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Do children want environmental rights? Ask the Children!

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Introduction

In this paper, we make a case for the 'environmental rights of children', and seek to develop a preliminary understanding of children's perspectives towards the environment and their own rights to a viable and healthful environment. We focus on children, specifically, as a distinct group of environmental rights-holders as children have historically not been independently or explicitly represented or considered in the setting of environmental standards, environmental law-making or environmental rights discourse (MacDonald, 2006; von Benzon, Makuch & Makuch, 2008; Makuch & Aczel, 2018). This paper presents a novel argument for incorporating children's own understandings and perspectives into making a case for the development of, and the application of, the environmental rights of children, advanced through a study that "asks the kids" for their own perspectives and opinions. There is arguably both a need to develop improved mechanisms for protecting the specific environmental rights of children, as a distinct group *per se* and, moreover, a need to engage children themselves in this process (Strife & Downey, 2009).

We define a child as per Article 1 of the United Nations Convention on the Rights of the Child (UNCRC): "a child means every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier" (United Nations, 1989). Our reason for focusing on 'the child' relates to the historical development of environmental law and policy: children have typically not been independently or explicitly represented or considered in the setting of environmental standards, law-making or environmental rights discourse (MacDonald, 2006; Makuch and Aczel, 2018). To strengthen our argument for the representation of children with respect to environmental rights, standards, participation and inclusion, we present a case study of limited qualitative research, which we discuss further, below. Our reason for undertaking the qualitative research is to *ask children themselves* their views on the environment, why it is/is not important to them, and what their exposure to it includes. From this research we draw some preliminary conclusions based on the limited research conducted, engage children in the crucial dialogue regarding their own environmental rights, and draw arguments for law and policy changes and development of environmental initiatives for children.

In this work, we adopt a primarily anthropocentric interpretation of the concept of environmental rights as tied to social and economic rights in order to advance a 'healthful', 'healthy' or 'clean' environment as an economic or social right (Thorme, 1990; Altun, 2018) to benefit children. Human rights are inherently anthropocentric. We use the term anthropocentric here to separate humans and nature—emphasizing the human needs and the human focus--in this case the focus of the child. We view the interest of the child as the dominant discourse and are showing how a positive relationship with the environment can benefit the child. An ecocentric approach, on the other hand, endorses environmental rights for the preservation of the natural world. As the focus of this paper is the promotion of the specific environmental rights of children, an anthropocentric view is adopted. This view has been expressed because the environmental rights being referred to here are for the direct benefit of children, to protect their life and ensure their future well-being, rather than just to safeguard the environment *per se*.

Sustainable development as a concept provides a key argument against environmental exploitation and other actions in order to meet the needs of the *current* generation (including children), that lead to environmental damage or degradation that compromises the needs of future generations (or future

children). As defined in the 1987 Brundtland Report, Our Common Future, "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland et al., 1987). This concept highlights the need for intergenerational equity and provides a core rationale for engaging children and safeguarding their rights to a healthful, clean and viable environment that remains utilisable in the future.

To contextualise our discussion, Gellers defines environmental rights "as legal provisions guaranteeing citizens a certain level of environmental quality" (Gellers 2015, p.75). Friends of the Earth defines environmental rights as "access to the unspoiled natural resources that enable survival, including land, shelter, food, water and air" (Friends of the Earth, 2004, p. 5), a definition which demonstrates that the environment must be protected to remain viable and utilisable by humans (Amerigo et al., 2007).

Alan Boyle's anthropocentric argument is
> "... *to treat a decent, healthy or sound environment as an economic or social right, comparable to those whose progressive attainment is promoted by the 1966 UN Covenant on Economic Social and Cultural Rights. The main argument for this approach is that it would promote environmental quality as a value, giving it comparable status to other economic and social rights such as development, and priority over non-rights-based objectives*" (Boyle, 2007).

This 'right' would arguably mean that children have the 'right' to basic ecosystem services including clean air or the 'right' to clean water, for example, among others (Kellert, 2005; Toebes et al., 2018). However, there is an element of conflict as economic benefits derived from the environment, also known as ecosystem services, can not only be used as sources of livelihoods, which might benefit children, but may also lead to environmental degradation and degradation of livelihoods (Pimentel et al., 1997; Manoli, Johnson & Dunlap, 2007). This is one key argument as to why we need environmental regulation and environmental rights directly aimed at the child and child-focused concerns (Strife & Downey, 2009; Toebes et al, 2018) in order to achieve balance. Additionally, we consider that environmental education and participation in environmental decision-making are essential rights, and propose enhancing environmental education through directly engaging children's opinions to both bolster environmental rights protections and promote education and future stewardship (Torquati, 2010).

Environmental Decision-Making & Advocacy

Following Kerns (2013), using political rights to empower individuals and communities and encourage the participation of minors in environmental decision-making processes may further advance environmental democracy and environmental protection, giving voice to youth and children. Support should arguably be provided by nurturing children and educating them about politics, including environmental issues. We caution here that 'giving' rights to children should not include manipulating or dominating the child's personal perspective on the political world (Hart, 1997; Hayward, 2012) nor instilling worry in children about the future.

