Children’s play, well-being and involvement: how children play indoors and outdoors in Norwegian early childhood education and care institutions

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ABSTRACT

In this article, we report on a Norwegian study exploring the relationship between children’s play, well-being, and involvement, and identify how children play in indoor and outdoor environments at their early childhood education and care (ECEC) institution. In this quantitative study, structured video observations (960 two-minutes sequences) of 80 free play sessions (indoors and outdoors) at eight ECEC institutions were analysed to measure the time spent in different kinds of play types, and to code children’s level of well-being and involvement, using the Leuven well-being and involvement scale [Laevers, F. (2005). Well-being and involvement in care settings. A process-oriented self-evaluation instrument. Retrieved from https://www.kindengezin.be/img/sics-ziko-manual.pdf]. The results demonstrated that there was a significant and positive correlation between children’s play and their well-being and involvement. Children spent 2/3 of their time in different kinds of play during their free play time in ECEC, and there were significant differences between the types of play children engaged in indoor versus outdoor environments.

Introduction

Play is a key aspect in children’s lives, including their time spent in Early Childhood Education and Care (ECEC). Article 31 of the United Nations Convention on the Rights of the Child (UN, 1989) challenges us to understand play from the perspective of children. Viewing play as a fundamental need and right of all children offers a powerful construct that legitimizes and secures the place of play in the lives of young children (Kernan, 2007). From children’s perspectives, play is voluntary and self-controlled, fun, active, spontaneous, free, unlimited, natural, and self-initiated (Wiltz & Fein, 2006).

Children’s spontaneous free play is by nature complex; it may exhibit multiple forms, types, and stages simultaneously (Hewes, 2014). Forms of play are typically described along the locomotor, social, and object dimensions (Pellegrini, Dupuis, & Smith, 2007). Types of play are classified in a number of ways, but the most traditional is dividing between functional play, constructive play, symbolic/fantasy play, and games with rules.
In examining the impact of playground design on children’s play choices and behaviors in preschool centres, Dyment and O’Connell (2013) recorded the dominant type of play: e.g. functional play, constructive play, symbolic play, and non-play (self-focused and talking). In this study, an adapted version of Dyment and O’Connell’s categorization was used to code children’s various forms of play (see method section).

**Environments for play**

A growing consensus contends that physical environments have an essential role in children’s development and learning (e.g. Maxwell, 1998; Neill, 1982). Children learn best in environments that provide them with meaningful contexts for learning and a diversity of choices and possibilities for following their interests (Hirsh-Pasek, Golinkoff, & Eyer, 2003). Factors concerning educational environment, such as the ECEC institutions’ physical features, are important for children’s well-being, participation, development, and learning outcomes (Huntsman, 2008; Neill, 1982; Sylva et al., 2003; Ulrich & Mayr, 2002). Research clearly indicates that an environment’s physical factors greatly influence children’s perception and utilization of both indoor and outdoor physical environments.

The theory of affordances (Gibson, 1979) represents an important framework for considering the utility and flexibility of the physical environment, since it concerns an individual’s perception of the environment surrounding him/her. This theory states that the physical environment in which we live affords different actions and behaviours. The concept of affordances includes both the environment and the person, meaning that affordances are unique for each individual (e.g. while one child may see a tree as something to climb, another may see it as a back rest while reading). This person-environment relationship is immediate and based on practical activity (Kytä, 2004; Sandseter, 2009). Kytä (2004) argues that actualized affordances are the subset of potential affordances that the individual perceives, utilizes, or shapes. Children actualize affordances in their environment through exploration and play. Also cultural and social rules and practices regulate the affordances actualized in the environment. In an ecological schema of potential affordances, Kytä introduces three subsets that reflect the rules which structure the actualization of affordances in child-friendly environments. The **field of free action** recognizes children’s agency and their choices in any situation (Waters, 2017). The **field of promoted action** regulates which affordances can be actualized as well as the time, place, and manner in which they can be actualized in a socially approved way. The **field of constrained action** refers to a subset of factors that actively restrict the actualization of affordances, like the design of objects and spaces that not all users are able to actualize, e.g. children with disabilities (Kytä, 2004).

