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Categorizing Risky Play – how can we identify risk-taking in children's play?

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Abstract

There is a growing debate of the balance between making sure our children are safe versus letting the children play in physically and emotionally stimulating and challenging environments. It is now a focus on children's right to do risky play. There are none studies to categorize risky play. The present study has aimed to do this. Qualitative observations of 38 children and semi-structured interviews with 8 children and 7 employees from two Norwegian preschools gave 6 categories of risky play: 1) Play with great heights, 2) Play with high speed, 3) Play with harmful tools, 4) Play near dangerous elements, 5) Rough-and-tumble play, and 6) Play where the children can "disappear" / get lost. The reliability of the analyzed categories was tested through a second opinion made by an experienced preschool teacher, who has long and varied experience with children's play in preschools.

Keywords: risky play, preschool, categorizing, children, observation

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Introduction

Children's Risky Play and the Play Safety Discussion

Children are explorative and both seek and prefer risky play such as physical risk-taking activities and play where the ability of fighting and physical strength are tested (Ball, 2002; Readdick & Park, 1998; Smith, 1998; Stephenson, 2003; Stine, 1997). The urge for risky play and willingness to take physical risks differs individually related to how one perceive a risk situation (Cook et al., 1999). These are individual differences in children's "surgency" temperament that is similar to a number of constructs addressed in personality research (Putnam et al., 2001), and resemble what is called sensation seeking and risk-taking personality among the adult population (Horvath & Zuckerman, 1993; Putnam et al., 2001; Zuckerman, 1979, 1994).

Child safety is an important issue. Risky play includes exposing oneself for hazard, and the discussion about play safety has received an increasing number of contributions in research (Caesar, 2001; Swartz, 1992; Wardle, 1997; Zeece & Graul, 1993). But the discussion about the balance between risk/safety and the benefits of risk-taking has also arised (Ball, 2002, 2004; Smith, 1998; Stephenson, 2003; Stine, 1997), and research on safety, accidents and children's developmental benefits of playing in playgrounds has indicated that through risk taking in play, children learn risk assessment and how to master risk situations (Ball, 2002; Boyesen, 1997; Smith, 1998; Stutz, 1999).

Defining and Categorizing Risky Play

Even though the debate on risky play and play safety has flourished, no empirical study has been done to categorize this as it appears in children's natural play. In Stephenson's (2003) ethnographic study in a New Zealand early childhood centre there was found that the significant elements of what makes a physical experience seem "risky" for four year old children were: "attempting something never done before; feeling on the borderline of out of control – often because of height or speed; and overcoming fear". As examples of play with risk Stephenson observed sliding, swinging, climbing and bike riding. Kaarby (2004) studied Norwegian children playing in nature and identified physical activity play, role-play, go exploring and traditional play. In the description of activity play she mentioned play such as "climbing up very steep hillsides and sliding down again", "climbing up and jumping down from big rocks or small cliffs", "climbing in trees", "shooting with bows and arrows", "rolling on the ground", "balancing on stones, fallen trees etc.", "whittling with a stick", and "go exploring" as when the children goes on expeditions on their own to discover or explore something new. Similarly Smith (1998) found that letting the children venture out on their own was a risk-taking situation. One could also expect that rough-and-tumble play as described by several researchers (Blurton Jones, 1976; Humphreys & Smith, 1984; Smith, 2005) could involve some kind of harming potential for the participants.

The risk for injury is obvious in risky play. Risky play is related to the chance of getting hurt and the feeling of fear (Stephenson, 2003). Sawyers (1994) points on a possible scenario where risky play occur: That is when the children's skills exceed the challenges provided by the available equipment. The children will then try to reduce boredom and increase the challenge by e.g. standing up in the swing, jumping out of the swing, twisting the chains, or bumping into another child swinging. Reviews on children's accidents on playgrounds supports this view by finding children's behavior and normal rashness, such as walking or turning summersaults on top of a climbing frame, standing or even standing on the shoulder of others on the swing, or pushing others off a slide or a swing, as the most common risk factor on playgrounds (Ball, 2002; Illingworth

et al., 1975). According to Sawyers (1994) 87% of all injuries are results from falls from swings, slides or other equipment, and both Swartz (1992) and Illingworth et al. (1975) found that the climbing frame and the slide were associated with the most severe injuries while the swings caused the highest amount of injuries. Ball (2002) made an extensive review on playground accidents in the UK from 1988 to 1998, and found in short that accidents were fairly evenly distributed between swings, climbing frames and slides. Looking into statistics for childhood accidents in the US, Peterson (1994) found that bicycle injuries were common. Humphreys & Smith (1987) found that 3,7 % of rough-and-tumble bouts led to an injury.