Our argument is based on the fact that the children of today will become the adult generation of the future, and safeguarding environmental rights will in turn lead to positive environmental perspectives and actions in the future, in line with the concept of sustainable development, as well as lead to enhanced quality of life and other benefits for children as individuals (Pevato, 1994; MacDonald, 2006; Makuch and Aczel, 2018). It is a strong argument that we, as a society, do not currently fully enfranchise children, or support then in extending their agency when it comes to having opinions or demonstrating views, particularly on environmental matters: "We don't as a culture trust teenagers or children. We're pretty sure that if we leave them to their own devices they will make rotten decisions." (Danford, 2018). UNCRC Article 12 states that children are entitled to participate in decisions that affect them: the ever-increasing body of evidence tells us that environmental and climate issues do affect children (Gibbons, 2014), offering us a strong argument for promoting the rights of children as advanced in this paper. As authors, however, we are concerned about the risk of over-burdening children and making them take on the responsibility for addressing past environmental harms and future environmental concerns. They are minors and thus blameless in an adult-centric world, particularly in relation to emissions of greenhouse gases and global warming (Hausfather, 2019). To this end, adults should implement the rights of the child

in order to support children, to advocate for them, to empower them, but not as a means to hand over the reins of responsibility for solving environmental problems. Implementation of Article 12 can help children secure and defend their rights and challenge abuses of their rights (Lansdown, 2001).

To ascertain whether children 'want' or 'would benefit from' environmental rights, we need to determine to what extent they are disconnected from nature and also from decision-making processes, and the degree to which they would arguably benefit from environmental education, inclusion and awareness raising. As we are talking in this work about agency, accountability and inclusion, it seems pertinent to ask children for their views (with guidance), rather than to impose adult-centric positions on them. Thus, in order to glean some insights into the environmental preferences, opinions, and habits of schoolchildren, a set of UK schoolchildren were surveyed. The qualitative and quantitative data were obtained from participants in *Sustainable Thinking* (derived from 'systems' and 'sustainable')*,* an environmental education scheme initiated by Imperial College London alumni that ran for a year (2013-14). The program tutored school children on environmental issues in interactive workshop sessions on issues related to sustainability and aimed to empower them to bring about change in the world. Sustainability issues included environmental rights, climate change, food waste, supply chain sustainability, energy efficiency and waste management. The lesson plans included PowerPoint presentations where children received explanations on environmental issues and were then tested through quiz-based activities. At the end, the children were advised on how to participate in conservation projects and sustainable practices. Questionnaires were handed out at the end of each session to compile data on the children's awareness of their environmental rights and measure their connection to the natural world. A total of 165 children from three year 7 and three year 8 classes from two schools were asked to participate: A Co-ed Independent College and a State School for Girls, both situated in London, UK. This age group (10-12 years old) was targeted to ensure that the children could understood environmental issues and following Kellert (2002), were likely at the stage where their morals and values were first being conceptualised.

The Survey

As preparation for the questionnaire development, a literature review was conducted to understand what type of questions were the most effective for obtaining unbiased and authentic results. The questionnaire included five questions, structured to be as 'child-friendly' as possible, using child-friendly fonts and colours, simple words and omitting complex terminology that could potentially confuse a child. As the questionnaire was handed out approximately 15 minutes before the end of each school-day, it was kept short.

The first question included five statements relating to environmental rights that the respondent ranked in order of importance on a scale from 1-5, with the 1 most important and 5 the least important. The purpose was to determine which environmental issue and right was seen as a priority to the participating child. The second question was formatted as a multiple response, requiring respondents to choose the three things that they do the most frequently in their free time. The respondents were also given the option of adding their own answer in the 'other' comment box at the end of the question. This purpose here was to understand whether 1) the outdoors—nature—played a major role in the children's lives, or 2) whether they chose to indulge in technological distractions instead, or 3) whether they commonly combined both activities. The next question consisted of two statements with respondents asked to choose the one they identified with the most strongly. The two statements were worded to reveal whether the children had an ecocentric or an anthropocentric view on protecting the environment: 1) "The best way to protect the environment is for its own sake, so that plants and animals can live without any disturbance" (ecocentric) and 2) "The best way to protect the environment is for the sake of safe-guarding the benefits that people enjoy from it, for our economy and health" (anthropocentric). This was executed to explore the children's incentives for wanting to protect the environment.

The final question presented eight statements. Respondents were asked to tick which statements they agreed or disagreed with the most. This was done in the form of an attitudinal scale where the respondents had to choose between the following options: 'strongly agree', 'agree', 'neither agree or disagree', 'disagree' and 'strongly disagree'. This question was inspired by RSPB's questionnaire, which was a part of their "Connecting with Nature" report (Bragg, et al., 2013; RSPB, 2013). Their questionnaire

involved 16 statements aimed at children between the ages of 8-12. The difference between the RSPB attitudinal question and the one we report was that the RSPB statements were all positive (RSPB, 2013). The table below indicates "positive" and "negative" statements, with four worded positively and the other four negatively.

Statements	Positive or Negative
Being in nature makes me feel at peace	Positive
I don't feel very connected to nature	Negative
Being in the natural environment is uncomfortable because of bugs, heat, etc.	Negative
I like taking care of animals and get sad when they are hurt	Positive
People can survive without plants and animals	Negative
Humans are the most important part of nature	Negative
My parents encourage me to spend my free time outside	Positive
I would like to do things to help protect the environment	Positive

Table 1: Breakdown of statements according to positive or negative wording.

According to Sauro & Lewis, (2011) if all statements are worded either entirely positively or entirely negatively, an acquiescence bias is generated. This is because a person is more likely to agree or disagree with all the statements, which does not give a true measure of the respondent's attitudes. It should also be noted that the respondents were between the ages of 10-12 and were given the questionnaire at the end of their school day, meaning that they would be more likely to complete the questionnaire quickly. Therefore, the attitudinal question in this research had a combination of both positive and negative comments so that attentive respondents would have to think about the questions, disagree with some statements as well.

