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Barriers for Outdoor Play in Early Childhood Education and Care (ECEC) Institutions: Perception of Risk in Children's Play among European Parents and ECEC Practitioners

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ABSTRACT

Risk aversive perceptions and practices among ECEC practitioners and parents have proven to be an important reason for the decline of young children's opportunities for free outdoor play. Yet, there are also cultural differences in the perception of children's risky play. This study aims at examining the factors that ECEC practitioners and parents experience as barriers for children's outdoor play, especially those associated with risk. ECEC practitioners and parents in five different European countries (Greece, Portugal, Estonia, Croatia and Norway) received questionnaires about their perception of children's outdoor play. The sample consists of 32 ECEC practitioners and 184 parents. Results show that parents and ECEC practitioners from Norway are less risk aversive to children's play than those from the southern European countries. Traffic is a barrier for outdoor play among parents from all countries (above 50%), and stranger danger is particularly noticed in parents from Greece (80.6%) and Portugal (62.9%), whereas in Norway this value is only 13.3%. The mean average age from which parents allow their children to play outside is quite different between the participating countries, ranging from 5.8 years in Norway to 11.8 years in Greece. In total, fear of children getting injured and adults' own concern/anxiety are only mentioned as barriers by 9.4% and 3.1% of ECEC practitioners, respectively. Lack of play spaces (74.3%) and poor play facilities (80%) are also considered obstacles to letting children play outside by Greek parents, whereas Portuguese ones emphasized media alerts (61.3%). Our results suggest a differentiated approach between countries to tackle the reported barriers to children's outdoor risky play.

KEYWORDS
Barriers; Outdoor play

Introduction

Childhood play and outdoor play

Play is a concept concerning children's "own" activity: a voluntary, intrinsically motivated experience where the activity itself is more important than the outcome (Bateson, 2005;

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Sutton-Smith, 1997). Play can include activities that they voluntarily engage in, without adult intervention, characterized by fun, intense activity, spontaneity, freedom, and self-initiative (Wiltz & Fein, 2006), but it can also encompass structured play with varying degrees of adult guidance.

Research supports and documents the importance of play for children's development, learning, health (both physical and mental) and quality of life (see the research reviews of Cheng & Johnson, 2010; Gleave & Cole-Hamilton, 2012; Whitebread et al., 2017). This is important both in a "here and now" perspective and the value for childhood in itself, but also in a more long-term perspective of integrating good health habits and giving the opportunity for realization of future education and professional careers. The UN Convention on the Rights of the Child Article 31 (UN, 1989) emphasizes the right for all children to play and have leisure activities adapted to their age and level of development, and that children's participation in this should be based on their own free choices.

Play has been a natural part of childhood in most countries and cultures (Gray, 2011). Children have met outdoors throughout the year and played together, and nature functioned as meeting places. Today, studies indicate that play in nature environments no longer has the same frequency and importance, and children's exploration in neighborhoods and nature environments has been replaced by adult-led and organized activities (Gray, 2011; Skår & Krogh, 2009).

Research shows that children's outdoor play in general has great importance for increased physical activity, which in turn has a number of positive health effects (less overweight, better physical form, fewer cardiovascular diseases, etc.), better mental health and quality of life (both for the child and for the family), better cognitive (learning outcomes and academic skills) and social competence (better social relations—also between different ethnic groups), better adaptation in school life, and reduction of antisocial behavior and vandalism (Brussoni et al., 2012; Burriss & Burriss, 2011; Cheng & Johnson, 2010; Gill, 2014; Gleave & Cole-Hamilton, 2012; Moss, 2012).

The same positive effects have been found in studies on the effect of children's play in nature (see, e.g. Moss, 2012). Also, research has also shown that this is important for children's relationship to nature and nature/environmental consciousness, independence, space orientation ability, and place belonging (see Lester & Maudsley, 2006 for review of existing research).

One natural part of children's outdoor play is also what is called risky play. Risky play or children's risk-taking in play is described as play that provides opportunities to challenge and test limits, to explore boundaries, and to learn about risk (Ball, 2002; Little & Wyver, 2008). In a more detailed definition, Sandseter (2010, p. 22) suggests that risky play involves *thrilling and exciting forms of physical play that involve uncertainty and a risk of physical injury*. This definition was further extended by Sandseter (2007, 2010) as six categories of risky play: (a) play with great HEIGHTS—danger of injury from falling, for instance climbing (in all forms), jumping from heights, hanging/dangling from heights, balancing from heights, (b) play with high SPEED—uncontrolled speed and pace that can lead to a collision with something (or someone), for instance bicycling at high speeds, sledging (winter), sliding, running (uncontrollably), (c) play with dangerous TOOLS—that can lead to injuries, for instance axe, saw, knife, hammer, ropes, (d) play near dangerous ELEMENTS—where you can fall into or from something, for instance a lake/sea, fire pit, cliff, (e) ROUGH-AND-TUMBLE Play—where the children can harm

each other, for instance wrestling, fighting, fencing with sticks etc., (f) play where the children can DISAPPEAR/GET LOST, for instance when the children are without supervision and where there are no fences, for example, in the woods, etc. Risky play also has developmental benefits for children related to physical development, psychological development, social development as well as developing skills of risk assessment and handling risks (see, e.g. Brussoni et al., 2015 and Sandseter et al., 2017)

