

RISKY PLAY AND RISK MANAGEMENT IN NORWEGIAN PRESCHOOLS – A QUALITATIVE OBSERVATIONAL STUDY

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Abstract - Due to the last decades' discussion on play safety on the one hand, and the benefits of giving children challenges and risks on the other hand, the need has grown for more knowledge on children's natural risk-taking in play. This article aims to explore how preschool children seek out risk-taking in play and how children and preschool staff manage these risks. In the present study, qualitative video observations of risk play in 29 children were collected in 2 Norwegian preschools. The data in the present study show how children intentionally seek out risk in their play through seeking great heights and high speed and by performing play in hazardous, dangerous and daring manners. Still, the results indicate that children's risk-taking decisions are balanced between their evaluation of positive and negative outcomes of the play situation. The staff in the present study has quite a liberal attitude towards children's risk-taking in play and sometimes encourages it. This article contributes a better qualitative understanding of how children engage in risky play.

INTRODUCTION

Risky play in this study is defined as thrilling forms of play that involve a risk of physical injury. Children frequently seek and engage in challenging and risky forms of play even though, and in some degree *because*, it involves the possibility of getting hurt (Adams, 2001; Aldis, 1975; Smith, 1998; Stephenson, 2003). Due to Western society's safety concerns, the issue of children's risky play and the extent such play should be regulated are ongoing and important debates. These play safety debates have brought forth safety legislation and litigations from worried parents and child care workers. This has raised further discussions on the balance between safety legislation and litigations on one hand, and the benefits of such play for child development on the other hand (Ball, 1995, 2002, 2004; Boyesen, 1997; Breivik, 2001; Caesar, 2001; Chalmers, 2003a; Freeman, 1995; Furedi, 2001; Heseltine, 1995; Little, 2006; New, Mardell, & Robinson, 2005; Satomi & Morris, 1996; Sawyers, 1994; Smith, 1998; Stephenson, 2003; Stine, 1997; Stutz, 1995; Zeece & Graul, 1993). Most of the time, play happens under adult supervision, therefore regulating what children are allowed to do and where they are allowed to go (Kyttä, 2004). In this sense, adults are contributing to child safety when playing, and, at the same time, they represent the biggest constraint on the child's ability to encounter risks and challenges that are ultimately beneficial for development (see e.g. Ball, 2002; Furedi, 2001; Gill, 2007; Hughes & Sturrock, 2006).

Adams (2001) states that objective risk measures are difficult to establish because of each individual's subjective perceptions of risk: "The problem for those who seek to devise objective measures of risk is that people to varying degrees modify their level of vigilance and their exposure to danger in response to their *subjective* perceptions of risk" (Adams, 2001, p. 13). Adams suggests that an individual's risk-taking decisions (balancing behavior) in everyday life include behaving in a way that balances the individual's propensity to take risks, the potential rewards of risk-taking, the perceived danger in the situation and accidents or losses the individual has previously experienced (either one's own or others'), as shown in figure 1.

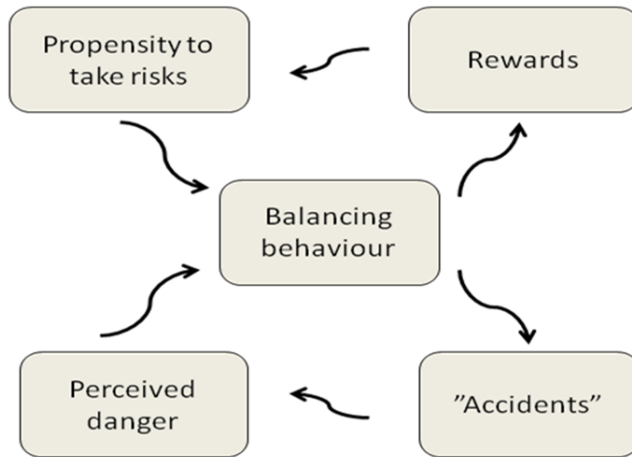


Figure 1: The risk “thermostat” model by John Adams (2001). The model shows how the individual’s propensity to take risks, perceived danger in the situation, possible rewards and possible accidents as results of the behavior are interacting with and influencing each other and the individual’s risk taking decision (balancing behavior).