Data Analysis

Statistical analysis:
Our data was assessed using basic statistical analysis by using the SPSS analytical software to enter data obtained from the questions answered by 165 respondents (IBM, 2013). The software helped with general calculations such as percentages, counts and also with the construction of bar graphs, pie charts and histograms.

Qualitative analysis:
There were a few qualitative answers obtained from question two and question three due to the "other" option where the respondents could write their own answers. As the answers were reasonably short, the most visually appealing form of representing them was by feeding the list of answers into a word cloud generator (Feinberg, 2013). This word cloud generator assessed the words in terms of their frequency and displayed them accordingly, with the biggest fonts being the words which were the most common answers.

Results

Question Responses

Although the data was relatively basic, and the number of students was not representative of children globally, the results still provide insight into the attitudes, views and connection with the natural world of the children sampled. The survey is useful for several reasons: a. It is an attempt to make a point that children have things to say about the environment and that they should be asked; b. it offers some insights into the issues 10- to 12-year-olds living in London, UK, consider pertinent. It does *not* offer insights into the views of children of other ages or demographics or living outside of the UK, and we recognize this as a limitation of the work.

The table below represents the total percentage of each ranking in accordance with the five environmental rights outlined in the first question (Table 2). The percentages in **bold** highlight which environmental right was ranked highest in each category. An additional column indicates the missing values (12 respondents out of 165 did not answer the first question). As seen through the table, the right to access clean drinking water was chosen as the most important by 58.2% of the respondents. The second most important was the right to protect the environment, the third was the right to be able to buy organic food in every supermarket and the right to access green spaces and playgrounds was ranked the fourth most important. The right to environmental education in schools was chosen as the least important by 33.9% of the children participating in this questionnaire.

Thus, while all five of the environmental rights are arguably important, ranking them enables a better understanding of which rights are specifically prioritized by children. Not only does this provide important insights into children's perspectives on nature, but the process of ranking might also engage children to think more critically about their environmental rights. Moreover, incorporating these perspectives and including children's voices could be valuable in shaping environmental education curricula, initiatives and policies.

Environmental rights	1	2	3	4	5	Missing values
Right to access green spaces and playgrounds	5.5%	16.4%	18.2%	**29.1%**	23.6%	7.3%
Right to environmental education in schools	4.2%	12.7%	21.2%	20.6%	**33.9%**	7.3%
Right to be able to buy organic food in every supermarket	2.4%	18.2%	**28.5%**	22.4%	21.2%	7.3%
Right to access clean drinking water	**58.8%**	20.6%	6.7%	6.1%	0.6%	7.3%
Right to protect the environment	24.2%	**26.1%**	17.6%	13.7%	13.1%	7.3%

Table 2: The total percentages of each ranking in accordance with five environmental rights.

The answers from question two were represented in a bar graph to indicate the percentage of respondents choosing each activity (Figure 1). Watching TV was the top-most choice, with outdoor sports following closely behind. Even though playing sports outside was the second most frequent activity, it should be noted that three out of the four top activities were technology based. The "other" option which required the respondents to fill in an activity has been represented via the word cloud generator below (Figure 2).

Figure 1: Bar chart illustrating the percentage of activities undertaken by children during their free time

Figure 2: Children's activities represented via word cloud generator

Every respondent who had chosen the "other" option answered normally except for one respondent who stated that they liked to "burn fossil fuels" in their free time. The same respondent answered "I stay inside, I love food" when asked how often they visit natural outdoor areas. As this questionnaire was for students between the ages of 10-12 years old, answers such as these were expected due to the young age and immaturity of the respondents. The respondent may have also chosen to answer that way to

impress his/her peers as children like to do at that age (Thompson, Grace, and Cohen, 2001). However, answers like these could also be a reflection of a part of society that does not perceive the protection of the environment as important. The respondent's answer may have been in jest at this point in time but could also possibly encourage other children to feel similarly and relay this sort of thinking into adulthood. Studies have indicated that some children feel negatively towards science in the context of environmental issues due to it being 'boring' or not being taught engagingly or interactively (Littledyke, 2004; Jenkins, 2011; Makuch & Aczel, 2018). A possible solution to such a problem could be to ensure such students are given the chance to participate in practical environmental initiatives and be supervised by environmentally conscientious role-models. For example, 18.8% of the children surveyed did not feel connected to nature and 27.3% felt neutral about the matter. With regards to rectifying this problem and implementing effective practical measures to drive forward the international environmental rights arena, the participation of proactive citizens is necessary. This would not only empower the general public to promote children's environmental rights in a political sense but would also enhance children's connection with nature. In order to achieve this, the general public could set up community groups that liaise with a variety of experts including scientists, health practitioners, child development researchers and nutrition specialists. These community groups would also benefit from a Local Government Ombudsperson who could be appointed to resolve complaints amongst these stakeholders as well as the children of their community. Children might also be actively encouraged to participate in environmental citizen science projects (Makuch and Aczel, 2018).

