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Youth's Comprehension of Environmental Justice Across Multiple Countries

by

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BA Psychology, Wilfrid Laurier University, 2012

THESIS

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Abstract

Global climate change is an issue of environmental justice, because neither contributions toward the causes nor its consequences are equally distributed across and within countries (Roberts, 2001). Given the importance of framing climate change as an environmental justice issue, the present study sought to understand how youth conceptualize and engage with environmental justice across multiple countries. Youth are an important target population for engagement, because they often are active agents of social change by challenging the status-quo, and becoming civically engaged (Blythe & Harré, 2012; De Vreede, Warner & Pitter, 2014; United Nations, 2004).

The current research is a secondary analysis of qualitative interview data collected from participants as part of the multinational longitudinal study *Youth Leading Environmental Change* (YLEC study). In total, 33 interviews were analyzed and participants ranged from 18 to 25 years of age. The following research questions were investigated: (1) How do youth describe the state of the environment? (2) How do youth conceptualize environmental justice? Are there differences from one country to another? (2a) What cultural aspects do youth reference when describing their understanding of environmental justice? (3) What aspects of the YLEC workshop do youth reference as contributors to learning about environmental justice? Analysis was conducted by coding all interviews by country to identify emerging themes based on geographic location.

Results revealed that youth had a moderate to thorough understanding of current environmental issues and environmental justice. Additionally, a guest speaker providing a personal account of environmental injustice, and a video exchange between students from developing and developed countries were the most impactful, and influential components in

regard to youths learning about environmental justice. Implications for environmental justice education and future research will be discussed.

Keywords: “*global climate change*”, “*teaching*”, “*youth*”, “*environmental justice*”, “*social justice*”, “*youth understanding*”, “*youth conceptualizations*”, “*transformative learning*”, “*engaging youth*”, and so on.

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Youth's Comprehension of Environmental Justice Across Multiple Countries

Climate change is already seriously affecting hundreds of millions of people today and in the next twenty years those affected will likely more than double — making it the greatest emerging humanitarian challenge of our time”(Global Humanitarian Forum, 2009, p.2).

Global climate change (GCC) is becoming a prominent issue within today's society, and its impacts are being felt on a global scale. For quite some time many people believed that global climate change (GCC) was a fallacy, discounting the severity of its impacts and disregarding the human effect on our world (Global Humanitarian Forum, 2009). Despite people's skepticism, scientific information and thorough reports have established that GCC is in fact very real and human activity is the root cause (Global Humanitarian Forum, 2009). The Intergovernmental Panel on Climate Change (IPCC) (2007; 2013) has gathered significant evidence that the primary cause of GCC is greenhouse gas emissions, which have been produced by human activity. Over past decades the accumulation of carbon dioxide (CO₂) emissions has contributed to increasing global temperatures, which has had catastrophic environmental and humanitarian impacts (IPCC, 2013; Global Humanitarian Forum, 2009).

GCC has led to an increase of extreme weather patterns such as: flooding, droughts, and heat waves (IPCC, 2013). Additionally, GCC has led to rising ocean and sea levels, decreased air and water quality, loss of biodiversity and natural habitats, and unpredictable seasons. In addition to natural repercussions, GCC has also led to a number of negative social implications. For example, GCC has greatly effected food production and food insecurity, health, poverty, air and water quality, human displacement and security (IPCC, 2013; Global Humanitarian Forum, 2009).

Although the impacts of climate change are felt on a global scale, Roberts (2001) explains that the impacts of GCC will affect certain places and populations more quickly and

more severely than others, making GCC a justice issue. More specifically, developing countries experience significantly more negative impacts than developed countries (Global Humanitarian Forum, 2009; Ibararán, Ruth, Ahmad, & London, 2009; O'Brien & Leichenko, 2000; Park & Roberts, 2000; Rosa, 2001; Roberts 2001). In this regard, GCC relates to the broader topics of environmental and social justice.

Climate justice relates to the notion that there will be winners and losers in the context of GCC, as some countries will benefit from the process of climate change, whereas others will simply experience the negative impacts (O'Brien and Liechenko, 2000; Roberts, 2001). For example, developed countries are large contributors to the causes of GCC, and yet it is the developing countries who experience the majority of the negative repercussions (Global Humanitarian Forum, 2009; IPCC, 2013). These uneven allocations of environmental burdens are related to distributive justice, which is defined as “the fair and equitable allocation of burdens and privileges, rights and responsibilities, and pains and gains in society” (Prilleltensky, 2001, p. 7). In addition to distributive justice, GCC is also a procedural justice issue. According to Prilleltensky (2001) procedural justice relates to a fair decision making process that is respectful, inclusive and participatory. GCC is a procedural justice issue, as not all countries or communities are involved in important decision making processes that affect them directly (Clayton, 2000) For example, developing countries which are often less powerful or less influential in the international arena, often have their concerns and views be discounted, or overlooked by more powerful countries (Clayton, 2000). The U.S. Environmental Protection Agency (EPA, 2012) also refers to procedural justice in its definition of environmental justice which mandates the fair and meaningful involvement of all people with respect to *the development and implementation of environmental laws and regulations*. Claytons (2000) points

out that in many environmental decision-making cases social and political underpinnings tamper with the inclusive decision making process, and as a result the outcomes are unjust. In summary, it is important to address the topic of GCC, but in doing so one must also consider the environmental justice aspect, which is often neglected.

One way to raise consciousness about the topic of GCC and environmental justice is through the theory of transformative learning. Researcher Jack Mezirow (1997) defines transformative learning as, “the process of effecting change in a frame of reference”, such as our feelings, associations, and experiences, which then influence how we feel and interpret our surroundings (p. 5). More specifically, transformative learning usually involves an experience, which encourages us to change or challenge our current frames of reference (Mezirow, 1997). Typically, the transformative learning approach involves examples of injustice, as perceptions of injustice can lead to emotional discomfort, which then motivates a search for justice (Mikula, Scherer, and Athenstaedt, 1998). This emphasis on inequality and mistreatment elicits emotions, which in turn encourage individuals to alter their attitudes and perspectives (Kelly, 2010; Mikula, Scherer, and Athenstaedt, 1998). In his review of the relevant literature in environmental education, Randolph Haluza-DeLay (2013) found that the concepts of ‘justice’ and ‘environmental justice’ were rarely addressed. Among those articles that do mention the concept justice, their attempts at addressing justice were often superficial as they simply mention the term, do not provide any detailed information, nor critically evaluate the concept of justice with regard to the current state of the environment. Overall, Haluza-DeLay found that the concept of justice is being insufficiently addressed within environmental education. A consequence of this shortcoming is likely that the potential for true transformative learning within environmental education is limited.

