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Why are the children not outdoors? Factors supporting and hindering outdoor play in Greek public day-care centres

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ABSTRACT

Even though outdoor play is positively linked to children's well-being, health, development and learning, children's opportunities to play outside have reduced in recent years. This survey study ($n=662$) examines preschool educators' views and practice, aiming to gain a better understanding of the factors that affect play within child care and to shed more light on whether children's outdoor play needs are adequately met. The physical environment of the day-care centres, the educators' attitudes and the policy context were found to influence outdoor play. Limited time outdoors was indicated. Lack of suitable space, followed by health and safety concerns were the main factors suggested to hinder children's play. The physical environment, the materials available and the educators' role were the key factors proposed to enhance children's play. This study could be informative to countries facing similar challenges and could support the development of training, educational materials, play-promotion programmes and policy development.

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Outdoor play; day-care; child-care; preschool; Greece

Introduction

The regulations on the operation of infant, toddler and preschool day-care centres recently introduced by the Greek government (Skourletis & Fotiou, 2017), state that the educational programme should be child-centred, respecting children's personal, social and cultural differences, in accordance with the latest scientific data. The role of helping the children develop physically, mentally, emotionally and socially, is outlined as one of the main aims of day-care centres. The document goes on to suggest that 'the time for free play, indoors and outdoors, resting and relaxation, should be determined based on children's age, as well as their personal and biological needs' (p. 55992), acknowledging play as a need for children, but placing the responsibility for assessing and implementing this practice solely on the educators. No suggestions in relation to the use of the outdoor space, or physical activity, are provided within these guidelines, even though Greece is a world leader in childhood obesity (Organisation for Economic Co-operation and Development, 2014). Very limited empirical evidence can be found on Greek educators'

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views and practice relating to outdoor play within day-care centres. This paper examines the Greek preschool educators' views and practice regarding outdoor play, aiming to gain a better understanding of the factors that support or limit play within child care and to find out more about whether children's outdoor play needs are adequately met. This study could support the development of training, educational materials and play-promotion programmes for Greece, but its' findings may also be relevant to other countries facing similar challenges.

Outdoor play and early childhood education and care

The importance of outdoor play provision in early childhood education and care has been emphasised both in the past, by pioneers in the field such as Froebel, McMillan and Isaacs, as well as within current literature (Bilton, 2010, 2014; Garrick, 2009). Outdoor play offers children a wide range of opportunities and has been positively linked to children's well-being, health, development and learning (Burdette & Whitaker, 2005; Frost, Wortham, & Reifel, 2012; Ginsburg, 2007; Tovey, 2007; White, 2014). Outdoor play is also 'demonstrated as being at the top of children's own agenda' (Kernan & Devine, 2010, p. 372; Nicholson, Shimpf, Kurnik, Carducci, & Jevgiovikj, 2014).

In recent years, the opportunities for children to play outdoors, both during and after preschool hours, have reduced, which has been linked to various factors, such as limited space, traffic, fear for children's safety, escalation of screen-based entertainment, as well as an increased focus on the acquisition of academics skills in the early years (Baines & Blatchford, 2011; Burdette & Whitaker, 2005; Cleland et al., 2010; Clements, 2004; Fisher, Hirsh-Pasek, Golinkoff, & Gryfe, 2008; Gill, 2007; Louv, 2008; Miller & Almon, 2009; Pyle & Daniels, 2017; Waller et al., 2017). Within preschool, it appears that a variety of factors, such as pedagogy, cultural variations, societal values, policy and regulations, as well as the educators' personal characteristics and perceptions of play and the outdoor environment, may affect practice (Copeland, Kendeigh, Saelens, Kalkwarf, & Sherman, 2012; Logue & Harvey, 2009; Maynard & Waters, 2007; McInnes, Howard, Miles, & Crowley, 2011; Sandseter, 2013; Sandseter, Little, & Wyver, 2012). In a study of preschool teachers' perceptions, McClintic and Petty (2015) proposed that despite their belief that outdoor play is important, they had limited knowledge on outdoor play and no evident motivation to promote it.

