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## Creativity in children as play and humour: Indicators of affective processes of creativity

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### ABSTRACT

The purpose of the article is to clarify the relation between play and creativity and to develop a theoretical framework on understanding children's creativity as play that can be used in future research. This focus is motivated by an apparent paradox in research on play and creativity. In play research, play tends to be idealized as children's natural way of being creative, whereas in creativity research, play tends to be ignored. Building on the theory of the four stages of the creative process, the article attempts to determine the specific nature, process and product of play as creativity. The enquiry suggests that play is a type of creativity similar to humour in that the creative combination in both is characterized by an evanescent collision. Furthermore, it is argued that play can be conceived as 'humour with action'; that its creative product is a combination that is both imaginative and funny; and that its creative process is characterized by a shift in positive moods from cheerfulness in the incubation stage to enthusiasm in the illumination stage. The enquiry suggests that future research needs to focus on the affective indicators of the creative process of play.

### 1. Introduction

Peter K. Smith describes a long-standing paradoxical state of affairs within educational thinking on the question of the importance of play. In his widely cited book *Children and Play*, he concludes that "consideration of play often seems to fall between two opposite poles – it is either ignored or idealized" (Smith, 2010, p. 213).

This paradox appears to apply to research on play and creativity in children too. On the one hand, play tends to be idealized among educational researchers and practitioners as children's natural way of being creative and as the original source of creativity, but without these claims being theoretically based on or substantiated by research (Bateson & Martin, 2013; Lillard, 2015; Russ & Wallace, 2013). On the other hand, play is practically ignored in creativity research (Boden, 2004; Runko, 2014; Sternberg, 1999) and even in research on creativity in education. For example, the concept of play is virtually absent from weighty publications on creativity in schools (Craft, Jefferey, & Leibling, 2001; Craft, 2005; Jeffrey & Woods, 2009), and in *Thinking Skills and Creativity*, which is one of the leading journals on creativity in education, only 10 out of about 300 articles published from 2006 to 2019 concern children's play 1).

What is more, recent systematic reviews on play and creativity conclude that a compelling case cannot be made for play improving or facilitating creativity (Lillard et al., 2013; Russ & Doernberg, 2019). However, this is counterintuitive in that when observing children playing or engaging in play with children, many of us immediately experience play as a creative activity. This paradox calls for

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theoretical clarification of the relation between play and creativity in general and of creativity in children in particular, as there appears to be a general lack of reflection on the difference between adults' and children's way of being creative (Lillard & Taggart, 2019; Lillard et al., 2013; More & Russ, 2008; Russ, 2016).

### 1.1. Developing a framework for understanding play as creativity

In this article, I will contribute to the clarification of these questions by developing a theoretical framework for understanding creativity in play. Building on the classical notion of the four stages of the creative process and the three types of creativity, I argue that play is a type of creativity that is close to humour. As I will demonstrate, the nature of all kinds of creativity is to create a combination that is novel and relevant. Humour, however, is a kind of creativity in which this combination takes the form of a temporary collision, which creates a glimpse of meaning that makes us laugh. In play, by contrast, the temporary collision creates an imaginary situation that makes us play. I argue that creativity in play can thus be conceived as 'humour in action', in that it does not combine two elements of meaning like in humour, but rather an element of meaning and a given object or a person present, which is what leads to action.

The purpose of this article is thus to develop a theoretical framework for understanding children's creativity as play – a framework that can be used in future empirical research and provide a basis for further theoretical research on the question of play and creativity. At the end of the article, I discuss the methodological implications of this framework for research on children's play and creativity.

## 2. Play research and creativity

The paradoxical state of affairs in research on play and creativity in children appears to concern an ambivalence towards the phenomenon of play that can be traced back to the discussions of pretend or symbolic play in Vygotsky (1933) and Piaget (1945). Both agree that the acquisition of language is prerequisite for pretend play, because language makes possible the *separation* of meaning from an object. In pretend play, the child combines object and meaning in an unusual and entirely subjective way, thereby creating an imaginary situation. Vygotsky argues that this activity is important for the child's development, and especially for the cultivation of creativity, as in play "we can identify creative processes in children at the very earliest ages" (Vygotsky, 1927, p. 11). By contrast, and contrary to common belief, Smith (2010, p. 34) and Lillard (2015, p. 5) argue that Piaget did not see symbolic play as important for children's development. They stress that Piaget defines symbolic play as "merely egocentric thought in its pure state" (Piaget, 1945, p. 166) and conclude that, as such, it cannot be important.