The bar chart for question two, below, examines how often children visit natural outdoor areas (Figure 3). From the list of the four options given, 37.2% of the respondents most commonly visited natural outdoors on the weekends. This was followed by the "other" option where respondents listed their own answers – these ranged from "three-four times during the week" to "once a month".
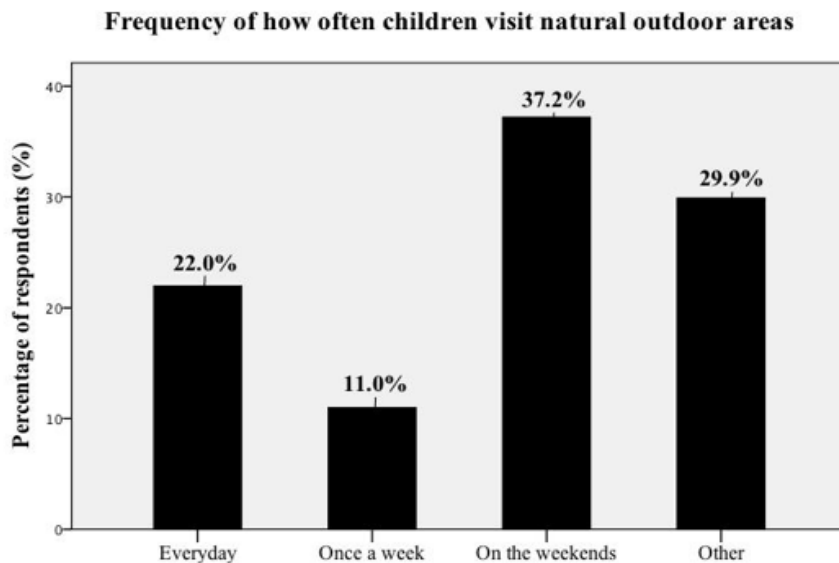

Figure 3: Percentages of how often children visit natural outdoor areas

Question four indicated that most respondents had an ecocentric view towards the protection of the natural world (Figure 4). 62.4% of the respondents chose "The best way to protect the environment is for its own sake, so that plants and animals can live without any disturbance" as the view-point that they agreed with most, whereas 37.6% chose "The best way to protect the environment is for the sake of safeguarding the benefits that people enjoy, for our economy and health" as their answer. This has been presented in the form of a pie chart to illustrate the difference between the two views.

The results from Figure 4 (below) demonstrate that children think more of nature than they do of their own place in it. Thus, it is possible to protect the environment both for its own sake and for our sake. Human rights are inherently anthropocentric, yet this does not mean that there cannot *also* be an ecocentric benefit. While we are advocating in this work for the environmental rights of children, children can themselves be advocates for the environment.
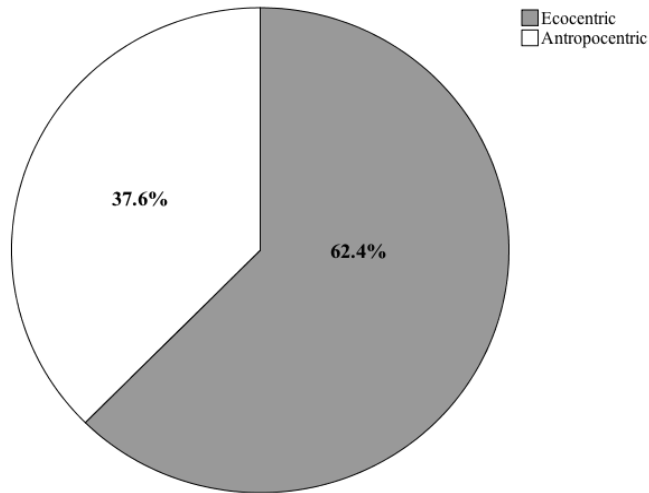

Figure 4: The percentages of children with ecocentric and anthropocentric view

The final attitudinal question's data has been entered in the table below which examines the percentages of each response along with the statements (Table 3). The table below indicates that 5 people did not answer this question (3%). The main findings show that most respondents agreed that being in "nature makes them feel at peace"; they "like taking care of animals and get sad when animals are hurt"; their "parents encourage them to spend their free time outside" and they would "like to do more things to help protect the environment". Most respondents disagreed with the sentence stating that they do not feel very connected to nature, that the environment is uncomfortable, and that people can survive without plants and animals. The only neutral sentence was the one which stated that humans are the most important part of nature, where 40.6% responded saying that they neither agree nor disagree.

Statements	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree	Missing values
Being in nature makes me feel at peace	29.1%	43%	15.2%	6.1%	3.6%	3%
I don't feel very connected to nature	6.1%	12.7%	27.3%	30.9%	20%	3%
Being in the natural environment is uncomfortable because of bugs, heat, etc.	9.1%	17%	24.8%	24.8%	21.2%	3%
I like taking care of animals and get sad when they are hurt	32.7%	30.3%	22.4%	6.1%	5.5%	3%
People can survive without plants and animals	1.8%	4.2%	10.9%	17.6%	62.4%	3%
Humans are the most important part of nature	7.9%	9.7%	40.6%	24.2%	14.5%	3%
My parents encourage me to spend my free time outside	29.1%	30.9%	21.8%	9.7%	5.5%	3%
I would like to do things to help protect the environment	29.1%	38.8%	24.8%	2.4%	1.8%	3%

Table 3: Percentages of responses per statement in the attitudinal question (Question 5)