Therefore, it is important that the concepts of justice and environmental justice are integrated into environmental education to provide youth with unique learning opportunities and encourage socio-political action. Through the use of transformative learning, youth are encouraged to alter their attitudes and way of thinking, which is critical for leading to social change (Meziro, 1997). Furthermore, according to Riemer (2011), the political and social contexts may be quite important in regards to how young people conceptualize environmental justice, and how they choose to act. Riemer (2011) further explains that, “educating youth about environmental justice is important as it could serve as a motivator to engage people in environmental change and activism” (p. 2). Thus, transformative learning approach and concepts of justice should be integrated into environmental education at multiple levels, which requires a thorough understanding of how youth may conceptualize environmental justice and tested methods of engaging youth in this topic. .

Although the notion of transformative learning seems relatively straight forward, there are many internal and external variables that can profoundly effect how youth respond to sensitive material, and develop meaning. Some articles (see: Faccenda & Pantaleon, 2011; Goodman, 2001; Klein and Riemer, 2011; Mezirow, 1997; Stovold, 2012, undergraduate thesis; Werle, 2004) explain how different variables such as one’s learning environment and personal characteristics can influence how individuals react to injustice.

In an effort to address the gap in the literature, the current research study focuses on how youth frame environmental issues in a global context, how they understand and conceptualize environmental justice, whether culture plays an influential role in their understanding, and how youth best learn about important topics such as environmental justice. My proposed research is a secondary-analysis of the Youth Leading Environmental Change (YLEC) study, using

qualitative data from interviews conducted with participants three months after they completed an environmental justice focused workshop or course. The purpose of this research is to contribute to a growing body of literature on how young people understand climate change and environmental justice in a global context, and how youth best learn about environmental justice. It will also provide recommendations to future environmental workshops or courses regarding how to best educate youth about this topic, and provide them with a transformative learning experience, which may then led to social action.

Throughout this document, I will provide a thorough review of literature pertaining to environmental justice, youth as agents of change and environmental education. Following the literature review, I will discuss details of the current study, and propose the research objectives and questions for the current research. Subsequently, I will then explain the methods of the current research through discussing the following areas: the researcher's personal standpoint, the methodological stance of the research, the research design, ethics, population, and data analysis. I will then move on to the results section where I highlight emerging themes and key findings. Lastly, I will examine and interpret key findings throughout the discussion section before concluding the current research study.

In the following section of this proposal, I will review the existing literature on climate change, environmental justice, youth comprehension of environmental justice, approaches for teaching youth about environmental justice, and lastly, how youth react to experiences of injustice.

Literature Review

I began my research with an attempt to understand the social and environmental effects of global climate change (GCC) on a local and global scale. From there, I focused my literature

review on the relationship between global climate change and justice, specifically climate justice, environmental justice and social justice. Considering the complexity of the topic and the various avenues for action, I decided to focus my research on youth engagement, as youth are strong actors of change (United Nations, 2013).

Before determining how to engage youth politically, I conducted research on environmental theories and popular worldviews that may shape youths' perceptions and understandings of complex social issues such as environmental justice (Clayton, 2000; Koger and Winter, 2010). In addition to researching external influences that impact youth, I also researched personal characteristics that may impact how youth understand or perceive injustice (Faccenda & Pantaleon, 2011; Zembylas & McGlynn, 2012). Furthermore, I also researched a teaching approach known as, 'transformative learning', to determine how a learning context can work to enhance and transform youths' attitudes, understanding and knowledge.

After determining what factors influence young people's attitudes and perspectives, I will review the very limited available literature on youths' understanding of environmental justice. At present, it is difficult to understand whether youth view environmental justice from a political perspective, and how they understand issues of environmental justice on a local and global level. Thus, in an effort to address this gap in the literature, the proposed research seeks to learn more about how youth conceptualize and understand environmental justice with the hope that this understanding will facilitate the integration of environmental justice in environmental youth engagement efforts.

Literature Review Methodology

The following literature review I utilized a methodologically inclusive research synthesis (Nelson, 2012). I used the multi-disciplinary research databases *Scholars Portal* and *Google*

Scholar to locate academic journals. Examples of some key words and phrases used when searching for articles were: “*global climate change*”, “*causes*”, “*solutions*”, “*teaching*”, “*youth*”, “*environmental justice*”, “*social justice*”, “*youth understanding*”, “*youth conceptualizations*”, “*transformative learning*”, “*engaging youth*”, and so on.

Using the above search tools, I was able to locate hundreds of academic journals. In an effort to narrow my search I scanned the titles of all articles, and I would only read the abstract for titles that directly related to my topic. If the abstract was relevant to my topic, I would proceed with obtaining the full article. I also reviewed the references listed in relevant research articles to seek out additional relevant articles.

Climate change as Environmental Justice

Authors Shepard and Corbin Mark (2009) explain that climate justice involves, “the need to develop studies, policies, and interventions that address the ethical and human rights dimensions of global warming, the disproportionate burden of legacy pollution, the unsustainable rise in energy costs for low-income families, and the impacts of energy extraction, refining, and manufacturing on vulnerable communities”(p. 163). Roberts and Parks (2007) also highlight the political nature of climate justice through their discussion of global inequality and broken promises between the global North and South. For example, countries in the North made alliances with the South to work together to become a more sustainable global environment (Roberts & Parks, 2007). However, these alliances were short lived as countries in the North withdrew from their commitments, and instead advocated for their own needs and desires. As a result, an imbalance of privileges and burdens was created due to power and politics (Roberts & Parks, 2007). Thus, climate justice is an application of environmental justice within the context of global climate change.