Clark and Uzzell (2006) claim that Gibson appreciated the importance of social and cultural meaning in environmental perception, and that the richest and most intricate affordances of the environment are those provided by other people. Thus, affordances in free, spontaneous play can be physical, social, and/or cultural features of the environment. Allowing free play and providing physical environmental support for such play in ECEC give children opportunities to harvest important bodily, social, and cultural experiences in the initiating phases of life.
Children’s well-being, involvement and play

Well-being refers to an internal, subjective perception and experience of being recognized by others, feeling appreciated, and having a sense of happiness and satisfaction, as well as feeling well in relation to others (Fattore, Mason, & Watson, 2009; Mashford-Scott, Church, & Tayler, 2012; Thoilliez, 2011). Children’s well-being depends on their ability to exert influence and have some control of situations – their feeling of mastery and involvement (Fattore et al., 2009; Laevers, 1997).

Through interviews and conversations with 8–15-year-olds, Fattore et al. (2009) found that participating in play and activities where they experienced fun, freedom, and the possibility to develop competencies was important for their well-being. The participating children also mentioned how the physical features of their natural and built environment can provide a sense of well-being, particularly when the environment allowed them to be autonomous and free to engage actively in their community.

Laevers (2000) also argues that children’s well-being is an important factor for their deep level learning because it is so closely connected to their involvement in a situation. Involvement is a quality of human activity that can be recognized by a child’s concentration and persistence when participating in activities alone or together with staff or peers. Involvement is characterized by intrinsic motivation, fascination, openness to stimuli, and an intensity of experience at both the physical and cognitive level, and it has an effect on children’s learning (Laevers, 1997; Pascal & Bertram, 1997). Laevers (2000) describes how deep level learning takes place when children are in a mode of high involvement, and argues that to promote optimal learning environments it is important to provide for a high level of involvement in children’s play and activities. There are also studies indicating that experiencing an activity as play is important for children’s learning from the activity (Howard & McInnes, 2013; McInnes, Howard, Miles, & Crowley, 2009), and that children’s well-being is higher when they engage in play rather than in adult-led activities, even though the activity itself remains similar (Howard & McInnes, 2013).

The Norwegian ECEC context

In Norway, the ECEC institution (barnehage) is an early-years setting designed to meet and ensure educational and care needs of children from birth to six years of age. Decreed by law, all Norwegian children up to age six years have the right to be educated and cared for in ECEC institutions. Today 91.3% of Norwegian children attend ECEC services (StatisticsNorway, 2018). The education and care of children is a part of the educational system, but is seen as separate from mainstream schooling that starts the year a child turns six and begins elementary school. The Norwegian Framework Plan for the Kindergartens (NMER, 2017) applies to all ECEC institutions in Norway and guides teachers pedagogical work with children.

Children’s well-being in Early Childhood Education in Norway is closely related to children’s right to participate, to be responsible, and to be active (i.e. the rights of children enshrined in Article 12 of the UN Convention on the Right of the Child) (UN, 1989). They shall be able to express their views on the day-to-day activities of the ECEC, and children’s views shall be given due weight according to their age and maturity (NMER, 2017).
Children shall also have a large degree of freedom in terms of choosing activities. In Norway, children’s right to play is regarded as an important element of the content, and ECEC shall make good provisions for play, friendship, and children’s own culture, and provide opportunities for both indoor and outdoor play (NMER, 2017). Play is regarded as a means for learning and developing a complex set of skills. The Framework Plan (NMER, 2017) also has a focus on being outdoors, and children attending Norwegian ECEC institutions usually spend more than 70% of the total time in ECEC outdoors in the summer semester, and more than 30% of the total time in the winter semester (Moser & Martinsen, 2010).

**Aim of study**

The research questions explored in this article are:

- What is the relationship between 3–4-year-old children’s play, well-being, and involvement?

- In what kinds of play do 3–4-year-old children engage indoors and outdoors in ECEC?

**Method**

This study is part of a larger study within the approach called *Design experiment in education* (Hartas, 2010). This approach uses an iterative design and focuses on process to build, test, evaluate, and calibrate interventions through collaborations between researchers and practitioners. It is also multi-leveled in the way multiple variables are tested, and both quantitative and qualitative data are combined (Hartas, 2010). In the larger study, the aim was to explore how changing physical environments can influence children’s play. In this article, we report on data from the first data collection where children were observed in their existing environments (before intervention). As such, this article reports on a structured observational study, taking a quantitative approach to measure time spent in different kinds of play in different environments. The project also had an emphasis on user participation, and included early childhood teachers as fellow researchers.

