

Parents' perceptions of their children's outdoor activities before and during COVID-19 crisis

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Abstract: This study is focused on Israeli parents' perceptions regarding the possible benefits and barriers to their children's outdoor activities as well as on their reports on the actual engagement of their children in these kinds of activities, before and during the COVID-19 crisis. We employed a mixed-method design, including a questionnaire and a semi-structured interview. The participants were 213 Israeli parents. Findings reveal that parents think that outdoor activities benefit children's physical-motor and social development and their health. They consider their long work hours and weather conditions as the main barriers to spending more time outdoors. Parents also reported going out significantly less with their children to playgrounds after the peak of the COVID-19 crisis, compared to their habits before the pandemic. The decrease in the time spent outdoors was attributed by the parents to their long work hours and to an increase in the time spent by their children in front of screens. In light of the findings, we suggest that parents need guidance in order to restore the habit of going out to close playgrounds on an almost daily basis and in order to appreciate the contribution of outdoor activities to children's connectedness and knowledge about nature.

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Introduction

The aim of the article is to show Israeli parents' perceptions of outdoor activities and engagement of their children in this kind of activities, as well as on how they perceive the benefits and barriers to outdoor play, before and during COVID-19 crisis. The general term "outdoor activities" includes various aspects of children's engagement in the outdoor space: play, guided and unguided learning encounters outdoors being based either on active inquiry or on more traditional learning. In the introduction that follows, we present theoretical background and research findings related to children's outdoor activities, parents' perceptions and the impact of COVID-19 on these activities.

Outdoor Activities

Outdoor activities reflect what children do "beyond the walls of the inside" (Zink & Burrows, 2008) and what takes place in the environment (Tal, 2009). Outdoor activities involve both free play and encounters guided by adults (parents and teachers). It should be remembered that play, although by definition initiated by children, and intended to attain enjoyment, almost always involves learning.

Outdoor activities, especially in natural environments, have a significant potential to benefit children's physical, cognitive, emotional, and social development, as well as their health and overall well-being, self-regulation skills, and attention (Gessiou, 2022). Outdoor play spaces and activities conducted in these areas can enable children make effective use of time both physically and mentally if the activities are aligned with their age, development, interests and needs (Towell, 2005).

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Children's engagement in outdoor activities enables direct contact and deep connections with the natural environment and the local community (Levy, 2017; Shurgi, 2018). Stone and Faulkner (2014) found that spending time outdoors affects children's well-being as it increases physical activity, reduces immobility, and prevents excessive weight gain. In addition, children experience feelings of enjoyment in the outdoor space (Armitage, 2001; Millward & Whey, 1997; Waite & Rea, 2007). Furthermore, activities in the open space provide opportunities for children to interact with each other while conducting a dialogue with external and internal boundaries (Frances, 2018). Spending time in the open space was found useful for infants and toddlers as well as for older children. For example, Bento and Costa (2018) made an inquiry into how outdoor activity and contact with nature based on supportive relationships with adults and peers, helped a group of 14 toddlers in a daycare center in Portugal develop a sense of security and positive self-esteem, curiosity and exploratory impetus and social and communication skills.

It was also found that children who are not exposed at all to the natural world in general, and the animal world in particular, develop fear of nature. Based on these findings, experts recommend that young children learn to live with animals and take care of them and learn to show compassion and responsibility towards them (Anders, 2018).

Relevant to the issue of how children spend their leisure time is the fact that in recent years, children are growing up in a digital world, which reduces the number of personal and authentic experiences that help them learn about the real environment they live in. Therefore, it is of crucial importance to encourage activities in the open space that allow children to experience the real natural world and thus get to know and understand themselves, their abilities and the world around them (Anders, 2015).

Children Outdoor Activities as Related to the Ecosystem Theoretical Framework

Children outdoor activities and parents' perceptions of these activities are being understood in this study from the ecosystem perspective set forth by Bronfenbrenner and Morris (2006). In their view, human development takes place through progressively more complex reciprocal interactions between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment – the microsystem (Bronfenbrenner, 1986). To be effective, the interaction must occur on a regular basis over extended periods of time (as happens in families and educational institutions). These enduring forms of interaction in the immediate environment are referred to as proximal processes. The nature of these interactions and their impact on development are influenced by the characteristics of those involved, the context in which they occur, and time (Bronfenbrenner & Morris, 2006, p. 795). In light of the importance of parents' interactions with their children and their mediation of the outdoor environment for them, it is important to learn about parents' perceptions of their children's outdoor activities, the frequency and duration of spending time outdoors (in preschools and with families), and about the nature of outdoor spaces available to children and families.

During the last years and particularly after COVID-19, the Israeli Ministry of Education encourages schools and preschools to think and act "out of the box" in general and literally to learn "beyond the walls of the inside". This policy is based on studies showing that it is not right to make a clear-cut distinction between learning processes and play (Bodrova & Leong, 2007). Furthermore, young children learn through play, and play constitutes a basis for their emotional, social and cognitive development (Bodrova & Leong, 2007). Therefore, it is expected that in preschools learning should be experiential and based on play and should happen in a natural context and be aligned with the subjects that the children are interested in (The Israeli Ministry of Education Circular, 2019).

The Ministry of Education addressed also the issue of children safety as related to activities in the community-outside the preschool. The Israeli Ministry of Education (2017, p. 52) posted guidelines related to activities in the community outside the preschool in order to enable on the one hand these activities and on the other hand to safeguard the children's safety: Preschool teachers are held responsible for organizing activities in the community. They must consider the educational value of the site chosen for the community activity as well as organizational issues related to time, weather and so on. Furthermore, it is expected that the preschool staff will thoroughly prepare the outdoor activity including: a preliminary tour of the sites

considered for outdoor activities and to consider their alignment with the children's age, and pedagogical value and suitability. Outdoor activities are expected to be included in the annual plan that is approved by the superintendent. Preschool teachers are expected to prepare annual plans for trips, bring them to the approval of the supervisor of the preschool, and the person in charge of the security of preschools. Trips outside the preschool must be accompanied by the preschool teacher, one of the assistants and accompanying parents.