There are also indications for sex differences in risky play. Ginsburg & Miller (1982) found that boys were more willing to take risks than girls, and Smith (1998) found that more boys than girls were participating in playground risk-taking. In a study of the reasons for playground injury-risk situations using video analysis, Coppens & Gentry (1991) concluded that the frequency of occurrence of hazards was partly a function of gender, boys being more aggressive on average than girls. Sex differences in the amount of rough-and-tumble play by children are found (Blurton Jones, 1976; DiPietro, 1981; Epstein et al., 2001; Humphreys & Smith, 1984), as well as in the amount of physical activity play (Eaton & Enns, 1986; Smith, 2005), boys doing this more often than girls. This is also confirmed in studies controlling for different maturational status between boys and girls (Eaton & Yu, 1989).

Method

Participants

The participants of the observations in this study were 38 children in two Norwegian preschools. 19 children in each of the preschools formed a group, there were an equal number of boys and girls, and they were from three to five years old. The participants of the interviews were 8 of the former observed children, 3 boys and 5 girls, and 7 of the preschool staff, 4 women and 3 men. The observed children were from three to five years old, while the interviewed children were four and five years old.

One of the preschools was an outdoor preschool, where children are spending most of their time in nature areas. The outdoor preschool was situated in a forest and had a combination of a fixed playground and forest with surrounding fences. The other preschool was an ordinary Norwegian preschool with a fixed playground with swings, climbing tower, a "play hut", switchbacks and a climbing tree. The playground in this preschool was also surrounded by a fence. Both groups made a lot of hikes to nature areas like forests, the seaside, caves, etc. The fact that both the groups had varied arenas for play, indoors, the outdoor playground and hikes to nature areas, was of vital importance for choosing them as participants for this study, thus they were chosen according to purposeful sampling as being "information-rich cases" (Berg, 2007; Merriam, 2002; Patton, 1990).

Observations

The two groups were followed in their everyday life for five weeks from October to November. A total of four days was spent in each of the preschools, participating in all their indoor and outdoor activity (including their hikes).

The observations were naturalistic observations of the children's play in their natural preschool setting (Greig & Taylor, 1999; Patton, 1990), and participatory (Flick, 2006), meaning that the researcher was visible and known to the environment studied. A "reactive strategy" were taken, not acting like the other adults in the

preschool (Corsaro, 1985), to avoid influence by the researcher's presence. According to Berg (2007) the effect of subjects altering their normal behavior when observed is fortunately typically short-lived. Former observational studies of preschools show that the children relatively quickly adapt to having a new, observing adult in the preschool (Løkken, 2000). The researcher was present where the children played, always had pen and paper accessible, and wrote continuously what happened. With regular intervals more in depth notes about particular situations that occurred was taken.

At the beginning the observations were unstructured, open, and explorative, still carrying the "sensitizing concepts" colored by the research question (Patton, 1990). Gradually the observations became more concrete and concentrated on the essential aspect of interest (Flick, 2006). Thus the observations was, as the data collection progressed, increasingly focused on recognizing risky play, and towards the end of the process selective observations were done to find further evidence and examples for the types of risky play recognized. In the end a saturation was reached where the observations did not provide any further examples of risky play. Within two days of the given observation the notes were reviewed and written electronically in a word-file. When reviewing the field notes memos was also written (Graue & Walsh, 1998) to identify and capture feelings, thoughts and questions concerning the observations.

Interviews

The interviews were semi-standardized (Berg, 2007) including some broad predetermined questions, but flexible on wording of questions and in following up interesting statements from the subjects. The interest was on knowing what kind of play they thought was risky or scary, and why they thought so. Both children and staff were asked what play children typically did in the different environments, and also if some of the play could be described as risky. The subjects were also asked how risky they evaluated several described play situations such as: "sledging down a snowy steep hill with my head first".

