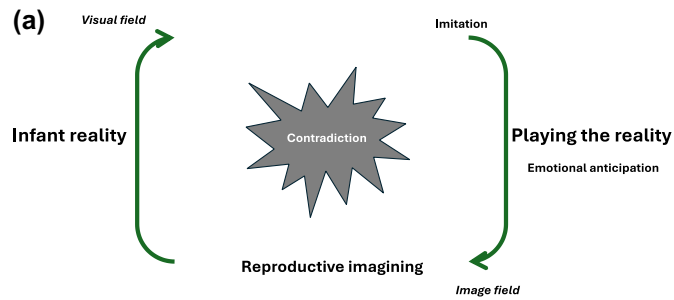


Fig. 13a. A psychological model of the relations between infants' reality and the playing of their reality.

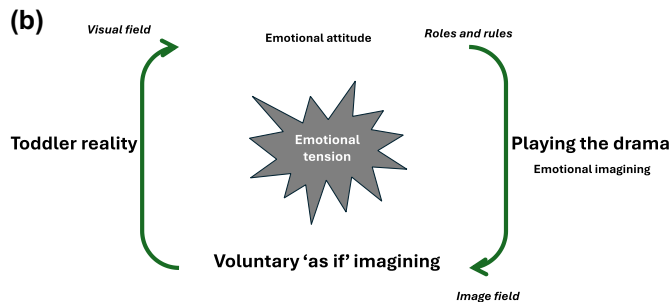


Fig. 13b. A psychological model of the relations between imaginary play and the development of imagination before the crisis of the cultural age 3.

We suggest that the imaginary situation being introduced to the infants and toddlers is not the cumulation of imagination but rather it is the beginning of the development of imagination. As Vygotsky's (1998) has argued, the only useful instruction is that which is ahead of development, and we also found that the imaginary play must be ahead of the development of image formation process. Imagination and image formation are profoundly connected with one another. Image formation begins its journey in play activity through the everyday situations where emotional anticipation is brought forward and where the development of images results. Images are formed in the domain of the concrete through emotional anticipation. It is through emotional imagining that conscious awareness and volition is formed within the imaginary play situations. We saw this primarily for the toddlers. The imaginary play creates the zone of proximal and actual development. Image formation takes an upward path, in line with development of everyday concepts, whilst the psychological function of imagination develops through emotional imagining taking a downward path through the activity of imaginary play. In this way, we suggest that emotional imagination develops as a unique mode of reflection of reality. But for infants and toddlers we theorise this differently (Fig. 13ab). We suggest there is a longitude and latitude of image formation that brings forward both the child and the new practice conditions of the Conceptual PlayWorld. The horizontal movement of image formation is captured in the actions of the infants and toddlers in imaginary play situations as a form of imitation within imaginary play under the conditions of the contradiction/tension. But the vertical movement from Figure 13a and 13b as an upward and downward motion is brought out through emotional imagining co-experienced through the educators in role as play partners and where reproductive imagining and voluntary imagining develops over time before the crisis of age 3 years.

8. Conclusion

We were interested in studying the early forms of imagining by infants and toddlers. Under an intervention of imaginary play (Conceptual PlayWorld) we sought to examine the genesis and conditions that support the development of the psychological function of imagination. Our study showed first, a structural form of *reproductive imagining* through the actions of the infants as they did similar things to educators. But for the toddlers, we saw *voluntary imagining* though how they initiated imaginary actions that solved the collective play problem. We suggest that under the conditions of mature forms of imaginary play created through the Conceptual PlayWorld intervention, that the genesis of imagining could be conceptualised as *reproductive imagining* and a more developed form of imagining as *voluntary imagining*.

Second, we can explain development of imagination (reproductive/voluntary) through the contradiction/tension observed in both infant and toddler settings. Invited into imaginary play scenarios by educators, a dramatic tension/contradiction between the *reality* and their *playing of reality* was resolved through imitation as a reproductive (infants) and voluntary (toddlers) form of imagining. Vygotsky (1984) has argued, "The crux of the matter is that whatever the situation, its influence depends not only on the nature of the situation itself, but also on the extent of the child's understanding and awareness of the situation" (p. 343). We suggest there is a developmental difference in the level of awareness of the imaginary situations that the infants and toddlers co-experienced. The infants met the new demands of mature forms of imaginary play by imitating the actions of the educators. We saw in Poppy's case, that she was

initially oriented to the real world of the ants and was not oriented to the imaginary play of the collective. However, overtime her observations of the imaginary play and her observations of real ants gave her new content (feeding watermelon to real ants) that she could bring into an imaginary situation (using props as placeholders of meaning). We suggest that the situation between the real ants and the pretence with props and imaginary actions of being/feeding ants, acts as a contradiction between the real and imaginary world and this appeared to be a productive force for enabling reproductive imagining to develop. Poppy needed to resolve this contradiction to participate in the group setting of the centre that she attended each day.