Parents' Perceptions of Their Children's Outdoor Activities

It was found that parents usually favor outdoor activities and that they appreciate the impact of these kinds of activities on their children's physical and social development. Nevertheless, some parents have concerns related to their children's safety (Obee et al., 2021). Furthermore, parents' fear of the risks involved in outdoor activities lead them to not allow their children to engage in risky play (McFarland & Laird, 2018). For example, it was found that children participate in less physical activity and watch more television in cases in which their parents perceive the neighborhoods as unsafe (Datar et al., 2013), and that they play more in parks when parents assess their neighborhoods as safe and as containing walking or cycling facilities, and suitable play areas (Tappe et al., 2013). It was also found that even mothers who acknowledge the benefits of risky outdoor play and want to provide opportunities for their children to safely engage in such play, experience fears and concerns about their children's safety (Little, 2015). Indeed, parental safety concerns were found responsible for the reduction of time spent by children in outdoor play (Faulkner et al., 2015).

Looking at the parents' childhood, it was found that even though parents recognize the benefits of free play, such as opportunities for socialization, positive contributions to health and improving levels of physical activity, some of them spent during their childhood more time outside in free play, than their children do (Watchman & Spencer-Cavaliere, 2017).

It was also found that although parents generally support outdoor play during center-based childcare, they do not know the specifics of policies regulating outdoor activities and the nature and duration of outdoor play in educational institutions (Jayasuriya et al., 2016).

The COVID-19 Crisis and Its Impact on Outdoor Play

COVID-19 has changed the everyday lives of everyone around the globe, including children, by limiting interactions with peers, and closure of schools, preschools and day-care centers. Research found a decrease in the levels of children's physical activity due to the loss of regular activities, the temporal lack of accessibility to recreational spaces, and also the lack of peer support (Ostermeier et al., 2022).

Findings related to the impact of the pandemic on young children's emotional and social functioning is complex. On the one hand, it was found that in spite of the fact that young children have experienced loneliness, they haven't been affected much during the first months of the pandemic (Linnavalli & Kalland, 2021). On the other hand, in a study that was done in Italy after the first lockdown, it was found that parents identified damages caused to their children as a result of the lockdown, such as damage to their emotional-social skills, damage to physical activity, and an increase in the use of screens. Researchers recommended to listen to parents, children, and educational practitioners, and to build up a clearer and more authentic understanding of their experience (Mantovani et al., 2021). In a study that was done in England, Scotland and New Zealand it was found that after the first lockdown preschool children said that they wanted to regain their daily routines. They also said that they wanted to spend more time with their friends, to enjoy extended play time in general and outdoors, in particular (Pascal & Bertram, 2021).

Researchers and educators suggested that the existence of family routines is likely to moderate the impact of the COVID-19 pandemic on the mental health of young children (Glynn et al., 2021). Also, it was claimed that being in parks or other green spaces is important for the health and for well-being of individuals, and it is likely to lead in the future to healthier populations (Slater et al., 2020).

Nevertheless, it was found in a study in Australia, that due to a misunderstanding of the

recommendations, some children thought that they would get sick if they go out on the streets and not if they were close to infected persons (Vasileva et al., 2021).

Impact of COVID-19 in Israel

Preschools provide a significant developmental framework for children that allows them to develop and acquire cognitive, emotional, social, and physical skills. The closing of the preschools for long periods (due to the closures and due to the multiple periods of isolation as a result of illness or suspicion of infection), created significant damage to the growth and developmental processes that take place in the preschool as a routine, which, unlike learning in schools, cannot be replaced by online processes. Therefore, the achievement of significant developmental milestones that depend on the processes taking place in preschools was compromised and gaps and inequality among children widened (The Israeli Ministry of Education- Office of the Chief Scientist and Preschool Department, 2021).

Studies show that support for parents in terms of guidance related to their mediation skills may help promote children's development even in the long term, such as predicting the development from kindergarten to second grade (The Israeli Ministry of Education- Office of the Chief Scientist and Preschool Department, 2021). To sum up, children's engagement in outdoor activities (play as well as guided activities) matter. Nevertheless, data show that lately, children spend less time outdoors, mostly due to the impact of COVID-19 lockdowns and regulations. Indeed, as reported in a review article of studies that were done in Europe and North America during the COVID-19 crisis, it was found that the time spent by children outdoors was reduced drastically during the pandemic. This decrease was accompanied by a parallel increase in time spent in indoor play in general and in videogames-screen, in particular. In addition, a decrease in time spent by children in outdoor and indoor physical activities was reported (Kourti et al., 2021). Parents play a central role in enabling, encouraging or blocking children's activities outdoors both by their perceptions and by their actions. Therefore, this study is focused on Israeli parents' perceptions of the possible benefits and barriers to their children's outdoor activities and on their reports on the actual engagement of their children outdoors, before and during the COVID-19 crisis.

Research Questions

1. How do parents perceive their children's outdoor activities before and during the COVID-19 crisis?
2. What are the benefits attributed by parents to their children's outdoor activities?
3. What are parents' perceptions of the barriers that hinder their children's outdoor activities?