The interviews were conducted subsequent to the observational period, recorded digitally, and transcribed by a professional transcriber.

Data Analysis Procedures

The data from all four data sources: Observing the children, interviewing the children, interviewing the staff and memos were analyzed. First each of the sources were examined to reduce the data into manageable data chunks (Miles & Huberman, 1994) by abstracting irrelevant parts of the "raw" data material.

The data was then analyzed to find codes and categories of risky play. Based on literature the analysis was done with a presumption on some of the characteristics of risky play. The categories were not predefined (Pellegrini et al., 2004) or what Miles and Huberman (1994) call "a provisional start list of codes", but what Pellegrini et al. (2004) call "presumptive criteria" for risky play was in focus. The starting list criteria on risky play were: Play that have a probability of resulting in harm or injury, play that offers children opportunities for testing boundaries and exploring risk (Ball, 2002), play on the borderline of "out of control" (often because of height and speed), play involving overcoming fear, and play attempting something never done before (Stephenson, 2003).

The four data sources were analyzed separately according to the mentioned criteria, seeking both observed and spoken codes (examples) of risky play. Then, triangulation of the data sources and the emerged codes were compared and organized in some broader categories related to the presumptive criteria for risky play.

The categories were primarily labeled "in-vivo", meaning phrases, words and descriptions used by the subjects (children and staff) (Flick, 2006; Miles & Huberman, 1994), but also "constructed" in relation to relevant literature (Flick, 2006).

Ethics

There are special ethical issues in research with preschoolers that arise in few other studies (Fine & Sandstrom, 1988). One of these issues is the need to gain informed consent from research subjects, meaning that they are true volunteers, know that they can withdraw from the research at any moment and know what their role in the research is (Greig & Taylor, 1999). In this study the informed consent was obtained from parents. A rather detailed description of the research project, its aims, methods and implications for the preschool was sent the preschools' directors, the preschool staff and the parents. The preschool director consented in writing that the preschool participated in the research project, while the preschool staff consented in writing on their own participation, and the parents consented in writing that their child could be observed and interviewed according to the methodical description. Studies involving children often have to gain informed consents "by proxy" from significant adults like in this study (Greig & Taylor, 1999). Still, with "by proxy" consent, it was important to ensure that the children understood both their own and the researcher's role during the data collection, and that they knew they could say no to the researcher observing them, and especially that they could say no when asked to be interviewed. Before the researcher arrived, the preschool staff told the children about the forthcoming visitor, what she would do and that they were free to tell her or the preschool staff if they did not want to be observed or interviewed. On the first day of observation the researcher also talked with the children directly about the same matters. The interviews were carried trough during the last part of the observational period. The children were by then used to the researcher and did not seem to feel discomfort by attending the interview.

Another ethical issue is the question of confidentiality and anonymity (Greig & Taylor, 1999). In this study the detailed description of the research project included a verification of full anonymity during the data collection and publication. All names, including the name of the preschool, were replaced with fictitious names or codes. The project was reported to and approved by the Norwegian Social Science Data Services.

Also the ethical question of adult responsibility is relevant for this study. The aim of the study was to observe risky play; including letting the children expose themselves for hazards. In spite of the research goal and nonintervention as a methodological concern, the physical safety of the children was paramount (Fine & Sandstrom, 1988). This is indeed a difficult question, because, as Graue & Walsh (1998) points out, there are different individual views on what constitutes dangerous activity, even among adults. The researcher in this study did, making her own judgment in the various situations, intervene in the activity when it could lead to serious physical harm. Still, like in Corsaro's (1985) research, the warnings from an observer taking a reactive strategy was disregarded because of the researchers' lack of authority.

Validating the Data Sources

The triangulation of several different data sources makes it possible to test the validity (truthfulness) of the data by comparing the results to see if they are similar in spite of different methods (Miles & Huberman, 1994). In this study the triangulation of the data include the comparison of observations and interviews, a "within method triangulation" (Jick, 1979), to verify emerging categories across the data sources. Another important issue concerning validity in a qualitative study such as this is that the data collection took place in real life settings and not a laboratory or any other artificial environment (Willig, 2001). There is, of course, a

possibility of the researcher affecting the observed (Denzin & Lincoln, 2005), but the experience was that the children quickly forgot the researcher's presence.