Preference for technology over other activities for leisure purposes

The increase in children indulging in technology-related activities (such as TV, tablets, game consoles) over alternative (and arguably more-traditional) ones (such as playing outdoors, riding a bike, cooking, crafts) has been studied as an emerging trend over the past few decades (Fleming et al., 1994; Wang & Barnard, 2004; Wilson, Hainey, & Connolly, 2012). The results of our questionnaire found that children occupy their time with a wide variety of activities outside of school, but the most common activity was technology-based (see Figures 1 and 2). These results were not surprising considering that distractions such as computers, TVs, iPads, iPhones, Xbox and Play-stations have been expanding at an unprecedented rate (Burris & Wright, 2001). According to a study conducted by the Kaiser Family Foundation in 2010, children spend an average 7.38 hours a day watching TV, on computers, listening to music, playing video games and using their cell phones (Rideout, Foehr & Roberts, 2010). This was reflected in the results of the questionnaire that found three of the top four activities were watching TV, playing on the computer/surfing the net and playing video games. Even though the World Cloud Generator illustrated that reading books was one of the most frequent answers, along with shopping and hanging out with friends, some respondents mentioned other types of technology-based activity. Despite

numerous studies outlining the disadvantages of technology and showing how it has replaced children's experience of the natural outdoors, researchers are now studying the benefits that technology could potentially provide when in environmental education (Griffiths, 2002; Salonius-Pasternak & Gelfond, 2005). Studies have shown that using e-learning services such as apps and websites to increase environmental awareness are successful (Uzunboylu, Cavus & Ercag, 2009). Other studies indicate that mobile phone games can change children's attitudes to environmental concerns for the better (Hildmann & Hirsch, 2008). Therefore, the popularity of technology amongst children should not be seen solely as a form of distraction or a nuisance; instead, it should be considered an advantage in encouraging pro-environmental behaviors. However, we argue that it cannot be a substitute for immersion in nature or the real outdoor environment. Technology plays a major role in most children's lives, as our questionnaire has found. Technological advancements are increasing at a high rate and will continue to do so with the progression of scientific research and discoveries. Considering this, it would be better to embrace a culture of technology rather than shun it. However, this should be done in a way that is positive in relation to the issues addressed in this work. As there are TV channels which are entirely dedicated to environmental topics such as National Geographic, Discovery Channel and Animal Planet, advertisements can play a major role in creating awareness amongst children on issues such as environmental rights, sustainability and the perks of connecting with the natural world. This can be done via TV or the internet so that even if children are not watching environmental programs, they can watch adverts to increase their knowledge on the subject. Additionally, incorporating e-learning at schools, showing TV programmes and adverts catered to children and youths would help educate children on a variety of environmental issues. Through this, the preference of technology amongst children will not be seen as a form of distraction or a negative activity; instead it will encourage pro-environmental behaviours and create awareness.

Measuring Children's Connection to Nature

Following the RSPB's method to measure children's connection with nature, the last question of our survey was designed to gain insight into children's environmental perspectives and their parent's role in shaping them (RSPB, 2013). According to Cheng and Monroe (2012), four factors are seen as important drivers in connecting children with the natural world:

1. Attitudes towards nature at home
2. Experiences of nature
3. Nature near the home
4. Knowledge about the environment.

Overall, the positive responses touched on most of these four factors as their parents encouraged them to protect the environment (60% of the children agreed and strongly agreed on this); they believed that nature makes them feel at peace (72.1% agreed of the children agreed and strongly agreed with this) and highlighted the children's ecocentric attitude towards nature. However, even though the majority of children believed they have a connection to nature, 18.8% children responded saying they do not and 27.3% neither agreed nor disagreed about the matter. Recommendations, below, outline the various mechanisms that can be put in place to enhance children's connection with nature. Based on the above findings and insights, we present arguments for the environmental rights of children, as a means of trying to promote the re-connection of children to nature.

Discussion

The results which have been discussed helped us to identify:

●Which environmental rights are the most important amongst children,
●How children occupy their free time,
●How often children spend time in the natural outdoors,
●Whether children have an anthropocentric or an ecocentric view and
●The attitude of children towards the positive and negative connotations associated with the natural world

Prioritising environmental rights based on ranking of importance
Respondents identified access to clean water as the most important environmental right, according to their responses to the first question. The high ranking of this response may have been influenced by the fact that London's water quality has been rated the best in Britain by The Drinking Water Inspectorate (Prigg, 2008). An interpretation of this would be that the children residing in London understand the advantages of having clean water available to them since they were born and acknowledge it as a resource which is finite and relied on for so many purposes. Children choosing the right to protect the environment and the right to buy organic food as the second and third most important respectively could stem from the fact that they had just been taught about food waste and environmental pollution via the interactive sessions. The fact that the right to environmental education was ranked the least important could support studies that claim that respondents rank issues based on personal experience (Bowen, Chang, & Huang, 1996; Robinson, & Kaleta, 1999). Since these children were receiving environmental education just prior to answering the questionnaire, it may not be regarded as a pressing issue as it was already being fulfilled for them. Understanding each respondent's personal ranking of each environment right, along with information obtained from the literature review would help formulate policy recommendations based on them as seen in subsequent sections.

Frequency of time spent in the natural environment

The results from question three showed that children mostly spent their weekends going outdoors to experience the natural world. Naturally, the weekend is when children have the most free-time and the opportunity to be supervised by working parents who do not otherwise let their children go to outdoor natural areas alone. Studies have shown that safety is one of the crucial elements in deciding whether parents allow their children to venture outdoors by themselves (Farley et al., 2007). Studies have also shown that a parent's recreational activities greatly influence their children's, indicating that family-based activity interventions are key in encouraging them to go outdoors (Wells & Lekies, 2006; Beets et al., 2007). The solution to such problems is to ensure that outdoor green spaces are designed with safety in mind and frequently patrolled and monitored by the police (or other designate) (Carvert et al., 2010). Only when these issues are resolved, can children have the freedom to explore the natural world, utilise its benefits and increase their connection with it so that they feel they have a moral obligation to protect it now and in the future.