The study presented in this article is part of a larger study focused on Israeli ECE teachers' and parents' perceptions of outdoor activities performed in 2021-2022. The research questions that are the subject of the present study deal with only part of the questions that were included in the interview and questionnaire

Method

Research Design

A mixed method design, including both quantitative and qualitative tools, was employed to make an inquiry into parents' perceptions. The qualitative component of the study included interviews and the quantitative component included a questionnaire.

Participants

Participants were 213 Israeli parents: 201 (101 mothers and 100 fathers) responded to questionnaires and 12 parents (nine mothers and three fathers) were interviewed. The parents participating in the interviews were recommended by preschool teachers whose perceptions related to outdoor learning had been the subject of a parallel study. The parents who filled out the questionnaire, were recruited by a survey company (**Sekernet**) and constituted a representative sample of Jewish parents in Israel. Sekernet is the

survey company chosen by Levinsky-Wingate Academic College for studies that are based on representative samples of the Israeli population.

Forty-four percent of participating parents stated they were secular, 23% stated that they were traditional, 16% stated that they were religious and another 16% stated that they were ultra-religious. The average age of parents was 37 (SD=5.45; range 25-51). Fifty-one percent held academic degrees, 16% held various diplomas 20% high school or less. Families were reported to live in towns (big towns 50%, small towns 30%), 12% in medium-sized settlements (population less than 10,000) and smaller community settlements (such as kibbutz with a population of less than 2000).

Data Collection

The data were collected using semi-structured interviews and a questionnaire. The interviews were performed between February and October 2021 and the questionnaires were administered in June 2022. All these after the lockdowns imposed during the pandemic, but while there were still waves of infections. We remind that the first infections were recorded in Israel at the end of February 2020. The first lockdown was between 25.3.2020 and 4.5.2020. The second lockdown was between 18.9.2020 and 17.10.2020 and the third lockdown was between 27.12.2020 and 7.2.2021

Tools and Process

The semi-structured interview employed in this study included open questions addressing parents' perceptions regarding nature, possible benefits associated with outdoor activities and barriers that interfere with routine outdoor activities. All these both before and during COVID-19 crisis (The protocol of the interview is included as Appendix 1).

The questionnaire used in this study included both items from Gallager's (2015) survey of parents' perceptions of unstructured outdoor play, as well as questions derived from the content analysis of interviews performed with 12 parents. Included in the questionnaire beyond items focused on demographics of parents filling in the questionnaires (age, education, occupation, number of children in the family, their ages and genders and characteristics of the living environment (type of housing, the type of settlement, geographical location in Israel), items focused on type, frequency and duration of activities in the open space before the COVID-19 crisis compared to when filling out the questionnaire during the pandemic after three lockdowns. In addition, included in the questionnaire are questions focused on parents' perceptions regarding benefits of the activities in the open space as well as barriers to their children spending time in outdoor activities (The part of the questionnaire relevant to this study is included as Appendix 2).

Analysis of data

The following steps were employed in the process of data analysis:

1. Analysis of interviews with the parents led to the final formation of the questionnaire (for example items related to possible activities outdoors were added, as well as barriers related to children's outdoor activities).
2. We analyzed the items included in the questionnaires that are directly related to the research questions included in this study. We focused on questions related to parents' reports of outdoor activities in the afternoon before and during COVID-19 and on their perceptions of possible

benefits as well as barriers to outdoor activities that limited the time spent by their children outdoors.

3. Comparisons of frequencies of activities before and during the pandemic were based on chi-square tests and comparisons of parents' evaluations of duration of time, benefits and barriers were based on analysis of variance and t-tests.
4. We sought support or contradiction in interviews related to the main findings extracted from the analysis of the questionnaires.

Ethics

Interviewees gave their consent to participate in the study. Questionnaires were anonymous and the identity of respondents was unknown to the researchers. The study was approved by the Ethical Committee of Levinsky-Wingate Academic College.

Results

Analysis of questionnaires and interviews focused on parents' perceptions of their children's outdoor activities yielded the following main findings:

1. Parents indicated that COVID-19 crisis changed families' habits related to spending time outdoors; Parents attribute the decrease in time spent outdoors associated with COVID-19 crisis, to their long work hours and to their children's engagement with screens;
2. Parents pointed to the development of physical-motor and social skills as well as improving health as being benefited by the children's outdoor activities;
3. Parents pointed to their long work hours and the weather conditions as main barriers to the frequency and duration of their children's activities outdoors.

Parents indicated that COVID-19 crisis changed families' habits related to spending time outdoors

Both quantitative and qualitative data indicate that COVID-19 was associated with less frequent outdoor activities than what the families had been used to before the pandemic. One of the questions included in the questionnaire was focused on how parents perceive possible changes in the frequency of going out with their preschool children before versus during COVID-19 crisis. Forty five percent of the parents reported that the COVID-19 crisis has reduced the frequency of going outdoors in the afternoons with their young children; fourteen percent of the parents reported that the COVID-19 crisis has increased the frequency of going out and 41% reported that the frequency of their outdoor activities was not affected by the pandemic (chi-square: =34.66, $p < .0001$).

An additional question addressed the parents' evaluation of the frequency of various locations of outdoor activities before and during the COVID-19 crisis based on a scale from 7(never) to 1(every day). Comparison of evaluations of frequency of spending time outdoors was performed on the mean evaluation of the parents before and during COVID-19, for each location. Locations of outdoor activities that were evaluated included: public playgrounds close to children's home, community gardens, large parks, forests, orchards, mountains, beach, lake/river, uncultivated and cultivated fields. Analysis of data shows that parents reported going out significantly less with their children to playgrounds and public gardens after the peak of COVID-19 crisis compared to their habits before the crisis ($t=2.15$, $p < .03$). Thus, parents reported that preschool children used to go out to playgrounds approximately twice a week before the pandemic compared to between twice and once a week during the COVID-19 crisis, when questionnaires were filled. Other less frequent family outdoor activities such as going to the sea, forests or mountains were reported to be less affected by the COVID-19 crisis.