However, I will argue that Piaget does not claim that symbolic play is unimportant but simply describes the difference between learning, which is about adapting to the world, and creativity, which is about bringing something new into the world, and which presupposes the egocentric process of imagining something that does not exist. For Piaget, symbolic play does not rule out creativity; in fact, quite the opposite: "in this sense, play constitutes the extreme pole of assimilation of reality to the ego, while at the same time it has something of the creative imagination which will be the motor of all future thought and even of reason" (Piaget, 1945, p. 162).

### 2.1. No consensus on play as creativity

Today, there is no consensus in the literature on the question of whether play promotes creativity, just as the question has proven difficult to answer experimentally (Bateson & Martin, 2013; Lillard, 2015; Lillard et al., 2013; Russ, 2016; Russ & Wallace, 2013). Experimental studies usually use Torrance Tests or similar tests, which measure the abilities that are characteristic of creative people and are rooted in the psychometric approach to creativity (Guilford, 1950). The results of these studies are inconsistent, even though the majority suggest that pretend play does not promote creativity in children or does so only partially (Lillard & Taggart, 2019; More & Russ, 2008; Pellegrini & Gustafson, 2005; Russ & Kaugars, 2001; Smith & Whitney, 1987).

The inconsistency of such experimental studies might be linked to more general problems associated with testing creativity. The psychometric approach has been criticized for its lack of ability to predict creativity in humans, its inability to deal with the perceived task-specific nature of creativity, for having contributed little to the promotion of creativity in education and for its insufficient theoretical understanding of creativity and creative processes (Gardner, 1994; Piffer, 2012; Sternberg, 1999; Zeng, Proctor, & Salvendy, 2011). In fact, experimental studies often operate with a theoretically weak concept of creativity that does not consider the nature of creativity (Lillard et al., 2013). I will return to this point.

### 2.2. Consensus on the nature of play

In contrast to creativity, there is a relative consensus on the nature of play. All play theorists agree that play is a *free and joyous activity*. For example, Huizinga (1938, p. 8) states that the main characteristic of play is that "it is free, is in fact freedom", and Piaget (1945, p. 148) establishes that "play is an activity 'for pleasure', while serious activity is directed towards a useful result irrespective of its pleasurable character".

I argue that it is furthermore possible to identify four specific characteristics of play beyond its nature as a free and joyous activity. First, play is constituted through a *separation from reality* – either by the rules of a game or by pretending 'as if' things were different (Caillois, 1958; Vygotsky, 1933). Second, play is made possible by an *openness towards the novel* in that it requires those playing to be open to new ideas and contributions to the play; as such, play is a fundamentally uncertain activity, "the course of which cannot be determined, nor the result attained beforehand" (Caillois, 1958, p. 9). Third, play evolves, in that it is a *spontaneous or creative activity* in which those playing are acting through improvisation or using their imagination (Caillois, 1958; Vygotsky, 1933). Fourth, play is a

meaningful activity in that it is *an end in itself* and not a means for other goals; as such, play is marked by a disinterest in issues outside itself for as long as it takes place (Huizinga, 1938; Piaget, 1945).

These characteristics apply to all kinds of play. However, creativity is a more central aspect when those playing are using their imagination, as in pretend play, and less so when they are only following rules or carrying out simple actions, as in games or sensorimotor play. Thus, play theorists typically stress that play is important not only because it promotes creativity, but also because it promotes children's physical, cognitive, personal and social development (Bateson & Martin, 2013; Lillard, 2015; Smith, 2010).

### 3. Creativity research and play

In creativity research, the creative activity of play is generally overlooked, as mentioned, despite the fact that there is a long tradition for inquiring into creativity in children and education. Hence, it was the explicit ambition of the aforementioned psychometric approach to creativity, which emerged in the 1950s and focused on everyday creativity, to identify the creative abilities of children and adolescents and promote creativity in schools (Guilford, 1950).

Other approaches to everyday creativity in children and schools typically focus on *little-c creativity*. In contrast to big-C creativity, which is the creativity of eminent people that transforms a cultural or social domain, little-c creativity is the creativity of ordinary people in the form of thoughts or actions that influence aspects of their everyday lives (Kaufmann & Beghetto, 2009; Richards, 1990). In order to further clarify what constitutes everyday creativity, Kaufmann & Beghetto have suggested an additional category of *mini-c creativity*, which they define as "the novel and personally meaningful interpretation of experiences, actions and events" (2009, p. 3). Thus, mini-c creativity is more about developing one's understanding of oneself and the world than creating a novel and relevant product, and, as such, it is more in the nature of transformative learning (Illeris, 2014).