An independent second opinion was used to increase the reliability of the categories (Miles & Huberman, 1994). A preschool teacher who has long and varied experience with children's play in preschools read through the (reduced) data from all four sources, and evaluated if 1) the categories developed were reliable according to the data, and 2) the categories made sense related to experiences of children's play in preschool. Modifications of the categories were discussed with the teacher.

Results

The content of each of the data sources (field notes from observations, transcriptions from interviews and memos) was analyzed to find codes that could be organized into some broader categories of risky play. The following categories were identified: 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), d) Play near dangerous ELEMENTS (where you can fall into or from something), e) ROUGH-AND-TUMBLE Play (where the children can harm each other), f) Play where the children can "DISAPPEAR" / GET LOST. The amount of written data in this study is extensive. Therefore, some of the observations and interview statements most strongly supporting and exemplifying the categories will be presented. The names in the examples are fictitious, the age in brackets.

Play With Great Heights

The observations conducted of the children, showed the most frequent form of risky play was climbing. If there was anything around that could be climbed, the children would immediately begin climbing it, whether trees, playground climbers, big rocks, steep slopes, hillsides or other things they could climb. The children's interest in this is illustrated in the following field notes:

> We have arrived at a bay along the coast where we take off our backpacks in order to play. The children get to play freely around the area. Three boys walk to the south end of the beach, looking for exciting things in the seaweed. The rising cliffs here are 2-3meters at their highest and they continue up into a steep wooded hill.
>
> Tom (4): Wow! I wanna climb here! He climbs up where the cliffs are at their steepest. The other boys lose interest in the seaweed and start climbing after him.
>
> Tom (4): [has made it to the top and stretches his arms in the air] YES! I made it all the way to the top! He continues climbing further up the hill – about 4meters above the beach.
>
> John (4) and Simon (5) come running.
>
> John (4): YES! Climbing! They run over and start climbing up.
>
> The boys continue exploring the cliffs where they descend steeply into the sea. Hans (5) joins them and climbs around where it's steep and slippery. The others keep climbing over the cliffs, into the thick woods, and come around and down to the beach again – start climbing back up the cliffs again.

Related to climbing, another type of risky play was often seen, namely jumping down from high places. This was obviously something they did with a mixture of excitement and fear. In many cases the children was observed hesitating for quite a while before jumping, unless they withdrew and climbed back down again. Jumping down from high places is a way of "losing control", letting go and just allowing yourself to fall more or less uncontrolled, and hoping that hitting the ground will not be too unpleasant. Some incidents of hanging/dangling from heights and balancing from heights were also observed among the children.

In the child interviews the children told that the most frightening in play is climbing on the top of the roof of the climbing tower and then jumping down again onto the ground. The children described this as both forbidden (by the adults) and frightening because they could fall down and get hurt. However, they still described this as something that could be fun, and that it was more fun than climbing the tower and jumping down the way the manufacturers intended. A five year old girl said: "yes, it's a little bit scary, but it's great fun – I often land on my bottom, and that hurts a bit – but it's great fun anyway!"

The children also often mentioned falling down from trees as something frightening. They expressed that tree climbing in general is not frightening, but the risk of losing your grip and falling down is a threat that makes the activity frightening after all

When asked what they considered to be risky play, the employees also described play at great heights. This is illustrated by a quote from the interview with one of the male preschool teachers:

> "Well, generally, I have the impression that it's related to heights (laughs a little). Or things where you think that if they lose control or if this or that happens, it could be harmful. It's mainly things that are up high, in my opinion. It's mostly FALLING that I consider as a little risky."

Play With High Speed

Other activities including reduced control are types of play that involve high speed. The observations showed several different types of play where this represented an element of risk and excitement. These were for example riding a bike at high speed around the preschool, risking crashing into something or someone, or simply sliding and falling off. A quote from the field notes illustrates this:

> While we wait (to go on a hike), some of the children starts to ride their bikes. They ride them in a high speed and some of them ride two or three children together on one bike. They make loud noises. Suddenly two of the bikes crash into each other. Four boys fall hard on the asphalted ground with the bikes landing on top of them. One of the children starts to cry loud, but the rest of the boys laugh with a fearful joy. The crying boy gets comfort from some older boys nearby.