Analysis of the interviews shows that COVID-19 crisis and the restrictions imposed on the citizens have influenced the habits of going out into the open space. Analysis of the interviews reveals that most parents (58%, 7 of the 12 parents interviewed) stated that the pandemic led to a reduction of time spent by

the children in activities in the open space. One of the factors mentioned by some of the interviewees as responsible for this reduction was children's preference for activities involving screens. Robert, one of the fathers interviewed, was a prominent spokesperson for this position:

You know we stay at home with the zooms [Zoom meeting/lessons] it's very difficult to take them out later for outdoor activities... It is hard to motivate them [the children]. From the moment they are at home all day and they don't go out in the morning, it's much harder to motivate them to go out.

Michal, one of the mothers interviewed claimed that due to the lockdowns, families got used to spending time at home and this habit continued after the lockdowns, when going outdoors was permitted and even recommended. Michal:

Since the COVID-19 crisis, we got used to spend time together at home as a family.

Nevertheless, there were also 5 parents (42% of the parents interviewed) who reported that either the pandemic and the lockdowns associated with it, did not affect the time spent by their children outdoors, or that the pandemic was associated with an increase of time spent outdoors. For example. Hadar, one of the mothers interviewed claimed that at the beginning of the COVID-19 crisis there was great concern to get infected and they did not go out. Later, even after the birth of her new baby, they started going out more. Furthermore, Asaf, one of the fathers interviewed, talked about going out into the open space more after the third lockdown with the understanding that being outside is good for the children and also due to the lack of existing alternatives at the time of the interview (as shopping centers were closed at the time). Finally, Roy, one of the fathers interviewed explained that it is important to stay and spend time in the open space, therefore apart from the first two lockdowns, the COVID-19 crisis has not changed the family's habits of going out into the open spaces.

Parents attribute the decrease in time spent outdoors associated with COVID-19 crisis, to their long work hours and to their children's engagement with screens

The analysis of both questionnaires and interviews indicated that most parents appreciate that their preschool children spent in general more time at home and particularly more time in front of screens during COVID-19 crisis compared to the screen time before the pandemic. Parents were also asked to assess the duration of time spent by the children in various places and activities before the pandemic and at the time of filling the questionnaires-during the pandemic after the three lockdowns. Table 1 shows the distribution of time spent in various leisure activities before versus during COVID-19-as reported by preschool children's parents.

Table 1. Distribution of time spent in various leisure activities before versus during COVID-19-as reported by preschool children's parents

Leisure activity	COVID-19 did not affect time spent	More time spent due to COVID-19	Less time spent due to COVID-19
Children spend time at home	45%	%46	%9
Children spend time in front of screens	%34	%64	%2
Children spent time in shopping centers/malls	%59	%18	%23
Children spend time with friends	%52	%21	%26
Children spend time with family	61%	%21	%18

Data presented in table 1 indicates that 64% of parents reported that children spent more time at home as opposed to only 2% that reported that children spent less time at home compared to the time spent before the pandemic (chi -square=113.75, p<.0001). Furthermore, parents' reports show that children spent after the lockdowns, during the pandemic, more time in front of screens compared to the time spent in front of screens before the pandemic: 46% of parents assessed that their preschool children spent more time in front of screens as opposed to only 9% of parents that reported that children spent less time in front of screens compared to the time spent before the pandemic (chi-square=52.51, p<.0001). These findings are aligned with reports of parents emerging from the interviews and presented in the previous section.

Analysis of data revealed parents' perceptions of benefits of outdoor activities to children's development as well as barriers which limit them. These benefits and barriers are likely to be relevant before, during and after the pandemic.

Parents acknowledge the benefits of outdoor activities to their preschool children's development

Both quantitative and qualitative data indicate that the parents acknowledged the benefits of outdoor activities to their preschool children's development. Examination of the parents' answers to the question "To what extent do you estimate that free play in the open space contributes to your child in each of the domains of development?" showed that the parents estimate that play in the open space contributes most of all to the development of physical -motor skills (M=4.69, SD=0.54), and in descending order to the development of social skills (M=4.55, SD=0.67), and maintaining and improving health (M=4.46, SD=0.66). On a scale from 1 to 6, where 6 indicates total agreement with the statement and 1 total disagreement with it (see Fig. 1).