#### 3.1. Little-c creativity and pretend play

In creativity research, Craft (2000, 2002) is one of the few researchers who have attempted to reflect on the role of play in creativity in education and children. She applies the concept of *little-c creativity*, but in her conceptualization the concept is more similar to what Kaufmann and Beghetto call mini-c creativity. Thus, Craft defines little-c creativity as "a way of coping with everyday challenges" and as "an approach to life which is driven to find solutions and ways in all situations" (Craft, 2002, p. 56f). According to Craft, this little-c creativity is an approach to life that has possibility thinking at its heart. Possibility thinking is a concept developed by Craft and colleagues to characterize the approach to being creative (Craft, 2002; Craft, McConnon, & Matthews, 2012). It is an inquisitive way of operating that attempts to open up possibilities of thinking and action by posing questions like 'what if', 'perhaps if' and 'why not try'. In this way, possibility thinking is a concept for a general approach to being creative, whereas little-c creativity is a concept for an approach to life that includes such creativity.

Craft's enquiry into the link between play and creativity begins by highlighting that creativity and play are often conflated. Craft (2000) argues that not all play is creative, and that, for the most part, play is only creative if it involves using one's imagination to imagine that things are different than they appear and interpret them in unusual ways. Interestingly, Craft asserts that role-play in socio-dramatic play is not necessarily creative because the child is mainly imitating a pre-existing role; therefore, "a child mimicking a role they already have some first-hand experience of (such as a parental role), would not be creative" (Craft, 2002, p. 154).

However, Craft fails to discuss this assertion with the theorist known for making the claim that role-play is creative, namely Vygotsky. Vygotsky argues that even when children attempt to imitate roles that they have experience with, they usually only have a faint idea of the rules and structures that govern these social roles, and therefore have to fill out the roles by using their imagination. Thus, role-play is never mere reproduction:

A child's play very often is just an echo of what he saw and heard adults do; nevertheless, these elements of his previous experience are never merely reproduced in play in exactly the way they occurred in reality. A child's play is not simply a reproduction of what he experienced, but a creative reworking of the impressions he has acquired. He combines them and uses them to construct a new reality (Vygotsky, 1927, p. 11).

#### 3.2. Play and possibility thinking

Craft argues that play generally encompasses possibility thinking in that it is a precondition for, and an essential part of, play to open up possibilities of thinking and action. Craft asserts, however, that even though some kinds of play might involve creativity, play and creativity are not the same, and play is therefore not a kind of creativity: "The conflation, then, of play and creativity is, it seems to me, mistaken. However, play may provide certain important qualities for enabling children's creativity. What play and creativity have in common, I would suggest, is being driven by openness to possibilities" (Craft, 2000, p. 50).

The point that play and creativity are both driven by openness to possibilities and to acting and thinking differently is an important observation. Nevertheless, by defining children's way of being creative as mini-c creativity or little-c creativity, and thus as possibility thinking, Craft and others *reduce* creativity in children to an *approach to life* or a way of coping with experiences and challenges. However, creativity is not merely an approach, but is by definition a process that results in a novel and relevant product, such as a creative idea or expression.

Therefore, if we are to talk meaningfully about creativity in children, we need to identify the type of creative products children produce through their creative activities and to develop an understanding of the specific characteristics of the nature of their creative

processes. Without such an understanding, it is impossible to determine whether play is children's way of being creative or is creativity at all.

As indicated, I will argue that play in children includes a *genuine* type of creativity that is *different* from what is normally conceived as Big C-creativity in adults. This type of creativity is genuine in the sense that it results in a new and relevant product, but it differs in that the creative product is neither lasting nor universal, as is an expression in art or an idea in science. Instead, creativity in play results in a temporary combination that is novel and relevant in the situation and among those present. It is, in other words, creativity as a form of humour, as I will develop below.

#### 4. Play as humour with action

An enquiry into the specific character of creativity in children must necessarily be rooted in general theories of creativity. The standard way of defining creativity is to use the *product definition* of creativity. According to this definition, an idea or expression is creative if it is both novel and relevant, where relevant is also formulated as appropriate (Amabile, 1997; Sternberg, 1999), valuable (Boden, 2004) and effective or useful (Runko & Jaeger, 2012). However, there is no consensus regarding the definition of creativity beyond this product definition. In fact, there is no consensus on what constitutes the novelty of the creative product, or how to discern relevant ideas from useless ones. Nor is there consensus on the nature of the process that results in the creative product or how to facilitate such a process. Thus, despite the broad research interest in creativity, there is a general lack of theoretical understanding of creativity; as Kaufman and Beghetto (2009, p. 1) also note: "The exact question of *what is creativity* is often ignored or answered in too many ways."