Other examples were running at high and uncontrolled speed, for example down steep hills, or sliding down slides, hills, cliffs etc. Regularly, the children would increase the risk of sliding by throwing themselves on their stomachs head first, backwards, or several children in a row etc. Swinging in normal swings or zip-lines (rope-slides) was also a type of play that involved great speed, and it was often combined with jumping off in motion, giving the jump an extra element of unpredictability.

In the child interviews play with high speed was mentioned as scary. A five year old girl said: "One time I swung in high speed, I fell off the swing. That was pretty scary!" The children also told that falling off the bike at high speed was frightening. A four year old boy said in the interview: "The scariest thing in preschool is to fall of the bike, that's very dangerous!"

The employees also described play with high and uncontrolled speed as a form of risky play, as the following quote of a male preschool teacher illustrates:

> "When do I get scared? Well, it's maybe in situations – it's maybe more during winter activities – it's when the speed increases, of course. It's the speed. It's the speed that makes it high-risk. For as long as things are going , well, I have to say slow - it's ok – then they can do whatever, really"

Play With Dangerous Tools

In both the preschools the children were allowed to quite freely use tools that were potentially dangerous. This was for example a knife for whittling, a saw for cutting down branches, and a hammer and nails for carpentering. Field notes from three different examples illustrate how this happened:

> The fire pit is lighted and the children are gathered around it chipping with a knife each on some wooden branches. They talk about what they want to do today. The children uses knifes freely and seems used to whittle on their own.
>
> Alex (4) and Tori (5) have each got an hammer and nails and started nailing some wooden boats. They have a great independence in their work, and the preschool teacher present seems completely relaxed even though they swing their hammers as they like. Two younger children (2-3 years old) also takes part, and they get to play equally independent as the two older children.
>
> The children participate in building a wooden climbing tower. They get to use the saws and knifes as they like. One of the boys saws himself in his hand, but is fine after getting a plaster. The children also participate in trying the branches together, and they're climbing in the construction while it's built.

On a couple of occasions the children was observed using an axe, but then under more strict supervision than the aforementioned tools. The danger of injury by use of such tools is obviously present, and in most cases the children were very concentrated when engaging in these activities, seeming conscious of the risk present.

The children clearly expressed that they found this exciting, but when asked in the interviews if this was a scary activity, their answers were not unanimous. Some of the children thought using knifes, saws and axes were not scary at all, only exciting, while others thought it was very scary.

The preschool staff expressed in the interviews that playing with dangerous tools was risky: "that they can cut themselves on something is also a risk" (female preschool assistant), and that they paid extra careful attention to the children while they did this.

Play near Dangerous Elements

Play near dangerous elements was observed on a lot of occasions during the observational period. The situations were varied: Play on top of high and steep cliffs, play near deep water by the seaside and tumultuous play near a burning fire pit. Field notes from a hike to a hill nearby the preschool illustrate one of these situations:

> After lunch the children are running and playing. Some of the children play on top of the edge of a cliff that is 2-3 meters high. Even the two-year olds joining the hike toddle around on the edge, laughing and throwing small stones down the cliff. The staff watches them from distance, but let them play on their own. If something were to happen, the staff is too far away (5-10 meters) to be able to reach the children at once.

One of the five year old girls told that the staff had forbid them to run around near by the fire pit because they could suddenly fall into it if they lost control. But in the interviews the children, like in the case of play with dangerous tools, expressed different apprehensions on how risky this is. Some of them told that playing near deep water, steep cliffs and fire pits were not scary, while others thought it was very scary.

The preschool staff unitarily expressed in he interviews that play near deep water (especially on slippery rock), on top of a cliff or near icy lakes in the winter were high risk activities. One of the female preschool assistants said: "One of the things I find risky in the children's play is play nearby water, the sea, where they potentially can drown if they fall into the water".

