



'it tickles in my tummy!'

understanding children's risk-taking in play
through reversal theory

Ellen Beate Hansen Sandseter

*Queen Maud University College of Early Childhood Education (DMMH)
Trondheim, Norway*

ABSTRACT

'It tickles in my tummy' is one of the most frequent answers when children are asked to describe what they experience when engaging in risky play. Why do children take risks in spite of the fact that this can be a harmful and even fatal activity? This article aims to explore this issue. Semi-structured interviews of 23 pre-school children aged four and five years were analyzed on the basis of the concepts of paratelic and telic states in Reversal Theory, the paratelic state being an excitement-seeking mode, and the telic state being an anxiety-avoiding mode. The phenomenological structure of children's risky play was found to be characterized by children expressing the ambiguous nature of quick reversals between the paratelic and telic states, producing both pleasant and unpleasant emotions. This 'walk on the dangerous edge' seemed to be one of the primary goals of engaging in risky play. As long as the paratelic state dominated the situation, children embraced the potential fear by arousal-increasing strategies and maintained play. If the telic state dominated the situation, children described arousal-avoidance strategies and ultimately withdrew from play.

KEYWORDS *ambiguous emotions, early childhood, preschool, reversal theory, risk-taking, risky play*

introduction

Research on both children's and adults' conceptions of risky play have defined this as thrilling and exciting form of play that involves a risk of physical injury, such as play involving great heights, high speed, dangerous tools, or dangerous environments (Sandseter, 2007a). Risky play primarily takes place outdoors,

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often in the form of challenging and adventurous physical activities, and most of the time it occurs during children's free play, as opposed to play organized by adults (Sandseter, 2007b).

A recent study (Sandseter, 2007a) aiming to categorize risky play through observations and interviews of children and staff in pre-school utilized six categories of risky play: a) play with great heights (danger of injury from falling), b) play with high speed (uncontrolled speed and pace that can lead to collision with something or someone), c) play with dangerous tools that can lead to injuries (e.g. knives, axes), d) play near dangerous elements where you can fall into or from something (e.g. fire pit, cliffs, deep water), e) rough-and-tumble play (where the children can harm each other), and f) play where the children can 'disappear' or 'get lost' (i.e. go exploring alone).

The fact that children are explorative and both seek and prefer risky play (Ball, 2002; Buss, 1997a; Pellegrini and Smith, 1998; Smith, 1998; Stephenson, 2003) is puzzling because it can potentially result in injury, thus eliciting emotions such as fear and anxiety (Sandseter, 2009). Why do children deliberately involve themselves in play activities that can lead to unpleasant experiences or even injury or death? Some possible explanations of why children engage in risky forms of play include: becoming at home in the world, testing what is possible or not, learning what is dangerous or not, and learning about both their environment and themselves (Apter, 2007a; Ball, 2002; Smith, 1998). Others argue more specifically in favor of the evolutionary functions of children's risky play. Habituation and anti-phobic effects on natural fears and phobias (e.g. for heights, water, and separation), adapted drives to enhance learning of important skills and development of physical features (e.g. perception, social skills, physical strength, physical and motor skills), and the general skill of risk management are all proposed to improve the chance of survival and reproduction (Sandseter and Kennair, in preparation).

What are children's motivations for engaging in risky play, and how do they experience this play? This article aims to explore through interviews the structure and the essence of four- and five-year-old children's experiences of engaging in risky play, both motivationally and emotionally.

a reversal theory approach to risk-taking

Why do humans deliberately take risks? One attempt to explain the human motivation for engaging in dangerous behavior is the Reversal Theory by Michael J. Apter (1981a, 1982, 1984, 1989, 1992, 2001a, 2007a, 2007b; Apter et al., 1988). This theory states that the motivation, emotions, and personality structures that result in risky behavior are based on the goal of increasing pleasurable arousal. According to Apter, arousal can be experienced either as pleasant/good

or unpleasant/bad depending on the metamotivational state (or mode) the individual has at that particular moment.

The Reversal Theory covers several pairs of opposite metamotivational states that can provide a phenomenological understanding of personality, individual differences, shifts, and bistability in emotions and motivation. The most relevant pair relating to risk-taking behavior consists of the contrasting telic and paratelic states. In a telic state, the individual is characterized by being serious-minded, goal-oriented, sensible, cautious, and arousal-avoiding, while in the paratelic state, the individual is characterized by being playful, activity-oriented, adventurous, thrill-seeking, and arousal-seeking (Apter, 1984, 2001a, 2007b). In a telic state, the individual will experience high arousal as an unpleasant emotion, and tend to reduce it, while in the paratelic state, the individual will experience high arousal as a pleasant emotion, and tend to increase it. A person in the paratelic state experiences a kind of psychological protective frame that gives a subjective feeling of confidence even when staying in the danger zone (i.e. doing something potentially dangerous and harmful). The person then often deliberately moves as close as one can to the dangerous edge between danger and trauma, because this is where the level of arousal is highest (Apter, 2007a; Gerkovich, 2001). The description of individuals in the paratelic state, particularly from a risk-taking perspective (Gerkovich, 2001), resembles what is labeled in traditional theories of personality traits as excitement-seeking/risk-seeking/sensation-seeking. These traits are characterized in the personality literature as a willingness to take risks and seeking excitement, thrill, and new adventures through behavior and stimulation in different ways (Buss, 1997b; Costa and McCrae, 1992; Eysenck and Eysenck, 1985; Matthews et al., 2003; McCrae and Costa, 1997; Zuckerman, 1979a, 1983, 1994). The description of a person scoring highly on these traits is someone who likes to be social with many people, seeks thrill and excitement, takes chances, is optimistic and enthusiastic, and easily laughs and shows their feelings.