##### 4.1. Creativity as bisociation

One current of thinking that appears relevant to the present enquiry – because it has developed an overall theory of the nature of creative thinking, the creative process and the different types of creativity – is the theory of 'the four stages of the creative process', originally conceived by Poincaré (1908), formalized by Wallas (1926) and further developed by Koestler (1964). According to this theory, the novelty of the creative product is the result of a combination "formed of elements drawn from domains which are far apart" (Poincaré, 1908, p. 386). Thinking in general is about making combinations, but in contrast to ordinary thinking, which is about making combinations *within* one domain or matrix of thought, creative thinking is about making combinations *between* different domains or matrices. Koestler calls this act of thinking *bisociation*: "The bisociative act connects previously unconnected matrices of experience" (Koestler, 1964, p. 45).

For example, a connection might be established between two independent domains, such as the medical and the social domain, e.g. in the familiar joke: Doctor: "You are very ill". Patient: "I want a second opinion". Doctor: "You are quite ugly too". In this case, the connection is established through a similarity between the two domains in the form of the ambiguous meaning of the word 'opinion'.

It is no coincidence that humour can exemplify creativity. Koestler argues that humour is one of the three main types of creativity and that the bisociative act is particularly evident in humour. Koestler is actually regarded as one of the founders of modern humour research. Among humour researchers, there is consensus that humour relates to comprehending an 'incongruity' that refers to the simultaneous occurrence of incompatible elements and, as such, corresponds to the more general phenomenon of bisociation (McGhee, 1989, p. 17). In fact, Koestler (1964, p. 45) argues that the three main types of creativity differ from each other depending on the nature of the combination between elements from independent matrices. In discovery, the interaction of the matrices is a *fusion*, in that the elements form a stable synthesis in the form of a new idea or concept that brings about new knowledge. In art, the interaction is a *confrontation*, in that the elements have similarities but appear inconsistent and thus form a suspense held together in and by the expression or the piece of art that brings about an aesthetic experience. In humour, the interaction is a *collision*, in that the elements have similarities that are obviously incompatible and thus form an evanescent combination in the form of a joke that brings about laughter.

##### 4.2. Creativity in play

What about play – which type of creativity is at work in play? Koestler does not mention play, which reaffirms the common lack of interaction between research on creativity and research on play. Interestingly, however, in an interview reflecting on his lifetime of researching play, Brian Sutton-Smith argues that if we really are to understand play, we have to find mutual frameworks across play and humour. "My general mental attitude now is that we won't be able to understand play until we at least understand play and humour, and play and narrative" (Sutton-Smith, Brown, & Patte, 2012, p. 13). He points to the fact that children often make up jokes as part of their play and that being humorous is a common attitude in play, just as laughter is a frequent companion of play. Thus, these hints suggest that creativity in play is in the form of humour.

However, to clarify this, it is necessary to make distinctions between play and creativity, and play and humour. On the one hand, *not all kinds of play are creative*. In order for something to be creative, it must involve the creation of a novel and relevant combination, but many kinds of play, such as practice play or playing games with rules, usually do not. Even imagining something that does not exist, as in pretend play, is not creative in itself because it might be about re-creating and exploring something familiar or a known play situation, such as playing 'house'. It is only when imagination involves a novel element – what Craft (2000, p. 41) defines as imaginative in that it goes "beyond the obvious" – that it becomes creative. As is evident in pretend play, the novel combination of elements drawn from different domains, say a stick and the notion of Viking sword, is in the nature of a 'prolonged collision' in that it exists only

temporarily and is maintained only through the power of imagination. What is more, the indication of the novel collision of elements producing a glimpse of meaning that appears relevant to the participants in the play is, as in humour, that it is funny. Hence, an indication of creativity in play is that playing is not only joyous but also funny. I will return to this point.

#### 4.3. Creativity in play as a form of humour

On the other hand, *not only play, that is creative, is funny*. Fun is not only an element of pretend play, but is also an element of other kinds of play, such as games with rules and physical activity play. For example, children playing ‘tag’ and ‘kick the can’ usually laugh in excitement, just as “laughter and smiling often accompany the excitement of intense motor activity in group games: running, jumping, chasing, climbing, etc.” (Bariaud, 1989, p. 29). The reason that different kinds of play can be funny is due to the nature of humour that relates to comprehending an incongruity. An incongruity is, as mentioned, the simultaneous occurrence of incompatible elements, which can be a collision of elements of meaning that creates a new imaginative situation, as in pretend play. However, the occurrence of incompatible elements can also be a *collision of the intentions in actions*, such as the collision between the normal intentions in social relations and the intentions of catching each other when playing a game of ‘tag’, or between the normal intention of walking towards a destination and jumping around in a puddle.