Rough-And-Tumble Play

Several occasions of play fighting, fencing with sticks/branches, play wrestling etc. occurred. This type of play was high-risk in the sense that it involved a fine balance between play and real fighting, and the margins were small for one of the children becoming hurt "for real".

This play primarily existed among the boys, but in one case where the employees initiated play wrestling, the girls were equally involved and eager in this type of play.

> The preschool assistant (female) tells the children that she has competed in judo and shows the children a throw on the other assistant. The children watch in silence and attention. They run over to her and want her to throw them around as well. They declare that she must be the strongest woman in the world! The assistant starts to teach the children judo technique. She explains some tricks, and suddenly there is tumultuous wrestling among the children. The children continue this play for quite a while and both boys and girls are deeply engaged.

In the interviews the children expressed that this was quite a scary activity, still it was not unanimous. Some of the children thought it was scarier than others, but all of them except one thought it was great fun. A boy (4) said he thought this was especially fun in the winter because they could roll around on the snow, and a girl (5) said boxing with other children also was great fun.

The staff did not think this was very risky play in general, but most of them thought fencing with sticks, hitting each other and tripping up each other were more risky than wrestling and play fighting.

Play Where the Children Can "Disappear" / Get Lost

A somewhat different form of play where it seemed that the children experienced a feeling of risk were occasions where the children were given the opportunity to "cruise" on their own, exploring unknown areas where the danger of getting lost was present. On these occasions the children were in areas where there were no fences to limit their adventuring, but where they were trusted to wander on their own. An illustration of one of these situations is the following from the field notes from a trip into the woods:

> Thomas (5): I am going on a walk all by myself!
>
> Preschool teacher (female): That's all right, go ahead!
>
> Alex (4): Yes! I would like to go with you!
>
> Maria (4): Yes! Me too!
>
> The three children grab their backpacks and starts walking into the bush behind the fire pit. I follow them on distance. They make a stop by some trees after a short while. They agree that all three should decide where to go. Maria (4) walks back to the fire pit. Alex (4) and Thomas (5) start to crawl through some dense bushes and turn towards me and say: "Good bye! We'll be back at twelve a clock!"

The children clearly expressed that this could be frightening, but at the same time very exciting and attractive. A five year old girl told in her interview: "I wouldn't have dared to go for å walk all alone in the woods because it's dark and frightening". Another child, a five year old boy said: "I wouldn't have walked into the woods by myself because I could have got lost, and that's really scary!"

The staff did not express that this was a form of risky play, probably because they felt they were in control of the situations, while the children thought they totally on their own and felt an exiting and fearful joy of going exploring on their own.

Second Opinion

Having analyzed all four data sources and through that categorized risky play, they were presented for evaluation to a preschool teacher with long and varied experience with children's play in preschool. The teacher was to evaluate whether these categories could be easily recognized in children's play in preschool, and whether the categories add to the concept of risky play for a representative of the early childhood education profession. The teacher clearly stated that the categories were very meaningful and appropriate for this type of play, and the teacher had experience with all of these play categories in their work in preschools.

Discussion

In this study climbing was found to be a particular popular activity among the children. The children took great pleasure of climbing and they sought this activity as often as possible. This is consistent with earlier findings (Kaarby, 2004; Readdick & Park, 1998; Stephenson, 2003). The children in this study also had a great urge for jumping down from high places, often in combination with climbing. Kaarby (2004) also found "climbing up and jumping down from big rocks or small cliffs" as a frequent activity. Both climbing and jumping involves great heights and the danger of injury from falling, and the interviews in this study show that both the children and staff perceive these activities as risky play. This is in accordance with the description of children's perception of physical risk as activities involving overcoming fear and being on the borderline of out of control because of height (Stephenson, 2003). The actual risk of climbing and jumping from great heights is also established (Ball, 2002; Illingworth et al., 1975; Swartz, 1992), and the children clearly expressed in the interviews that they perceived these as frightening activities. Thus, great heights seem to be a relevant factor for increasing the risk both according to accident statistics and to the children's and staff's perception of risk.