According to the EPA (2012), environmental justice relates to the fair and meaningful involvement of all people with respect to the development and implementation of environmental laws and regulations. Additionally, environmental justice can also relate to issues of race and class, as environmental stressors and burdens are not evenly distributed (Koger and Winter, 2010, Riemer and Van Voorhees, 2014). According to the literature minority groups experience instances of environmental injustice more frequently than dominant social groups (Koger and Winter, 2010; Downey and Hawkins, 2008; Hird and Reese, 1998; Riemer and Van Voorhees, 2014). In addition, environmental injustice can also be observed on a global scale. For example, developing countries have less power or authority due to economical and political reasons, they do not have adequate resources to cope with environmental disasters, and they are more impacted by GCC despite the fact that they have played a minimal role in contributing to the causes of GCC (Clayton, 2000; Global Humanitarian Forum, 2009). Surprisingly, within the context of GCC, “Ninety-nine percent of all casualties occur in developing countries. A stark contrast to the one percent of global emissions attributable to some 50 of the least developed nations.” (Global Humanitarian Forum, 2009, p. ii).

Based on their own evidence Ibarrarán, Ruth, Ahmad, & London (2009) discuss how climate change has increased the frequency and intensity of weather-related natural disasters across the globe. These authors explain that natural disasters affect developed and developing countries to various degrees, however, the implications are much worse for developing countries (Ibarrarán, Ruth, Ahmad, & London 2009). In developing countries, individuals have less social or technical resources, which means that they heavily rely on natural resources as sources of income and livelihood (Ibarrarán, et al. 2009). When individual’s livelihoods become threatened due to deforestation, drought, erosion, water pollution, or flooding, their health and well-being

becomes compromised (Ibarrarán, Ruth, Ahmad, & London, 2009). In 2009, the Global Humanitarian Forum released a report with shocking statistics,

More than ten million people have fallen into poverty today because of climate change. The majority of people suffering from the impacts of climate change are already extremely poor. Currently about 2.6 billion people — two thirds of them women — live in poverty (below \$2 a day) with almost 1 billion living in extreme poverty (less than \$1 a day). About 12 million additional people are pushed into poverty because of climate change. They are situated mainly in India and South East Asia as well as in Africa and Latin America (Global Humanitarian Forum, p. 27).

Due to the lack of resources available, and increased vulnerability, individuals living within poor countries are less equipped to respond to such disasters and many are pushed into poverty and poor health (Global Humanitarian Forum, 2009; Hossay, 2006). Roberts (2001) adds that, “poor nations are the least able to handle massive dislocations that come with “natural disasters”, which can set their development back decades. Within the poor nations, poor classes often never fully recover from devastating disasters brought on by the increasing climate instability” (p. 501). Roberts’ (2001) discussion implies that intergenerational poverty could also be a repercussion of global climate change.

In summary, it is clear that our global environment is unstable, and the causes and threats of global climate change are very unequally distributed. Thus, demonstrating the close relationship between climate justice and environmental justice. Throughout this section, environmental justice is discussed within the global context; however, environmental justice can be applied at many levels, to a variety of situations. In the following section, I provide some background about the concept of environmental justice, including Clayton’s (2000) typology of environmental justice.

Environmental Justice

According to Cole and Foster (2001), the environmental justice movement began in the 1980's with the term 'environmental racism'. During this time, researchers began to draw strong links between hazardous environments and racialized communities, as they found that Black, Hispanic, and Native American communities were disproportionately exposed to negative environments. In addition to race and ethnicity, researchers found that there were also associations between environmental hazards and socioeconomic status as well (Haluza-DeLay, 2013). Hird and Reese (1998) found that, "race and ethnicity are strongly associated with a lack of environmental quality, with both nonwhite and Hispanic populations experiencing disproportionately high pollution levels, and there is a strong positive relationship between population density, manufacturing activity, and pollution" (p. 693). This focus on environmental racism, quickly transitioned to the environmental justice movement in the early 1980's as numerous community groups and organizations began to take notice of this injustice (Bullard, et al., 2007; Hird and Reese, 1998).

More specifically, the environmental justice movement began in 1982, in Warren County, North Carolina when individuals from a community predominantly populated by people of colour protested against the illegal dumping of toxic chemicals in a nearby landfill (Bullard et al, 2007; Riemer, and Van Voorhees, 2014). It wasn't until 20 years later, after endless protests that the EPA designated the area as a Superfund site (North Carolina Department of Environmental and Natural Resources, 2004). This case of environmental justice is often contrasted with another case of environmental justice that occurred sixteen years later in Niagara Falls, New York (Riemer and Van Voorhees, 2014). In 1978 residents of the Love Canal neighbourhood discovered that they were living over 21, 000 tons of chemical waste, as they were getting ill due

to chemical leaks would occur after heavy rains. Unlike the case in Warren County, NC, the government reacted much quicker to the injustice in Niagara Falls, NY, which could be attributed to race. These two cases are contrasted due to the racial population of the communities and the amount of time it took the government to act (Riemer and Van Voorhees, 2014).

As previously mentioned, the US Environmental Protection Agency defines environmental justice as, “the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies” (EPA, 2012). Alternatively, Bullard et al. (2007) state that, “environmental justice demands that everyone... is entitled to equal protection and equal enforcement of our environmental, health, housing, land use, transportation, energy and civil rights laws and regulations” (p. 2). Although there are many variations of the term ‘environmental justice’ on a local and global scale, most definitions refer to issues of social justice and human rights. However, other forms of environmental justice have been described as well.

Forms of environmental justice. Clayton (2000) identified five forms of environmental justice to demonstrate how this complex issue may be understood and conceptualized. The five forms of environmental justice are: *the justice of the marketplace, rights, equality, procedural issues, and responsibility*

Justice of the marketplace refers to the notion that natural resources are viewed as commodities, which are to be bought and sold (Clayton, 2000). The author explains that this type of environmental justice relates to distributive justice, and primarily occurs in the United States, as the US is a large consumer of natural resources. Justice of the marketplace relates to environmental justice and GCC, as many natural resources are exploited and used for economic

gain. Due to the excessive exploitation of our natural environment, large negative impacts on biodiversity, natural habitats, water pollution and air pollution have resulted (Global Humanitarian Forum, 2009).

Rights relates to the notion that environmental issues are framed in terms of human rights (Clayton, 2000). This includes: freedom of speech, the right to life, liberty and security, freedom from “torture or to cruel, inhuman or degrading treatment or punishment” and more (United Nations, 2014c). Rights closely relates to environmental justice as many human rights are dismissed due to power and politics. For instance, many Indigenous peoples rights have been violated on many accounts (Evans-Campbell, 2008). For example, many Indigenous groups have endured numerous environmental assaults, such as land contamination due to the illegal dumping of waste and chemicals, illegal occupation of land, the relocation of communities, and the destruction of a vulnerable culture (Evans-Campbell, 2008). Furthermore, Indigenous communities have also experienced unimaginable emotional and psychological trauma in the process (Evans-Campbell, 2008).