The element of action is, however, also what appears to distinguish creativity in play from creativity in humour. Thus, Vygotsky refers to the distinction between play and imagination with and without action: “The old adage that children’s play is imagination in action can be reversed: we can say that imagination in adolescents and schoolchildren is play without action” (Vygotsky, 1933, p. 3). With this distinction, Vygotsky hints to the fact that play often involves physical and bodily action, whereas imagination as such is predominantly of a linguistic nature. Of course, thinking and speaking are also actions in the broader sense of performing an act of expression or association (Koestler, 1964; Wittgenstein, 1953). However, in contrast to pure imagination, which consists in combining two elements of thought, play is imagination with action in that it consists in *combining an element of thought with a given object or a person present*. For instance, to use Vygotsky’s (1933) famous example, a child might play ‘horse’ by combining the notion of horse with the stick the child is holding. In addition, the child might combine the concept of rider with him- or herself and then perform movements associated with riding, thereby creating and carrying out the imaginary situation of a person riding a horse.

In parallel to Vygotsky’s distinction, I suggest that creativity in play is described as *humour with action*, whereas humour can be described as *play without action*. Creativity in play is humour in that the imaginative combination is in the nature of a collision, and it is humour in action in that it is a collision between an element of meaning and a given object or a person present through a similarity between them. Just as in humour, this collision brings about a glimpse of meaning that is novel and relevant to the participants in play, which is the case when the collision is experienced as funny and expressed through laughter. Humour, on the other hand, can be described as play without action in that the collision is between two elements of meaning, often a more abstract and a more concrete (like the medical term second opinion and having an opinion about someone, for example).

However, it is important to stress that the distinction between play as humour with action and humour as play without action is first and foremost an *analytical distinction*. In actual life, we can observe humour that involves various forms of action from facial expressions over body movements to choreographic designs, for instance stand-up comedy and slapstick humour, just as we can observe play that involves humour in the form of riddles, jokes and funny stories. Thus, the distinction between play and humour is more like two poles on a continuum of acts of creativity as collision. I do think, though, that it is fair to say that what we generally recognize as humour is predominantly combinations of elements of meaning, which makes it linguistic in nature, whereas what we recognize as play is predominantly combinations that involve objects and persons and therefore lead to action.

### 5. The creative process of play

If play is humour with action, then the question is what characterizes play as a creative process and how this process is affective in nature. As mentioned, there is no consensus on the nature of the creative process, although the most prevalent notion is the theory of the four stages of the creative process (Poincaré, 1908; Wallas, 1926). The first stage in this theory is the *preparation stage*, in which one works intensively on the problem in question but does not succeed in solving it, leading to frustration. The second stage is the mystical *incubation stage*, in which one subconsciously broods over the problem and has the feeling that things do not add up, leading to a sense of disturbance and unease. The third stage is the *illumination stage*, in which the new idea comes suddenly and without anything in one’s “former thoughts seeming to have paved the way for it” (Poincaré, 1908, p. 388). The fourth stage is the *verification stage*, in which one works to adjust and make the idea work as an idea.

#### 5.1. Criticism of the theory of the four stages of creativity

Lubart (2001) has criticized the theory of the four stages of creativity for being a model that is too static and not nuanced enough to grasp the complexity of the creative process. However, this criticism applies poorly to Poincaré (1908) and his introspective analysis of his discovery of the existence of Fuchsian functions, which happened through a number of different creative processes in which the different stages appeared in very different forms and sometimes not at all. Thus, in Poincaré’s conception, the four stages are less a model and more an ideal type in Weber’s (1904) sense, in that they describe the typical traits of very diverse processes. As such, the stages are a theoretical construct designed for understanding reality, not representing it.

Furthermore, Lubart (2001, p. 299) reiterates and quotes Guilford’s (1950, p. 451) criticism that it “is not incubation itself that we find of great interest. It is the nature of the processes that occur during the latent period of incubation, as well as before it and after it.”

However, this criticism is mistaken as Guilford overlooks the fact that Poincaré engages in a thorough discussion of two hypotheses on the nature of the discernment process in the incubation stage (Poincaré, 1908, P. 390-394). The reason why Guilford overlooks this is apparently that he has not read Poincaré, or Wallas for that matter, as there are no references to them. Thus, Guilford's criticism does not live up to the standards of academic criticism.