The decline of outdoor play

An overwhelming number of studies show that children's opportunities for free play, especially in outdoor and natural environments, are on a steep descending curve (see, e.g. Brussoni et al., 2012; Freeman, 1995; Gray, 2011; Lester & Maudsley, 2006; Moss, 2012). Even within a generation, a rapid decline in opportunities for outdoor play has been noted (Clements, 2004; Francis & Lorenzo, 2006; Ginsburg, 2007). Childhood has changed, where much of the physically outdoor play has shifted toward more sedentary indoor activities (Kemple, Oh, Kenney, & Smith-Bonahue, 2016). It is well documented that changes in urban environments prevent children from engaging freely in their neighborhoods (Francis & Lorenzo, 2006), and that this restricts children to more isolated places such as homes, day care and schools (Kernan, 2010). Children's independent mobility, meaning their parental licenses and opportunities for free movement in the local environment, to and from school and to other meaningful places have become very limited (Brussoni et al., 2012; Lester & Maudsley, 2006; Shaw et al., 2015). This deprivation of children's autonomous mobility is particularly noted in the United States (Alparone & Pacilli, 2012), and in southern European countries, such as Portugal and Italy (Cordovil, Lopes, & Neto, 2015; Marzi & Reimers, 2018). In addition, for the last generation, there has also been a technical development that has led to more indoor activities involving electronic devices (Gray, 2011). There are areas in the world today where children do not have the opportunity to experience the joy of free play in stimulating and diverse play environments.

However, in some western countries, such as in Scandinavia, children's outdoor free play is still an important part of childhood (Sandseter, 2010). The Scandinavian approach to children's outdoor play and their opportunities for challenging play in natural environments, including varied outdoor activities in kindergartens and schools, are less limited by safety focus than has been the case in many other countries (Guldberg, 2009; Little et al., 2012; Sandseter et al., 2012). One reason for this is that the Scandinavian societies are deeply connected to the concept of *friluftsliv* (which is similar to the concept of "outdoor life" but with stronger connotations of values and lifestyle) as an important part of the regional cultural heritage. The traditions of visiting nature areas, hiking in mountainous or forested areas, sleeping out in the wild, fishing, hunting, and exploring have been maintained over generations as part of daily life (Aasen, Grindheim, & Waters, 2009; Borge, Nordhagen, & Lie, 2003; Ejbye-Ernst, 2012; Ärlemalm-Hagsér, 2008). Furthermore, many Scandinavians habitually travel to parks, playgrounds, and nature areas for hiking and recreation with family and friends in their spare time (Borge et al., 2003; Nilsen, 2008).

Nevertheless, even though countries such as Norway have had a strong culture for children's outdoor play and risk-taking in play, a trend of a similar decrease and restriction is

also found there. A recent project on children and nature in Norway (Skår, Wold, Gundersen, & O'Brien, 2016) indicates a decline of outdoor play, showing a similar trend to the one found in other western countries (Clements, 2004; Gundersen, Skår, O'Brien, Wold, & Follo, 2016). Studies also show that Norwegian children are moving around and playing less in their neighborhoods now than in previous generations and that children participate less in self-organized play outdoors (Gundersen et al., 2016; Skår & Krogh, 2009). There has been a shift in where children play outdoors. Earlier, children tended to play more in nature environments, whereas today, private gardens are the most frequented outdoor space used for play. In addition, about 40% of Norwegian parents never or seldom let their children stay outdoors without knowing exactly where they are and what they are doing (Skår et al., 2016). This development has also impacted practice in Early Childhood and Care (ECEC) (Waite, 2010). Children are spending more time doing sedentary activities indoors and less physical play outdoors. There are also signs that ECEC practitioners in Norway are starting to restrict children's outdoor play because of safety precautions (Sandseter & Sando, 2016).