In addition to the aforementioned factors, the physical environment is of great importance. It may affect the way children play, with size, variety and complexity of the outdoor space as well as the characteristics of the play materials available, found to affect children's play choices, physical activity and social behaviour (Armitage, 2005; Czalczyńska-Podolska, 2014; Freeman & Tranter, 2011). According to Ward et al. (2008), certain child care centres could be characterised as 'obesogenic environments' (p. 380). Freeman and Tranter (2011) proposed that 'Children play more (and more creatively) in playgrounds with high degrees of challenge, novelty and complexity' (p. 64). Spending time in natural environments has shown positive impacts on well-being, mental health and academic progress (Waller et al., 2017) and natural elements introduced in playgrounds have shown to support longer episodes of more complex and focused play (Kuh, Ponte, & Chau, 2013; Morrissey, Scott, & Rahimi, 2017; Nedovic & Morrissey, 2013). The use of loose parts has been found to increase children's creative, social and

physical play, as well as their physical activity (Bundy et al., 2017; Engelen et al., 2018). Nevertheless, the quality of the preschool outdoor environment is often not considered by the planning authorities as equally important to the indoor space, sometimes viewed 'as an afterthought or considered immaterial to children's development' (Bilton, 2010, p. 75).

Apart from environmental limitations, another reason proposed for the decline of outdoor play is the adults' fears for children's safety (Brussoni, Olsen, Pike, & Sleet, 2012; Wyver et al., 2010). The function and benefits of risky play for children's healthy development and long-term safety, have been acknowledged, as has the potential of adults' focus on surplus protection, to limit children's play and freedom (Brussoni et al., 2012, 2015; Gill, 2007; Sandseter & Sando, 2016; Wyver et al., 2010). Nevertheless, even in the absence of truly risky play, 'Perceived dangers outdoors have been identified as a key factor in the decline of the use of the outdoor environment within early childhood education and care' (Kernan & Devine, 2010, p. 379).

Early childhood education and care in Greece

Public preschool services in Greece are divided between the kindergartens, which cater for four to six-year-olds and fall under the Ministry of Education and the day-care centres, that cater for children between 6 months and 5 years of age, which are run by the municipalities and fall under the Ministry of Interior. Unlike kindergartens that follow a national curriculum, the day-care centres have no explicit curriculum, only brief regulations mostly referring to operational issues (Gregoriadis, Tsigilis, Grammatikopoulos, & Kouli, 2016). The day-care centres operate from September 1st to July 31st and from 7.00 am to 16.00 pm. The daily time of operation can be extended up to two additional hours, following the approval of the administrative or municipality council (Pavlopoulos, 2017; Skourletis & Fotiou, 2017).

Outdoor play and early childhood education and care in Greece

Even though outdoor play is an important aspect of early childhood education and care, this is an area sparsely documented in Greece. The day-care centres' regulations that were in effect from 2002 up to 2017 made no direct mention to the outdoor environment and only implied an outdoor time when they referred to a daily 'recess' time for children of approximately 30 min (Papadimas & Thanos, 2002). The current regulations make only one mention to the outdoors in their statement that, among other activities, the time for free outdoor play, 'should be determined based on children's age, as well as their personal and biological needs' (Skourletis & Fotiou, 2017, p. 55992), not offering any further suggestions on the use of the outdoor environment or the time spent outdoors, whether in physical activity or not. In the absence of standards, the educators' views would, therefore, be even more important in relation to guiding practice.

Although there is limited evidence on Greek preschool educators play practice, studies have indicated that not all aspects and types of play are equally accepted and implemented. Gregoriadis et al. (2016) found an increased focus on fine motor, blocks and art-related activities, rather than nature and science. This was also supported by Giagazoglou, Karagianni, Sidiropoulou, and Salonikidis (2008) who, through informal observation, found

that children attending public preschools spent the majority of time in indoor sedentary activities, such as cutting and drawing. No data is available on the amount of time that children spend outdoors within child care, but it seems that physical and sensory play is not adequately promoted. In a study on quality aspects of preschool services using the ‘Activities’ and ‘Programme Structure’ subscales of the ECERS-R scales, the ‘Sand and water’ item, was given by far the lowest score (Gregoriadis et al., 2016). This finding was consistent with the results on parental preferences by Rentzou (2013a), where the item ‘Sand/water play’ was rated last by parents on both the ECERS-PQ and ITERS-PQ. In the same study ‘Space for gross motor play’ and ‘Gross motor equipment’ were ranked fifteenth and eighteenth respectively by the parents, with ‘Nature/science’ ranked eighth from the end.