### 5.2. *The affective nature of incubation*

Poincaré argues that the true work of the inventor consists in “choosing among these [numerous and novel] combinations so as to eliminate the useless ones or rather to avoid the trouble of making them” (Poincaré, 1908, p. 390). This discernment process takes place in the incubation stage, during which one is not consciously working on the problem but is rather in a kind of semi-hypnagogic state. Thus, Poincaré argues that the subliminal self plays an important role in creativity. His first hypothesis is that this subliminal self is capable of discernment and thus of sensing the fine and delicate rules that guide this choice, and that are “felt rather than formulated” (Poincaré, 1908, p. 390). His second hypothesis is that the subliminal self produces all possible combinations, of which only those that “affected most profoundly our emotional sensibility” would pass the threshold of consciousness (Poincaré, 1908, 391).

What is noteworthy is that, in both hypotheses, the discernment process is conceived as being affective in nature. In creativity research, there is an increasing recognition of the affective nature of creativity. Csikszentmihalyi (1996) has pointed to the flow state in the illumination stage; Amabile (1997) has pointed to the importance of the intrinsic motivation of the creator; Dreu, Bass, and Nijstad (2008) point to activating moods as facilitating creativity; and Russ (1993, 2016) has pointed to the relationship between cognitive processes involved in creativity and affective processes. Interestingly, Russ also suggests links between cognitive abilities, affective processes and Wallas's four stages, such as a link between the incubation stage, divergent thinking and access to affect-laden thoughts, but she does not further specify this relation (Russ, 1993, p. 16).

By contrast, Hammershøj (2019) argues that affective discernment in the incubation stage appears to be similar to Kant's (1790) concept of aesthetic judgment, which is based on the subject's feelings of pleasure and displeasure in the object. In the case of creativity, however, it is not about discerning a beautiful object, but about discerning whether a new combination between elements drawn from separate domains is meaningful or not; as such, affective judgment in creativity is based on feelings of interest and irritation. A strong feeling of interest is dominant in and expressed by a strong intrinsic motivation, while feelings of irritation regulate which combinations to avoid or disregard.

### 5.3. *The creative process of play*

Now, the question is: how should play be characterized as a creative process? First, play differs from other creative processes in that the novel combination is not in the nature of a fusion, as in discovery, or a confrontation, as in art, but a collision between elements, as in humour. Second, as the feelings of interest and irritation that underlie the affective discernment of the relevance of the novel combination relate to a collision between incompatible elements, the feeling of interest takes the form of feeling ‘this collision is funny’, while the feeling of irritation takes the form of feeling ‘this collision is boring’. Third, play is generally a joyous activity and, as Russ (1993) points out, the affective pleasure consists in both the challenge of establishing the play situation and the experience of playing in it; that is, all the stages of the creative process in play are joyous.

What is more, I will argue that the moods that characterize play are not simply activating moods in general, as Dreu et al. (2008) argue, but specific moods that enable the finding of similarities between elements from distant domains. According to Heidegger (1927), we are always in a particular mood that reveals to us how we find ourselves in the world as a whole and which makes it possible to direct ourselves towards something or someone. Thus, the moods characteristic of creativity and play are moods that reveal to us that the world is bigger or different than we thought and that more is possible; such moods appear to be moods like cheerfulness and enthusiasm (Hammershøj, 2014).

### 5.4. *The four stages of the creative process in play*

Building on this, I will attempt to outline a theoretical framework for the creative process of play conceived as humour in action, in which the imaginary situation is conceived through a series of collisions that are perceived as imaginative (novel) and funny (relevant) by the participants in the play. I will argue that creativity in play is a specific variation of the process of play in general in which the affective state shifts from play being *joyous* to play being *funny*. As mentioned, there is consensus that play is fundamentally a joyous activity. According to Piaget, imaginative play is pure assimilation in the sense that when children play, things are freely assimilated and subjected to their activities; thus “ludic pleasure becomes the affective expression of this assimilation” (Piaget, 1945, p. 149). In other words, ‘joyous’ relates to the pleasure of experiencing going beyond the usual practices of thinking and doing, and results from play's separation from reality. In contrast, ‘funny’ relates the pleasure of experiencing a glimpse of meaning resulting from the collision of elements from different domains. Thus, I suggest that the four stages of the creative process in play may be conceived as follows:

The preparation stage is about *preparing the separation from reality*. It requires that the participants take on an attitude in which they are ready to go beyond the realm of everyday life and open to imagining that things are different and that they and others are somebody else. In discovery and art, the separation is a matter of questioning the established ways of thinking and expressing oneself, which often takes the form of criticism of what is, whereas in play it is simply the openness and readiness to imagine freely that things are different. This openness and readiness manifests itself in behaviour, such as observing others playing or suggesting play by asking questions like “do you want to play?” Furthermore, this attitude is indicated by play signals that can take the form of a smiling, open-

mouthed ‘play face’, which shows the person’s readiness to laugh (Smith, 2010, p. 5).