Reasons for the decline of outdoor play

The reasons for this negative development are several, and some central influencing factors have been identified. One reason is an increased safety focus on eliminating all opportunities for risk in children's lives, concern for what is called "stranger danger" (that children can be kidnapped by strangers), fear of being sued in case of accident or injury, and pressure from the insurance industry to avoid any injuries (Brussoni et al., 2012; Gleave, 2008; Lester & Maudsley, 2006; Sandseter & Sando, 2016; Skår et al., 2016). A part of the safety focus is also an increased concern about the traffic situation in children's neighborhoods and the fear that children would be harmed by cars (Gielen et al., 2004; Gray, 2011; Jelleyman, McPhee, Brussoni, Bundy, & Duncan, 2019; Witten, Kearns, Carroll, Asiasiga, & Tava'e, 2013). Changes to urbanization, such as restrictions for children's access to residential streets, also contribute to the decline of outdoor, free, spontaneous and creative play (Tranter, 2015). The fast development of available technology that children spend their time on is also a factor that contributes to the decline of outdoor free play. In some cases, parents are even content with their children staying home on the computer because then they at least know where they are and that they are safe (Gray, 2011; Witten et al., 2013). There is an increasing pressure in the direction of learning and learning goals in children's lives and everyday life, right down to kindergarten age (Frost, 2012; Gray, 2011; Hennum, 2011; Witten et al., 2013). Systematic learning activities can do a lot of good, but an increased focus on this adds further restriction on children's opportunity for free play. Another change that has been documented over the last few decades is that children spend an increasing amount of time in different organized events through after-school activities, sports clubs and other adult-organized activities (Frost, 2012; Witten et al., 2013). Moreover, factors such as rainy or cold weather, fear of being bullied by older children (Brockman, Jago, & Fox, 2011) and poor or lacking play environments (Clements, 2004; Witten et al., 2013) are found to constrain children's opportunities for outdoor free play.

The concern for the decline in children's play is also emphasized in the UN Committee on the Rights of the Child, comment no.17 (UN, 2013). In this comment, the UN expresses

great concern about how UN convention article no. 31 (children's right for free play) is not being fulfilled in most countries, and that this is an increasing problem. The UN Committee points at safety concerns and an excessive safety focus as reasons for this problem, as well as an increasing pressure on learning and academic achievement on young children (UN, 2013). We simply live in a time when children's free play in nearby areas, nature and varied stimulating environments is threatened. This has led to a more institutionalized childhood and has contributed as a barrier for free play in nature environments (Skår et al., 2016).

Aims and research questions

The main aim of this study is to examine the factors that ECEC practitioners and parents in five different European countries experience as barriers for children's outdoor play, especially those associated with risk. More specifically, ECEC practitioners and parents in Greece, Portugal, Estonia, Croatia and Norway have been the focus of the study.

The research questions of the study are:

- What are the parental barriers for children's play outside?
- What are the ECEC practitioners' barriers for children's play outside on the preschool playground?
- At what age do parents grant their children freedom to independent movement in the outdoors?

Method

This study is placed within a pragmatic approach where the view is that knowledge is produced through action and behavior, and also that we adapt our actions according to knowledge (Morgan, 2014). Therefore, the study is focused on how parents and ECEC practitioners handle children's outdoor play (action) and how they explain or justify their reasons for doing so.

Participants and settings

This study occurred within the Erasmus KA2 project "Moving and Learning Outside" (Project n°. 2017-1-PT01-KA201-035784). Five preschools from Croatia, Estonia, Greece, Norway and Portugal were involved in this project. All preschools were located in urban areas and had an outdoor area for children to play. A description of each preschool's demographic features is presented in Table 1. In total, 32 ECEC practitioners (teachers and caretakers) and 184 parents participated in the study. Practitioners' ages varied between 22 and 64 years (M = 40.4; SD = 11.0) and parents' ages ranged between 26 and 57 years (M = 37.8, SD = 5.2). In the whole research group, there was only one (3.1%) male practitioner and 72.3% of parents were female. The study was conducted in accordance with the research ethical requirements in each of the participating countries. Informed consent was obtained from all participants prior to data collection, and the completed questionnaire was not traceable to the respondents' identity.

Table 1. Preschools' demographic features by country.

	Croatia	Estonia	Greece	Norway	Portugal
Number of children in the preschool	387	80	135	42	70
Number of units/classrooms	18	4	7	3	3
Ratio adults/children per classroom	1/12.5	1/6.6	1/8	1/6.2	1/12.5
ECEC practitioners who participated in the study	6	10	6	4	6
Parents who participated in the study	62	41	35	15	31

Procedures

The methodological approach to this study is based on the use of questionnaires. Previous research on similar topics has mainly used semi-structured interviews (Little et al., 2012) and video-observations (Sandseter, 2009). However, due to the international scope of the present study, and considering the available resources to conduct data collection, the use of questionnaires became a more reasonable choice. It was also considered an appropriate way to collect data to answer the research questions in the study. Therefore, after reviewing relevant sources of literature (Brussoni et al., 2018; Heft, 1988; Play Wales, 2015; Sandseter, 2007), a group of 6 international experts from the areas of child development and pedagogy, with experience in risky play, well-being and outdoor education in early childhood, developed the initial version of the questionnaires in English. Two questionnaires, one for parents and one for ECEC practitioners, were created and each partner translated them from English to their native language. The online platform limesurvey was used to host the different versions of the questionnaire. After the study's approval was given by the board of each school, the study was presented and the ECEC practitioners and parents were invited to complete the questionnaires. Data was collected between March and July of 2018. A more detailed description of each questionnaire is presented below.