The notion of *Equality* is closely tied to concepts of climate justice and environmental justice. *Equality* relates to the fact that “some people and countries consume far more of our environmental resources than others, and some people and countries are affected by environmental pollution to a far greater extent than others” (Clayton, 2000, p. 461). Equality closely relates to GCC, as developed countries greatly contribute to GCC, and yet it is the developing countries who experience the negative implications (Roberts, 2001). Additionally, developing countries have less resources and they are also less equipped to cope with natural disasters, in comparison to developed countries (Roberts, 2001). Therefore, equality also relates

to environmental justice, as there is an uneven distribution of privileges and burdens between developed and developing countries.

Extending from Clayton's definition of *equality* comes *procedural issues*. Clayton's definition of *procedural issues* relates to the term procedural justice, which means that all necessary parties engage in a decision making process that is inclusive, fair, and participatory. As previously discussed, it is evident that procedural justice is not respected in the context of GCC. Clayton (2000) argues that procedural justice relates to environmental justice for a number of reasons. Firstly, not all environmental regulations or policies are developed fairly or include all necessary voices from multiple perspectives (Clayton, 2000). Instead, those groups with less social power are discounted and their voices are excluded from informing any important decisions that may affect them (Clayton, 2000). Secondly, a lot of environmental policies and regulations are not being monitored or enforced due to the power given to large corporations. Unfortunately, our society has grown in such a way that corporations have been awarded more power than government, which means that they are able to manipulate the system to work in their favour, and eliminate the prospect of an inclusive, participatory decision making process (Clayton, 2000).

The last form of Clayton's typology of environmental justice is *responsibility*. According to her, *responsibility* relates to the notion that human beings have become so individualized that they forget the need to care for someone or something other than themselves. Clayton explains that we are meant to care for the Earth, to appreciate and protect it. However, as our society advanced we have begun to exploit our natural environment and take it for granted. In my opinion, responsibility relates to environmental justice, because everyone has to take accountability for his or her actions. Furthermore, it is our collective responsibility to take

accountability for the state of our local and global environment. As a result, we must make a genuine effort to create positive change, adopt more pro-environmental behaviours, adjust our attitudes, connect with nature and also encourage others to do the same.

Clayton's (2000) discussion of the five forms of environmental justice can be applied to local or global contexts. The five forms of environmental justice may help to inform how environmental justice may be perceived, operationalized, or conceptualized by individuals living within different contexts. For example an individual living in a developed country may associate environmental issues more closely with *justice of the marketplace*, he/she may lack an understanding of *equality* and he/she may discount their personal *responsibility* when caring for the environment (Clayton, 2000). More specifically, while considering Clayton's theories it would be interesting to assess how a youth living in a developed country understands and conceptualizes environmental justice in comparison to a youth living in a developing country. Furthermore, it would be interesting to assess how the youth connect with the environment, how they associate their behaviours within the context of GCC and to determine whether they think about environmental justice and GCC from a socio-political perspective.

Surrounding context

A person's conceptualization of certain issues, such as environmental justice, is often shaped by the dominant worldview and ideology that he/she is exposed to in their environment. Thus, it is useful to consider dominant worldviews and the way in which they can influence individuals' attitudes and behaviours. According to Koger and Winter (2010), worldviews are socially constructed ways of thinking that translate into common sense, however, these worldviews have both positive and negative components, which can greatly influence how we view and understand our surroundings. These authors explain that there are currently two

relevant worldviews, the dominant social paradigm (DSP) and the new environmental paradigm (NEP).

Within the Western worldview, individuals may apply the dominant social paradigm (DSP) when developing perceptions and connections to their surroundings (Koger and Winter, 2010). The dominant social paradigm involves a capitalistic, neoliberal way of thinking as individuals are invested in pursuing private wealth and happiness and they view the environment as an opportunity for economic gain (Koger and Winter, 2010). Consequently, individuals are driven by their own personal desires and incentives, which has led to a disconnect between the individual, others and the environment (Clayton, 2000; Koger and Winter, 2010). Thus, individuals who adopt the DSP embrace the notion that ‘nature is composed of inert physical elements, which can and should be controlled by human beings seeking private economic gain for the purpose of economic development’ (p. 38). Also, authors explain that individuals who live within the Western world often use defense mechanisms when discussing current environmental issues, as the reality of the global environment may be too overwhelming (Koger and Winter, 2010). Understanding more about the Western worldview may help to inform how youth living within developed countries may understand and frame environmental justice.

In contrast to the DSP, the new environmental paradigm (NEP) promotes the conservation and protection of our natural world (Koger and Winter, 2010). More specifically, the NEP worldview, “stresses the fragility and limits of the natural world in the face of human activity, and the responsibility of human beings to act more carefully to protect and preserve it” (p. 326).

Additionally, one’s culture, or geographic location could influence one’s connection to nature and how they perceive environmental issues (Riemer and Harré, accepted). Thus, when

assessing youths' understanding of environmental justice, it is important to consider how their culture, geographical context, and worldview may shape the way they conceptualize important environmental issues.

Youth's Comprehension of Environmental Justice

De Vreede, Warner and Pitter (2014) explain that committed youth are a powerful force for creating change due to their optimism and fresh perspectives. Youth are more willing to challenge the status-quo and as a result, they have been at the forefront of many cultural revolutions and political movements (Blythe & Harré, 2012; Ginwright & James, 2002; Quiroz-Martinez, J., Wu, D.P., & Zimmerman, K, 2005). The United Nations (2013) explains that, "over the past decade, evidence from around the world has shown that young leaders and youth-led organizations engaged in civic activities have influenced public policies through the design, implementation, monitoring and evaluation of initiatives that have direct relevance to their well-being and development" (Chapter 5). Thus, youth act as a valuable resource for creating social and environmental change. However, in order for youth to be effective leaders of change, it is important that they have a strong understanding of environmental issues, including environmental justice. If youth have a strong understanding of the injustices that are occurring, they may feel inclined to work toward positive change, or alter their behaviour in an effort to minimize their contribution toward the injustice. Alternatively, if youth are not knowledgeable about important social issues it is unlikely that they would take action, especially, if they were unaware of what the complex social issues are. Thus, in an effort to utilize youth as a force for change, it is important that they are knowledgeable about current environmental issues and environmental justice. However, learning about these complex and problematic issues can be

challenging. Transformative learning is one approach to facilitate such learning in a careful and effective way in order to foster the development of reflective and engaged young citizens.