Seen in relation to children’s risky play, this model gives an overall picture of the factors influencing children’s decisions to take risks in play situations. As Adams’ model suggests, risk-taking decisions are influenced by the individual’s risk propensity. Studies show that similar to adults (Apter, 1984, 2001, 2007; Costa & McCrae, 1992; McCrae & Costa, 1997; Zuckerman, 1994), children’s levels of sensation seeking and their perceptions of risk situations greatly influence their desire for risky play and willingness to take physical risks (Cook, 1993; Cook, Peterson, & DiLillo, 1999; Miller & Byrnes, 1997; Morrongiello & Lasenby-Lessard, 2006; Morrongiello & Matheis, 2004, 2007; Morrongiello & Sedore, 2005). This research has shown that children who are exhilarated by risks are more likely to engage in physically risky play and behavior. This also indicates that people with a high propensity to take risks will perceive the situation as less dangerous than a person with a lower propensity to take risks (Apter, 2007; Gerkovich, 2001). As seen in Adams’ model, an individual’s perceived danger of the risk situation is also a crucial factor for the risk-taking decision. Children’s propensity to risk-taking in play and their perception of danger in the situation is most likely influenced by their degree of sensation seeking. Therefore, differences from one child to the next would therefore be expected. Still, quite a few researchers have documented that children in general are explorative, both seeking and preferring risky play such as physical risk-taking activities and play in which fighting and physical strength are tested (Ball, 2002; Readdick & Park, 1998; Smith, 1998; Stephenson, 2003; Stine, 1997). Thus, one can assume that most children have a relatively high propensity to seek out challenges through risky play.

Adams’ (2001) model also suggests that the propensity to take risks is influenced by the potential rewards and accidents related to risk-taking. Although several researchers have argued that enabling children to engage in risky play brings developmental benefits such as a more realistic risk perception and enhanced risk management (Adams, 2001; Apter, 2007; Ball, 2002; Boyesen, 1997; Gill, 2007; Smith, 1998; Stutz, 1995; Sutton-Smith, 1997), these are primarily on an unconscious level. On a conscious level, the rewards of mastering risky play include fun, enjoyment, high arousal, excitement, thrill, pride, achievement and healthy self-esteem (Adams, 2001; Apter, 2007; Coster & Gleeve, 2008; Sutton-Smith, 1997). On the other hand, accidents and injuries are possible outcomes when engaging in risky play. Even though accidents on playgrounds do occur, research on the nature of childhood injuries actually shows that the most common risk factors for injury on playgrounds are not related to equipment, but rather children’s actions, normal rashness and improper usage of the equipment (Ball, 2002; Coppens & Gentry, 1991; Illingworth, Brennan, Jay, Al-Ravi, & Collick, 1975; Ordoñana, Caspi, & Moffitt, 2008; Rosen & Peterson, 1990). No matter how safe the equipment, the children’s need for excitement prompts them to use the equipment dangerously. This is in accordance with the findings that high sensation-seeking children are more injury prone than low sensation-seeking children (Morrongiello & Lasenby-Lessard, 2006). The risk-taking decision, as shown in Adams’ model, is a continuous evaluation of the possible rewards weighed up against the possible accidents. Children’s past experiences of accidents in similar situations and their evaluation of the potential severity of the injury will influence their perceived danger in the risk situation. This will contribute to their decision to engage in risky play or not, and if they do, how they enact that play. They balance their play behavior with regard to their past negative experiences in order to avoid repeating them

(Adams, 2001). In Coster and Gleeve's (2008) study, children explained that, when trying something risky, they did not want to repeat it because of the overwhelming fear they experienced, and watching others do it or just thinking about the possible negative outcome of the risk-taking action would keep them from trying it at all. Smith (1998) has argued that if left alone to encounter risks, children will find a way to manage them by either mastering the challenge or finding a way out. According to Adams (2001), the risk-taking decisions of young children involve individual risk management, which involves the individual calculating the chance of getting injured against the possible reward.