**Participants**

Five girls and five boys from each of eight ECEC institution (totalling 80 children) participated in this study. In addition, one early childhood teacher at each institution was as fellow researchers together with the five academic researchers on the project.

The participating ECEC institutions were selected from a pool of 22 institutions suggested by two private ECEC corporates and one municipality, all of which were partners in this project. The criteria for being nominated to participate were: (1) the institution (represented by the management) was interested in participating in this three-year large scale project with time, staff, and resources all available; (2) they had an early childhood teacher on staff that wanted to be engaged as a fellow researcher; and (3) they had a minimum of 20 three- to four-year-olds that could be recruited to participate in the project for a period of three years. Based on these criteria, the research group strategically selected eight ECEC institutions that represented a mix of size, urban/rural,
building year, and organizational structure (departments, bases, zones, flexible). At each institution, 10 children (5 girls and 5 boys) were selected for observation (following parental and child consent). In one institution, one girl was replaced by a boy, due to difficulty recruiting enough girls. The total number of participants was 39 girls and 41 boys between the age of two and six years. Staff-child ratio for the 3–6-year-olds (decided by the norm in Norway) is 6 children per staff-member and the group sizes in the sample of this study is 15–20 children. The Norwegian norm for indoor environments for children in the relevant age group is 4 m² per child and for the outdoor environment 24 m² per child.

**Data collection**

To avoid too much variation of seasonal weather, observations of all the 80 children was conducted during a period of 4 weeks in October. All observations were conducted in accordance with a strict observational protocol. This protocol ensured that a random sampling of observational sequences was secured and that the data collection was carried out in the exact same way at each institution. All observations were video-recorded. The protocol instructed each institution to give children opportunities for two hours of free play indoors and two hours outdoors on days when the data collection was carried out. In Norwegian ECEC the normal practice is to have at least two hours of both indoor and outdoor free play (Moser & Martinsen, 2010), and it is common that some of the outdoor play is outside the ECEC institution’s playground (such as hikes to forest areas). A strict protocol guaranteed the outdoor play to be within the institutions’ playground, and not on hikes to other play environments. Two child participants were selected for each observational day (each child gave in situ consent), and the researcher and fellow researcher focused on these two children for the whole day. As a result, there were five days of structured observations in each of the participating institutions (for a total of 40 observation days).

During each observation day, the following protocol was applied: the starting point of video recording and the order of the children being observed were decided before data collection started. This was done to ensure that the researchers would not influence which child or which situations were recorded. Each child was observed for 12 two-minute sequences, six indoors and six outdoors. The protocol instructed researchers to carry out this observation as follows: Child #1 recorded for two minutes, followed by a six-minute break to locate the next child in the play area. Child #2 recorded for two minutes, followed by a six-minute break to find the first child to record again. The project researcher was responsible for following the protocol, watching the time, and writing field notes to capture more nuances of each situation than the video would record. The fellow researcher was responsible for video recording.

If the researchers found a child in a situation that could not be filmed, such as toileting, changing clothes, etc., they postponed the timetable for video recording accordingly. If the child was in a situation that could not be filmed for more than 10 min, the researchers moved forward with the other child and then conducted the missing observational sequences at the end of the timetable.
Measures

The play types utilized in this study were inspired by Dyment and O’Connell’s play categories (2013, p. 266). For the purpose of this study, the two last categories (self-focused/looking on, and talking) were merged and re-named “non-play” since this was not considered to be play activity. This was for instance children just looking at other children playing or just looking around for something to do, children and practitioners talking about other things than play related themes, or merely practical activities such as changing mittens or finding some water to drink. One additional category called “mixed play” (inspired by Luchs & Fikus, 2013) was added to capture sequences where it was difficult to assign one play category because the child engaged in a mix of more than one category. The following play categories were used in the coding process:

- Functional (physical play activities – e.g. running, riding bikes, tumbling, climbing rocks, sliding slopes, climbing trees, playful skiing).
- Constructive (building play activities – e.g. building sand castles, creating hut and shelters, playing with loose parts like sticks, cones, pebbles).
- Symbolic (creative/imaginative play – e.g. role play, dramatic play, social play like house and pirates).
- Non-play (self-focused/looking on – no interaction with others, not engaged in play – e.g. day dreaming, empty staring, watching activities – or talking – not engaged in active play but talking with another child.)
- Mixed play (when children combine several types of play without any type being dominant).