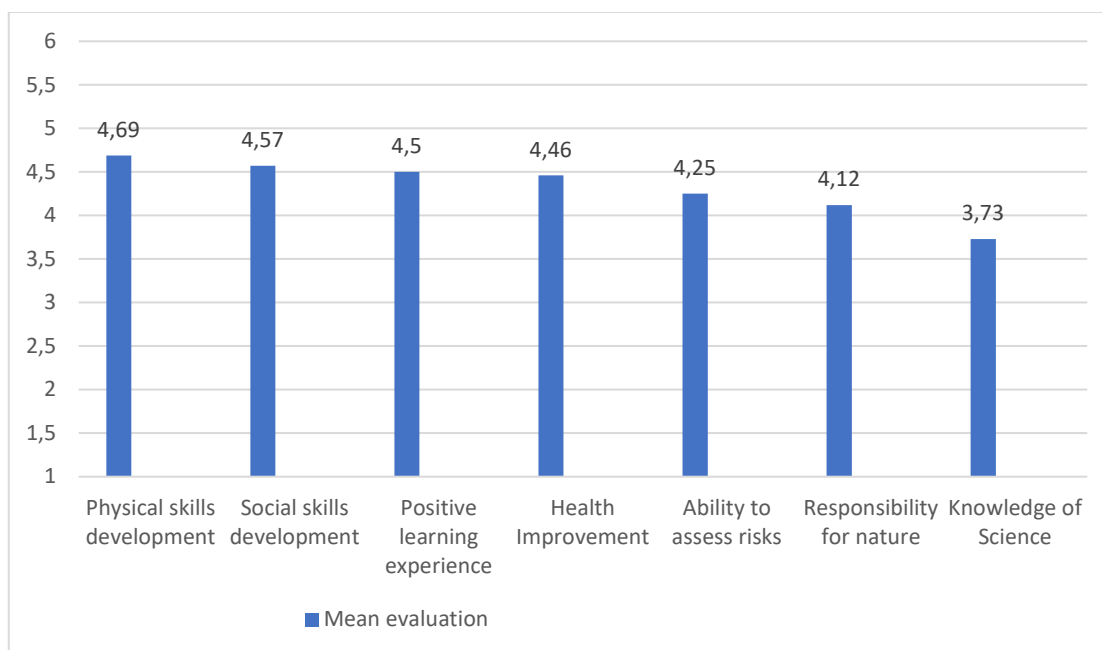


Figure 1. Parents' perceptions of benefits of outdoor activities

The difference between physical skills and social skills is marginally significant ($F= 3.632, p< .057$), meaning that parents perceive the benefit derived from free play outdoors to the children's physical skills as slightly higher than the benefit to the social skills. Furthermore, they perceive the benefit to physical skills as significantly higher than the benefit to positive learning experiences ($F=8.34, p<.004$). Finally, we mention that parents attribute the least benefit of outdoor activities to knowledge of science (e.g. difference between social skills and knowledge of science is highly significant ($F=83.27, p<.000$) and so is the difference between responsibility for nature and knowledge of science ($F=13.20, p<.000$).

Analysis of the interviews brought up a series of advantages and contributions that the parents attribute to children's activities in the open space. For example, Asaf one of the fathers pointed to the development of the mind and the body associated with outdoor activities: "It's important because these activities develop the mind and body, they [the children] ... learn much more than if they sit at home and watch TV". Robert, another father, referred to a combination of benefits. He mentioned the feeling of enjoyment and relaxation, and the potential of authentic learning as well as the improved connection between him and his children - all related to outdoor activities:

We have a huge park near the house; beyond spending energy, which is also important, there is an encounter with nature, the children are exposed to more stimuli and are more settled down, more relaxed, and happier. This is [also] a time for the most meaningful learning. There's always a conversation about what's happening outside and it's also quality time when I'm with them the most, and without the distractions of television and screens.

Maayan, one of the mothers interviewed, also mentioned a combination of benefits. She said that being outside is relaxing, liberating and also it creates opportunities for social gatherings and contribute to physical development.

The growth of the ability to assess risks is included in the list of benefits of outdoor play evaluated by the parents as shown in Fig.1. It was found that parents evaluate as moderately high the contribution of play in the open space to their children's ability to assess risks ($M=4.25$, $SD=0.86$). Parents evaluated the contribution of outdoor play to the children's ability to assess risks on a scale from 1 (do not agree at all) to 6 (totally agree). As shown in Fig 1, the benefit of outdoor activities to health improvement ($M=4.46$, $SD=0.76$) was assessed by parents as higher than their contribution to learning to assess risks ($F=6.73$, $p<.01$), whereas the benefit of outdoor activities to knowledge of science ($M=3.73$, $SD=1.12$) was assessed by parents as much lower than their benefit to learning to assess risks ($F=27.26$, $p<.000$).

Nevertheless, parents showed a lower willingness to encourage their children to take risks in play involving various types of playground equipment on a scale from 1 (do not agree at all) to 6 (totally agree), ($M=3.56$, $SD=1.57$ for boys and $M=3.53$, $SD=1.59$ for girls), compared to their position that outdoor activities are likely to contribute to the children's ability to assess risks ($F=29.86$, $p<.000$ boys, $F=31.89$, $p<.000$ for girls), with no gender differences. This means that possibly although parents do recognize the opportunity to learn to assess risks associated with outdoor activities, they tend not to encourage them to engage in play that involves risk-taking.

Parents' perceptions of barriers that affect frequency and duration of outdoor activities

Parents were also asked to assess the extent to which various factors serve in their opinion as barriers to children's daily outdoor activities. Parents' assessments (on a scale from 1 (do not agree at all) to 6 (totally agree) of what constitutes barriers to their children's outdoor activities are presented in descending order in Fig 2. Analysis of data shows that the parents' limited time ($M=4.06$, $SD=0.88$) and unfavorable weather ($M=3.98$, $SD=0.98$) are perceived by the parents as the strongest barriers to outdoor activities, with no significant difference between them. Parents' limited time is perceived as a significantly stronger barrier than the parents' concern for their children's safety ($F=23.99$, $p<.000$). No significant differences between parents' assessments of concern for safety, fear of strangers and distance from playgrounds were found. Finally, dirt is perceived as the weakest barrier to children's outdoor activities -when compared to other barriers (for example, the distance from playgrounds $F=40.53$, $p<.000$; dirt- $M=2.82$, $SD=0.94$; distance from playgrounds- $M=3.48$, $SD=1.13$).