Scope of this study

The aim of this study, which was part of a wider study examining play perceptions, is to explore the views and practice around outdoor play, of educators working in public day-care centres in Greece, with the overarching question being ‘Are the children’s outdoor play needs adequately met?’. This enterprise would be important, both in relation to achieving a greater understanding of how the educators view play in the outdoor environment within their practice, but also to inform educational materials and training, as well as future policy development.

The study aimed to address the following sub-questions:

- Do the educators consider the outdoor play area of the day-care centre appropriate?
- How much time do children spend outdoors while in day-care?
- Do the educators believe that children should spend more time playing outdoors?
- What do the educators view as most important in relation to children’s play?
- What do the educators perceive as their role in relation to children’s play?
- What are the factors that the educators perceive hinder outdoor play within the day-care centres?
- What are the main issues that arise during play?
- What are the factors that the educators perceive as enhancing play within the day-care centres?

Methodology

The present research study is descriptive, using a survey design. A questionnaire was chosen as the data collection method.

Sampling

The population targeted in this survey was educators working in public preschool day-care centres in Greece. In order to ensure access to a large number of educators across the country, the survey was conducted in connection with the presentations of the programme ‘The Power of Play’, organised for the preschool educators in coordination with the municipalities responsible for the running of the day-care centres.

The sampling for this study was carried out on two levels. Firstly, at the level of the municipality, a cluster sampling approach was followed, in an attempt to maximise access to the population and achieve representation from many different geographical areas of Greece. Secondly, in relation to the individual educators, the sample gathered was a convenience sample, as it relied on the educators' presence at the presentations.

The municipalities approached were chosen according to their population, their geographical position and their administrative importance. Eight of the thirteen regions of Greece were represented, including the three most populated, as well as the three most inhabited municipalities of the densest in population Attika region, which contains the majority of day-care centres (Hellenic Statistical Authority, 2015; Skolarikos et al., 2014).

It could be argued that the educators who chose to attend the presentations on play would be amongst the ones that show a more intense interest in play within the day-care centres. This could mean that the views collected could be skewed towards a more play-based philosophy and practice. Nevertheless, seeing that the municipalities employing the educators were co-organising the presentations, with educator attendance strongly promoted and valued, it would be logical to assume that a more balanced representation of the educators was achieved.

Ethical considerations

Ethical standards for research were adhered to in this study, in line with the British Educational Research Association's (2011) guidelines. This study would not be classified as sensitive. The purpose and foreseeable benefits of the study as well as the future use of the data collected were verbally explained to the educators in order to ensure informed consent. The data provided by the educators was anonymous and confidential and participation was totally voluntary. Written consent was obtained through questionnaire completion and delivery.

Procedures

The questionnaires were handed out in person to the educators and were completed before the presentation was carried out, so as not to confound the educators' views. In order to ensure that no pressure was placed on the respondents by the researcher's presence, the researcher was discreet, only offering clarifications when requested.

Measures

The questionnaire used was developed for the purpose of this survey, in order to be both effective in gathering the targeted information and culturally relevant. It was informed by a review of the literature both on the subject of play in preschool education and care, as well as on questionnaire development (Basit, 2010; Cohen, Manion, & Morrison, 2011; Copeland et al., 2012; Playwork partnerships, 2005; Saris & Gallhofer, 2014).

This paper will only focus on the survey findings relating to outdoor play in the day-care centres and will include data from 13 out of the total of 25 questions. These 13 questions provided demographic information and focused on educator views and practice around outdoor play. In addition to closed-ended, scaled and ranked questions, open-

ended questions were also included, in order to best capture the educators' opinion on specific issues, offering qualitative data (Ruane, 2016).

The questionnaire was piloted with 25 educators working in day-care centres in Athens, who commented on the relevance and clarity of the content. Following minor adjustments in the phrasing, relating to syntax, the questionnaire was then used in the survey.

Analysis

The quantitative analysis of the questionnaires was performed using the SPSS statistical package. Both univariate and bivariate analysis was carried out, in order to examine possible relationships between variables, using appropriate descriptive and inferential analysis methods (Field, 2013; Ruane, 2016).