The present study identified a number of play activities involving high speed such as swinging, sliding/sledging and bicycling. The children perceived the factor of high speed as increasing the risk, telling that they thought it was scary and that it could result in injury. The staff agreed with the children in their risk perception of high speed often getting out of control. Supporting this, former research have concluded that high speed activities are related to childhood accidents (Ball, 2002; Illingworth et al., 1975; Peterson et al., 1994; Sawyers, 1994), and that children's perception of risk is related to high speed (Stephenson, 2003). High speed in children's play therefore emerges as an important factor for making the situation risky.

In this study play with dangerous tools like knifes, saws, axes, hammers and nails were identified. Dangerous tools observed in other Norwegian studies are bows and arrows (Kaarby, 2004). No statistics on childhood accidents in relation to the use of such tools were found. It could be that letting the children play with such is possibly uncommon for other countries than Norway. Still, this was an activity that the staff perceived as risky, and both the children and the staff expressed the danger of injury using these tools. The children's perception of the risk related to this was not as unanimous as with the staff, and this is probably one of the categories that are risky from an adult point of view, while the children are more disposed to feel this is only an exciting activity. The excitement in this activity could be related to the novelty of doing it (Stephenson, 2003) and the knowledge of the potential harm of failing to do it right. A risky play category involving the use of dangerous tools as emerged through the present data and in relation to existing literature is therefore suggested.

The staff in the present study unitarily expressed that play near dangerous elements was risky play. Examples of such elements are lake/sea, fire pits and steep cliffs. The risk for injury when falling from a cliff, into deep

water or a fire pit is obvious, and research shows that falls from heights are one of the most common reasons for injuries among children (Illingworth et al., 1975; Sawyers, 1994). Like in the case of play with dangerous tools, this is a category that is risky from an adult point of view, while some of the children thought this was scary and others didn't. For situations where children play in nature areas with water, cliffs and possibly a fire pit (when hiking), the risk of playing near dangerous elements is evident.

The observations in this study showed several occasions of rough-and-tumble play. Former researchers (Blurton Jones, 1976; Humphreys & Smith, 1984; Smith, 2005) describes this type of play involving a fine balance between play and real fighting, and the margins are small for one of the children becoming hurt "for real". Humphreys & Smith (1987) also found accidents occurring while doing this kind of play. The actual risk involved in rough-and-tumble play is thus stated. The children in this study expressed that this could be a scary activity, but also that it was great fun. The staff distinguished different forms of rough-and-tumble play, telling that fencing with sticks, hitting each other and tripping up each other were more risky than wrestling and play fighting. The present study also found that rough-and-tumble play is most common among boys, and this is in accordance with previous research (Blurton Jones, 1976; DiPietro, 1981; Epstein et al., 2001; Humphreys & Smith, 1984).

Play where the children could "disappear" / get lost was observed. The staff did not think this was situations involving risk, while the children clearly expressed a fear of getting lost, for example in the woods, still enjoying the feeling of freedom and joyful fear they experienced in these occasions. This is a category of risky play that is less likely to result in physical injury, but it is perceived by the children as a thrilling and risky activity involving overcoming fear and attempting something never done before as previously pointed out by Stephenson (2003). This was also identified as risky activities in Smith's (1998) research.

Conclusion

The children clearly expressed a strong interest in risky play through the observations, and this is confirmed as well in the interviews with the children and employees. The six categories emerging from the data in this study involves a consideration of both perceived risk and actual risk. Through observations and interviews the perceived risk expressed by children and the staff in the two preschools were identified, and through relating this to existing literature on childhood accidents and play behavior an impression of the actual risk was sought. The categories also take into consideration both the staff's and the children's evaluation of what is risky, not always being the same. The aim of the study was to identify categories of risky play among children in preschool in a broad sense independent of individual differences. This is a contribution to trying to define and operationalize the concept of risky play. Still, there are some limitations to consider. A small number of preschools (two) were used and generalization should therefore be done with caution. Further research and work to validate the categories and to explore children's urge for risky play must be conducted. Developing a structured observation tool and questionnaire should thus be an aim for further research. Also research to get a deeper understanding of why children seek experiences on the edge between fear and exhilaration is needed, as well as how adults' attitudes (preschool staff) influence or restrict this kind of play. Last, but not least, the benefits, competence of mastering and assessing risk, of letting the children explore challenges in their surroundings, should be an interesting issue.

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