As shown, four factors included in Adam's model regulate risk-taking decisions and risk management among children; propensity to take risks, perceived danger, potential rewards and potential accidents. Still, Adams (2001) points out that many of the risky decisions involving children are made by adults because children are generally under the surveillance of adults. Therefore, children's risk-taking decisions are influenced also by supervising adults' evaluations of the risky situation and their decision to act upon children's risk-taking in play. On one hand, research has indicated that lack of supervision is one of the causes of childhood injuries in play (Morrongiello, 2005; Morrongiello, Carbett, McCourt, & Johnston, 2006; Rosen & Peterson, 1990; Taylor & Morris, 1996). In accordance with this, studies have shown that children attending child care centers, institutions in which supervision by adults is usually rather extensive, experience fewer injuries than children spending their day at home with their parents. Also, injuries in child care centers are mostly minor (Briss, Sacks, Adiss, Kresnow, & O'Neil, 1994; Leland, Garrard, & Smith, 1993; Schwebel, Brezaussek, & Belsky, 2006). Studies indicate that supervision by overprotective and anxious mothers increases the chances of child injuries (Dal Santo, Goodman, Glik, & Jackson, 2004), and that such overprotective behavior by parents may elicit anxiety in their children, as well as a decreased sense of control over dangerous situations (Allen & Rapee, 2005). According to Smith (1998), the optimal way for caregivers and supervisors to handle children's risk taking is to let children encounter risks and challenges within a relatively safe play setting. How caregivers and adults carry out supervision of children is probably influenced by culture. New et al. (2005) points out that Norwegian, Swedish, Danish and to some extent, Italian preschool teachers have fewer concerns about children's risk-taking than American preschool teachers. Research on requirements for playground safety in Australian (Little, 2006), New Zealand (Chalmers, 2003a, 2003b; Greenfield, 2003), British (Ball, 2002, 2004) and American (Caesar, 2001; Sawyers, 1994; Swartz, 1992; Wardle, 1997; Zeece & Graul, 1993) indicates that the concerns and efforts to regulate and strictly monitor the children are stronger in these countries than in Scandinavian countries, where the benefits of mastering risks, experiencing various weather conditions and exploring the national landscape are widely encouraged (New, et al., 2005).

Aim of the Study

The research questions in this article are:

- a) How do preschool children seek out and manage risks in play?
- b) How does preschool staff manage children's risk-taking in play?

The aim of the article is to promote a better understanding of the ways in which children engage in risky play, and how risk is managed by children and supervising adults.

METHOD

The Settings and Subjects

Risky play occurs primarily outdoors (Sandseter, 2007a; Stephenson, 2003). The two preschools in this study were chosen because they both spent a great deal of time outdoors. This selective choice of participants makes the sampling procedure in this study purposive (Berg, 2007; Merriam, 2002; Patton, 1990). One of the preschools was an outdoor preschool, where children spend most of their time outdoors in nature areas. Outdoor preschools in Norway are preschools where outdoor learning in natural environments is emphasized. This outdoor preschool was situated in a large forest. It had a building, but they rarely spent time indoors, no matter the weather. The preschool playground, in this case the immediate vicinity outside the preschool building, was a forest area where the only play equipment was a sandpit and a rope in a tree, with no fences surrounding the playground. The other preschool was an ordinary Norwegian institution in a residential area, with a preschool building surrounded by a standard playground with sandpits, swings, a climbing tower, a play hut, switchbacks and some climbing trees. The playground in this preschool was surrounded by a fence. Both the preschools complied with the government pedagogical laws and guidelines for all preschools in Norway, which emphasize children's play and learning in various contexts rather than focusing strictly on schooling activities.

All the four and five-year-old children in the two preschools were observed and videotaped while playing. There were a total of 29 children, 21 girls and 8 boys. Informed consent to observe the children was obtained by proxy from parents (Greig & Taylor, 1999). Parents and children were informed of the project and the fact that a researcher would join the children in their outdoor play carrying a video camera. At any moment, the children were free to let the researcher know if they did not want to be observed or videotaped.