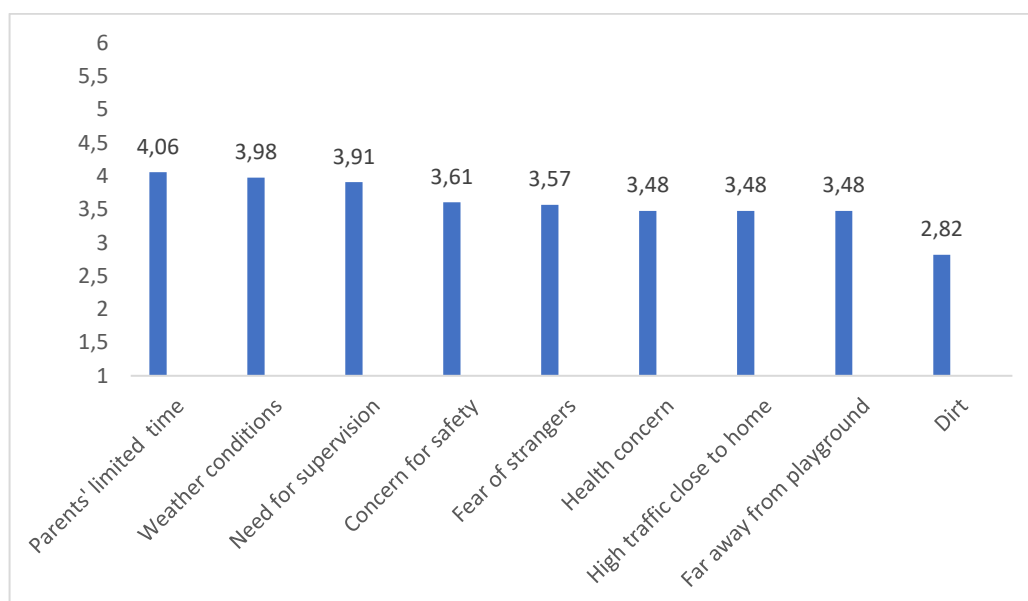


Figure 2. Parents' perceptions of barriers that interfere with the children's daily outdoor activities

The analysis of interviews supports the findings derived from the analysis of the questionnaires.

Testimonies of parents included in the interviews reveal that parents often claim that their busy daily routines interfere with their children's more frequent activities outdoors. An example of how the parents' limited time interferes with outdoor routines is found in the interview with Noa, one of the mothers interviewed:

I always pick up the children, at half past three-four o'clock, and my husband comes home at five. We spend time at home. We don't go out often. Something calm [activities] like Lego. We are usually weak with friends. Enrichment activities or going out and especially [spending time] at home.

Some parents refer to the fact that being in the open space makes it difficult to spend a smooth evening after coming back home. For example, Maayan describes the routine of spending time and getting ready for bed and explains why she does not like to spend time with her sons in playgrounds:

I want us to have time to get home so we can enjoy dinner at home, take a shower, tell a story, and brush our teeth, the whole ceremony of getting ready to go to bed. So if we are out for a long time it makes it.

There are parents who mention the rain in winter and the heat in summer as barriers to going out into the open space. Ma'ayan, the mother interviewee refers to the weather conditions in the winter as a barrier:

In the winter it is very difficult [to go out], and in the winter there is a lot more TV, unfortunately...

Asaf the father interviewee claims:

It is impossible during summer, to even take walks outside because of the heat.

Concern for safety was perceived as a moderately strong barrier to children's outdoor activities ($M=3.61$, $SD=0.96$) by the parents who filled the questionnaires. Analysis of the interviews revealed that a few parents expressed strong concern for the children's safety and explained why this factor had an impact on the time spent by children outdoors. For example, Angie, one of the mothers whose family lives in the city of Jaffa said:

It's not like it used to be that you can go out and play and everything is fine... because especially here in Jaffa, everything is very scary, especially recently, every motorcycle that passes by on the road takes out some kind of weapon [and continues.]... It is a nightmare for me.

Angie's concern for her children's safety needs to be understood in the context of an unprecedented safety and governance crisis affecting Muslim-Arab communities in Israel.

Finally, there are parents who don't like sand and dirt. Hadar, one of the mothers interviewed said:

.... I don't like the sand" but she is ambivalent as on the one hand she understands the importance of playing with sand and on the other hand she is worried by "the mess caused by sand in her daughter's curly hair.

Conclusion and Discussion

This study is focused on Israeli parents' perceptions of their preschool children's activities outdoors, mainly not during preschool hours, before and during COVID-19 crisis. To the best of our knowledge, no such study has been performed before in Israel. Studies related to parents' perceptions of their children's outdoor activities was performed in many countries in Europe, the United States, Australia and New Zealand (Glynn et al., 2021; Kourti et al., 2021; Vasileva et al., 2021). Thus, this study makes possible making comparisons between perceptions of Israeli parents and those of parents in other countries.

The main findings show that Israeli parents of preschoolers appreciate the benefits of play and activities outdoors to their children's physical-motor and social development as well as their health. Parents did not mention in their interviews possible benefits related to their children's acquaintance or engagement with nature (animals, plants, stones, skies, etc.) in their routine activities outdoors. Nor did they mention the possible contribution of outdoor activity to developing children's inquiry skills. The children's most frequent engagement with the outdoor space reported by parents in the afternoons is the public playgrounds close to home that are for most children, visited at least once a week. These findings seem to be aligned with findings from other countries (Datar et al., 2013; Tappe et al., 2013). Although

knowledgeable of the fact that in their children's preschools their children spend time outdoors, parents seem not to be aware of either the policy or the details of how outdoor time is being spent by their children in preschools. The parents participating in this study appreciate the risk involved in the children's outdoor activities as moderate. Nevertheless, parents display a quite "conservative" approach in encouraging their children to dare to take risks in their free play, primarily with various equipment (slides, swings, and so on) in public playgrounds. For example, parents' fear of the risks involved in outdoor activities, leads them to not allow their children to engage in risky play (McFarland & Laird, 2018). It seems that parents participating in this study do not set an educational goal for their preschool children to take advantage of outdoor activities in order to learn to take calculated risks.