Apter (2003) very clearly argues that the Reversal Theory deals with personality based upon dynamic states, where the way of seeing the world and acting in it is changeable and flexible, and not based on static traits where motivation and behavior is homeostatic (Apter, 1984). One person will sometimes be in the telic state and sometimes in the paratelic state, and will subsequently feel and behave accordingly. The shifts from one state to the other are referred to as reversals (Apter, 2001a). Reversals are caused by both internal emotions, such as frustration or satiation, and by external events, such as a sudden physical danger. These factors generate a reversal from the paratelic (enjoyment) to the telic (anxiety) state (Apter, 1984). Even though Apter outlines the difference between the Reversal Theory allowing for inconsistent motivations, emotions, and behavior, as opposed to the trait theory, which focuses upon consistency,

these theoretical perspectives become more similar when considering the concept of metamotivational dominance in Reversal Theory. Apter (1984, 2001a, 2007a) acknowledges that an individual has a tendency to spend more time in one state than in the other, and the author refers to the specific case of a person who spends more time in the paratelic state than the telic state as being paratelic dominant. The notion of dominant states means that the factors causing a reversal have to be stronger to induce a reversal from the dominant stage to the other, and can be weaker to induce a reversal from the non-dominant stage to the dominant (Apter, 1984). The similarity between the sensation-seeking trait and paratelic dominance is demonstrated by research that has found a strong relationship between scales such as the Sensation Seeking Scale (Zuckerman, 1979b, 1994) and the Telic Dominance Measure (Murgatroyd et al., 1978). It is suggested that these scales measure a similar personality construct (Chirivella and Martinez, 1994; Trimpop et al., 1999). Research also supports the notion of psychological protective frames being a central factor of risk-taking behavior, providing for a psychological condition in which the individual can enjoy danger and risk activities as (highly) pleasant instead of unpleasant (Chirivella and Martinez, 1994; Cogan and Brown, 1999; Trimpop et al., 1999). When in the danger zone, the protective frame is more often operative among sensation/arousal-seekers than in arousal-avoiders (Trimpop et al., 1999).

a Reversal Theory approach to risky play

Viewing risk-seeking behavior from either a Reversal Theory perspective or a trait-theory perspective, the urge for seeking risky situations and heightening one's arousal is based on individual differences in personality and how this affects one's motivation, emotions, and behavior. How can this be applied to children's engagement in risky play?

Similar to adult's risk-seeking, children's urges for risky and dangerous experiences through play seem to be highly influenced by the children's level of sensation-seeking and how they perceive a risky situation. This indicates that children who are exhilarated (experiencing pleasurable arousal) by risks are more likely to engage in physically risky play and behavior (Cook et al., 1999; Miller and Byrnes, 1997). Research into children's temperament has found a temperament dimension resembling adult's excitement/sensation-seeking characterized by a preference for intense stimulation (Putnam et al., 2001; Rothbart et al., 2000, 2001a, 2001b). This temperament dimension is expressed by an urge for excitement through high intensity activities such as risky play, a high activity-level, impulsive behavior, and the absence of shyness (Putnam et al., 2001). Thus, the temperament is expressed in the normal repertoire of actions that children in the actual age group have, which is often apparent in play situations.

The paratelic state is the mode in which the individual is playful and activity-oriented, looking for fun and immediate enjoyment (Apter, 2001a), thus describing the core elements of children's natural play. Logically, one can assume that children are in the paratelic state while playing. Apter (1982: 300) states that 'indeed in its purest form, play seems to be an obvious expression of the functioning of the paratelic system', and Kerr (1986) argues that Caillou's concepts of Paidia play activities (characterized by tumult/turbulence, improvisation, and carefree gaiety) are similar to, and constitute a basic element in the concept of the paratelic state in Reversal Theory. Research into the components that characterize play describes characteristics of the actions, motivations, and emotions similar to those characteristics that individuals display in a paratelic state; the activity itself being more important than its ends (Bekoff and Byers, 1981; Martin and Caro, 1985; Pellegrini and Bjorklund, 2004; Smith and Vollstedt, 1985). The bipolar and bistable nature of children reversing in and out of the play-mode (or state) (Kerr, 1991), and play as a voluntary, intrinsically motivated and optimal experience that brings arousal, and feelings such as excitement, fun, merriment, joy, and lightheartedness (Sutton-Smith, 1997) are also in accordance with a paratelic state.

Apter (1991b) describes the play-state as a state where you feel secure and unthreatened, similar to the protective frame, creating an 'enchanted zone in which . . . you are confident that no harm can come' (p. 15). Apter (1982) indicates the various strategies and techniques people use to obtain pleasures of play by increasing the arousal as one of the key characteristics of play as action. These strategies include exposure to: arousing stimuli (e.g. loud music, bright colors), fiction and narratives, challenging situations or tasks, exploration, negativism (e.g. rule-breaking), cognitive synergy, and facing danger (Apter, 1991b). In the issue of children's risky play, an increase in arousal is primarily sought by exploration, challenges, and facing danger. Risk-taking action among adults is often associated with exotic, expensive, or unusual ways of playing with danger such as parachuting, paragliding, and bullfighting, but Apter (1991b) emphasizes that more common and modest actions also can lead to increased arousal. Risk-taking among children often takes a less extreme form of action compared to adult's risk-taking. Still, children experience similar emotional experiences such as thrill, excitement, joy, and fear. Children do not need to do bungee jumps, parachuting, or dive in deep oceans to get a thrill. They search for their thrill and excitement through play activities. Still, the importance of a secure setting and providing the notion of a protective frame is emphasized by several researchers as an important factor for children being willing and able to engage in risky play (Ball, 2002; Little, 2006; Smith, 1998; Stephenson, 2003). Thus, the concepts of telic and paratelic states within Reversal Theory seem to be compatible with the phenomenon of children's risky play.

contrasting emotional experiences in risky play

The bistable nature of play as a paratelic state where quick reversals to a telic state (or vice versa) can possibly happen at any moment indicates that contrasting emotions, such as pleasure/displeasure, enjoyment/boredom, and excitement/fear (or anxiety) can be experienced within one and the same situation (Apter, 1981a, 2001a). According to Apter (2007a), this is especially the case in risk-taking actions and risky play where the goal of the action is to be on the dangerous edge, where people switch back and forth between the excitement-seeking and the anxiety-avoidance state: 'Since their arousal is high throughout, the result is that they switch to and fro between excitement and anxiety. That is, the protective frame comes and goes while they are in the vicinity of the edge' (p. 42). In accordance with this, it has been documented that children can experience both fear or exhilaration at the same time while engaging in risk-taking activities (Cook, 1993). From a Reversal Theory perspective, this is probably due to quick shifts between the telic and the paratelic state (Apter, 2007a; Kerr, 1986; van der Molen, 1986). Engaging in risky play thus brings forward ambivalent emotions in the child. When in the danger zone and on the dangerous edge, they feel scared, yet at the same time they experience pleasant excitement (Apter, 2007a).

In support of this theory, there is research indicating that children often seek the border between exhilaration and fear while engaging in risky play and risky activities (Sandseter, 2009; Stephenson, 2003). The contrasting emotions of being both afraid/scared and excited/having fun at the same time thus seem to be present in risky play (Aldis, 1975; Sandseter, 2007a; Stephenson, 2003). According to Sandseter:

... in many children, the expression of both emotions (exhilaration and fear) seems to be the emotional goal of risky play. They constantly seek to heighten the risk to feel further exhilaration, still keeping out the feeling of pure fear. The expression of both emotions was thus apparent in situations where the exhilaration balanced on the edge of switching to fear. (Sandseter, 2009: 102).