Different outlooks on environmental protection (ecocentric vs. anthropocentric)

With Kellert's findings indicating that humans give value to the environment and that these differ on the basis of their age, it was not surprising to see most children having an ecocentric outlook towards environmental protection (Kellert, 2002; Kellert, 2005). The children choosing the statement "The best way to protect the environment is for its own sake, so that plants and animals can live without any disturbance" can be classified as having an ecologistic and moralistic attitude. However, according to some studies, this type of value gradually diminishes overtime amongst children and anthropocentric reasoning starts to take its place (Amerigo et al., 2007; Almeida et al., 2013). Additionally, studies by Kahn (1997; 1998) and Kahn & Lourenco (2002) have tried to evaluate children's attitudes towards environmental issues in different regions of the world, with results indicating that they had less ecocentric views. Taking such information into consideration before developing programmes to create awareness amongst children would be highly beneficial. For example, if a child considers environmental issues in an ecocentric manner, it could help develop educational programmes that cater specifically to that view or even cater to the opposite view to shed light on the different aspects of environmental protection.

Limitations
One of the limitations was that the questionnaire was handed out to the students at the end of the school-day. This could potentially cause some of the children to not pay much attention to the questionnaire as they would be in a hurry to leave. Additionally, they were only given 15-10 minutes to complete it after the Sustainable Thinking session which could have not been enough time for certain students.

Furthermore, this was the second questionnaire they were asked to complete, immediately after the were asked to provide the Sustainable Thinking session's feedback. Receiving a second questionnaire

immediately before the end of the school-day might have been tiring for the children and may not have been given the full attention compared to the Sustainable Thinking questionnaire.

Another limitation was the fact there were only 165 respondents, which is a relatively small sample size and is not representative of children in other countries. Furthermore, the respondents were from London so can only represent a percentage of children living in the United Kingdom and not anywhere else in the world.

As the student had had a Sustainable Thinking session prior to handing out the questionnaire, there could be a bias in the respondent's answers because they had just learnt about environmental issues and were probably more inclined to choose answers that favoured the protection of the natural world and their environmental rights. They were specifically taught about food waste and organic food which could be why they ranked access to organic food as the third most important over environmental education.

Areas for further research

Using this questionnaire for a larger sample size could help increase the 'representation' of London. Also, increasing the sample locality to other areas in the United Kingdom would help increase the representation. However, this paper still fulfils the aim of contributing to existing literature on children and their affiliation with nature. For example, as Kahn and Lourenço (2002) conducted studies regarding the ecocentric and anthropocentric nature of children in parts of the world other than the UK, these findings can be added to those, to understand the ecocentric and anthropocentric reasoning amongst children. Furthermore, more in-depth studies on this topic are necessary to investigate the factors that could influence a child's connection with nature such as gender, age, and ethnicity.

Recommendations for enhancing educational outcomes

Representation of Children

There is arguably a need for a national movement in order to progressively augment international law with respect to children's environmental rights. The first step requires the involvement of proactive citizens to encourage national governments to take action and represent children at international negotiations. However, in order to ensure that citizens are proactive, effective dialogue must occur between them and their national government (Davies, & Gathorne-Hardy, 1997). According to Blake (1999), tensions have arisen amongst various stakeholders involved in environmental rights protection due to the 'value-action gap,' which is when people act differently to what they say they will do (Blake, 1999). Examples of the value-action gap include the citizen based environmental initiative called 'Going for Green' which set up the Sustainable Communities Projects in the UK in the late 1990s (Blake 1999). Here, their aim was to create national awareness by supporting the participation of local communities to increase environmentally friendly behavior and build resilient communities. Unfortunately, tensions began to arise between the national government's objectives and the research undertaken by the local communities (Blake, 1999). Such disparities reveal that effective communication via negotiations between governments and citizens is vital to successfully promote pro-environmental behavior. This behavior along with citizens being more proactive can encourage governments to be more receptive towards the protection of children's environmental rights.

Representation is different from participation with respect to political movements. There have been cases where national governments have empowered children to voice their concerns over social issues during parliamentary hearings and consultative processes on policy (Brown & McCormack, 2005; Williams & Croke, 2008; Jamieson, 2009; Pells, 2010). Although in most of these cases children do not have the right to exercise political power, at least they have been given the right to voice their opinions. A country that *does* allow children to exercise political power is India, where the first children-based parliaments were established in the 1990s (Bajpai, 2018). Here, child representatives made changes to improve educational policies and incorporate better community services in their villages (Wall, 2012). Success stories like these can be an effective framework for other countries to follow suit, though it should be noted that not all countries will have the same capacity to establish child parliaments. Therefore, the first

step would be for citizens to be more responsive to the needs of a child. This is where their power, struggles and vulnerabilities are taken into account and recognised as "diverse social experiences" (Wall, 2012). Through citizens' responsive nature towards the diverse experiences of children, governments could be influenced to represent children.