The qualitative data collected through the two open-ended questions of the questionnaire was analysed by the researcher using qualitative content analysis. The structuring and generating of the coding frame were carried out in a data-driven way, covering the requirements of unidimensionality, mutual exclusiveness and exhaustiveness (Schreier, 2013). In order to assert coding consistency, the analysis was performed by the researcher in two points in time. In addition, an independent researcher was involved in assessing the coding of the data, supporting the devised coding frames. The analysis also provided quantitative information, in that percentages for each coding category were provided. The interpretation of the findings was approached in an 'empathic' stance, through engaging with the available data and trying to gain a better understanding of its' meaning, without presupposing external theoretical concepts on the material (Willig, 2013).

Results

The questionnaires completed during this survey were 662. The return rate of completed questionnaires was 98 per cent. In relation to the completion of individual questions within the questionnaire, the mean completion rate for closed-ended questions was 615 and for the open-ended questions 542.

Demographics

The educators came from around Greece and worked with all the various age groups catered for within the day-care centres, with the majority (71.4%) working with children 2.5–5 years old. The educators' mean age was 40.3 years and they had a mean of 15.2 years of working within preschool education.

RQ1 – Do the educators consider the outdoor play area of the day-care centre appropriate?

The majority of the educators indicated that their day-care centre had an outdoor play area, but 7.5 per cent stated that they had none. The educators' views on the appropriateness of the outdoor play space were indicated on a 4-point scale and can be found in Table 1. Even though more than half of the educators considered the outdoor environment available as appropriate enough, it is important to note that 12.7 per cent deemed it as not at all appropriate.

Table 1. How appropriate is the outdoor play area of the day-care centre?

	Frequency	Percentage
Not at all appropriate	79	12.72
A little appropriate	146	23.51
Appropriate enough	288	46.37
Very appropriate	103	16.58
Don't know/ No opinion	5	0.8
Total	621	100.0

RQ2 – How much time do children spend outdoors while in day-care?

The educators were asked to state the time during a typical day that the children spend outdoors, including all outdoor activities, not only 'recess'. The mean time spent outdoors per day was 48.5 min, but with a standard deviation of 30.5 min. A 6.9 per cent of the educators stated that the children do not go outdoors at all, with a further 7.4 per cent saying that they spend less than half an hour per day outdoors. Only 12.7 per cent of the educators stated that they spend more than one hour per day outdoors with the children, with just 1.3 per cent within that exceeding outdoor time of two hours per day. The findings for the time spent outdoors can be found in [Table 2](#).

The relationship between the educators' opinion on the appropriateness of the outdoor play area and the time that the children spend outdoors, was investigated using Spearman's rho correlation coefficient. The analysis revealed that there is a marginally significant correlation between the two ($r = .084$, $n = 579$, $p = .044$), suggesting that educators who believe that their day-care centre's outdoor space is appropriate for playing are inclined to spend more time outdoors with the children. If we further examine the effect size though, then this relationship would be interpreted as weak (Cohen et al., 2011; Field, 2013).

The time that the children spend outdoors was investigated in relation to educators' working experience using the Pearson's correlation coefficient and revealed a non-significant correlation between the variables ($r(630) = .003$, $p = .947$), which was confirmed by regression analysis.

A One-Way ANOVA was conducted to investigate the influence of children's age group on the time they spend outdoors and revealed a non-significant effect of age, [$F(3,565) = 2.349$, $p = .072$].

The Chi-square test for independence was performed to examine the association between class size and children's time spent playing outdoors and indicated a non-significant association, $\chi^2(28, n = 568) = 27.23$, $p = .506$.

Table 2. Time the children spend outdoors per day while in day-care.

	Frequency	Percentage
0 min	41	6.9
1–15 min	10	1.7
16–30 min	182	30.8
31–45 min	84	14.2
46–60 min	198	33.6
61–90 min	35	6
91–120 min	32	5.4
Over 120 min	7	1.3
Total	589	100.0

A non-significant relationship was revealed concerning the effect of place of residence and time spend outdoors, between Athens and other areas of Greece, using the t-test for independent samples, $t(587) = 1.854$, $p = .064$.

RQ3 – Do the educators believe that children should spend more time playing outdoors?

When asked if in their opinion the children should play outdoors more than they do, the majority (86.8%) of the educators responded positively. The relationship between the educators' response regarding the need for more outdoor play and the time they stated the children spend outside, was examined using the Spearman's rho correlation coefficient and found to be non-significant ($r = -.012$, $n = 577$, $p = .767$).

RQ4 – What do the educators view as most important in relation to children's play?