Both Sandseter (2009) and Aldis (1975) found that children experiencing the mixed emotions in the borderline area between positive reinforcement and real fear express these emotions by screaming, high pitched laughing, and loud yelling. This indicates that those mixed and ambivalent emotions bring forth enjoyment and pleasure of an intensely high arousal.

In Apter's (1981b) opinion, the notion of bistability and the fact that people seek and enjoy the complexities of contradictions and ambiguity should be acknowledged as an important underlying factor of motivation for action in everyday life, and should thus replace the classic notion of people attempting to maintain homeostasis. This would be relevant for the understanding of the nature of and motivation for risky play among children, the present article will analyze children's experiences of risky play within this perspective.

method

subjects

The study was carried out at two Norwegian pre-schools. Twenty-three children, 11 in one pre-school and 12 in the other, all aged four or five, were interviewed. An informed consent to interview the children was obtained by proxy from parents (Greig et al., 2007; Patton, 2002). In addition, the children were informed that they were free to withdraw from the interview at any moment (Greig et al., 2007).

the interviews

The children participated in a one-to-one qualitative interview with the researcher. To avoid interruptions, the interviews took place in the 'staff room' in each of the pre-schools. Each interview lasted about 20–30 minutes, and they were all recorded on audiotape (MP3). The interviews were semi-structured (Greig et al., 2007), using an interview guide list of questions and issues that were to be discussed and explored with the children. This was to ensure that the most central issues of inquiry were pursued with all the children (Patton, 2002), while still keeping an open mind and appreciating the children's own initiative for telling the stories that they were eager to communicate to the researcher. The interview guide was based on Sandseter's (2007a) six categories of risky play, and aimed to explore children's motives for engaging in risky play, what kind of risky play they preferred when in pre-school and why, and their experiences of engaging in different categories of risky play.

Having spent four to five months in the pre-schools observing the children, the researcher was familiar to the children. Still, the introductory questions of the interview were questions about name, age, and if the child liked being in pre-school. Patton (2002) advises not to start an interview with such boring questions, but the experience in this study was that children loved to talk about how old they were and their daily experiences of spending time in pre-school. In the present setting, these questions led to a mutual confidence between the child and the researcher. In the rest of the questions, the researcher invited the children to describe the kind of outdoor play in pre-school that was fun, thrilling, and scary, why they perceived this kind of play in this way, and how they felt while engaging in this play. The children were also asked why they chose to participate in this play, if they already hadn't talked about this. Keeping to the interview-guide, the researcher made sure to gain information about both play in the winter (in Norway, this normally means a snowy playground) and in the summer (the interviews took place in May/June), and that the six different categories of risky play were mentioned and discussed with the children.

When the interviews were finished, the audiotapes were transcribed verbatim into an electronic word file by a professional transcriber.

the analysis

The transcribed interviews were analyzed using a combination of theory-driven and data-driven thematic analysis (Boyatzis, 1998; Coffey and Atkinson, 1996; Grbich, 2007). This meant starting out by coding the data according to a frame of basic theoretical concepts and themes from Reversal Theory. In addition, it also meant letting the data speak within these frames. In this sense, the analyzing process took a spiraling approach (Berg, 2007), going back and forth between theoretical deductive concepts and data-based inductive concepts, which is called an abductive reasoning process (Coffey and Atkinson, 1996). The analysis was phenomenological in terms of exploring the children's own conscious experience of their motivation and emotions regarding the issue of risky play in accordance with the telic and paratelic states (Apter, 1989, 2001a, 2007a, 2007b). As the Reversal Theory is a structural phenomenological theory (Apter, 1981b, 2007b), the analysis was therefore conducted following the four basic steps of The Descriptive Phenomenological Psychological Method to describe the structure of the experience of risky play provided by the children (Giorgi and Giorgi, 2003). The first step was reading through the complete transcripts to get a sense of the whole picture (Giorgi and Giorgi, 2003). At this stage, the data were just read with an open-mind in order to obtain an overview of the content of the data without considering the theoretical concepts from Reversal Theory in any particular way. In step two, the transcripts were re-read from a psychological viewpoint and within the perspective of phenomenological reduction, marking the text and writing codes whenever interesting units according to the research question appeared. At the third stage, the aim was to transform the meaningful units into psychologically relevant concepts. Here, the two main concepts of telic and paratelic states were introduced. The pre-defined themes were: *low preferred arousal/cautious/sensible* (telic state), and *high preferred arousal/thrill-seeking/adventurous* (paratelic state), as these have been used in previous research within the field of the Reversal Theory (Apter, 2001a; Apter et al., 1988; Ford, 2003). In addition, a theme named *ambivalence* was added to the pre-defined themes of analysis. This was added in order to explore the possibility that the children experienced exhilaration bordering fear, or felt exhilaration and fear at the same time (Aldis, 1975; Cook, 1993; Sandseter, 2007a; Stephenson, 2003). Based on these pre-defined themes, a thematic analysis was conducted, reducing the data with a 'block and file approach' (Grbich, 2007). This meant keeping large chunks of data within each psychological theme intact, but still creating codes from the data that described how the children experienced their motivation and emotions concerning their engagement in risky play. At the fourth stage, the aim was to determine the structure of the experiences of the phenomenon (Giorgi and Giorgi, 2003). Here, the essence and codes of the data from stage three were organized by 'conceptual mapping' (Grbich, 2007) to find and display the holistic structure of children's experiences of engaging in risky play.

results and discussion

Since play is the most obvious expression of a paratelic state (Apter, 1982), and risk-taking is one of the activities with the most arousal-heightening potentials (Apter, 1991b), it was expected that children's experiences of engaging in risky play would reveal emotions and motives compatible with both the paratelic state (e.g. approaching and engaging in risky play) and the telic state (e.g. refusal of or withdrawal from risky play). It was also expected that these experiences could be ambivalent in nature, because of quick reversals between the paratelic and telic state during engagement in risky play. The analysis, based on these three concepts, revealed that children's experiences of risky play formed a phenomenological structure where the contrasts and ambiguity between the experiences of *pleasant emotions* versus *unpleasant emotions* were key concepts in the phenomenology of risky play. This led to a contrast of *arousal-increasing strategies* versus *arousal-reducing strategies*, and to the actions of *approach/engagement* versus *refusal/withdrawal*. In the following section, the findings will be presented and discussed in relation to the *paratelic state*, the *telic state* and the *ambiguity of risky play*. A figurative summary of the phenomenological structure of risky play is presented later.

risky play and the paratelic state

The most obvious sign of children in the paratelic state while engaging in all the six categories of risky play (Sandseter, 2007a) was their descriptions of the experience of pleasant emotions.

pleasant emotions

Pleasant emotions included experiencing a happy feeling, excitement/exhilaration, fun, enjoyment, and thrill, all of which neatly fit into the description of the characteristics of an individual being in the paratelic state (Apter, 2001b). According to Apter (2001b), the core value forming the base of the paratelic state is *fun* (and similar emotions). When children were asked to describe *why* they experienced these pleasant emotions, they sometimes explained this by repeating the emotion they described in the first place, thus reinforcing and underlining this emotion such as:

Tom (4 ½ years old): I like climbing trees, it's fun!