The Video Observations and Analysis

The study was carried out in the settings of the two preschools. A total of nine days were spent in each of the preschools, participating in all of their outdoor activities on their playgrounds. The researcher also took part in hikes with the two preschools to other play environments (four of the days). These were hikes where the children and staff walked approximately from two to five kilometers into the woods to play and spent time in nature areas where there were cliffs, trees and hills for climbing and sliding/sledding. The children were observed from winter to summer. An important point of the research was to explore the risky play that emerged among children themselves. Therefore, it was necessary for the researcher to take a somewhat withdrawn position, but still be visible and familiar with the environment and, in that sense, participatory (Flick, 2006).

The video observations were based on previously developed categories of outdoor risky play based on interviews with children and staff in Norwegian preschools (see Sandseter, 2007a, 2007b): a) play in great heights, b) play with high speed, c) play with dangerous tools, d) play near dangerous elements, e) rough-and-tumble play, and f) play where children can disappear/get lost. This was done to both obtain a thorough focus on risky play, ruling out other kinds of play, and to limit the amount of data gathered to what is readily analyzable (Silverman, 2005). Field notes were written when video recording was not possible. Saturation was reached when the observations did not provide any further knowledge or information to contribute to the research question (Flick, 2006).

The data consisted of field notes from approximately 90 hours of observation and 6 hours of focused video clips. The videos and field notes were transcribed electronically in a text file (a total of 50 pages, single spaced). The transcription was detailed and attempted to capture a holistic picture of the play situation, including what activity was performed, what happened in the situation, how the children acted (movements, gestures), what the children expressed (sounds, spoken words, facial expressions), how the preschool staff reacted to the situation (action, speech, involvement), etc. A thematic analysis was conducted on the data based on the research questions (Boyatzis, 1998; Coffey & Atkinson, 1996; Grbich, 2007; Miles & Huberman, 1994). The coding process was performed manually by noting descriptive codes in the margin of the transcriptions of each risky play situation. The codes that emerged described the ways children performed risky play (codes such as height, speed, control of movements, focus on task, rashness, etc.), and the ways preschool staff dealt with children's risk-taking in play (codes such as watch from distance, partaking, taking initiative, constraining, prohibit, etc.). The codes describing similar features were then grouped together in main themes and handled interpretively in relation to Adams' risk thermostat model and former research. The interpretive perspective in this analysis is the researcher's qualitative interpretation of the children's and preschool staff's risk-taking and risk management in the observed situations: "...qualitative researchers are interpreters who draw on their own experiences, knowledge, theoretical dispositions, and collected data to present their understanding of the other's world." (Glesne, 2006, p. 175). In qualitative research, the researcher is the instrument (Patton, 2002). Other interpretive perspectives could also be both possible and relevant. This description is only one of several possible interpretations. Therefore, the ability to generalize the results is limited, but modest speculation can be done regarding the applicability of the present findings to other similar but not identical situations, known as an extrapolation (Patton, 2002).

RESULTS

The Children's Risk-Taking and Risk Management

The results of the present study revealed that children often deliberately sought out risky play and performed several strategies of heightening the risk to get rewarding experiences, while still moderating their actions to avoid loss or injury. The most common strategies were increasing the level of height and speed and rashness in performing the play, and being dared.

Increasing the level of height and speed were common ways for the children to intensify the risk in play. There was not a single day without several observations of play such as climbing, balancing and jumping down from great heights. Both preschools had great opportunities for the children to achieve great heights in their play, both on the preschool playgrounds and on hikes. The children sought out this play by climbing high up in the

climbing tower, on the roof of a play hut, in trees, on rocky walls, and on cliffs and high steep hills. On their hikes, both preschools visited forest areas where there were a great deal of opportunities for climbing, balancing and jumping down. Children were observed heightening the level of speed in their play in situations when they were sliding/sledding, swinging, running, bicycling, skating and skiing. To heighten the speed, the children sought out the longest and steepest hills for sledding in the winter, pushed each other down the sledding hill or the slide, threw sand or water on the slide, and pushed each other on the swing, all in hopes of attaining a greater speed in the play. The following quote from one of the winter hikes with the outdoor preschool exemplifies one of these situations:

John (5 years old) and Stefan (4 years old) have walked up to the top of the longest and steepest sledding hill in the forest. They have placed themselves together on the sledding mattress; Stefan is facing the right way, down the hill, while John sits backwards on the mattress. Both Stefan and John use their hands in the snow to increase speed on top of the hill, and soon they race down the hill at an incredibly high speed. They race down, whirling around with no control of the movement of the mattress or the environment or nearby children into which they could potentially crash. They fall off the mattress at the bottom of the hill and tumble into the snow under some trees on the side of the hill. They shriek and laugh, and get up and start brushing off the snow, laughing even more.