The incubation stage is about *discerning which collisions are funny*. It requires that an imaginary situation is established through a combination of meaning and objects or persons. The starting point of the incubation stage is thus in the nature of a normal play situation in which the dominant affective experience is that the activity is joyous. The creative process during this stage takes the form of discerning which possible imaginary collisions appear funny and which appear boring. It is in other words a process of *sensing* these collisions. In discovery and art, the process of discerning which novel combinations are relevant is typically accompanied by a disturbing mood revealing that things are not as we expect, whereas in play the process of discerning is typically accompanied by a cheerful mood revealing that things could be different than they are. In contrast to the joyous character of play, which concerns the motivating experience of playing, the cheerful mood concerns the orientating discernment of creativity and sociability in play. In sociability, cheerfulness brings attention to the fruitful potential of being open and responsive towards the ideas and contributions of the other participants in the play. For the same reason, Simmel calls sociability “the play-form” of association (Simmel, 1910, p. 137). In creativity, on the other hand, cheerfulness brings attention to which combinations are fruitful and open up new possibilities, and which do not.

The illumination stage is about *carrying out the imaginative collisions*. This is the moment when it is realized that an imaginative collision is funny. It typically happens suddenly, with great certainty and expressed through laughter. Unlike the other kinds of creativity, however, creativity in play immediately involves action in that the collision of meaning and objects or persons is performed and experienced through play. The creative process at this stage is thus the simultaneous act of creating and carrying out the new and relevant combination that establishes or transforms the play situation. Furthermore, at this stage, there is a *shift in mood* from cheerfulness to moods revealing that a specific combination opens up new possibilities of meaning and action and evoking a sense of the world being bigger or different than expected (Hammershøj, 2018). These moods include *enthusiasm*, which reveals that more is possible, e.g. when turning a moon-car upside down, thereby enabling the child to make a fountain of sand from the turning wheels; *disturbance*, which reveals that the world is different than one thought, e.g. when playing at being chased by zombies; and *trance*, which reveals the dissolving of one’s self, e.g. when painting or playing with beads. Characteristic of the moods of enthusiasm and disturbance is that energy levels are high and the voices of those playing are usually louder than in the incubation stage; for example, they might shout with delight, ‘I am Ironman!’ or ‘I am Pippi Longstocking!’

The verification stage of play is about *exploring the collisions through iterations*. At this stage, the imaginative play is carried out by iterating the collision or being absorbed in the imaginary situation created by the collision. The purpose is to explore the possibilities made available and experience the different ways of being and acting that the play enables. At this stage, the mood shifts from enthusiasm back to cheerfulness because the collision is no longer new, but still interesting to explore. Correspondingly, the experience of play activity gradually shifts from being funny to being joyous. The iterations of the play usually also involve variations and development of the imaginary collision in order to explore and keep it interesting to play. This is often done in the form of *ping-pong interaction* between those who play together. Someone contributes with a new imaginary combination, which is then greeted with laughter or repeated by the others who hereby confirm it; then someone else contributes, and so forth. In this way, the creative process loops and is iterated for as long as the play lasts. In this process, the affective judgment of which imaginary combinations are funny is usually calibrated in the sense that those playing together adjust their sense of humour to each other.

## 6. Future research on play and creativity in children

In the following, I discuss the implications of the theoretical framework developed above, regarding play as children’s way of being creative, for future empirical research on creativity in children in general and the controversy over the evidence of the link between play and creativity in particular.

In their review of research on play and creativity, Lillard et al. (2013, p. 8) conclude that there is “not a compelling case that pretend play improves creativity as it has been measured”. Lillard et al. reviewed eight correlational studies, some of which showed a relationship between pretend play and creativity, as well as four experimental studies and seven training studies suggesting that play can increase creativity. However, the evidence disappeared when the experimenters were masked and the adult contact was controlled. Critics of Lillard et al. argue that the review includes too few studies and that the methods of the studies reviewed cannot capture genuine pretend play (Russ & Wallace, 2013; Silverman, 2016; Bergen et al., 2013; Weisberg, Hirsh-Pasek, & Golinkoff, 2013). In a recent review of the current research on play and creativity, Russ and Doernberg (2019) concludes that correlational studies support the association between pretend play and creativity, but experimental and intervention studies that investigate whether play facilitates creativity have mixed findings; however, there is some evidence that play facilitates divergent thinking. Furthermore, Russ & Doernberg (2019, p. 612) suggests that it is “possible that a number of play intervention sessions are needed before effects can be demonstrated”.