The educators were asked about what they believed is most important in children's play, by ranking nine offered statements according to the importance for them, with the option of adding a statement of their own. The list of statements, as well as the educators' responses, can be seen in detail in Table 3. The analysis was conducted only using the factor that each educator ranked as most important. The highest factors were: 'Not to get hurt' (34.2%), 'To have fun' (27.5%), 'To play in a group' (10%), followed by 'Not to get dirty' (6.3%). The factor that ranked last was 'To resolve their conflicts' (1%).

RQ5 – What do the educators perceive as their role in relation to children's play?

The educators were asked to choose from ten options, the main role they believed that the educator should assume in children's free play. The role of 'Facilitator' ranked first (24.4%) followed by the role of 'Observer' (21.1%) and the role 'Prevents accidents' third (13.6%).

The association between the stated educator role in children's free play and what the educators identified as most important in children's play was examined using the Chi-square test for independence, which indicated a highly significant association, $\chi^2(63, n = 537) = 130.07$, $p < .001$. The largest percentages were exhibited between the role of 'Preventing accidents' and the importance of 'Not to get hurt' (67.1%), and between the 'Recreational' role and the importance of 'To have fun' (38.1%).

RQ6 – What are the factors that the educators perceive hinder outdoor play within the day-care centres?

Table 3. Educators top responses about what in their view is most important in relation to children's play.

	Frequency	Percentage
Not the get hurt	195	34.21
To have fun	157	27.54
To play in a group	57	10
Not to get dirty	36	6.31
To learn	34	5.96
To follow their own ideas	32	5.61
To explore	29	5.08
To follow the rules	21	3.68
To resolve their conflicts	6	1.05
Other	3	0.52
Total	570	100.0

Table 4. Factors that decrease the opportunities for outdoor play in day-care.

	Frequency	Percentage
Lack of suitable space	304	55.07
Health and safety	60	10.86
Parental views and fears	36	6.52
Staff views and fears	30	5.43
Inadequate supervision	28	5.07
Need to take the children outside the day-care centre	26	4.71
Financial reasons	20	3.62
Legal responsibility	16	2.89
Inadequate relevant training	7	1.26
Other	25	4.52
Total	552	100.0

The educators were asked to rank nine factors that in their opinion decrease the opportunities for outdoor play in the centres where they work according to importance, with the option of adding a factor of their choosing. The analysis was conducted only using the factor that each educator ranked as most important. The factor that ranked higher by far, was 'Lack of suitable space' (55%), followed by 'Health and safety' (10.8%), 'Parental views and fears' (6.5%) and 'Staff views and fears' (5.4%). The detailed results for this question can be found in [Table 4](#).

RQ7 – What are the main issues that arise during play?

The coding for the first open-ended question, which referred to what the educators identified as the main problems that arise in children's play ($n = 576$), revealed seven main categories, with a residual category of 'No problems arising during play' (0.86%). Percentages relating to the frequency of each category within the completed questionnaires are also provided. Specifically:

- (a) Children conflicts and negative behaviours (88%), was by far the most prominent category, with the predominant issue being conflicts between the children, mentioned in 98.4 per cent of the questionnaires in this code. The conflicts were mostly related to: fighting over the same toy, difficulty sharing and competitive behaviours.
- (b) Accidents and risk of injury (12.8%). The educators mentioned minor accidents occurring during play, often related to the conflicts between the children, or the lack of space. Some educators related free play to risk of injury.
- (c) Space (9.7%) referred to both lack of available space, as well as to suitability.
- (d) Materials (5.4%) referred to very limited materials available to children for play.
- (e) Large number of children/educator-child ratio (2.6%) was mentioned both in relation to the absolute number of children in the outdoor space, but also in relation to the levels of supervision by the staff.
- (f) Developmental issues causing problems during play (2.4%)
- (g) The educator's own management of time and space for play, in relation to setting up appropriate spaces and activity centres, scheduling play during the day and allowing children enough freedom and choice, was only referred to by 2 per cent of the educators.

RQ8 – What are the factors that the educators perceive as enhancing play within the day-care centres?