The degree of rashness in children's performance of risky play also influenced the risk present in the play situation. Often, the children would engage in the play in a creatively dangerous way, such as swinging several children together on one swing, swinging sideways to crash into each other, leaping from branch to branch while climbing, trying to pass each other on a branch in the tree, sliding on the stomach with head first, or standing upright on the sledding board down the hill ("surfing"). This is shown in the following quote from the ordinary preschool:

Several children are sledding down the snowy hill inside the preschool playground. Martin (5 years old) pulls a sledding mattress up the hill. He arranges the mattress on top of the hill and tries to keep it still while stepping on to it in an upright standing position. After a couple of attempts, he manages and rides down the sledding hill at a high speed, standing on the mattress as if it was a surfboard. At the bottom of the hill, he falls off the mattress and tumbles onto the snow. He laughs with joy and pulls the mattress up to the top again, ready for another ride.

In the present study, the children would also sometimes dare themselves or one another to achieve a greater risk in play than they normally did. This could be both direct by verbally challenging someone to do something risky, or indirect by watching others climb high or performing a dangerous stunt. In these situations, the risk-taking decision would express itself as seen in the following quote from one of the hikes with the outdoor preschool:

John (5 years old) is watching Tom (4 years old) climbing a tree. The tree has just a few branches to hold on to while climbing, but Tom has reached a height of approximately 4 meters above the ground. Tom climbs cautiously and calmly with great concentration. John is waiting for his turn to climb the tree, and as soon as Tom reaches the ground, John starts climbing up. John climbs with a bit of effort up to approximately 1 meter above the ground. There he stops, clinging to the trunk, and says, "Oy..." He laughs nervously, "this was high...!" He remains at this height for a while, looking down, looking up, tries to stretch himself a bit further up the trunk, but ultimately starts the decent of the climb. He says, "I'll do it this way," and he slides his feet on the trunk a few centimeters down to the ground.

In this situation, none of the other children watching the situation ridiculed John because of his withdrawal from the tree. The children seemed accustomed to the fact that some of them dared to take more risks than others. As such, all the children experienced the rewarding excitement when reaching the limits of what they dared, even though the limits were individually different. When the children in the present study took risks in play by achieving high speed and rashness in play, they expressed their positive experience by laughing, shrieking and screaming with fearful joy in almost an ecstatic way, sometimes even before starting the activity. When the children took risks in play by achieving a greater height and playing rashly in great heights, they expressed both deep concentration and intense excitement. For instance, while climbing high up in a tree, getting prepared to jump down from a height, or balancing along a tree branch, the children were deeply concentrating and focused on the challenge that they had encountered. The exhilaration was triggered at the moment they had managed the challenge. At that moment, they expressed an intense joy, for example, as in a situation on one of the hikes with the ordinary preschool:

Sam (4 years old) is trying to climb a tall, thin tree. The trunk of the tree is smooth and difficult to grip, and there are few branches to climb on. Sam has difficulties but he keeps on trying. He is completely quiet. He

slowly ascends the tree, little by little. After some time, he reaches the few branches right below the top of the tree, the goal of his climb, and he shouts out, "Yes! Yes!" He now stays up in the tree, approximately 2 meters over the ground holding onto a couple of branches. He takes a few climbing steps down the trunk and then up again while he says to himself, "I really did dare that...!"