Questionnaire for parents

This questionnaire was composed of 4 sections, namely: "About you and your child" (age, gender, level of education); "Personal experience (play when you were a pre-schooler vs. play of own child)" (play spaces, number of visits, and ages for mobility licences); "Parental barriers to children's play outside" (personal and environmental barriers); and "Parents' views on the importance of outdoor play" (benefits of outdoor play and meaningful play features). For the present study, in order to address parents' barriers for children's outdoor risky play, focus was placed on two questions. The first was a multiple choice question regarding parental barriers for children to play outside: "Which of the following, if any, are in your opinion barriers to your child's play outside?" Parents were provided with a list of options from which they could choose all that applied (see Table 2). The second question was focused on age for independent mobility licences: "At what age would you allow your child (alone or with friends of the same age) to do the following?" A list of 7 mobility licences was presented (see Table 4).

Questionnaire for ECEC practitioners

This questionnaire was composed of 3 sections: "About you" (age, gender, children in your care); "Preschool barriers to children's play outside" (personal and environmental barriers

Table 2. Parental barriers to children's play outside (total sample and by country).

Barriers	Total	Croatia	Estonia	Greece	Norway	Portugal
Lack of time	34.8	48.4	22	40	40	16.1
Lack of play spaces	27.2	14.5	17.1	74.3	0	25.8
Weather conditions	40.2	51.6	48.8	31.4	26.7	22.6
Concern about children getting dirty	1.1	0	0	5.7	0	0
Fear of getting injured	10.3	4.8	0	22.9	0	25.8
Media alerts about children being injured, lost or kidnapped	34.8	24.2	26.8	48.6	13.3	61.3
Traffic	64.7	58.1	65.9	77.1	53.3	67.7
Stranger danger	47.3	30.6	46.3	62.9	13.3	80.6
Poor play facilities	22.3	9.7	9.8	80	6.7	6.5
Your own concern/anxiety	19.6	14.5	26.8	20	6.7	25.8
My child is too young	27.7	16.1	24.4	31.4	40	45.2
Lack of other children to play with outside	25	12.9	31.7	14.3	33.3	48.4
None of the above	5.4	4.8	7.3	2.9	13.3	3.2

regarding play in the preschool playground); and "Teachers' and caregivers' views on the importance of outdoor play" (benefits of outdoor play and meaningful play features). In order to address ECEC practitioners' barriers for children's outdoor risky play, focus was placed on the following multiple choice question: "Which of the following, if any, are in your opinion barriers for children to play outside on the playground?" ECEC practitioners were provided with a list of options from which they could choose all that applied (see Table 3).

Analysis

Descriptive data analysis was performed to examine parental and ECEC practitioners' barriers for children's play outside. Kruskall Wallis tests were performed to identify significant differences in the age from which parents of different countries will grant independent mobility licences to their children. Mann–Whitney tests with Bonferroni correction were used as post hocs.

Results

Results regarding the parental barriers to children's play outside are depicted in Table 2. Considering the total sample of parents, the most frequent barrier to children's play outside was traffic (64.7% of parents). Traffic is cited as a barrier by more than half of the parents in each country. It is also the main cause of restriction to children's playing outside in all countries, except in Portugal and Greece. In these 2 countries, stranger

Table 3. ECEC practitioners' barriers to children's play outside in the playground (total sample and by country).

Barriers	Total	Croatia	Estonia	Greece	Norway	Portugal
Lack of time	18.8	0	30	50	0	0
Lack of playspaces	18.8	16.7	0	50	0	33.3
Weather conditions	28.1	16.7	30	50	0	33.3
Concern getting dirty	0	0	0	0	0	0
Fear of getting injured	9.4	0	30	0	0	0
Poor play facilities	28.1	33.3	0	50	0	66.7
Own concern/anxiety	3.1	0	0	16.7	0	0
None of the above	43.8	66.7	40	0	100	33.3

Table 4. Comparison of the mean age for the different independent mobility licences by country.