Interviewer: Why is climbing fun?

Tom: It's just so much fun!

Sometimes the explanations were more descriptive as the children described the emotion with another pleasant emotion such as:

Mia (5 ½ years old): I love to swing in high speed, it so much fun!

Interviewer: Why is that so fun?

Mia: It's so . . . so wonderful!

Finally, the children also described bodily feelings as explanations for why they experienced these pleasant emotions, the most frequent answer being: it tickles in my tummy, and also I feel wild and it gives me a shaking feeling. These descriptions of pleasant emotions were explored in more detail by asking follow-up questions about the situations in which the children experienced these emotions. Some of the answers in summary are cited below:

When swinging with high speed (some also low speed).

When we chase and catch each other.

When climbing very high.

When riding a bicycle very fast.

When sledding fast downhill.

When swinging up to where the birds are/the roof/the sky/higher than the house.

When playing King Kong up in a steep hill.

When sledding so fast that smoke rises from the ground.

When jumping down from trees while climbing.

When jumping off the swing in speed.

When play-fighting/play-wrestling/play-fencing with sticks.

These descriptions show that the experience of pleasant emotions such as exhilaration, enjoyment, and fun are related to risky play in the categories of play at great heights, play with high speed, and rough-and-tumble play (Sandseter, 2007a). Some children also said that they thought it was thrilling to whittle with knives. The exciting/exhilarating feeling, obtained by the heightened arousal that these kinds of play generate, seems to be the primary motivation for engaging in these categories of risky play. In relation to the Reversal Theory, these are the situations where the individual is paratelic, experiencing a protective frame, focusing on the activity in itself, and in the danger zone (Apter, 2007a).

arousal-increasing strategies

In this activity-oriented mode, the motivation of increasing the arousal, moving towards the dangerous edge between danger and trauma to experience even more excitement, seems to result in various arousal-increasing strategies among the children. These strategies are basically implemented by increasing the risk factors in the play situation, described by the children as 'increasing speed/going "racer speed"', increasing height, being more reckless' or 'acting in a more

threatening way by making grimaces, sounds, violent movements, when play fighting/chasing/ catching each other'. Sometimes these strategies were more creative and risky ways of performing the play, such as when the children chose a more risky/scary/dangerous strategy of action. These strategies included:

- Jumping down instead of climbing or sliding down.
- Climbing on the roof of the climbing tower or playhouse.
- Jumping down from swings in speed, standing on swings, sometimes even holding with only one hand.
- Swinging sideways/'crash-bomb' or with spin/'spinning-speed'.
- Sliding/sledding in a queue, on stomach with head first or backwards.
- Using skis or sledding board in the switchback.
- Sliding the rim on the switchback.
- Standing upright on the sledding board.

These strategies apparently lead to less control of the outcome of the play situation, and the chance of getting injured or hurt becomes more unpredictable. The children experienced a notion of letting go of control. According to a Reversal Theory approach, one would assume that the children feel that they are ultimately in charge of the situation because of the protective frame experienced in the paratelic state (Apter, 1991b). In these situations, the children clearly expressed that they openly embraced fear, because this balance between joy and fear rewarded them with a delightful and pleasant feeling (Jenny, five years old = J, interviewer = I).

J: One of the things I like to do in pre-school is to climb trees, it's so much fun!

I: So you think climbing is fun?

J: Yes, because I climb so high up that I almost fall down

Anne, 5 ½ years old = A, interviewer = I.

A: It's very fun . . . but also a bit scary . . . to bicycle so fast in a turn that I almost crash

I: It's a bit scary because you almost crash?

A: Yes, but it's still great fun! It tickles in my stomach when I bicycle that fast – that's what makes it so enjoyable, that makes it so fun!

In accordance with former research (Aldis, 1975; Sandseter, 2007a, 2009; Stephenson, 2003), the children consciously sought ways to make the play more risky to generate the feeling of excitement bordering upon fear. Aldis (1975) and Sandseter (2009) found that children often expressed these emotions by screaming, high-pitched laughing, and loud yelling, and the results of the present study showed that the majority of the children describe the experience of the pleasant emotions in risky play by: 'I just *have* to scream out loud, or I just laugh and laugh . . .!', or it feels like "ho-ho-ho"! Other descriptions were

more bodily experiences such as 'My heart goes "doing-doing"', or 'it's so fun I almost get sick/nauseous, or it prickles all over my body'. These are descriptions of children's phenomenological experiences of engaging in risky play, which resemble the findings of Stephenson (2003).

engagement/approach to risky play

When children experience the thrill and excitement of engaging in risky play, drawing close to danger but still keeping pleasure as the dominant emotion, they will continue to approach and engage in risky play. Maria, five years old, tells the interviewer: 'It's fun to play-fight with some sticks we make out of straws, but it's also a bit scary . . . but it's more fun than scary actually, and it tickles in my tummy when doing it' When children experience a mastery feeling and pleasant exhilaration in risky play they tend to repeat it to keep themselves in this emotional state for a longer time (Sandseter, 2009; Smith, 1998; Sutton-Smith, 1997). Children's play is repetitive in an almost obsessive way because the excitement they experience is so pleasurable that it makes them want to repeat it several times (Sutton-Smith, 1997). In the context of Reversal Theory, paratelic children will seek heightened arousal through risky play (within the notion of a protective frame), and they will continue the play because it brings pleasurable emotions.

risky play and the telic state

The opposite of the paratelic state is the telic state. In a telic state, individuals will experience high arousal as unpleasant (Apter, 1984, 2001a, 2007b). Accordingly, one would assume that children in the telic state will tend to experience the high arousal produced through risky play as unpleasant.

unpleasant emotions

The results of the present study show that children sometimes describe the experienced emotions in risky play as unpleasant. These unpleasant emotions included feeling afraid, scared, fearful, anxious, and the sense of too much danger. Similar to the pleasant emotions fitting the description of a paratelic individual, these unpleasant emotions concur with the characteristics described when a telic individual experiences too much arousal (Apter, 2001a, 2007a). The telic state is an arousal-avoiding state, and high arousal will be experienced as unpleasant. When the children in the present study were asked why they experienced these unpleasant emotions, their answers indicated that they perceived the risk in the play situation as too high, such as: 'I will injure myself', or 'I get too scared'. Some children also explained to the researcher that 'it's no fun', thus showing

that the core motivation for playing, and also the value forming the base for the contrasting paratelic state (Apter, 1991a, 1991b, 2001b) is absent. The situations in which the children experienced these unpleasant emotions included:

- When I get frightened when play-fighting or fencing.
- When I lose my balance while climbing.
- When whittling so that I cut myself and start to bleed.
- When sledding/sliding too fast.
- When play fencing with sticks so one can be hurt.
- When climbing so high I don't manage to get down.
- When jumping from the swing in high speed and falling in the ground.
- Jumping down from trees, getting hurt (breaking arms and legs).
- When the boys fight for real.
- Bicycling so fast that one falls off.
- Climbing (in trees/cliffs/hills/climbing towers) in the winter when it's slippery.
- Climbing so high up that I get 'height fear'.
- Cutting oneself while using a saw.

The unpleasant emotions that children experienced when engaging in risky play in a telic state is related to an individual perception of 'too much height, too much speed, too much tumult in rough-and-tumble play', and 'chance of getting hurt when using dangerous tools'. These negative experiences thus appear to occur in the risky play categories of play at great heights, play with high speed, rough-and-tumble play, and play with dangerous tools (Sandseter, 2007a). When in the danger zone in a telic state, children will not experience a protective frame, and the heightened arousal will thus be experienced as fear or anxiety (Apter, 2007a). In the telic state, the individual is goal-oriented rather than activity-oriented, and one of the core motivations in this state is to reduce arousal.

arousal-reducing strategies

The unpleasant emotions of finding oneself engaged in risky play experienced as too dangerous seems to result in various arousal-reducing strategies among the children. Such strategies can be seen as opposed to the arousal-increasing strategies found in the paratelic state. The strategies for reducing arousal described by the children include: 'slowing down the speed by braking, reducing height by climbing down or stopping ascending', and 'stopping the speed in the swings by braking with a foot'. Other arousal-reducing strategies identified were related to being more cautious or choosing a less risky way of playing, such as 'climbing carefully down instead of jumping down, holding on tight when being at great heights or on a swing' and 'whittling "the right way"'. Sometimes the children described the choice of less adequate strategies such as 'closing their eyes or not

looking down when climbing' to shut the arousal heightening stimulation out. The children also described their effort to gain control of the perceived dangerous situation by planning how to safely find a way out, such as 'planning how to climb down from a tree branch by branch' or 'climbing further down to be able (to dare) to jump down'. These arousal-reducing strategies presumably give the children a notion of being more in control of the situation, making the outcome of the situation more predictable. From a Reversal Theory approach, this arousal-avoiding, cautious, and goal-oriented problem-solving is typical of the telic state (Apter, 2001b). Using these strategies, the children try to reduce the feeling of fear or anxiety by moving out of the danger zone and into the safety zone (Apter, 1991b, 2007a). These are similar to the fear-reducing strategies described by Buss (2004) and Zuckerman (1994) as classic flight or escape reactions, or by Cook et al. (1999) as protective behavior, such as moving slowly and holding tightly onto something, or by Stephenson (2003), for instance moving silently and in a focused manner when climbing. These fear-reducing behaviors were also found in Sandseter's (2009) observational study of these same children's risky play. Smith (1998: 114) writes: 'Clearly children need options when challenges appear too great. And if left to themselves, they tend to find their own ways out.'

refusal/withdrawal from risky play

The children in the present study related that when they became too scared, they would stop playing and often refuse to do it again for some time: 'I don't dare to do it, I wouldn't manage to do it – I just fall down.' The final result is withdrawal from the risky play situation and refusal of further participation in the play; they find a way out of the threatening situation by withdrawal, give up and refuse to do the activity at all (Buss, 2004; Cook et al., 1999; Sandseter, 2009; Stephenson, 2003; Zuckerman, 1994). This is contrary to risky play in the paratelic state where children want to stay in the play situation and willingly repeat it (Sandseter, 2009; Smith, 1998; Sutton-Smith, 1997).

the ambiguity of risky play

It's very fun and very scary and all sorts of things . . . and then I feel both excited and really scared at the same time! (Martin, 5 years old)

The ambiguity in risky play was a central point in children's descriptions of their engagement in risky play. Most of the children said that they experienced both pleasant and unpleasant emotions at the same time, thus indicating an experience of ambivalent emotions. When describing what they felt while engaging in different kinds of risky play, they used phrases such as 'it's scary and

fun at the same time', or 'I'm excited but also anxious', or 'it's thrilling but I get a bit scared', or 'it's great fun, but it's a bit unpleasant'. This strongly indicates that these children have a notion of experiencing two opposite emotions at the same time. This supports former research that have found that children experience both fear and excitement in risky play (Aldis, 1975; Sandseter, 2007a, 2009; Stephenson, 2003), a feeling of exhilaration bordering fear (Cook, 1993). On the question of *why* and *when* they experienced these opposite emotions at the same time while playing, the children often pointed at the impending danger of getting physically hurt or injured, for instance:

- It's fun to climb high up, but it's scary because I can fall down.
- It's fun to whittle, but it's scary because I can cut myself.
- It's fun to ride the bicycle fast downhill, but it's scary because I can fall off and get hurt.
- Jumping off the swing in high speed is fun but scary because I can get hurt when hitting the ground.
- It's both fun and scary to climb when I almost fall down and hurt myself.
- Play fighting is scary because someone can get hurt, but I do it anyway because it's so much fun.
- Crashing into others with my sledding board while sledding is both scary and fun.

The ambiguity of being on the edge between danger and trauma (Apter, 2007a; Gerkovich, 2001) and facing the possibility of being hurt or injured is thus an important part of the mixed emotional experience of risky play. The question is whether these emotions are experienced at the exact same time, or if the children experience quick reversals between the paratelic and the telic state as the Reversal Theory suggests (Apter, 2007a). In the present study, the children described their experiences as being both fun and scary, but mostly fun: 'to play-fence with sticks is both scary and fun, but most fun', and of their experiences being both fun and scary but mostly scary: 'it's fun going in high speed, but I stop the speed because it's so scary'. In the situations where the play is perceived as more fun than scary, children appear to go through quick reversals, touching the arousal-avoidant state but reversing quickly enough to maintain the activity.