Even though a great deal of risky play was observed during the observation period, no situations lead to accidents or injuries. The children seemed to know their own levels of competence and the level of risk with which they were comfortable when achieving great heights, speed and rashness in their play. Also, the level seemed individually different from child to child. The children reduced the height and speed by themselves if they were able, such as climbing down or braking with their foot while sledding, or calling out for help from the staff if needed. One example is Stefan (4 years old), who was swinging on the rope in the tree outside the outdoor preschool's house:

Stefan has watched Maria (5 years old) swing in the Giant's-stride with such a high speed that she leveled the roof beam of the house. Stefan gets on the swing and asks the preschool staff standing nearby to push him to get a higher speed. The preschool teacher pushes Stefan high up in the air as Stefan shouts, "Woooo!" The preschool teacher then let go of Stefan, and he swings back and forth with a high speed. Stefan laughs and shouts, "Oaaaaaa!" the entire time while swinging and the preschool teacher continues to push Stefan to increase the speed. Gradually, the swing starts spinning around as it goes back and forth, and Stefan laughs and shouts even more. Suddenly Stefan looks scared and shouts to the preschool teacher, "It's enough!" The preschool teacher asks, "Enough?" Stefan shouts again, "It's enough speed!" The preschool teacher then helps Stefan reduce the speed, and when a lower speed is established, Stefan continues to swing, now making the preferred speed by his own move, and shouting with joy, "Yo, ho! Yo, ho!" After a while, he stops the swing with his foot and then walks away.

Sometimes children also withdraw completely from the play or refused to engage in the play at all because they assessed the risk as too high for them to manage. As such, children seemed to manage the risk by taking decisions of reducing, escaping from or avoiding the risk in the play situation.

The Preschool Staff's Management of Children's Risky Play

The results of the present study revealed four usual strategies that the staff took when dealing with children's risky play. These were restricting/constraining, keeping a close eye, not present/distance and contributing/initiative.

As a whole, the staff was not present or kept distance in most of the situations of risky play. There were very few occasions of staff restricting/constraining children's play. When this occurred, it was most often when children climbed high up in trees or rocky walls, and sometimes when children performed intense rough-and-tumble play resembling a real fight or when they put themselves at unintentional risk by being unaware of dangerous elements. On these occasions, the staff would tell the children to stop this particular play or reduce the risk in the play situation (descend further down in the tree, be less aggressive in the play fight, or to move away from dangerous elements). One example of restriction of children's climbing is from the field notes from the ordinary preschool:

Since arriving at the preschool, some of the children have already come out on the playground and started to play. Three girls are climbing in the tree nearby the gate to the playground. Two of the girls are climbing upwards, approaching the top of the tree. As I pass through the gate, one of the preschool teachers walks towards the girls and tells them to immediately come down and remain at a lower level in the tree. The girls do as she says, and she walks away from the scene.

Situations of rough-and-tumble play occurred in both preschools, but in the outdoor preschool, the researcher was told by the children that play fighting, play fencing and play wrestling were forbidden by the staff. Still, there were several observations of such play in the outdoor preschool, often in the setting of role play in which children pretended to be fantasy creatures such as King Kong, Tarzan and Spiderman. On these occasions, the rough-and-tumble play happened out of sight from the staff. The prohibition of this kind of play implies that the staff was not comfortable with the children engaging in this. In the ordinary preschool, there were several situations of play fighting, as well. In some situations, the staff intervened and prohibited the play situation. An example from the video observations involves three boys play fencing each other:

Ian (5 years old), Mark (5 years old), and Tim (5 years old) are play fencing each other with branches, making scary faces and roaring animal sounds. Tim suddenly starts to cry and runs away from the two others. Ian and Mark climb up on the top of the flat roof of a small shack on the preschool playground and

continue their fencing and roaring. Ian then jumps down to the ground, fencing with the branch in the air and roars loudly. One of the staff members approaches the two boys holding hands with Tim who still cries. She asks if they have hit Tim while playing. Ian and Mark answer that they did not hit Tim, but that he probably thought they would. Ian says, "I only did like this...oaaaaa [roars and lifts his hand in the air in a threatening manner]...and then I hit against him...because I am a one-eyed-Monster!" The staff member then tells the boys to stop playing this way as someone can get hurt.