The coding for the second open-ended question which referred to the educator's views on the main factor which would facilitate the development of children's play within the day-care setting ($n = 501$), contained five main categories, with two residual categories, 'Nothing' (0.4%) and 'Parents' (0.2%). Specifically:

- (a) 'Space' (69%) included issues such as the size, appropriateness, organisation and configuration of the space, the existence, or lack of, activity centres, the outdoor space characteristics (e.g. shading), as well as safety. The majority (70%) of references had to do with the organisation and configuration of the physical environment.
- (b) 'Materials' (46%) referred to the quantity, as well as the quality and variety of the available material.
- (c) 'Educators' (39%) related to the positive effects on play that could be attributed to the educators' values and practice in relation to play, the appropriate adult-child ratio, the communication and cooperation of the educators with the children and between themselves, continuing professional development, as well as their enthusiasm, imagination and flexibility.
- (d) 'Children' (10%) referred to the children's available freedom of expression and movement, which was linked by some educators to the number of children within the play space, as well as the increase of children's trust in adults, as factors that would facilitate play.
- (e) The last category of 'Time' was mentioned by only 2.4 per cent of the educators.

Discussion

This study draws on a wide range of educators from around Greece. The majority were over 36 years of age with over 10 years of working experience, which is consistent with the policy of minimal new recruitments, due to the austerity measures implemented within the Greek public sector since the beginning of the economic crisis in 2009.

Time for outdoor play in day-care

An informative finding that transpired from this research related to the limited time the children spend outdoors within day-care. As previously mentioned, there are no guidelines for using the outdoor environment within the regulations for educator practice in day-care centres in Greece, which seems indicative of the lack of emphasis given to children being outside. In the regulations which stood between 2002 and 2017 (Papadimas & Thanos, 2002), outdoor space was only implied in relation to a half-hour daily recess time, promoting the view that being outdoors acts as a 'break' from the care and education activities, rather than being an important process in its' own right. These long-standing guidelines, which the current ones have not added to in relation to outdoor space use, may have played a role in sculpting the educator perceptions in relation to the outdoors. The impact of curricular guidelines on educator outdoor practice was supported by Bilton and Waters (2017). The findings of this study seem to confirm the existence of a mentality that the outdoor environment is merely a 'recess space' within Greek

child care practice, as a third of the educators indeed stated spending half an hour or less outdoors per day.

In relation to whether children's needs are met through this practice, one could focus on a health factor, such as obesity prevention, as an indicator. Recent guidelines on obesity prevention suggest 15 min of physical activity for every hour spend in care (Birch, Parker, & Burns, 2011). Children in Greece may spend up to 8 h a day in day-care, so it appears that the children's outdoor play needs even only considering the obesity prevention front, seem not to be met. What one needs to keep in mind though, is that increased physical activity and a healthier weight, is only a part of the many benefits that children acquire through outdoor play (Burdette & Whitaker, 2005). Although the majority of educators stated that children should spend more time playing outdoors, corroborating the view that children's outdoor play needs are not adequately met, it is interesting that 'time' was only suggested by 2.4 per cent of the educators as a factor that would support children's play.

The outdoor play environment

The lack of emphasis regarding being outdoors seems to be reflected in the way that day-care centres are physically structured. The regulation standards for the licensing of day-care centres state that there should be an outdoor or semi-outdoor space of 3.5 square metres per infant and 4.5 square metres per preschooler (Pavlopoulos, 2017). Nevertheless, the present study revealed that 7.5 per cent of the educators that took part, work in centres that have no outdoor space. This is consistent with the findings from the research carried out by the National Technical University of Athens (2013), for the public day-care centres in the Municipality of Athens, which found that 9 per cent had no outdoor space. The same study went on to reveal that of the remaining day-care centres, 22.8 per cent had inadequate outdoor space of less than 100 square metres, which was more common in inner city, highly populated areas. It is important to note that in the present study 6.9 per cent of the educators stated that the children do not go outside at all, which would indicate that in many of the cases where no outdoor space exists in the centre, or if the space is inappropriate, no alternative arrangements are made so that the children can play outside.

The existence and size of the outdoor space though was not the only issue revealed in this study, as the quality of the physical environment was identified as a major additional concern. This finding is consistent with a study by Rentzou (2014) who identified low-quality indoor environments in Greek public day-care centres, with low scores in relation to play. If we add the 7.5 per cent of the educators in this study stating that their day-care centre had no outdoor space, with the 12.7 per cent stating that they considered the outdoor space not at all appropriate, we would conclude that approximately 20 per cent of the educators have no suitable outdoor space available for the children to play in within the day-care centres. A further 23.5 per cent of the educators categorised the outdoor space only as a little appropriate. The quantitative data gathered in this study regarding the appropriateness of the space does not specify the exact causes for the educators' opinion, allowing for the possibility that different educators consider the outdoor area inappropriate for different reasons. Nevertheless, the educators raised issues around the space extensively within the qualitative data collected through the open-ended

questions, with organisation and configuration of the space expressed as main concerns, in addition to size, suitability, lack of resources, safety and space characteristics such as shading.