The play times were coded, second by second, in each video sequence. The coding was conducted by one researcher, and then 10% of the sequences were randomly chosen for a second coding by another researcher to secure the quality of the coding.

The Leuven scales used in this study (Laevers, 2005) are designed for observations lasting two minutes. The score in these scales range from 1 being the lowest score (e.g. the child hardly shows any activity/the child clearly shows signals of discomfort) and 5 being the highest score (e.g. the child is continuously engaged in the activity and completely absorbed with it/the child enjoys, in fact feels great). All sequences were coded by two researchers individually, and the inter-rater agreement for the two scales were 89% for well-being with a kappa value of 0.41, and 88% for involvement with a kappa value of 0.52 (both values regarded moderate agreement according to Cohen (1968)). The project lead investigators were trained to use the Leuven scales, and other project members conducting the analysis were given the same training.

Analysis

In total, the data material consisted of 1920 min of video recordings, divided into 960 sequences. The video sequences were coded to establish the participants’ level of well-being and involvement, using the Leuven Involvement and Well-being Scales (Laevers, 2005). All of the recorded sequences were also imported into the analysis software Noldus Observer XT 12,5 (Grieco, Loijens, Zimmermann, & Spink, 2007), for coding of
types of play and environment. The video sequences were analysed for time spent in different kinds of play; type of play could shift during a two-minute sequence if the child changed from one type of play to another. The Observer XT software allows for a detailed coding of variables on a timeline attached to each video.

The coded data from Observer XT were then imported into the statistical software STATA 15.1 (StataCorp LLC) for further analysis. For the purpose of establishing any relationship between play, well-being, and involvement, correlation analyses were conducted, while descriptive statistics and two-sample t-test were performed to further exploring play, play types, and the environment.

**Ethical considerations**

There are special ethical issues in research involving young children (Fine & Sandstrom, 1988). One of these issues is the need to gain informed consent from both the parents and the children (for the children also in situ before each observation). It is important to ensure that the children understand both their own and the researcher’s role during the data collection, and that they can withdraw from the project at any time (Grieg, Taylor, & MacKay, 2007). The fellow researchers in this study, who knew the children well, explained to each child in an understandable way the observations that would be conducted, and informed them of their right to withdraw at any time. The researchers were also very conscious to refrain from recording children in sensitive situations such as toileting, change of clothes, etc.

The study was approved by the Data Protection Official for Research in Norway, under the premise that the data would not be analysed or published at group level due to the relatively low number of children in each institution.

**Results**

The overall results of the study show that there were significant correlations among play, well-being, and involvement.

Table 1 shows that there were significant correlations between play (total) and both children’s well-being and involvement. There were also significant correlations among all types of play and well-being and involvement except between constructive play and well-being. Non-play was shown to be significantly and negatively correlated with both well-being and involvement.

These findings confirm that play is essential for children’s well-being and learning potential, and they lay the groundwork for further exploring conditions for play in ECEC.

|                          | Well-being | Involvement |
|--------------------------|------------|-------------|
| Play (total)             | .40***     | .57***      |
| Functional play          | .19***     | .08*        |
| Constructive play        | .027       | .25***      |
| Symbolic play            | .071*      | .12***      |
| Mixed play               | .20***     | .18***      |
| Non-play                 | -.40***    | -.57***     |

*N = 950 observations. *p < .05; **p < .01; ***p < .001*
Children’s play in ECEC

The data on children’s time in different types of play were analysed to see what kind of play children engaged in when they were free to choose their own activities. Table 2 shows the distribution of play types across all of the 950 two-minute sequences, coded second by second.

Table 2 shows the total time (in percentages) of dominant types of play recorded in free indoor and outdoor activity. Overall, constructive play (30%) was the most time-consuming type observed in this study. Functional play (23%) and symbolic play (12%) were also dominant types of play that occupied children’s time during free play. In observations where the dominant type of play was not obvious, mixed play (6%) was recorded. Mixed play normally consisted of at least two of the three other categories of play. Table 2 also shows that almost 1/3 of the activity was non-play.

Children’s play types in indoor and outdoor environments

Based on our interest in how different environments afford children different kinds of play, a two-sample t-test was conducted between play indoors versus outdoors. The amount of play time was similar when we compared indoor play (63%) with outdoor play (59%). Looking into the different types of play revealed a more detailed and varied distribution.