Participants in this study were both mothers and fathers (about 50% of respondents to questionnaires were fathers and a quarter of interviewees were fathers as well). We did not find meaningful differences between fathers' and mothers' perceptions of outdoor activities. Interviews revealed that the fathers participating in the study were deeply involved in their children's education and in their outdoor activities.

This study was performed during the COVID-19 crisis, after three lockdowns and while a wide range vaccination of the population (preschool children included) was still in process. Therefore, included in interviews and questionnaires were questions focused on the parents' perceptions of preschool children's activities before and during COVID-19 crisis. Findings show that most parents reported that the pandemic was associated with changes in families' habits focused on spending time outdoors. Most affected by the pandemic according to the parents' reports was the frequency of visiting close playgrounds. Frequency of visiting playgrounds decreased significantly after the lockdowns for most preschool children as compared to parents' reports of the frequency of public playground visits before the pandemic. Nevertheless, we were also able to hear the voices of the fewer parents whose preschool children either increased the time spent outdoors during the pandemic and of those who reported that COVID-19 did not have an impact on the frequency of going outdoors. For these families, it seems that frequency of going out did not change due to the determination of the parents to take their children outdoors and to some extent due to the limited possibilities of entertainment (as restrictions were imposed on entrance to cinemas, theaters, shopping centers).

Parents' reports indicate that the main barriers to going out more frequently with preschool children are the parents' long work hours and the children's preference for activities involving screens that were deepened during COVID-19 crisis. Children's preference for activities involving screens in general and the increase of screen time during COVID-19 crisis are similar to what has been found in studies around the globe (Mantovani et al., 2021). Parents' long work hours as barriers to spending time outdoors seem to be particularly relevant to the Israeli context.

The choice of employing mixed methods in this study helped us on the one hand get an idea about the frequency and sites visited by children and families outdoors as well as the parents' overall assessments of benefits and barriers to outdoor activities in general and during COVID-19 crisis in particular; Interviews helped us get an idea about the parents' state of mind related to children's outdoor activities and the nature of barriers to spending more time outdoors. Also, the interviews with the parents enabled us to understand both the position of the majority of parents and children (those going out less during the pandemic) as well as the few parents who maintained or even increased the time spent outdoors.

Recommendations

In view of the findings, it seems important to guide parents to take advantage of the benefits of outdoor activities beyond the physical-motor, social and health realms, and also beyond the regular use of equipment in public playgrounds. Parents seem to need guidance focused on the need to be attentive to the children's interest in nature and encourage it. Climbing trees, observing insects, birds, dogs and cats; taking an interest in plants, in meteorological phenomena, looking at the sky... all those are of great interest and importance for the children but have not been mentioned by parents as benefits of outdoor activities. It could be that well-trained preschool teachers could serve as agents of change. All these are likely to both improve children's acquaintance with the surrounding nature and improve their inquiry skills. Indeed,

issues and concerns related to global climate change and sustainability have not been mentioned by the parents. The real concern for the surroundings emerges on the basis of frequent close encounters with the animate and the inanimate world around us.

Encouraging qualitative and longer time spent outdoors following children's interests is likely to compete with activities involving screens. Therefore, encouraging children to go out more and enjoy the surroundings seems as a better educational practice than just limit or forbid screen time as it offers an alternative.

Limitations of the study

This study was performed during the pandemic and therefore the findings show what are the parents' perceptions related to outdoor activities at this specific point in time. An additional study is needed to find out what are the parents' perceptions one year or more after the restrictions imposed by the pandemic are released.

This study included in the quantitative part only Jewish Israeli participants. It is important to understand what are the Arab Israeli parents' perceptions of their preschool children's outdoor activities in order to get a more complete picture of outdoor activities in Israel.

Declarations

Authors' Declarations

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Appendix 1

Parents' perceptions of their children's outdoor activities before and during COVID-19 crisis

1. Tell me about yourself -about your family, age, education, type of place you live in, where did you grow up, how many children do you have? What is your occupation?
2. Tell me about your children. How old are they? Please refer to the child who is 3 to 6 years old in this interview, wherever questions address the children's outdoor activities.
3. How did you spend your time outdoors during your childhood?
4. When do you get home from work?
5. Who brings the children to the preschool? Who takes them home from preschool at the end of the day or how they get home? Who takes care of the children in the afternoon?
6. Do you have in the settlement you live in and particularly in your neighborhood open spaces in which you can spend time? Does your child spend time there? With whom? When? How often? What is your child doing in these places?
7. Tell us about how you and your child spend your time in the afternoon?
8. Also please tell us how, to the best of your knowledge, is your child spending time outdoors during preschool hours? How often to the best of your knowledge children spend time outdoors during preschool hours and what is the nature of their activities?
9. What is your child's favorite outdoor activity? What is your favorite outdoor activity? Do you think this activity contributes to your children's development in any way?
10. Has the COVID-19 crisis affected the frequency of your family spending time outdoors and length of time spent by your child outdoors? How did the crisis affect your children's outdoor activities? How did it affect the places that you and your child spend time outdoors?
11. Tell me how your family likes to spend free time? Do you spend time in nature and the open space? How often? Do you like the activity in the open spaces? Why?
12. Do your children like to spend time in the open space? What do they like to do outdoors?
13. Do you think that activities outdoors contribute to the children's development? What domains of development tend in your opinion to be benefited by outdoor activities? Try to explain your position.
14. What is in your view your role as a parent when accompanying your children outdoors?