The lack of suitable space was rated highest by the educators as a factor decreasing the opportunities for outdoor play in child care. This finding supports the conclusions of a qualitative study by Papadopoulou et al. (2014), which stated that ‘... inadequacies in space and lack of resources for the implementation of activities constitute a significant difficulty in everyday practice’ (p. 1854). The issue of limited outdoor space with inappropriate surfacing and inadequate materials, shading and planting was also identified by the National Technical University of Athens (2013) study, characterising it as ‘an environment without imagination and with a lack of natural elements’ (p. 107). Space was identified by the educators as the main factor that would facilitate play within child care, followed by appropriate materials, with the organisation of the space and the existence of ‘activity centres’ highlighted as important for children’s play.

The role of the physical environment is undeniably important, especially when significant lack of space and resources is evident. Nevertheless, it is important to comment on the finding that the practice around limited time spent outdoors seemed to be common between educators, regardless of the place of residence, working experience, age group, group size and only weakly related to their perceptions on the appropriateness of the outdoor space. This could indicate a cultural attitudinal element towards the use of the outdoor environment, which could be affecting children’s play opportunities in addition to other structural and functional barriers (Ashiabi, 2007; Kagan, 1990). The educators’ apparent focus on the risks rather than on the developmental opportunities that the outdoor environment affords children, could maybe add to the issue of children’s outdoor play needs not met within child care (Kernan & Devine, 2010; Sandseter & Sando, 2016; Wyver et al., 2010).

Educators’ attitudes and perceptions

The role of the educator was identified as a factor supporting play, by 39 per cent of the respondents in this study. Many of the open statements focused on personal attributes of the educator relating to play, such as views, communication skills, imagination, flexibility and cooperation, but not so much on specific actions that the educator should take, such as organising the environment and the activities, or documentation. The need for clarity of the adult role, combined with the educator’s competence and skills in relation to observation, attentiveness to the play process and outcomes, awareness of the gravity of timing and space and understanding of children’s learning through play, have been linked to positive outcomes for children (Kernan, 2007).

In relation to the educators’ opinion of the main role that the adults should assume during free play, the role of ‘Facilitator’ ranked highest, suggested by almost a quarter of the educators, closely followed by the role of ‘Observer’. The way that the educators practice these roles though, is not clear from this research, as no data is available on the way that they facilitate play, or on whether they actively observe and how they make use of their observations. It is possible that the ‘observer’ role is for some of the educators synonymous to ‘supervisor’, with no clear plan regarding the observation process or documentation.

The factor which the educators ranked highest in relation to its' importance for play, was for children 'Not to get hurt', which would indicate that the educators are very focused on children's safety and may perceive outdoor play as an inherently risky situation. This is further corroborated by the finding that the educator role of 'Prevents accidents' ranked third, with more than one in ten educators stating that this is the main role that they assume during children's play. These findings are quite informative and seem to support the notion that Greek culture is overprotective towards children (Giosafat, 2010; Kalyvas, 2017). Nevertheless, part of the educators' concerns could also be linked to the appropriateness and quality of the physical environment. The educators' views on the importance of not getting hurt were significantly correlated to the educator role 'Prevents accidents'. This could indicate that the way that the educators perceive play and risk could have an effect on the roles that they assume, as well as on their practice, possibly restricting children's play in order to ensure increased safety (Kernan & Devine, 2010; Sandseter & Sando, 2016; Wyver et al., 2010). The educators' focus on limiting risk could be indicative not only of the way that they manage play, but on their overall perception of children competence and vulnerability. Haughton and Ellis (2016) discussing empowering children, stated that

Ideally children need to be supported to assess their own capabilities and regulate their own behaviours within a safe environment. This requires an underlying view of the child as competent rather than one of the child as vulnerable and in need of adult protection. (p. 141)

Children's behaviour and conflicts

The main issue arising during play identified by the vast majority of educators (88%) related to children's behaviour, with the main problem being children's conflicts. Doliopoulou and Rizou (2012) also referred to Greek educators' concerns of the way the children handle conflict. In the present study, even though conflicts were presented as the main problem in play, the children's ability to resolve their conflicts was ranked last by the educators, as a first choice about what is most important in children's play.