Transformative learning. Mezirow (1997) defines transformative learning as a process of changing one's frame of reference such as one's feelings, associations or values in regard to how they interpret their surroundings. Mezirow (1997) explains that transformative learning usually involves an experience, which encourages the individual to change or challenge their current frames of reference. For instance, an individual may employ a Western worldview or a DSP, however, a transformative learning experience could encourage them to shift their attitudes and thinking. One particular example of this is Kate Klein, a former student of community psychology at Wilfrid Laurier University, in Ontario, Canada (Klein and Riemer, 2011). For her research, Klein spoke with individuals experiencing homelessness to learn more about their personal experiences of environmental justice and other forms of injustice (Klein and Riemer, 2011). Throughout the article, Klein explains how working with such individuals and hearing their personal experiences provided a transformative learning experience for her, as she was encouraged to challenge and alter her worldview (Klein and Riemer, 2011). Klein writes,

...there is always the distinct possibility that a disparity exists between my views and those of the participants, because I am simply wrong and have imposed my worldview on the findings without making space for perspectives that are not my own. As a young person and a young researcher, I have learned a great deal simply from hearing the participants' stories, and the possibility is far from small that there is a great deal more learning I have left to do" (p. 201).

Based on Klein's account, working with individuals experiencing injustice, and hearing their stories provided Klein with an opportunity to connect to the issues, and to understand the injustice on a deeper level. In another article, I found cases similar to Kate's transformative learning experience. Stovold (2012, undergraduate thesis) studied the power of the narrative approach and its ability to elicit an emotional response, which in turn promoted learning and

encouraged action. We found that after students heard from an individual experiencing environmental injustice, they were emotionally impacted, and this emotional response fuelled their desire to take action and create change. For example, students were so frustrated, disgusted, and angered by details of the speaker's story that they began to question their beliefs; they felt compelled to positively alter their behaviour, and they took action to spread the word about this injustice. The researchers believe that it is because of the strong emotional response to the story and the storyteller that action resulted (Stovold, 2012, undergraduate thesis). Findings from this study demonstrate that a transformative learning experience can encourage emotional change and positive action. When teaching youth about environmental or social justice there is an opportunity to expose youth to sensitive material, and allow them to connect with the material on a deeper level, thus strengthening understanding and comprehension of the issues at hand (Stovold, 2012, undergraduate thesis; Thorton and Novak, 2011, Werle, 2004). In order for this to occur, it is important that youth are provided with a different learning environment to foster this type of shift. For example, teachers can provide a transformative learning environment through taking youth on field trips, allowing youth to meet someone who has experienced injustice, or exposing youth to an informative and moving video. Despite the evidence to support this type of teaching approach, (Stovold, 2012, undergraduate thesis; Thorton and Novak, 2011, Werle, 2004) the lack of literature suggests that the transformative approach is not being utilized by educators and in fact environmental education in general is lacking (Nussbaum, 2013).

Teaching youth about environmental justice. Marjorie Nussbaum (2013) explains that, "issues of environmental justice are not being routinely included in the curriculum of the K-12 classroom, and that teachers in those grades do not feel prepared to teach it." (p. 1). For her thesis research, Nussbaum conducted a mixed-methods study in the United States to assess the

inclusion of environmental material within higher education, as well as determine teachers' knowledge, attitudes and practices related to this topic. Nussbaum administered a quantitative online questionnaire to learn more about participants' knowledge, attitudes and practices. In addition, Nussbaum also used a qualitative survey in an effort to ask participants open-ended questions. In total there were 206 participants, all of which teach in departments relative to environmental science or environmental studies at institutions of higher education (Nussbaum, 2013). Nussbaum found that, overall, teachers had a high to moderate understanding of what environmental justice is, however, there were inconsistent results regarding what the term encompasses. For example, some teachers limited the term to mean exposure to environmental hazards, while others applied the term to a broader field of human rights, care for the environment, and social justice. This finding is noteworthy, as the individuals teaching the subject of environmental justice do not have a uniform understanding of the term. As a result, this could suggest that there is a similar confusion among youth learning about environmental justice, if they are familiar with the concept at all. Furthermore, after assessing teachers' attitudes toward the topic of environmental justice, and the inclusion of the topic within the curriculum, the study yielded interesting results. Teachers had favourable reactions to the topic, and the notion of incorporating environmental justice material into their lessons, however, teachers' also posed some concerns. Teachers were concerned about the applicability of environmental justice and its connection to other course material. Secondly, teachers' felt that the notion of incorporating environmental justice material into their lessons would detract from the focus on other important messages. Lastly, given that environmental justice is a complex, and somewhat controversial topic, some teachers' felt rather overwhelmed and incensed by the topic itself. Finally, Nussbaum looked at teachers' practices for teaching environmental justice and found

that although teachers' present a moderate understanding of the term there are major limitations when educating youth on this topic. For example, teachers do not have adequate resources to include environmental justice in their curriculums, and they do not perceive it as important and necessary to include such topics (Nussbaum, 2013).

In addition to her findings, Nussbaum provides a critical discussion of the race and socio-economic status of the professors teaching such complex issues. Nussbaum explains that the professors teaching environmentally related topics are predominantly white, and hold positions of academic privilege, thus, they may be disconnected from the topics they are teaching.

Nussbaum's research has demonstrated interesting findings, which leads one to question that if teachers are not engaged about the topic they are teaching, how can we expect youth to feel the same? Furthermore, if teachers do not have a similar understanding of the topic at hand, how can we expect youth to properly learn the material? Findings from Nussbaum's thesis provides unique insight into how a sensitive topic like environmental justice is taught and integrated into existing curriculums within the US.