Practically enhancing children's connection towards nature through role-models

The results of the questionnaire found that 18.8% of the children either did not feel connected to nature and 27.3% felt neutral about the matter. To effect a solution, we advocate for the participation of proactive citizens. This would not only empower the general public to promote children's environmental rights politically but would also enhance children's connection with nature (Sargeant, 2017). In order to achieve this, as stated above, the general public could set up community groups to liaise with a variety of experts including scientists, health practitioners, child development researchers and nutritional specialists. These community groups could include a Local Government Ombudsmen (or Ombuds*person*) to resolve complaints amongst these stakeholders as well as the children of their community. The Local Government Ombudsmen should then relay issues of concern to Parliamentary Ombudsmen to remedy issues which have been voiced at these community group meetings and are of national concern. The UK consists of environmental based Ombudsmen - the Local Government Ombudsmen, and a Parliamentary Ombudsmen. Fortunately, the UK also has the British and Irish Network of Ombudsmen and Children's Commissioners' (BINOCC) which is guided by the CRC. However, they usually only incorporate issues such as child abuse and bullying with no specific mention of environment-related issues. Having an Ombudsman to cater for children specifically, by protecting their rights and developing programmes that provide a platform for children's participation is an achievement in itself. Using this platform, members of BINOCC, local community, other stakeholders mentioned above, and children can come together to introduce environmental rights as a separate concern as well, all the while enhancing the opportunities that would allow and encourage children to feel connected with the natural world.

Acknowledge children as official stakeholders: The right to be heard, the right to participate and the right to decision-making

Fortunately, there have been a few cases recently where children involved in lawsuits related to environmental issues have had the right to be heard. These include the Philippines children case which allowed 43 children to be heard regarding their concerns over timber leases and consequential deforestation (Oposa v. Factoran (Oposa, 2000). Similarly, the Chernaik v. Kitzhaber case has also instigated hope with regards to allowing children and youths to fight for their current and future well-being (Our Children's Trust, 2019). Other examples include the children of Quebrada de Alajuela in Ecuador, who pointed out that a bridge which connects their village to a neighbouring one was not strong enough in the event of a flood, consequently saving the community from a disastrous safety hazard (Walden, Hall, & Hawrylyshyn, 2009). Another successful example is when the children of Santa Paz in Philippines negotiated with the government to relocate their school which was in an area prone to landslides. This led to reforestations effort, with the students, their families and teachers involved in contingency plans to protect them from environmental risks (Walden, Hall, & Hawrylyshyn, 2009). However, there are also cases such as the one that took place in the UK, where a 15-year-old boy was put in foster care by the Carmarthenshire council after his mother wanted to work abroad (BBC, 2012). Even though the boy wanted to stay with his mother, the judge ruled that he should stay in long term foster care until he would be old enough to make decisions for himself. According to the boy, his rights, which were contained in Article 12 of the UNCRC, were not taken into consideration by the judge as he was not allowed to express his opinions on the matter. Other examples include the White v. Clitheroe Grammar School case where a student at the school was not allowed to attend a school water-based sports holiday due to him being diabetic. The teacher did not consult the parents or the pupil which led the court to decree that it had been an act of discrimination as the child was not included in the decision-making process (von Benzon, Makuch & Makuch, 2008),

Through the examples mentioned above, it is clear that although there are good examples of children being allowed to voice their opinions, there are also some cases where such rights have been disregarded. Therefore, promoting successful examples and informing the general public about them can

provide a framework that can be used in similar cases in the future. Furthermore, it is imperative that minors have effective guardians i.e., adults that are truly on the side of safeguarding the environmental rights of children. This is to ensure that in cases where the child is considered to not have any legal standing, they can instead be represented by advocates, who have access to the courts. These could also be in the form of NGOs, school teachers and parents but they need to be educated and aware of the environmental rights of children in order for them to be effective representatives and role-models which have been outlined in this work.

Implementing practical environmental initiatives in the education system

A school's learning environment is the perfect opportunity to initiate a child's journey towards environmental preservation (Mullenbach, Andrejewski, & Mowen, 2018). It is also regarded as an "entry-level variable" that can cultivate an interest in the natural world from a young age which is passed on to adulthood (Chawla & Cushing, 2007; Chawla, 2009). School-based interventions and initiatives are a sure way of building environmentally conscious communities as teachers can positively influence children who can do the same for their parents and siblings (Legault & Pelletier, 2000; Dierking & Falk, 2016; Sargeant, 2017). Starting at a young stage, but with basic knowledge in the theoretical sense as well as a practical sense can help these children become more equipped to deal with environmental issues later in life (Lieberman, & Hoody, 1998; Chawla & Cushing, 2007). Initiatives can be established in the form of gardening programs, food and farm management, wildlife conservation and eco-friendly classrooms (Makuch and Aczel, 2018). Examples of 'green' schools include the Benenden School in Kent, UK which uses sustainable timber for its construction, relies on solar energy for its electricity and is the first building in the UK to filter rainwater from its roof into drinking water using solar energy (Eve, 2014). Gardening examples include the Woodland Trust (2019) giving schools free packs that help them plant trees in their communities and The Royal Horticultural Society (RHS, 2019) which aims to include their program on teaching children how to grow plants for food, conservation and aesthetic appeal, in the UK's National Curriculum. Examples of food programs are *The Grow Your Own Salad* initiative implemented by the British Leafy Salads Association which not only aims to give children access to organic food, but also helps them understand the supply chain of the food industry – from farm to fork (Leafy Salad, 2019). According to research findings, the results of most school-based gardening fresh produce consumption initiatives have had a positive impact on students, especially since they were a part of a wider environmental initiative (Ratcliffe et al., 2011). Therefore, using practical measures to enlighten children about their environmental rights and the conservation of the natural world should be advocated not only by NGOs but at the state policy level as well. This could be achieved through states requiring schools to offer a certain percentage of organic fresh produce to its pupils or require them to spend a certain amount of time in the natural outdoors. Furthermore, such commitments should also be extended to university campuses to fully integrate environmental protection at every stage of a child's academic life. An example of that was the Sustainable Thinking program by Imperial College London which empowered university-level students to educate children about environmental issues. Although university students are not children anymore, at least they have been given the knowledge and responsibility to strive towards increasing awareness amongst children.