Appendix 2

Parents' perceptions regarding the activity of their three- to six-year-old children in the open space

Dear Parents,

We are a group of ECEC researchers. We are conducting research that focuses on how you as parents see the activity of your young children, ages 3 to 6, in the open space in general, near the house, in the preschool yard. We would be very grateful if you would honestly answer the questions included in this attached questionnaire. The questionnaire is anonymous. If you have more than one child between the ages of 3 and 6, please fill out the questionnaire referring to the older child.

Thank you

Part I- General Questions-Demographics

1. What is your role:
 - a. Mother
 - b. Father
 - c. Another role ____
2. What is your age? ____
3. What description would best suit how you perceive yourself:
 - a. Secular
 - b. Traditional
 - c. Religious
 - d. Ultra-religious
4. With whom does the child for whom you complete the questionnaire live?
 - a. Two parents in the same household
 - b. Two parents in different households
 - c. One of the parents
 - d. Other living arrangement_____
5. What is your highest education?
 - a. Elementary school
 - b. Secondary school – without matriculation
 - c. Secondary school – with matriculation
 - d. Some college/university education
 - e. B.A. degree or equivalent
 - f. M.A. degree or equivalent
 - g. Ph.D.
6. What is your occupation?
 - a. College/university student
 - b. Industry
 - c. Hi-tech
 - d. Self-employed
 - e. Civil servant
 - f. Cleaning profession
 - g. Teaching
 - h. Another. Please specify_____.

7. How many children do you have? ____

8. Specify each of your children's age and gender

	Gender (girl, boy, another)	0 - 3 years	3-6 years	Grades 1-2	Grades 3-6	Grades 7-9	Grades 10-12
1.							
2.							
3.							
4.							
5.							

Part II- The characteristics of your living environment (yours and your child's)

9. Where do you reside?
 - a. In a large city (over 100,000 residents)
 - b. In a medium-sized city (50-100,000 residents)

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- c. In a small town or local council (fewer than 50,000 residents)
- d. In a communal settlement or village (up to 2,000 residents)

10.. What best defines your place of residence?

- a. Apartment in a shared building without a balcony
- b. Apartment in a shared building with a balcony
- c. A two-family house
- d. Private house
- e. Other. Specify _____

11. If you live in a multi-story building, please indicate the number of floors in the building: _____

12. What floor do you live on? ___⁷

Part III- Activities in the open space – habits

14. How often did your children visit each of the following places before COVID-19 crisis?

Frequency	Every day	Twice a week	Once a week	Once in two weeks	Once a month	A few times a year	Never
Place							
Playground/ / public garden							
Community Garden							
Large, spacious park							
Grove/forest							
Orchards							
Mountains							
Sea shore							
Lake/river							
Uncultivated field							
Cultivated field							

15. How often did your children visit each of the following places during the last six months (originally indicating during Covid/19 crisis).

Frequency	Every day	Twice a week	Once a week	Once in two weeks	Once a month	A few times a year	Never
Place							
Playground/ / public garden							
Community Garden							
Large, spacious park							
Grove/forest							
Orchards							
Mountains							
Sea shore							
Lake/river							
Uncultivated field							
Cultivated field							

23. To what extent has the COVID-19 crisis affected the frequency of going outdoors with your children?

- a. COVID-19 did not affect/did not make a difference
- b. COVID-19 reduced the frequency of going outdoors
- c. COVID-19 increased the frequency of going outdoors

24. How do you think COVID-19 affected the way your children spend their leisure time after preschool? (Each of the lines in the table must be answered)

- a. COVID-19 did not affect the way children spent time outdoors
- b. COVID-19 did affect the way children spent time outdoors

	More time than before COVID-19	Less time than before COVID-19
Children spend time indoors		
Children spend time with screens		
Children spend time in shopping centers		
Children spend time outdoors		
Children spend time with friends		
Children spend time with family		

Part V: Parents' perceptions regarding the benefits and barriers to activities/ playing in the open space during the hours when the children are not in the educational setting.

35. Please indicate how much you agree with each of the following statements on a scale from 1 (completely disagree) to 6 (completely agree).

- a. It is important that children experience activities in the open space that will help them learn to deal with risk-taking situations.
Completely disagree 1...2...3...4...5...6 Completely agree
- b. Boys should be encouraged to take risks in their outdoor play.
Completely disagree 1...2...3...4...5...6 Completely agree
- c. Girls should be encouraged to take risks in their outdoor play.
Completely disagree 1...2...3...4...5...6 Completely agree

36. To what extent do you estimate that the free play in the open space contributes to your child in each of the following activities? (Mark an X in each line) – Please answer all questions

Extent	To a very large extent	To some extent	To a very small extent	Not at all	I am Uncertain
Free play in the open space contributes to:					
A positive learning experience					
Development of physical-motor skills					
Maintaining and improving health					
Developing the ability to assess risks					
Developing the ability to take responsibility for the environment					
Developing awareness of nature					
Development of scientific knowledge					
Developing of social skills					

37. To what extent do you estimate that each the following aspects constitutes a barrier/interferes with your child's daily activities in the open space? (Mark an X in each row). You must answer each of the lines. Please answer all questions

Extent	To a very large extent	To some extent	To a very small extent	Not at all	I am Uncertain
Possible barriers to free outdoor activities/play					
The location of our house					
Heavy traffic					

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Great distance from public parks					
Unfavorable weather conditions					
Parents' limited time					
Children's limited time					
Parents' concern for security					
Fear of strangers					
Fear of dogs					
Need for close supervision by an adult					
Parents' concern for health					
Inaccessibility, for example, passing through a private area					
Dirt - the child returns home dirty (mud, sand					