Darkwa (2011) conducted a study to assess students' perceptions of environmental justice, their attitudes toward studying environmental justice, and perceived barriers for practically applying concepts of environmental justice to the real world. A questionnaire was used to collect data from 75 fourth-year students enrolled in the Bachelor of Science Environmental Science Program at the University of Cape Coast in Ghana (Darkwa, 2011). Throughout the questionnaire, students were asked to complete a four-point Likert-type scale, which asked questions pertaining to students' knowledge of environmental justice issues based on their previous education (Darkwa, 2011). Findings from the study revealed that students' perceived responsibility for future generations as important, their attitudes were favourable

toward studying about environmental justice, and they perceived ownership and knowledge as possible barriers for applying environmental justice concepts and principles (Darkwa, 2011). Some students were even willing to donate part of their income to resolve environmental issues, and many believed that global warming is a serious threat to the current and future generations (Darkwa, 2011).

Lastly, authors Vreede, Warner and Pitter (2014) conducted a study to explore the impact of peer education with regard to sustainability actions and found positive results. More specifically, this study closely followed participants' involvement in a program called MindShift, which "aims to develop knowledge of sustainability and positive environmental attitudes and behaviours among high school students" (Vreede, Warner & Pitter, 2014, p. 40). The MindShift program was peer-developed, and the peer education teams were composed of grade 10 – 12 students (Vreede, Warner & Pitter, 2014). The program is implemented as three peer education teams travelled to grade 10 classrooms across Nova Scotia, Canada (Vreede, Warner & Pitter, 2014). Peer education teams would then present a one-hour interactive class regarding sustainability and environmental issues (Vreede, et al., 2014). Findings reveal that peer educators had significant personal growth, and they also developed pro-environmental behaviours, attitudes, and values, gained a sense of empowerment, developed skills for action, obtained knowledge on sustainability and also strengthened interpersonal relationships (Vreede, et al., 2014). Authors indicate that peer education or interactive learning could be one approach to teaching complex topics such as sustainability or environmental issues as this approach is engaging and has great transformative potential. This article is interesting, as it may provide insight into understanding more about participants' learning and experiences during their involvement in the YLEC course. During their enrolment in the YLEC course, youth were paired

with a partner country for the purposes of a video exchange. For example, Canada was paired with Uganda, India was paired with Germany, and the USA was paired with Bangladesh. During the video exchange component, youth had the opportunity to connect with other youth to discuss environmental issues, global climate change, causes and solutions of environmental issues, as well as things they were learning throughout the course.

When conducting my initial review of academic literature relative to environmental justice education, I had a lot of difficulty as there were very few articles published on this topic. However, based on the articles I reviewed, it appears as though there is a discrepancy regarding the quality and quantity of environmental material in current educational curriculums. Furthermore, there is not a well-guided approach for teaching environmental issues across educational levels, as some courses focus on the surface issues of environmental problems, whereas others integrate the political and social contexts. Although there is no ‘consistent approach’ for teaching environmental justice, or environmental issues, I believe that a holistic approach is ideal for providing youth with a comprehensive understanding of the issues. Regardless of the teaching approach, it is important to consider additional factors that may influence how individuals perceive and react to injustice.

Youth Reactions to Experiences of Injustice

In addition to the learning environment, personal responses to the material can greatly impact a youth’s learning experience. According to Yiend (2009) emotions can play a critical role in directing and focusing our attention, and can therefore dictate what information we absorb and to what degree. Thornton and Novak (2011) conducted a study assessing how individuals experienced and expressed emotion as a result of volunteering in a rape crisis centre. After conducting 10 in-depth interviews with volunteers, researchers found that individuals

experienced a range of emotions such as: sadness, fear, anger, helplessness, frustration and empathy after listening to experiences of sexual assault (Thornton & Novak, 2011).

Alternatively, listening to experiences of environmental injustice can elicit the same type of emotional response (Stovold, 2012, undergraduate thesis). For her undergraduate thesis, Stovold (2012) conducted a qualitative study assessing students' reactions to a narrative of environmental injustice. Findings from the study revealed similar results to Thornton and Novak (2011) as students expressed feelings of shock, sadness, anger and frustration after hearing a personal account of environmental mistreatment. Interestingly, Goodman (2001) explains that there are two empathetic reactions when an individual learns about a situation of injustice. The first reaction is empathetic or personal distress and the second reaction is sympathetic distress (Goodman, 2001). Empathetic or personal distress relates to, "when the empathy generates uncomfortable feelings for the people who are empathizing. This negative arousal may make people feel anxious, upset, disturbed, guilty, or shameful" (Goodman, 2001, p. 128). For example, an individual from a developed country may experience empathetic distress after learning about experiences of environmental justice from the perspective of someone living in a developing country. The second empathetic reaction relates to caring and expressing empathy for the person in distress (Goodman, 2011). This reaction may be more surface level, as the individual does not critically reflect on the situation or context.

According to Faccenda and Pantaleon (2011) despite the sensitive nature of the material being discussed, an individual may have a limited reaction or no reaction at all, if they do not perceive the circumstances as unjust. Faccenda and Pantaleon also discuss that one's sensitivity to injustice can differ dramatically depending on four specific characteristics such as: 1) one's perception of the unjust event, 2) one's level of anger as a result of the mistreatment, 3) the

amount of thought one invests in thinking about the unjust event, and 4) one's passion for bringing punishment to those who committed the injustice. Additionally, authors note that one's belief in a just world may also influence how one perceives an unjust event (Faccenda & Pantaleon, 2011). These authors explain that those with a limited belief or no belief in a just world will dismiss the unfair treatment, and possibly perceive the circumstances as deserved (Faccenda & Pantaleon, 2011). Alternatively, if one does believe in a just world, the individual may be inclined to resist popular norms and possibly challenge authority to restore justice (Faccenda & Pantaleon, 2011).

Zembylas and McGlynn (2012) highlight that one's social standing could act as an additional barrier for how someone perceives an unjust event. They explain that privileged students may resort to rational arguments or avoid the underlying context in an effort to dismiss any type of emotional reaction (Zembylas and McGlynn, 2012). Goodman (2001) states that, "when we fail to see our common humanity with people we perceive as different from ourselves, we can more easily ignore their plight" (p. 127). This notion relates to the concept of 'othering', which can be defined as viewing another group or individual different from oneself as inferior or less than by comparison (Krumer-Nevo, 2002). Interestingly, a blog dedicated to the concept of othering titled, "There Are No Others" encompasses the definition of othering quite eloquently:

By "othering", we mean any action by which an individual or group becomes mentally classified in somebody's mind as "not one of us". Rather than always remembering that every person is a complex bundle of emotions, ideas, motivations, reflexes, priorities, and many other subtle aspects, it's sometimes easier to dismiss them as being in some way less human, and less worthy of respect and dignity, than we are (There Are No Others, 2011).