. . . being at or on the dangerous edge is a volatile place to be, a kind of 'knife edge,' and many people who deliberately choose to play with danger actually switch back and forth between excitement-seeking and anxiety-avoidance states when they do so . . . what happens is that real danger is perceived as such in the anxiety-avoidance state and produces great anxiety, but as it is avoided or overcome, so the switch to the excitement-seeking state that comes with coping brings with it the reward of high excitement. (Apter, 2007a: 42)

In the present study, the children express their glimpses of fear as they start to think about the possible harmful consequences of their play as the protective frame becomes weaker, but the reward of the excitement in the end is worth experiencing these glimpses of fear now and then: '... one buys excitement with fear, the greater the cost, the better the product' (Apter, 2007a: 43). The children will thus, as already described in the paratelic state, maintain arousal-increasing strategies, and continue to approach and engage in risky play situations. Continuous experiences of mastering a danger and the consequential fear will enable the child to explore and learn how to manage these reversals between paratelic and telic state without being overwhelmed by anxiety (van der Molen, 1986).

If, on the other hand, children's experiences are both fun and scary, but mostly scary, the reversal into the telic state is definite, and the situation is perceived as unpleasant. Arousal-avoiding strategies, such as the one mentioned in the example above: '... I stop the speed because it's so scary', will be performed to try to enter the safety zone, and the children will withdraw from risky play (Apter, 1991b). If repeated over time, this can lead to a lack of confidence in the situation, and thus avoidance or refusal to engage in it (van der Molen, 1986).

An important factor that can bring about a reversal from the paratelic to the telic state is contingent events such as a sudden notion of physical danger or threatening social clues (Apter, 1984). In the present study, children expressed that even starting to think about what can go wrong or incidents such as suddenly losing one's grip while climbing and almost falling down is enough to cause a reversal into a telic state and withdrawal from the play. This is in accordance with Sandeseter's (2009) observations where the experience of fear with the result of protective behavior and withdrawal was often elicited by a sudden perception of climbing too high, racing with too much speed, or the play-fight suddenly turning into a real fight.

The exhilarating feeling of 'it tickles in my tummy' is expressed by the children as an important emotional experience in situations they perceive as both fun and scary, but mostly fun:

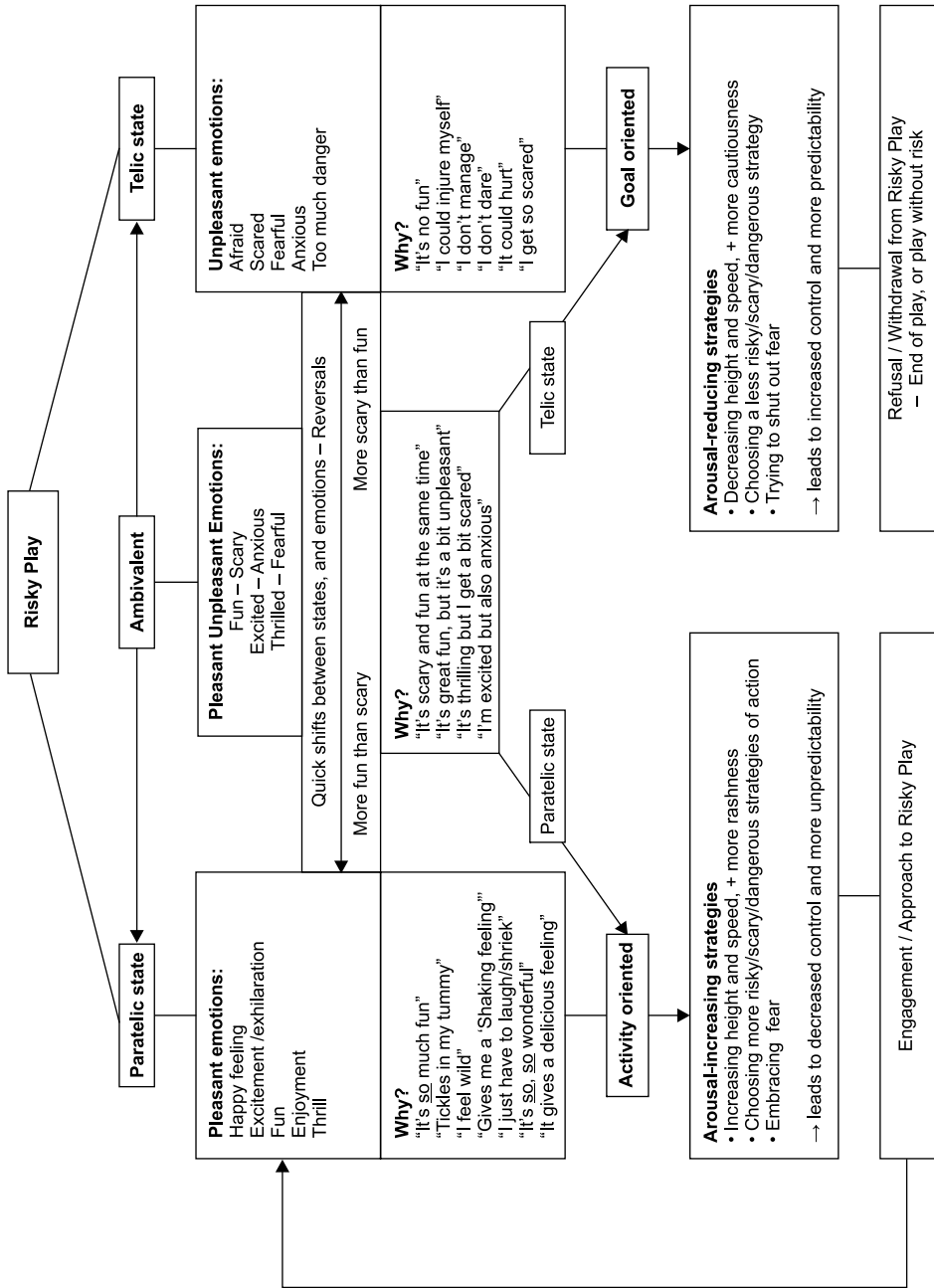
Crashing into a tree while skiing and not managing a turn is both fun and scary – it tickles in my tummy

Bicycling fast in a turn is fun . . . but also scary because I can crash – it tickles in my tummy

It's scary when being captured by someone chasing me, but it's also fun – it tickles in my tummy

Therefore, it seems that as long as the child manages to stay primarily in a paratelic state, while experiencing danger in small enough doses to uphold the protective frame, the ambiguous state of experiencing both exhilaration and fear is the core value and the main aim of risky play.