Capacity building: the teachers and their responsibility

Though our survey is limited, for environmental initiatives to be effectively implemented in the education system, it is necessary to train the people who are directly responsible for the level and quality of education being offered– the teachers (UNESCO-UNEP, 1990; Marcinkowski 2009; Gallo & Beckman 2016; Arinto et al. 2017; VanderDussen Toukan, 2018). This means that teachers need to be given the training required to develop and promote inclusion in environmental initiatives or curricula and decrease under-achievement/lack of access amongst children (Forlin, 2001, Rouse, 2017). This includes children with additional support needs and special educational needs. In some studies (Forlin, 2001), teachers have voiced their concerns over the fact that they are not adequately prepared to adopt an inclusive based approach to teaching children from all abilities and backgrounds. According to Rouse, for teachers to develop inclusive practices, it is essential that they are taught about disability and special needs, monitoring a child's cognitive abilities, classroom management and educational legislation and policy (Rouse, 2017). However, just learning about these is not enough as teachers should also be equipped

with the capacity to put this knowledge to practice through personal reflection and evidence (Rouse, 2017). Furthermore, teacher training should also take into consideration the teachers' own attitudes and beliefs towards accepting that they are responsible for the learning of all students in their classrooms. Therefore, capacity building programs need to be implemented where teachers are trained to be more positive and confident about their skills as that would result in their ability to learn new things and empower them to effectively transmit that enthusiasm to their pupils (Liew, Chen, and Hughes, 2010). This concept was also noticed during the Sustainable Thinking sessions as the teachers of the children being tutored had an enthusiastic and positive outlook towards the environmental sessions which was then mirrored by the children's enthusiasm and interaction with the tutors. Furthermore, the quantitative data obtained from the questionnaire has had mostly positive responses, indicating that the teacher's attitude had potentially affected the students.

We note, tangentially, here that children from developed countries face a lack of environmental rights that are vastly different than those living in developing ones (Hayward, 2012). For example, a child living in a developing country may have to deal with unsanitary water, food insecurity, poverty, war and drug trafficking, all under the light of extreme weather events caused by climate change whereas a child from a developed country would not. However, some more economically challenged countries have led the way in teacher capacity building. For example, South Africa's education system incorporated environmental understanding in its curriculum and subsequently implemented the Teacher Capacity Building: Skills Development, a two-year project funded by the South African National Commission for UNESCO (Symonds, 2000) Here, there were workshops designed specifically to cater to teachers' concerns such as poverty, vandalism, and water wastage (Symonds, 2000). Even though many teachers had not been trained to deal specifically with such issues, the program was quick to notice this and implemented strategies to properly train them. They were also trained to teach the students integrated natural science and mathematics in garden spaces to increase their connection with the environment.

Such cases can be used as a framework for other countries to follow when increasing capacity building and adopting issues surrounding social, political and cultural inequity. Although the addition of environmental education to the South African curriculum was successful, there have been challenges in other parts of the world such as Hong Kong (Stimpson, 1997); as well as challenges related to evaluation of environmental education programmes (Carleton-Hug & Hug, 2010). A questionnaire-based study examining the receptivity of teachers after environmental education guidelines were incorporated into Hong Kong's curriculum indicated that teachers had positive attitudes but had problems with scheduling and time constraints (Chi-Kin Lee, 2000). The Hong Kong study concluded that effective planning of activities could potentially help increase the teachers' receptivity, which would have a positive impact on the students' learning and develop relatively more inclusive activities.

Conclusion

The aim of this paper was to highlight the urgent need for action by policy-makers in promulgating the environmental rights of the child to ensure the well-being of current and future generations and to achieve a proactive and holistic approach to sustainability. The methodology employed a combination of quantitative research, including questionnaire-based interactive sessions with children, and a literature analysis of existing policies and practices. The goal here was to evaluate the importance of protecting and endorsing children's environmental rights at both the field and policy level. Moreover, if we accept the importance of promulgating the environmental rights of children and the benefits of nature, it is crucial to incorporate the perspectives, opinions, and preferences of children within this agenda. Surveying and engaging in dialogue and activities with children is an important step in both setting an environmental agenda that takes into account the needs and preferences of children and can help raise awareness and engage wider—and younger—audiences in the discussion about environmental rights and needs of children (Pevato, 1994; MacDonald, 2006; Makuch & Aczel, 2018). Research such as this preliminary qualitative analysis can also help inform policies and assist in the development of nature-focused and environmental activities for children.

As seen through the results of the quantitative data analysis, with children preferring technology over

other activities and acknowledging the steady rise of technological advancements in the future, we advocate using media to increase environmental education and awareness. This would not only enhance a child's connection with nature but also help the international community embrace a future that consists of the protection of children's environmental rights. Ultimately, it is through positive development, whether through nature or nurture, that the children of today can effectively enjoy their environmental rights and ensure the same for the children of tomorrow (Sebba, 1991; Schutte, A., Torquati, J., Beattie, H. (2015). Importantly, further research is needed in the environmental preferences and habits of children, and this case serves to both underscore this need and as a blueprint for future research and objectives.

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