The notion that social standing or 'othering' can influence one's perception of injustice are noteworthy as it may help to inform the current study. For example, many youth involved in the current study come from middle to upper class homes and therefore may be considered

privileged. This is important, as it will be interesting to compare whether youths' social standing affects their knowledge and conceptualization of environmental justice. More specifically, I would like to assess whether youth from developing countries are more sensitive to injustice as they may have personal experiences of injustice, or they may have observed more injustice, despite the fact that they may come from a more affluent background. For example, some of the youth who participated in the study may be considered privileged because they are able to attend an institution of higher education, however, just like many others these youth may also be exposed to environmental injustice as well. Lastly, it is relevant to consider whether youth from developed countries perceive youth from developing countries differently, to determine whether the youth engage in othering based on geographic location, culture, race, or ethnicity.

As demonstrated, there are many variables that can influence how one learns, or perceives different circumstances. Thus, information obtained from previous literature will be considered when interpreting how youth conceptualize, define, or understand environmental justice.

In summary there are many articles that focus on global climate change, environmental justice, environmental education and youth engagement. However, there is little literature available on the interconnected relationship between these subject areas. More specifically, there is very literature available that provides insight into how youth conceptualize environmental justice, and effective methods for educating youth on this complex topic. Haluza – DeLay (2013) recently reviewed the relevant literature to learn more about the way environmental justice is addressed within environmental education. Following his study, Haluza-DeLay found that some articles discuss topics of equality and justice, but few go on to mention the concept of environmental justice. Furthermore, those that do discuss the topic of environmental justice do so

in a superficial way as they simply mention the term, and they do not go into great detail about the concept (Haluza-DeLay, 2013). Throughout his article, Haluza-DeLay explains that, “for the most part, however, all of these discussions represent exhortations to get on with the task of including justice dimensions in environmental education and there remains little research literature on such practices” (p. 397). This gap is what I am trying to address with my study.

The Current Study

The current study is a secondary analysis of the Youth Leading Environmental Change (YLEC) study conducted from August 2012 until May 2014. The YLEC study is an international study designed to “evaluate a unique approach to engaging young people (age 18-25) in environmental action in six different countries” including Bangladesh, Canada, Germany, India, Uganda, and the USA (Hickman, Riemer and Sayal, 2012). Furthermore, the YLEC program was implemented through 11 individual classroom-based sessions, which were developed using an environmental justice framework. During the workshops, youth were involved in the development of an action project, heard from guest speakers, participated in live video-exchanges, and completed journals and assignments. The objectives for the YLEC study were: 1) to test the effectiveness of the workshops in enhancing critical consciousness and ultimately increase engagement in environmental activism among youth; 2) to explore to what degree and how the relative proximity to current Global Climate Change (GCC) impact on vulnerable populations affects the effectiveness of the workshop; and 3) to investigate to what degree and how risk perceptions about GCC affects the effectiveness of the workshop (Hickman, Riemer and Sayal, 2012). The YLEC study utilized a mixed methods longitudinal comparison group design, using both qualitative and quantitative methods to gain information from the following participants: collaborators, community partners, facilitators, youth and the comparison group.

Although the YLEC study was very complex and comprehensive, there were additional questions that remain to be answered.

Research Objective and Research Questions

The primary research objective of the current study is to determine to what degree youth in low-income and high-income countries are connected and engaged with the topic of environmental justice after participation in a transformative environmental education workshop. More specifically, my research questions were (1) How do youth describe the state of the environment? (2) How do youth conceptualize environmental justice? Are there differences from one country to another? (2a) What cultural aspects do youth reference when describing their understanding of environmental justice? (3) What aspects of the YLEC workshop do youth reference as contributors to learning about environmental justice?

Methods

Personal Standpoint

Within qualitative research it is important to acknowledge the researcher's personal standpoint or how they view the world, because researchers are very involved throughout the research process and their perspectives could influence data collection and interpretation (Denzin, 2009). Throughout this section, I will provide some background information regarding my personal standpoint and I will also express my views around the topic of environmental justice.

Throughout my childhood I grew up in a middle class home in a rural area and I was rarely exposed to issues of oppression, marginalization, diversity, racism, or social justice. I always had an interest for learning about complex social issues, but it was not until my undergraduate career that I became more aware of these issues and was encouraged to think critically about them.

During my third year in particular I took a course entitled Environment, Psychology and Action, which completely shifted my views and exposed me to another world of academia I did not know existed. I learned new and interesting concepts and principles, but also had the unique opportunity to meet guest speakers with knowledge and experience regarding current environmental issues. I can vividly remember meeting one guest speaker, named Ella¹, an environmental activist from a local town in Ontario, who came to speak to our class to share her lived experiences of environmental injustice. My experience of meeting Ella was extremely impactful and transformative, as hearing her stories of injustice compelled me to challenge my values, my view of the world we live in and my role within it. After class, I can vividly remember calling my mom immediately to share what I had learned and to express my dismay that this type of injustice is occurring within our country.

Prior to meeting Ella, I did not know that a concept such as environmental justice existed, nor did I know what it meant, or who it involved. However, after meeting Ella I was motivated to explore issues of environmental justice on a local and global scale, as well as take more courses centered on these topics. After taking an interest in environmental justice, I began to realize the urgency and importance of this issue within the global context. I was able to acknowledge that the state of the environment is fragile, and transformative change is required now. Additionally, as I learned more about environmental justice, I began to recognize issues of social injustice, and I became much more critical of my surrounding environment. While prior to meeting Ella, I had been mostly negligent to issues of injustice, after my encounter with Ella I became much more aware about complex social issues and their sociopolitical underpinnings.

¹ For the purpose of confidentiality, pseudonyms have been created to protect the name and identity of participants and other individuals involved in the YLEC study.

In addition to increasing my knowledge, my experience of meeting Ella also informed the basis for my undergraduate thesis, which was titled, “The power of the narrative approach in facilitating students’ learning about environmental justice”. Lastly, due to Ella’s lasting impression, I was also motivated to join groups such as the Community Environment Justice Research Group (CEJRG), and the Centre for Community Research Learning and Action (CCRLA), as well as pursue my Masters in Community Psychology. When reflecting on my undergraduate career, I am so grateful for my involvement in the Environment, Psychology and Action course, because I am not sure I would be where I am today without it.