figure 1 figurative summary of the phenomenological structure of risky play



conclusion

The aim of this article was to explore the phenomenological structure and essence of children's experiences of engaging in risky play, both motivationally and emotionally, based on the concepts of paratelic and telic state in Reversal Theory. Interviews with 23 children revealed a phenomenological structure where the pleasant emotions that risky play generates are the primary motivation for engaging in this kind of play. In order to experience the most pleasant feelings, such as 'it tickles in my tummy', the key factor is the implementation of arousal-increasing strategies. This leads to the most interesting finding in the present study: children's ultimate goal of balancing pleasant and unpleasant emotions when engaging in risky play is to maintain an ambiguity between the exhilaration/excitement and the fear/anxiety present in the play situation. This is in accordance with Sutton-Smith's concept of the ambiguity of play:

. . . play (is) a virtual simulation characterized by staged contingencies of variation, with opportunities for control engendered by either mastery or further chaos. Clearly, the primary motive of players is the stylized performance of existential themes that mimic or mock the uncertainties and risks of survival and, in so doing, engage the propensities of mind, body and cells in exciting forms of arousal . . . (Sutton-Smith, 1997: 231)

This ambivalence in experiencing intense levels of arousal can, as is shown in this article, be interpreted as quick reversals between paratelic and telic states in situations where the children are balancing on the dangerous edge between danger and trauma (Apter, 2007a; Gerkovich, 2001). As long as the telic state is not definite or dominant, this will lead to a pleasant experience of mastering the situation, and the children will stay in the play situation (van der Molen, 1986). If the telic state becomes predominant, unpleasant emotions will result, and arousal-reducing strategies and ultimately withdrawal or refusal from play will occur. Therefore, the Reversal Theory adequately accounts for the flexibility, shifts, and bistability in emotions, motivation, and behavior recorded in the present study.

This contrasts to the more static notion of personality as in trait-theory, which argues in favor of a more homeostatic and stable nature of motivation and behavior. Still, the present study was unable to obtain insights into the issue of stability of individual differences in emotions, motivation, and behavior over time. For this purpose, research into children's risky play should combine the approaches of stability and/or flexibility in personality/temperament with documentation of actual play behavior, emotions, and motivations in a longitudinal manner.

references

- Aldis, O. (1975) *Play Fighting*. New York: Academic Press.
Apter, M.J. (1981a) 'On the concept of bistability'. *International Journal of General Systems* 6: 225–32.

- Apter, M.J. (1981b) 'The possibility of a structural phenomenology: The case of reversal theory'. *Journal of Phenomenological Psychology* 12: 173–87.
- Apter, M.J. (1982) *The Experience of Motivation: The Theory of Psychological Reversals*. London: Academic Press.
- Apter, M.J. (1984) 'Reversal theory and personality: a review'. *Journal of Research in Personality* 18: 265–88.
- Apter, M.J. (1989) *Reversal Theory: Motivation, Emotion and Personality*. London: Routledge.
- Apter, M.J. (1991a) 'The nature, function and value of play', in M.J. Apter and J.H. Kerr (eds) *Adult Play*, pp. 163–76. Amsterdam/Lisse: Swets & Zeitlinger.
- Apter, M.J. (1991b) 'A structural-phenomenology of play', in M.J. Apter and J.H. Kerr (eds) *Adult Play*, pp. 13–29. Amsterdam/Lisse: Swets & Zeitlinger.
- Apter, M.J. (1992) *The Dangerous Edge: The Psychology of Excitement*. New York: The Free Press/Macmillan.
- Apter, M.J. (2001a) *Motivational Styles in Everyday Life – A Guide to Reversal Theory*. Washington, DC: American Psychological Association.
- Apter, M.J. (2001b) 'Reversal theory as a set of propositions', in M.J. Apter (ed.) *Motivational Styles in Everyday Life – A Guide to Reversal Theory*, pp. 37–51. Washington, DC: American Psychological Association.
- Apter, M.J. (2003) 'On a certain blindness in modern psychology'. *The Psychologist* 16(9): 474–5.
- Apter, M.J. (2007a) *Danger: Our Quest for Excitement*. Oxford: Oneworld.
- Apter, M.J. (2007b) *Reversal Theory: The Dynamics of Motivation, Emotion, and Personality*, 2nd edn. Oxford: Oneworld.
- Apter, M.J., Kerr, J.H. and Cowles, M.P. (1988) *Progress in Reversal Theory*. Amsterdam/Oxford: North-Holland.
- Ball, D.J. (2002) *Playgrounds – Risks, Benefits and Choices*. London: Health and Safety Executive, Middlesex University.
- Bekoff, M. and Byers, J.A. (1981) 'A critical reanalysis of the ontogeny and phylogeny of mammalian social and locomotor play: an ethological hornet's nest', in K. Immelmann, G. Barlow, W., L. Petrinovich and M. Main (eds) *Behavioral Development: The Bielefeld Interdisciplinary Project*, pp. 296–337. Cambridge: Cambridge University Press.
- Berg, B.L. (2007) *Qualitative Research Methods for the Social Sciences*, 6th edn. Boston, MA: Pearson.
- Boyatzis, R.E. (1998) *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: SAGE.
- Buss, A.H. (1997a) 'Evolutionary perspectives on personality traits', in R. Hogan, J. Johnson and S. Briggs (eds) *Handbook of Personality Psychology*, pp. 346–66. San Diego, CA: Academic Press.
- Buss, D.M. (1997b) 'Evolutionary foundations of personality', in R. Hogan, J. Johnson and S. Briggs (eds) *Handbook of Personality Psychology*, pp. 317–44. San Diego, CA: Academic Press.
- Buss, D.M. (2004) *Evolutionary Psychology: The New Science of the Mind*, 2nd edn. Boston, MA: Pearson.
- Chirivella, E.C. and Martinez, L.M. (1994) 'The sensation of risk and motivational tendencies in sports: an empirical study'. *Personality and Individual Differences* 16(5): 777–86.