Table 3 shows the total time (in percentages) of dominant types of play recorded and divided into indoor and outdoor play. First, the amount of time spent in functional play (10.3% vs. 36.5%) was significantly higher outdoors than indoors. Secondly, the amount of time spent in constructive play (36.1% vs. 22.7%), and symbolic play (20.5% vs. 3.1%) were significantly lower in outdoors compared to the indoor play environment. Notably, the amount of time spent in symbolic play was drastically lower outdoors than indoors. Mixed play (6.1% vs. 6.7%) and non-play activities (26.5% vs. 30.9%) were about at the same level in both environments.

Table 2. Total distribution of play, percentage.

| Play Type        | Observations (n = 950) |
|------------------|------------------------|
| Functional play  | 23%                    |
| Constructive play| 30%                    |
| Symbolic play    | 12%                    |
| Mixed play       | 6%                     |
| Non-play         | 29%                    |

Table 3. Distribution in percentage of play indoors versus outdoors, t-test.

|                        | Indoors (n = 479) | Outdoors (n = 471) |
|------------------------|-------------------|---------------------|
|                        | %                 | SD                  | %               | SD               |
| Functional play***     | 10.3              | 26.4                | 36.5            | 40.8             |
| Constructive play***   | 36.1              | 43.2                | 22.7            | 38.6             |
| Symbolic play***       | 20.5              | 37.1                | 3.1             | 14.6             |
| Mixed play             | 6.1               | 23.1                | 6.7             | 22.8             |
| Non-play               | 26.5              | 36.0                | 30.9            | 37.0             |

Significant (two tailed), *p < .05, **p < .01, ***p < .001.
The difference in total amount of time spent in play activities indoors (73%) versus outdoors (69%) was not significant for non-play activities (27% vs. 31%). It is however interesting to note that non-play activities were 4% higher in the outdoor environment.

Discussion

This study aimed at exploring the relationship across children’s play, well-being, and involvement, and to see how children play in indoor and outdoor environments while at their ECEC institutions.

The relationship among 3- and 4-year-old children’s play, well-being, and involvement

The results (Table 1) show that there was a significant positive relation across children’s play and their well-being and involvement. This result holds when looking at the different types of play, except for a missing correlation between constructive play and well-being. Table 1 also shows that there was a similar negative correlation across children’s non-play and their well-being and involvement, meaning that when children were not engaged in play, they were less inclined to experience either well-being or involvement. This underscores the importance of providing children with opportunities for play in ECEC. As such, allowing free play and providing a physical environment that affords various types of play are important contextual elements to ensure children’s psychosocial and learning environments.

Children’s play during time for free play in ECEC

This study found that children spent about 2/3 of their time in play activities when time was allotted for free play. In light of the former research on how important play is for children’s well-being and involvement (Howard & McInnes, 2013; McInnes et al., 2009), this is a positive finding. The results also show that children engaged in a wide range of play types – functional play (23%), constructive play (30%), symbolic play (12%), and mixed play (6%) – which means that they obtained various experiences from different kinds of activities and stimuli that promoted learning, learning skills, and agency (Bjorklund & Pellegrini, 2002; Pellegrini & Smith, 1998; Sandseter & Seland, 2016; Wiltz & Fein, 2006). It also means that Norwegian ECEC institutions to a large degree comply with both the international UN Convention (UN, 1989) and the national Framework plan (NMER, 2017) where children’s right to play is emphasized. Nevertheless, this also means that children also spend 1/3 of their free play time not playing. Knowing that well-being and involvement are essential for children’s deep level learning (Laevers, 1997, 2000; Pascal & Bertram, 1997), and that play was correlated with well-being which is an indication of children’s psychosocial health (Fattore et al., 2009; Foley et al., 2012; Koch, 2013; Mashford-Scott et al., 2012; Thoilliez, 2011), this raises questions of how much time we can expect children to be actively involved in play during their free play time in ECEC. It also raises interest in exploring the factors that influence non-play among children and to explore what environmental and social factors can inspire and afford children to play.
Children’s play in outdoor versus indoor environments in ECEC