For the toddlers, the tension between the reality and the imaginary situation was also a productive force. Rather than contradiction between the real and imaginary ants (imitation of the educators), an emotional tension appeared to support the development of voluntary imagining that we believe is tied with becoming aware of the roles and rules (caring/helping) within the imaginary play. The empathy towards the Queen Ant (she was stuck/hungry) motivated a caring response through the actions of helping. The rules/roles of play presented themselves in voluntary imagining through finding food and feeding the Queen Ant. The need for food was familiar, and this need brought forward the *motive force of helping*. The emotional dimension of empathy for the hungry ants and the agency in helping, gave new insights into the motivating conditions where imagination was in the process of developing.

Third, we suggest that the emotional dimensions (e.g., empathy) being observed in our study are early forms of imagining at the inter-psychological level and which were constantly made available to the infants and toddlers through the educators' amplification of the urgency of helping the Queen Ant, and through this an image of the drama of the story is formed as both lived and co-experienced imaginary play (intra-psychological level). Zaporozhets (2003) argued that "Only later, and only on this basis, can such an activity acquire an internal nature and be realized in the ideal plane of *emotional imagination*" (p. 58; original emphasis). The inter and intra-psychological dynamic of emotional imagination helps explain how emotional anticipation as an orienting activity to a situation emerges. Emotional imagination enables an image of the imagined actions or possible situations to be realised by the toddlers.

Fourth, the findings also connect with the theorisations by Smolucha and Smolucha (2021) into the early forms of the development of imagination in early infancy. In our study of imaginary play in 2 group settings, we found object-meaning relations changed in the imaginary situation. Objects were important for shared imaginary meaning to be established and communicated. But like Yonzon et al. (2022) found, over time imaginary actions dominated the play activity of both the infants and toddlers. Changing object-meaning relations adds to the research into the use of props as placeholders of meaning in imaginary play (Fleer, 2024; Fragkiadaki et al., 2022; Lillard & Witherington, 2004; Yonzon et al., 2022; Yu et al., 2024).

These four conclusions add to what is known about the early forms of imagining of infants and toddlers. We know that very young children are increasingly experiencing childcare, and therefore the outcomes of our research contribute to supporting a gap in understandings about imaginary situations of infants and toddlers in group care settings. We problematise the belief that infants and toddlers do not engage in imaginary play in group care settings (Wragg, 2013). Similarly, and as Smolucha and Smolucha (2021) have suggested, "Guided pretend play in *early infancy* has often been overlooked by researchers" (Smolucha & Smolucha, 2021 p. 1046). The results of our research challenge the view that infants do not engage in imaginary play. Beliefs of what is possible for infants are especially important, because it is potentially the reason why educators do not create imaginary play conditions for infants in group care settings, or researchers set up intervention studies to investigate the early forms of development of imagination. Within the limitations of our study design, the results give insights into the genesis and development of infant imaginary play. But a great deal more research is needed if we are to confirm these findings across a broader and more diverse group settings. However, we do believe that when imaginary play is made available to infants and toddlers that early forms of imagining are evident and educators have a key role in creating conditions to support the development of imagination in group settings.

Ethics approval

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Availability of data and materials

Data not available due to ethics restrictions.

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Biographical note

Australian Research Council Laureate Professor Marilyn Fleer is Emeritus Sir John Monash Distinguished Professor at Monash University, Australia. She was awarded the 2018–2024 Kathleen Fitzpatrick Laureate Fellowship by the Australian Research Council and was a former President of the International Society of Cultural-historical Activity Research (ISCAR).

CRediT authorship contribution statement

Marilyn Fleer: Writing – original draft, Methodology, Investigation, Formal analysis.

Conflict of interest

The authors declare that they have no competing interests.

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