### 6.1. Play as a type of creativity

The question is how the developed framework of play as humour with action and the affective processes of play might shed light on these inconsistent findings regarding the relationship between play and creativity. This is linked to the question regarding the definition and theoretical understanding of creativity in children. As mentioned, Lillard et al. (2013, p. 5) note that “in the studies on play it [creativity] has typically been defined as the ability to produce original content relevant to a particular task”. This is the product definition of creativity, even in the generalized form of discovery, as it relates to a particular task. As such, it appears to be a general problem in studies on creativity that there is a lack of theoretical reflection on the type of creativity and nature of creative processes

studied.

In particular, there is a lack of reflection on which type of creativity is prevalent in children and whether play is a type of creativity or not. If play is children's way of being creative, then it does not make sense to measure play using the yardstick of adult creativity. For example, the reason why play appears to induce divergent thinking might be that the task of generating as many alternative ways of using, for instance, a sock or paper towel as possible resembles the imaginative generation of colliding elements in play. In divergent thinking, however, it is about producing novel but non-relevant combinations, whereas in play it is about discerning those imaginative combinations that are funny and avoiding the trouble of making those that are not, which is not reflected in divergent thinking tasks. Hence, divergent thinking is not an adequate indicator of creativity in children.

## 6.2. Play as an affective process

In continuation of the above, there is the question of the methodological implications of the theoretical framework when studying play and creativity. If creativity in children is in fact humour with action, then empirical studies measuring the creativity of play should focus on how and to what degree play activities are imaginative and considered funny by those playing. What is more, if play is a creative process that is affective in nature, then studies should focus on studying the moods of play activities, especially the moods of cheerfulness, enthusiasm, disturbance and trance, and intervention studies should focus on establishing these moods and measuring the effects on creativity in play.

By contrast, current studies on play and creativity appear to ignore the moods of play. For example, recent experimental studies are more in the nature of an assignment, such as playing with a standardized set of toys and story stems (Fehr & Russ, 2016). Moreover, Lillard et al. (2013) suggest that the results of these studies may be biased if the same experimenter conducts both the treatment sessions and the test sessions. However, if the creative process of play is about developing an open mindset and being put in a cheerful and enthusiastic mood, then a change of adult would be very likely to disrupt these affective processes. Hence, using masked experimenters might be a significant source of error in studies on play and creativity in children.

## 7. Conclusion

There is broad consensus that there is a need for high-quality studies on play and creativity. If, as the framework developed here suggests, creativity in play can be conceived as humour in action, consisting of collisions of elements that are imaginative and funny, then it makes no sense to study correlations between play and creativity. Instead, it suggests that the focus of studies on play and creativity in children should be the quality and intensity of affective indicators of creative processes in play, such as the moods of play, and the criterion of creativity in play, which is making combinations that are imaginative and funny.

This calls for studies focusing on the processes of play and creativity in children, such as training and intervention studies, as well as longitudinal studies that could confirm or disprove the assumption that play is the source of all other types of creativity developed later in life.

Furthermore, this might help clearing up the paradoxes of educational policy discourses on creativity in education. On the one hand, policy discourses argue for the importance of promoting creativity in schools to prepare for the future knowledge society (NACCCE, 1999; OECD, 2018). On the other hand, policy discourses introduce initiatives, such as accountability, performativity indicators and league tables, that favour a market-driven educational system but are criticized of hampering creativity (Biesta, 2015; Mehta et al., 2020; Robinson, 2010). A clarification of the role of play in creativity in children might contribute to solving this paradox. Thus, if it is important to promote creativity in order to prepare for future society, and if play is the source of all other kinds of creativity, then play is important in education.

## Notes

1) I have used the citation database *Scopus* to search for the keyword "play" in the research journal *Thinking Skills and Creativity*, eliminating results that did not concern play as an activity or phenomenon, such as wordings like "playing a role". The search was carried out March 2020 on [www.scopus.com](http://www.scopus.com).

## Author statement

I, Lars Geer Hammershøj, am the sole author of the resubmitted manuscript "Creativity in children as play and humour: Indicators of affective processes of creativity".

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