Sometimes the staff did not break off the play situation, but just kept a close eye on the activity. One of these occasions was when a four-year-old boy in the outdoor preschool climbed a rocky wall of approximately 3 meters height. The preschool staff kept a close distance watching the boy, reminding him to be cautious, ready to assist the boy if necessary. In some situations, the children in the present study suddenly found themselves higher up from the ground in play than they thought comfortable. In these situations, the child would climb down if he or she managed, or if he or she did not manage, call for help from one of the staff members. In situations when staff members were called on to assist a child stuck in a tree, the response from the staff member on all occasions was that the child would have to get down on his or her own. This applied for both preschools. The staff member would assist the child by being there and guiding the child down on her own, but the staff would not lift the child down. Addressed to the researcher, some of the staff explained that the rule was "If you can get up, you can get down," and that children were not allowed to climb in trees or other climbing equipment if they could not get down by themselves. Close supervision was also the case when children played with dangerous tools. The tools were not free to use, and the children would have to ask the staff to bring them out if they wanted to play with them. On these occasions, the staff stayed close to the children, instructing them on how to use the tools, helping them if they asked for assistance, and reminding them to be careful. They constantly kept an eye on the activity and made sure other children stayed at distance. Also, when children went out exploring on their own, with the potential of getting lost, the staff often had an eye on the children at a distance. In the present study, the children in the outdoor preschool with no fences surrounding the playground had extensive freedom to move around where they wanted. When on hikes, both preschools offered the opportunity to go exploring alone, but dangers of the explored environment, such as dense forest, steep hills and cliffs, and small lakes, made the staff more attentive to where the children moved around on their own. They would call them back to keep them under surveillance if they went too far or out of the view of the staff. Accordingly, the staff was also attentive when children played near dangerous elements, and kept a close distance at which they would be able to rescue or help children if needed.

On the occasions in which the staff were close to or included in risky play, they would sometimes not restrict or constrain the play, but rather contribute and take initiative of the play. Occasions of staff participating in chasing games and climbing trees were sometimes observed, but this kind of staff involvement was most often the case in play with high speed such as swinging, sliding, sledding and skating. This is exemplified by a quote from an observation of sledding in the outdoor preschool:

The preschool teacher and Tom (4 years old) are sitting on the sledding mattress on top of the longest and steepest sledding hill. They start sledding down the hill and soon achieve a very high speed. Approaching the bottom of the hill, they swerve out in the snowdrift on the side of the hill and tumble over each other. Both Tom and the preschool teacher laugh excitedly. The preschool teacher says, "We fell off, but it was still fun!" Tom shout, "Yees! It was completely wild! Let's go all the way up and do it again! We'll go even faster and we'll make the mattress whirl!" The preschool teacher answers, "Yes, maybe we should do that!" The two of them start walking up the hill and Tom says: "This was really fun!"

In these situations, the staff encouraged the children to achieve high speed on the swings, they pushed children down the sledding hill, or they sat on the sledding board with the children and they took initiative by rolling and sliding down a wet, steep grass hill.

CONCLUDING DISCUSSION

The first research question of the article was, "How do preschool children seek out and manage risks in play?" The results show that children intentionally seek out risks in their play. They tend to do this either by achieving great heights and high speed, by performing the play in hazardous and creatively dangerous manners, or by daring each other. As expected, due to former research and theory, the present observations indicate that the immediate reward of such play for children was the excitement and joy that it brought, even though it was sometimes a fearful joy (Adams, 2001; Apter, 2007; Gerkovich, 2001; Sutton-Smith, 1997; Zuckerman, 1994).