Independent Mobility Licences	Croatia M (SD)	Estonia M (SD)	Greece[a] M (SD)	Norway[b] M (SD)	Portugal M (SD)	H	*p*
Cross main roads	7.53 (1.25)	7.07 (1.49)	11.94 (2.27)	6.67 (0.98)	9.90 (1.98)	96.72	<.001
Use the bus	10.34 (2.44)	7.93 (1.52)	14.23 (1.48)	9.60 (2.29)	11.74 (1.77)	102.89	<.001
Go out in the neighborhood after dark	12.10 (3.13)	9.37 (2.98)	14.37 (1.86)	9.80 (2.24)	13.71 (2.38)	59.79	<.001
Cycle on main roads	11.44 (3.36)	9.98 (3.06)	15.29 (1.69)	9.93 (2.22)	13.23 (2.31)	62.60	<.001
Walk to school	8.52 (1.63)	8.34 (1.93)	11.37 (2.16)	7.13 (1.06)	11.03 (2.54)	62.24	<.001
Walk to places other than school	10.16 (2.69)	8.83 (2.06)	13.17 (2.38)	7.70 (1.66)	12.00 (2.75)	65.14	<.001
Play outside (not backyard or front yard)	9.77 (2.65)	7.39 (2.16)	11.80 (2.52)	5.80 (1.57)	10.39 (2.42)	74.53	<.001

Note: Kruskall–Wallis test (H); df = 4.
[a]Country where the 7 independent mobility licences are granted at an older age.
[b]Country where the 7 independent mobility licences are granted at a younger age.

danger (Portugal) and poor play facilities (Greece) are more frequently mentioned than any other barrier, with values of 80.6% and 80%, respectively. In Portugal and Greece, there are more concerns about media alerts (Portugal: 61.3%; Greece: 48.6%) and stranger danger (Portugal: 80.6%; Greece: 62.9%) than in any other country. Conversely, in Norway, these two barriers are only mentioned by 13.3% of parents. In fact, parents in Norway generally present fewer barriers to children's play outside than in other countries. This is reinforced by the fact that 13.3% of the parents reported that none of the listed barriers was a concern for them. Fear of getting injured was not mentioned as a barrier by any Estonian or Norwegian parent. Parental own concern and anxiety is mostly prevalent in Estonia (26.8%), Portugal (25.8%) and Greece (20%). Concern about children getting dirty was only mentioned by 5.7% of Greek parents. In no other country was this listed as such. In Greece, availability and quality of the play spaces seem to deter parents from letting their children play outside. Lack of play spaces and poor play facilities were reported, respectively, by 74.3% and 80% of parents as barriers.

Results on ECEC practitioners' barriers to children's play outside on the preschool playground are presented in Table 3. In total, weather conditions (28.1%) and poor play facilities (28.1%) are the most frequently cited barriers, whereas fear of children getting injured and adults' own concern/anxiety is only mentioned by 9.4% and 3.1% of ECEC practitioners, respectively. Norwegian practitioners do not point to any barrier to children's play outside on the playground. On the other hand, 50% of Greek teachers refer to lack of time, lack of play spaces and weather conditions, and poor play facilities as barriers to children's outdoor play in preschool. Poor play facilities are the most frequent cited barrier in Croatia (33.3%) and Portugal (66.7%). ECEC practitioners from Estonia and Norway never mention lack of play spaces and poor play facilities as barriers to children's play outside.

Findings on the comparison of the mean age for the different independent mobility licences by country are listed in Table 4. Descriptive results indicate that parental licenses of independent mobility are granted earlier in northern Europe than in southern Europe. More specifically, children in Norway are granted the 7 independent mobility licences at a younger age than in other countries. Contrariwise, Greek children are granted those licences at an older age than in other countries. In some cases, the difference between

these two countries is abrupt. For instance, playing outside independently in Norway is allowed when children are about 6 years old, while in Greece, this age rises to 12.

Results from the Kruskall–Wallis test, presented in Table 4, indicate that there were significant differences between countries in all independent mobility licenses (all ps > .05). Post hoc Mann Whitney tests with Bonferroni corrections indicated that:

- There were no significant differences in any independent mobility licences between Norway and Estonia;
- In Greece all the independent mobility licences are granted at a later age than in Norway, Estonia and Croatia (all ps < .001). Greek parents also allow their children to independently cross and cycle on main roads and to use the bus at a later age than Portuguese parents do (ps < .001). The other differences between Portugal and Greece were not significant.
- In Portugal all the independent mobility licences are granted at a later age than in Norway and Estonia (all ps < .001). The trend is similar when comparing Portuguese and Croatian parents but only for the licenses of walking to school ($p < .001$), crossing main roads ($p < .001$), using the bus ($p = .002$) and walking to places other than school ($p = .002$).
- When comparing Croatia with Norway and Estonia, significant differences were found on specific licences. Regarding playing outside, Croatian parents grant this licence to their children at an older age than Norwegian and Estonian parents do (both ps < .001). Croatian children are also allowed to independently start walking to school and to go places other than school at a later age than Norwegian children (both ps = .001). As for the licences for using the bus and going out after dark, these are granted at a later age to Croatian children than to Estonian children (both ps < .001).