The educators' concerns regarding children's behaviour and the issue of the poor quality of the environment, may not be unrelated. The features and arrangement of the physical environment as well as the materials on offer may affect children's behaviour and their play (Acer, Gözen, Saadet Firat, Kefeli, & Aslan, 2016; Armitage, 2005; Czalczynska-Podolska, 2014). According to Rentzou (2013b) '... the physical setting, the play materials and equipment available, the environmental arrangements, and the social elements of the environment may encourage or limit playfulness and affect children's play and how children play with each other' (p. 1741). We could therefore hypothesise that the limitations of the physical environment may affect children's behaviour in a negative way, but additional information on the way that the environment is structured, the play affordances that it allows, the children and educators' interactions, as well as the parental role, would be required, which were not targeted in this study. McInnes et al. (2011) linked early years educators' limited engagement with pedagogy to the way they reflected on their practice, suggesting that 'when examining their practice, practitioners tend to focus on children's behaviour rather than analysing their own' (p. 122).

Even though the educators in this study expressed positive views on the value of play, this may not necessarily transform to a child-centred pedagogy, especially in a culture where the children seem to be seen as in need of protection. According to McInnes et al. (2011) ‘... in reality, a lack of understanding of play, combined with a mistrust of child-led activities and reluctance to give children choice and control, results in an over-reliance on adult-led activities with adults having control and choice’ (p. 122).

Conclusion

This study has provided information on the educators’ views and practice in relation to outdoor play in Greek public day-care centres, which is a timely endeavour in light of outdoor play’s decline in recent years.

The findings highlighted the limited time that the children spend outdoors in day-care, with the majority of educators stating that children should spend more time playing outside. The most important aspect of children’s play identified by the educators was ‘Not to get hurt’, indicating a possible perception of outdoor play, as a risk to children’s safety.

Serious issues in relation to the outdoor physical environment were identified and educators suggested lack of suitable outdoor space as the main factor hindering children’s outdoor play, followed by health and safety concerns.

The main issue occurring during play, identified by the majority of the educators, related to children’s conflicts and negative behaviours. This finding could be linked to issues relating to the quality of the physical environment and materials available, which were also identified as the top factors that could facilitate children’s play in day-care, together with the role of the educators.

This study, using a survey design, has the strength of having reached a large number of educators from around Greece, sketching an outline of the play practice in Greek public day-care. The important role of the physical environment, which has been raised by previous smaller scale studies, has been recognised and strengthened in the present study.

One limitation of the study concerns the fact that a convenience sample was used, comprising of educators attending presentations on play. Nevertheless, the cluster sampling of the municipalities and the co-organising of the events with the local authorities under which the day-care centres operate, supported the attempt to reach a more balanced representation of educators, while maximising access to the population.

This study also has limitations in relation to unmasking the detailed, qualitative aspects affecting outdoor play practice. There is a need for further research in this area, examining the way that the human, physical and organisational environments support outdoor play within preschool. A more in-depth understanding of the way that the educators plan for outdoor play, the manner in which they act out their roles and facilitate play, the affordances and risks that they perceive within the outdoor environment, as well as the way that they document and reflect upon their observations, would be required in order to have a clearer picture of outdoor play practice within Greek day-care centres. Further examination of the possible personal, cultural, contextual, pedagogical and policy factors affecting educator play practice, would also be required. More detailed information on the way that the outdoor physical environment is structured and organised, its’ characteristics, the resources available, as well as the play affordances it allows, would also be very important.

The findings of this study indicate that the physical environment and resources, the attitudes of the educators and the policy context overarching early education and care services, all play a role in relation to outdoor play provision within preschool day-care. This study has the potential to influence pedagogy by raising the issues hindering outdoor play and supporting the development of training, educational materials and play-promotion programmes. In addition, this study could influence policy development, through highlighting the importance of including outdoor play provision as a significant element in the planning and guidelines for early childhood care and education services.

The identification of the possible limiting factors in a country such as Greece, where outdoor play is underdeveloped in early years settings even though weather conditions are optimal, could also be informative for other countries, especially when best practices involving natural environments do not apply.

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