The way children sought risks in hazardous and creatively dangerous ways supports the findings that children's normal rashness is the most common risk factor for injury on playgrounds, rather than features of the equipment (Ball, 2002; Coppens & Gentry, 1991; Illingworth, et al., 1975; Ordoñana, et al., 2008; Rosen & Peterson, 1990). The potential accidents and losses related to risky play include getting hurt or injured while playing. In the present study, there were no injuries observed during the risky play situations. Still, decisions to avoid or reduce risks in play, such as withdrawal from the situation and refusal of engaging in the play, occurred as means of managing the risk level. This is in accordance with former research showing that children tend to assess the risk in the situation and find suitable ways of getting out of it (Coster & Gleeve, 2008; Smith, 1998). When the child perceives the danger of experiencing an accident as greater than a positive outcome of the activity, the child will try to manage the risk by withdrawal. According to Adams (2001), this is the nature of balancing behavior; the risk-taking decision is influenced by the evaluation of the potential rewards weighed against the potential accidents. Adams' model also suggests that each individual's propensity to take risks will influence the risk-taking decision. The present results indicate that the observed children differ in how they perceive the danger and their propensity to take risks in play, as argued in former research on individual differences in children's risk-taking and sensation seeking (Cook, 1993; Cook, et al., 1999; Miller & Byrnes, 1997; Morrongiello & Lasenby-Lessard, 2006; Morrongiello & Matheis, 2004, 2007; Morrongiello & Sedore, 2005). Still, in accordance with former research (Adams, 2001; Aldis, 1975; Smith, 1998; Stephenson, 2003), all children in the present study seemed to seek risks and thrills suitable for their individual level of acceptable risk, and by that experience the rewards of positive emotions such as joy and excitement.

The second research question in this study was, "*How does preschool staff manage children's risk-taking in play?*" The results show that the staff usually took one of four different strategies when dealing with children's risky play: restricting/constraining, keeping a close eye, not present/distance and contributing/initiative. In this way, the present results demonstrate that supervision from adults present influenced children's risk-taking in play, and that the preschool staff made risk-taking decisions on behalf of the children. On some occasions, the supervision of adults led to restrictions and guiding of the risk-taking behavior, such as how high they could climb or if they were allowed to go explore on their own outside the fence border. In other situations, the staff took a more withdrawn role and let the children find their way out by themselves. Sometimes the staff took initiative in risky play and encouraged the children to take risks in play. As such, the risk-taking decision was taken over, or at least influenced highly, by the supervisor. Still, the extent of restrictions and constraints observed in the present study were few and modest. This supports the former suggestion that Scandinavian (Norwegian) preschool teachers have fewer concerns about children's risk-taking than several other countries (Ball, 2002, 2004; Caesar, 2001; Chalmers, 2003a, 2003b; Greenfield, 2003; Little, 2006; New, et al., 2005; Sawyers, 1994; Swartz, 1992; Wardle, 1997; Zeece & Graul, 1993). In this way, the children in the present study had great freedom to explore challenges and risks in play, and to independently make risk-taking decisions without too many constraints from the preschool staff. According to Smith (1998), the best way to supervise children seems to be supporting the them in exploring risks and challenges, and helping them pursue this in safe settings. The preschool staffs' involvement in children's risky play in the present study seems to support such an attitude of exploration and risk-taking. The staff only intervened or restricted risky play if there were threats of serious injury among the children. In several situations, the staff actually contributed and took initiative in risky play among the children. According to Smith (1998), adults taking initiative and encouraging children to be involved in risk-taking in play is a positive way for children to encounter challenges, as long as the child is not pushed beyond their own limit of acceptable risk into the negative experience of anxiety.

The balancing act of letting children explore and take risks while still keeping them safe from fatal injuries is not easy. The safety legislation on children's play environments and the recent growing safety concerns among parents and caretakers should not result in restricting children from engaging in risky and challenging play activities. Rather, caregivers and supervisors should let children encounter risks and challenges within a relatively safe play setting (Smith, 1998), even though one would have to take this important knowledge at the risk of some minor injuries. At playgrounds, one must consider both the risks and the developmental benefits of letting children face the risks (Ball, 2002). A preoccupation with strict surveillance and restrictions of risky play would hinder the children from positive mastery experiences such as fun, enjoyment, high arousal, excitement, thrill, pride, achievement and healthy self-esteem (Adams, 2001; Apter, 2007; Coster & Gleeve, 2008; Sutton-Smith, 1997). Paradoxically, risk-avoidance puts children at greater risk because they may miss out on important developmental benefits (Adams, 2001; Apter, 2007; Ball, 2002; Boyesen, 1997; Gill, 2007; Smith, 1998; Stutz, 1995; Sutton-Smith, 1997). Through risky play, children prepare themselves to handle "real risks and dangers," it is "serious risk-management exercise" (Adams, 2001).

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