Discussion

The overall results of our investigation highlight some similarities and differences between the five participating countries concerning adult barriers for children's outdoor play and their mobility licences to roam around freely. These findings provide a clear portrait of different adult perceptions and attitudes towards outdoor risky play between Northern and Southern European countries. Cultural and geographical influences have been argued to justify similar findings between Australia and Norway (Little et al., 2012). Moreover, the European North–South cultural dichotomy has also been stressed by an international report regarding children's independent mobility (Shaw et al., 2015). Actually, the results on this topic addressed in the present study confirm such differences, indicating that children in Norway and Estonia are granted parental licences to roam freely in the environment at an earlier age, when compared with the other participating countries, especially Greece and Portugal. The decrease of children's independent mobility has been considered one of the influential factors for the decrease of children's outdoor play (Chaudhury, Oliver, Badland, & Mavoa, 2014).

We suggest that the cultural differences between the participating countries, which we argue are responsible for a more or less friendly adult approach to children's risky play in the outdoors, are grouped into two dimensions: the *societal changes on the design of play*

spaces and managing of daily routines, and *perception, attitudes and practices on health and safety conditions*. Also, we believe that interplay between these two dimensions affects parental decisions that enable or constrain *children's freedom of movement in the outdoors*.

Societal changes on the design of play spaces and managing of daily routines

Traffic barriers

In the present research, across all participating countries, traffic was the major barrier pointed out by parents to allow their children to play outside. Similarly, in other studies conducted in Asia and Africa (Malone & Rudner, 2011), the U.S.A. (Clements, 2004) and New Zealand (Jelleyman et al., 2019; Witten et al., 2013), parents' increasing concern for children's safety in the public realm is very much related to the fear of accidents caused by careless drivers. The increase of motorized travel through daily chauffeuring and escorting to public space, namely, in highly urbanized settings, has been shown to contribute to the decrease of children's independent mobility and outdoor free play (Gielen et al., 2004; Lopes, Cordovil, & Neto, 2014; Witten et al., 2013), which hinders their possibility of playing freely outside. Tonucci (2005) stresses that the city has been thought and designed, in terms of urban planning, for the typical adult car-driving citizen. Thus, traffic is a global concern for parents as a major barrier for children's autonomy and free play outdoors. In our study, parental differences between countries were found, ranging between 53.3% in Norway to 77.1% in Greece. The most recent "Annual Accident Report" (European Road Safety Observatory, 2018), conducted by the EU, presents relevant findings that may justify these differences between the five countries. More specifically, data regarding the year 2016 shows that Portugal had the highest number of accidents (32,299) followed by Greece (11,312) and Croatia (10,457). These three countries were also those where more pedestrian fatalities occurred (Portugal: 123; Greece: 149; Croatia: 67). Conversely, Norway and Estonia presented lower numbers of accidents (4195 and 1468, respectively) and of pedestrian fatalities (15 and none, respectively).

Play environments; quality and accessibility

Our results indicate that the availability of play spaces and their quality are real problems in Greece. Both Greek parents and ECEC practitioners strongly refer to a lack of play spaces (74.3% and 50%, accordingly), and to poor play facilities (80% and 50%, accordingly) as barriers for children's outside play. This is in line with other studies showing poor or lacking play environments as an important factor for the decline of children's outdoor play in the U.S.A. and New Zealand (Clements, 2004; Witten et al., 2013). Notwithstanding, lack of play spaces was not appointed by any Norwegian parent or teacher and poor play facilities were only mentioned by 6.7% of the parents. Availability and quality of play spaces are fundamental for children to create their own play spaces (Lester & Russell, 2010). Moreover, these authors call to the attention the adult responsibility to provide children with the physical and social environments with features that promote flexibility, unpredictability, security and risk while children are playing.

Time

The average number of working hours per week is similar between the participating countries (Eurostat, 2017), slightly higher in Portugal and Greece (41 hours), and the

lowest in Norway (38.5 hours). Nevertheless, lack of time is mainly mentioned as a barrier for outdoor play by parents in Croatia (48.4%), Greece (40%) and Norway (40%). The perception regarding lack of time as an obstacle for children to play outside may have been understood differently among these respondents. On one hand, and considering that in Norway children are allowed at an earlier age to go out and play by themselves, Norwegian parents may have considered that in their children's daily routine, more time should be spent playing outdoors. On the other hand, in Greece and Croatia, where children more often seem to be accompanied by parents to go out and play, perhaps parents need to be more available themselves in order to enable their children to play more frequently outdoors. Also, families using a large amount of time on adult-organized after-school activities could be a reason for parents' feeling of lack of time for children's outdoor play (Frost, 2012; Witten et al., 2013).