- Coffey, A. and Atkinson, P. (1996) *Making Sense of Qualitative Data Complementary Research Strategies*. Thousand Oaks, CA: SAGE.
- Cogan, N. and Brown, R.I.F. (1999) 'Metamotivational dominance, states and injuries in risk and safe sports'. *Personality and Individual Differences* 27: 503–18.
- Cook, S., Peterson, L. and DiLillo, D. (1999) 'Fear and exhilaration in response to risk: an extension of a model of injury risk in a real-world context'. *Behavior Therapy* 30: 5–15.
- Cook, S.C. (1993) 'The perception of physical risk by children and the fear/exhilaration response'. Unpublished thesis (MA), University of Missouri-Columbia.
- Costa, P.T. and McCrae, R.R. (1992) 'Four ways five factors are basic'. *Personality and Individual Differences* 13(6): 653–65.
- Eysenck, H.J. and Eysenck, M.W. (1985) *Personality and Individual Differences: A Natural Science Approach*. New York: Plenum.
- Ford, M.G. (2003) 'Metamotivation in children: a reversal theory perspective: an exploratory study in the primary school'. Unpublished thesis (D.Ed.), Leeds Metropolitan University.
- Gerkovich, M.M. (2001) 'Risk-taking', in M.J. Apter (ed.) *Motivational Styles in Everyday Life a Guide to Reversal Theory*, pp. 215–28. Washington, DC: American Psychological Association.
- Giorgi, A.P. and Giorgi, B.M. (2003) 'The Descriptive Phenomenological Psychological Method', in P.M. Camic, J.E. Rhodes and L. Yardley (eds) *Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design*, pp. 243–73. Washington, DC: American Psychological Association.
- Grbich, C. (2007) *Qualitative Data Analysis: An Introduction*. London: SAGE.
- Greig, A., Taylor, J. and MacKay, T. (2007) *Doing Research with Children*, 2 edn. London: SAGE.
- Kerr, J.H. (1986) 'Play: the reversal theory perspective', in R. van der Kooij and J. Hallendoorn (eds) *Play Therapy – Play Research*, pp. 67–76. Berwyn: Lisse and Swets.
- Kerr, J.H. (1991) 'A structural phenomenology of play in context', in M.J. Apter and J.H. Kerr (eds) *Adult Play*, pp. 31–42. Amsterdam/Lisse: Swets & Zeitlinger.
- Little, H. (2006) 'Children's risk-taking behaviour: implications for early childhood policy and practice'. *International Journal of Early Years Education* 14(2): 141–54.
- Martin, P. and Caro, T.M. (1985) 'On the function of play and its role in behavioral development', in J. Rosenblatt, C. Beer, M. Bushnell and P. Slater (eds) *Advances in the Study of Behavior*, Vol. 15, pp. 59–103. New York: Academic Press.
- Matthews, G., Deary, I.J. and Whiteman, M.C. (2003) *Personality Traits*, 2nd edn. Cambridge: Cambridge University Press.
- McCrae, R.R. and Costa, P.T. (1997) 'Personality trait structure as a human universal'. *American Psychologist* 52(5): 509–16.
- Miller, D.C. and Byrnes, J.P. (1997) 'The role of contextual and personal factors in children's risk taking'. *Developmental Psychology* 33: 814–23.
- Murgatroyd, S., Rushton, C., Apter, M.J. and Ray, C. (1978) 'The development of the Telic Dominance Scale'. *Journal of Personality Assessment* 42: 519–28.
- Patton, M.Q. (2002) *Qualitative Research & Evaluation Methods*, 3rd edn. Thousand Oaks, CA: Sage.

- Pellegrini, A.D. and Bjorklund, D.F. (2004) 'The onthogeny and phylogeny of children's object and fantasy play'. *Human Nature* 15(1): 23–43.
- Pellegrini, A.D. and Smith, P.K. (1998) 'Physical activity play: the nature and function of a neglected aspect of play'. *Child Development* 69(3): 577–98.
- Putnam, S.P., Ellis, L.K. and Rothbart, M.K. (2001) 'The structure of temperament from infancy through adolescence', in A. Elias and A. Angleitner (eds) *Advances in Research on Temperament*, pp. 165–82. Germany: Pabst Scientist Publisher.
- Rothbart, M.K., Ahadi, S.A., Hershey, K. and Fisher, P. (2001a) 'Investigations of temperament at three to seven years: the Children's Behavior Questionnaire'. *Child Development* 72: 1394–408.
- Rothbart, M.K., Chew, K.H. and Gartstein, M.A. (2001b) 'Assessment of temperament in early development', in L.T. Singer and P.S. Zeskind (eds) *Biobehavioral Assessment of the Infant*, pp. 190–208. New York: Guilford Press.
- Rothbart, M.K., Derryberry, D. and Hershey, K. (2000) 'Stability of temperament in childhood: laboratory infant assessment to parent report at seven years', in V.J. Molfese and D.L. Molfese (eds) *Temperament and Personality Development across Life Span*, pp. 85–119. Mahwah, NJ: Lawrence Erlbaum.
- Sandseter, E.B.H. (2007a) 'Categorizing risky play – how can we identify risk-taking in children's play?' *European Early Childhood Education Research Journal* 15(2): 237–52.
- Sandseter, E.B.H. (2007b) 'Risky play among four- and five year old children in preschool'. Paper presented at the Vision into Practice. Making Quality a Reality in the Lives of Young Children, Dublin Castle, 8–10 February.
- Sandseter, E.B.H. (2009). 'Children's expressions of exhilaration and fear in risky play'. *Contemporary Issues in Early Childhood* 10(2), 92–106.
- Sandseter, E.B.H. and Kennair, L.E.O. (in preparation) 'Children's risky play from an evolutionary perspective: the anti-phobic effects of thrilling experiences'.
- Smith, P.K. and Vollstedt, R. (1985) 'On defining play: an empirical study of the relationship between play and various play criteria'. *Child Development* 56: 1042–50.
- Smith, S.J. (1998) *Risk and Our Pedagogical Relation to Children: On Playground and Beyond*. New York: State University of New York Press.
- Stephenson, A. (2003) 'Physical risk-taking: dangerous or endangered?' *Early Years* 23(1): 35–43.
- Sutton-Smith, B. (1997) *The Ambiguity of Play*. Cambridge, MA: Harvard University Press.
- Trimpop, R.M., Kerr, J.H. and Kirkcaldy, B. (1999) 'Comparing personality constructs of risk-taking behavior'. *Personality and Individual Differences* 26: 237–54.
- van der Molen, P.P. (1986) 'Reversal theory, learning and psychotherapy'. *British Journal of Guidance and Counselling* 14(2): 125–39.
- Zuckerman, M. (1979a) 'Sensation seeking and risk taking', in C.E. Izard (ed.) *Emotions in Personality and Psychopathology*, pp. 163–97. New York: Plenum.
- Zuckerman, M. (1979b) *Sensation Seeking: Beyond the Optimal Level of Arousal*. Hillsdale, NJ: Lawrence Erlbaum.
- Zuckerman, M. (1983) 'A biological theory of sensation seeking', in M. Zuckerman (ed.) *Biological Bases of Sensation Seeking, Impulsivity, and Anxiety*, pp. 37–68. Hillsdale, NJ: Lawrence Erlbaum.

Zuckerman, M. (1994) *Behavioral Expressions and Biosocial Bases of Sensation Seeking*.
Cambridge: Cambridge University Press.

correspondence

Ellen Beate Hansen Sandseter, Queen Maud University College of Early Childhood Education (DMMH), Department of Physical Education, Thoning Ovesens gate 18, N-7044 Trondheim, Norway. [email: ebs@dmmh.no]