The theory of affordances states that the physical environment in which we live affords different actions and behaviours (Gibson, 1979; Kyttä, 2004). Applying that theory, the participating children actively actualized affordances in their physical environment in ECEC for play in 2/3 of their free play time. According to Kyttä (2004), it is typical to see affordances in terms of varying stages or levels rather than either/or phenomena, and the first level is to perceive and comprehend the potential affordances of the environment. The number of potential affordances in the environment is in principle infinite, in contrast to actualized affordances that are a subset of the former that a child perceives, utilizes, or shapes. Potential affordances are relative to some individuals and in principle available to be perceived and actualized through the actions of a child. The two different types of environment included in this study – indoors and outdoors – had different characteristics; hence they would offer different affordances for children spending their time there. With the emphasis on indoor and outdoor play put forth in the Norwegian Framework Plan for Kindergarten (NMER, 2017), children in Norway spend a considerable amount of their time in ECEC outdoors.

The Norwegian Framework Plan for Kindergarten (NMER, 2017) states that the staff shall design the physical environment both outdoors and indoors so that all children are provided the opportunity to actively participate in play and organize space, time, and play equipment to inspire different kinds of play.

Looking into how children play in these different environments is interesting. The results show that the total amount of play was not significantly different indoors (63%) versus outdoors (59%). Still, when investigating more closely the different play types, the results in Table 3 shows that the distribution of play types (functional, constructive, and symbolic play) were significantly different indoors versus outdoors. While the extent of functional play was significantly higher outdoors than indoors, the extent of constructive and symbolic play was lower outdoors than indoors. Specifically, in our analysis the amount of symbolic play was very low (3.1%) while outdoors, and functional play was quite low (10.3%) indoors. Although the physical characteristics of the two play environments in this study were quite different, they both afforded children possibilities for actualization of a wide range of play types, but to a different extent. However, looking solely at the characteristics of the physical play environment, it did not reflect the complex interactions between children’s play behaviour and their physical environment. Factors other than just physical features would be needed to explain the differences in children’s indoor versus outdoor play, e.g. social and cultural features or frames in the environment (Clark & Uzzell, 2006). In this sense, one would also have to consider factors such as Kyttä’s (2004) field of promoted action, field of constrained action, and field of free action. These three subsets of how affordances are actualized point at conditions that regulate which affordances an individual can actualize. This includes children’s agency and freedom to actualize potential affordances, when, where, and how affordances can be actualized in a socially approved way, and how the design of objects and spaces can lead to actualization or restriction of actualization of affordances for different individuals (Waters, 2017). This means that the culture, daily routines and organization of the ECEC, as well as knowledge, perceptions, and attitudes among the practitioners in the ECEC will be important for children’s opportunities to actualize the affordances of their environment. This has also been found in studies looking specifically
at children’s outdoor play (Miranda, Larrea, Muela, & Barandiaran, 2017), risky play (Little, Sandseter, & Wyver, 2012; Sandseter, Little, & Wyver, 2012) and rough-and-tumble play (Storli & Hansen Sandseter, 2017; Storli & Sandseter, 2015).

**Limitations and future research**

Our aim in this study was to investigate play, well-being, and involvement among 3- and 4-year-olds in ECEC, and how different physical environments afford different types of free play. Nevertheless, a limitation of this study is that the theory of affordances is not used specifically as an analytical tool. This means that the data presented do not allow deeper analyses of which factors in the field of free, promoted, and constrained action that affect children’s play behaviour. These factors should be explored in more detail in future studies to understand the more complex interaction between the individual child, the physical environment, and the physical, social, and cultural affordances available to that child.

**Conclusion**

All types of play are related to children’s well-being and involvement, except the finding that constructive play did not show a significant correlation with well-being. This supports an emphasis on play in general and children’s free play in particular in ECEC institutions. In line with the Norwegian Framework Plan for Kindergartens, the results show that children engaged in play most (71%) of the time they were observed. Still, the amount of non-play was higher than expected, taken into account that the observations were conducted only during the time children had available for free play (avoiding eating time, dressing time, etc.). The results also show that although there was an equal amount of play versus non-play indoors and outdoors, there were significant differences in the types of play children engaged in while in the two environments. ECEC owners and practitioners should be conscious about how to support actualization of various affordances. In general, inviting play and providing physical indoor and outdoor environments that support a variety of play types in ECEC affords children opportunities to gain essential bodily, social, and cultural experiences. As shown in this study, play is strongly related to children’s well-being and involvement, and will as such be important to provide good psycho-social- and learning environments.

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