As for the ECEC practitioners, this barrier is not frequently reported, since only Greek (50%) and Estonians (30%) address lack of time as a barrier. According to Bilton (2010), preschool children should have access to both the outdoor and the indoor spaces, and have time to pursue their interests freely inside and outside, without being interrupted. The author adds that for this to happen, practitioners have to organize and plan their time according to the children's needs. Therefore, in our study, we suggest that Greek practitioners may be underestimating the value of outdoor learning.

Perception, attitudes and practices on health and safety conditions

Stranger danger and media alerts

Data concerning parental barriers to children's play outdoors regarding *stranger danger* showed differences both between the participating countries and between parents and ECEC practitioners. In Portugal, parents' stranger danger was the most frequently mentioned barrier, with values of 80.6%. Portugal was also the country with the highest concerns about media alerts with 61.3%. In Norway, stranger danger and media alerts were only referred to by 13.3% of parents as barriers for their children's play outdoors. There could be several reasons for these big differences between the participating countries. How media covers issues regarding stranger danger can affect parents' perceptions. Allin et al. (2014) found that mothers' risk decisions concerning their children reflected uncertainty and somewhat contradictory feelings, and that the mothers' decisions were influenced by media, e.g. reporting of child abductions that heightened the stranger danger concern, and their community's dominant views of good or bad mothering. Also, an increased safety focus on eliminating all opportunities for risk in children's lives, and pressure from the insurance industry to avoid any injuries could affect parents' views on how to act and believe regarding caring for their children (Brussoni et al., 2012; Gleave, 2008; Lester & Maudsley, 2006; Sandseter & Sando, 2016; Skår et al., 2016).

Weather and children getting dirty and concern about children getting injured

Weather conditions were one of the most cited barriers for parents (40.2%) and ECEC practitioners (28.1%). Among the parents the biggest concern for weather conditions was in Croatia (51.6%) and Estonia (48.8%); conversely, only 26.7% and 22.6% of the parents in Norway and Portugal mentioned this as a barrier. Weather, such as rain, was

also found as a barrier for 10–11-year-old U.K. children's physically active outdoor play (Brockman et al., 2011). Comparing this to the answers from the ECEC practitioners, practitioners in Greece (50%) and Portugal (33.3%) reported weather conditions as a barrier. Norwegian practitioners did not point to any barrier to children's play outside on the playground. In the group of practitioners it seems that the concern of weather is a bigger barrier for children's outdoor play in the southern countries than in the northern countries, which is a paradox, knowing that the weather conditions are warmer and dryer in the south than in the north of Europe. A worry related to weather conditions among parents and ECEC practitioners could also be concerns about children getting dirty. This was mentioned as a barrier for their children's outdoor play by 5.7% of Greek parents. But no parents or ECEC practitioners in any of the other participating countries listed children getting dirty as a barrier. Even though some of the Greek parents think this is a barrier, the overall result would indicate that this is not an important reason for keeping children indoors.

One of the most commonly assumed reasons for the decline of children's outdoor play in earlier research and literature is adults' fear of children getting injured (Allin et al., 2014; Brussoni et al., 2012; Little et al., 2012). In the present study, fear of children being injured and adults' own concern/anxiety are only mentioned by 9.4% and 3.1% of ECEC practitioners, respectively. Fear of being injured was not mentioned as a barrier (Table 3) by any Estonian or Norwegian parent, while this is a more common barrier for parents in Portugal (25.8%) and Greece (22.9%). As such, our results both confirm and do not confirm earlier findings, and rather strengthen the view that this is very much a cultural issue, with quite marked cultural differences between countries (Little et al., 2012).

Own anxiety and concern about children's capabilities to cope with risk

In all the participating countries, parents' own anxiety was listed as one of the barriers for their children's outdoor play (Table 2). Nevertheless, Norwegian parents seem to emphasize this barrier less (6.7%) than parents from the other countries, and especially the parents in Estonia (26.8%) and Portugal (25.8%). This could mean that the Norwegian parents are genuinely less anxious about letting their children play outdoors, as would many of the other results from the Norwegian parents indicate, or it could also mean that Norwegian parents are more conscious of the potential benefits of children playing outdoors and therefore allow it even though they have anxious thoughts and feelings. In fact, when arguing for the psychosocial factors that affect children's independent mobility, Alparone and Pacilli (2012) state that feelings of social security are linked to a positive view of the neighborhood environment. Prezza et al. (2006) mention that parental perceptions regarding the potentiality of the environment translate into a more positive view of the neighborhood, thus creating a psychological protection against feelings of insecurity. In this latter study, it was also found that a positive view of the neighborhood helps parents to see their children's freedom to roam and play freely as important for their development.

Children's freedom of movement in the outdoors

Our findings show clear differences regarding the mean age in which the independent mobility licences are granted to children between the northern and southern European

countries. Overall, it is possible to address three major portraits of children's mobility licences in the participating countries. Parental licences to roam freely in the environment are granted earlier to Norwegian and Estonian children, followed by Croatian, and finally, by Portuguese and Greek children, where the mean age to acquire some of those licences is nearly double than the mean age in the northern countries. Similarly, in a previous study including 16 countries (Shaw et al., 2015), it was found that Finnish, German and Norwegian children, aged between 7 and 15 years old, occupy the three highest ranks of independent mobility, respectively; whereas Portugal, Italy and South Africa stand at the bottom, with the lowest degree of independent mobility. Croatia, Estonia and Greece did not take part in the aforementioned study. However, the geographical trend between north and south remains clear in both studies, where higher levels of independent mobility are reported in higher latitudes. A recent study conducted in New Zealand on parental perceptions and practices related to risky play and independent mobility among 5–12-year-old children provides an interesting perspective (Jelleyman et al., 2019). It was concluded that although parents perceived exposure to risk as beneficial for children's development, this does not transfer to actual independent mobility of children and autonomous participation in social and play activities within the neighborhood area. Moreover, parents report that nowadays mutual neighborhood surveillance of children is no longer practiced, unlike in previous generations. This leads to a greater feeling of parental anxiety, stranger danger and a general feeling of uneasiness when their children are not being supervised, which has also been reported in Australia (Foster, Villanueva, Wood, Christian, & Giles-Corti, 2014).

Conclusion

In our study, the results on *societal changes on the design of play spaces and managing of daily routines*, and the *perception, attitudes and practices on health and safety conditions* reinforce geo-cultural differences between countries, namely, when comparing north and south European countries.

Parental risk perception affects both freedom of movement in the outdoors and freedom for engaging in risky play. Tolerance to risk has been found to vary across different cultures (Jelleyman et al., 2019). Previous studies have found parents and teachers from Norway and Canada to be less risk aversive than those in the United States and Australia (Little et al., 2012; Watchman & Spencer-Cavaliere, 2017; Watson, Shaw, & Hillman, 2013). The question that arises is how to change adults' risk perception in those countries where it limits children's freedom of movement and risky play to a greater extent. Some experiences have been made using digital tools and in-person risk reframing workshops to change parents' perceptions of risk and their parenting behaviors (Brussoni et al., 2018; Bundy, Broom, Tranter, Ragen, & Engelen, 2013; Bundy et al., 2011). The idea behind these methods is to use the principles of health behavior change and social cognitive theory, in order to change the security default underlying parents' cognitive reasoning when dealing with risk issues that affect their children's safety. Although these two approaches are valuable, we believe that an organization of the built environment and urban planning that offers valid alternatives to car use, such as walking, cycling, skating and public transportation, are fundamental to promote changes in behavior. In the present study, traffic was considered the main barrier for children to be outside on their own, mainly in southern European countries.

A good example of an urban planning that prioritizes active transportation instead of car use comes from Pontevedra, a southern European city (Barros & Costal, 2013). In the late nineties, an urban reform took place in order to make Pontevedra a child-friendly city. Adopting Tonnuci's (2005) model of a city where children are free to roam and play independently, car use was drastically reduced in the city center, and pedestrians regained control and use of the public space. Good urban planning for children also implies considering them as active participants in the decisions concerning their cities and in recognizing their right to independently access places where they can play.

To our knowledge there are no other studies systematically exploring cultural differences of parents' and ECEC practitioners' perceptions of barriers for outdoor play. The results of this study are therefore an important contribution to start gaining more knowledge on this. Still, the limitations of this study should be pointed out. First of all the number of respondents in each group and from each country is small, and the caution of generalizing results and conclusions is important. The results can indicate differences between the participating countries, but further studies with larger samples are needed to give a more solid base of knowledge. Also, the questionnaires were built up with closed questions and fixed categories of answers. This may have been directing when respondents gave their responses by reminding them about barriers they might not have thought about in a more open questionnaire. The theme of this study might be just as suitable for a more qualitative approach, and further studies should also include open-ended questions or interviews to capture the nuances and more in-depth knowledge about barriers for children's outdoor play and how the barriers are managed by parents and ECEC practitioners. Nevertheless, the results of this study contribute with more knowledge on possible barriers for children's outdoor play in five European countries. Our study demonstrates that parents' and ECEC practitioners' fear of different kinds of risk are the main barriers to children's outdoor play, and that the level of how these barriers restrict children's opportunities for outdoor play is different in each country. Therefore, to reverse the reported decline in children's outdoor risky play we need a differentiated approach between countries that target both parents and ECEC practitioners, but also politicians and ECEC owners.

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