In summary, my experience of learning about environmental justice motivated me to learn about other complex social issues and it encouraged me to become a conscious, critical individual. Therefore, I think environmental justice education provides students with a transformative learning experience, and it would be beneficial if more environmental educational approaches would integrate environmental justice into their teaching.

Methodological Stance

Guba and Lincoln (1994) state that, “A paradigm may be viewed as a set of basic beliefs ...It represents a worldview that defines, for its holder, the nature of the "world," the individual's place in it, and the range of possible relationships to that world and its parts” (p. 107). In addition to establishing basic beliefs, a paradigm also helps the researcher to develop and design the research study. For example a paradigm will guide the researcher to determine the philosophical assumptions about the research, the research tools and instruments, appropriate participants and methods, as well as the ontological and epistemological position (Guba and Lincoln, 1994; Denzin & Lincoln, 2000). Thus, a research paradigm plays a critical role in the development and implementation of a study as it grounds the research context. Prior to discussing the paradigm

that will guide the current research, it is important to reflect on the paradigm used in the YLEC study, within which the current study is rooted.

Methodology for the YLEC study. The Youth Leading Environmental Change (YLEC) study was grounded within a pragmatic research paradigm. Pragmatism means judging the quality of a study for its intended purposes, available resources, procedures followed, and results obtained, all within a particular context and for a specific audience (Patton, 2002, p. 71). Furthermore, the pragmatic paradigm involves the use of mixed methods to provide the researcher with the best opportunities for answering the research questions and objectives (Johnson & Onwuegbuzie, 2004). Through the use of multiple methods, the researcher seeks to holistically understand the participants' lived experiences in an effort to inform the research, as well as produce useful, meaningful results (Feilzer, 2009). The YLEC study applied a mixed-methods approach as data were obtained from all participant groups using online or paper surveys, phone and in-person semi-structured interviews, journal entries, document review, and focus groups (Riemer, 2012). Furthermore, data were collected at numerous times throughout the research process in an effort to best assess youth engagement and learning experiences over an extended period of time. For example, data were collected prior to the workshop, during the workshop, immediately after the workshop, three and six months following the workshops. Overall, it is clear that the YLEC study applied a multidimensional approach for understanding participants' experiences, which helped to inform the research.

Methodology for the proposed research. The current research study is rooted within the critical-transformative paradigm and the pragmatic paradigm.

According to Mertens (2009) the critical-transformative paradigm has four defining characteristics: "1) places central importance on the lives and experiences of communities that

are pushed into society's margins, 2) analyzes asymmetric power relationships, 3) links results of social inquiry to action, and 4) uses transformative theory to develop the program theory and the inquiry approach" (p. 48). Additionally, the ontological assumption of the critical-transformative paradigm is that multiple realities are possible due to varying social surroundings and contextual influences (Mertens, 2009). Furthermore, the methodological stance of the critical-transformative paradigm accepts that research can be conducted using qualitative methods, quantitative methods or mixed methods approaches (Mertens, 2009). I have a similar critical and transformative expectations for the current research, as I hope that findings from my study will contribute to transformative change. Furthermore, the focus of my study is on climate justice, which addresses power differentials related to causes and impact of global climate change. Also, the transformative learning approach informed both the original conceptualization of the YLEC workshop and my current research. While most participants in this study are not from a marginalized background in their respective country, the ultimate goal of the YLEC study and my current research is, however, to improve the well-being of those living in low-income countries and within each of the countries reduce the vulnerability of those who are especially vulnerable to the impacts of climate change.

However, one could also argue that in regard to the secondary analysis I conducted in this thesis I followed the pragmatic approach used in the original YLEC study. That is, I used a more generic approach to qualitative data analysis as described, for example, by Patton (2002), which was derived from analytical approaches developed originally in the context of the grounded theory approach (e.g., Glaser and Strauss, 1965).

Research Design

The current study is a secondary-analysis of qualitative data collected during the Youth Leading Environmental Change (YLEC) study. Glass (1976) states that, "...secondary analysis is the re-analysis of data for the purpose of answering the original research question with better statistical techniques, or answering new questions with old data (p. 3). Furthermore, Heaton (2000) explains that there are three ways in which secondary analysis of qualitative data can be accessed: through data archives, through researchers re-using data they collected previously and through the informal sharing of data. For the current research, I conducted secondary-analysis through the use of informal sharing, in which I asked new research questions that were not part of the objectives of the initial study. According to Heaton (2000), this type of secondary analysis relates to *surpa analysis* or *supplementary analysis*. Both types of analysis involve the in-depth investigation of existing data to uncover new theoretical or methodological questions that were not addressed in the previous study (Heaton, 2000). As a researcher involved in the original study I was able to determine that additional research questions may be addressed throughout the existing data, and thus, secondary analysis should be completed. Given my involvement throughout the original YLEC study, I was listed as a 'researcher' for the original ethics application, and therefore, an additional ethics application was not needed. Although I did not have to complete the formal ethics process again, there are still ethical considerations that must be acknowledged when completing secondary-analysis research.

Ethics

Throughout the ethics section I discuss common ethical concerns regarding secondary analysis, and how these ethical concerns have been addressed throughout the current research study.

Common ethical concerns regarding secondary analysis. When conducting secondary-analysis there are ethical and epistemological concerns one must consider. For instance, the secondary analyst must consider whether the existing data is flexible, and can fit within the parameters of the new research questions (Heaton, 2000). In some cases new proposed questions may not fully apply to data collected for other purposes (Heaton, 2000).

Another major concern is whether the secondary analyst can, “effectively re-use qualitative data that other researchers have collected” (Heaton, 2000, p. 511). For example, if the secondary analyst ineffectively uses the data, the researcher may produce results that could be detrimental to the original research study (Heaton, 2000). Another factor that could lead to the improper use of data would be that the secondary analyst was not present during data collection, and as a result he/she may lack an understanding of the research context in which the data was collected (Heaton, 2000). In an effort to avoid this problem, the secondary analyst could consult with the primary researcher who originally collected the data (Heaton, 2000). If consultation is not an option, the secondary analyst could rely on documents and memos created during the original data collection process in an effort to inform them about the research context (Heaton, 2000).

Additionally, when conducting secondary-analysis it is important to consider whether the researchers should seek consent from participants to re-use data collected from the previous study (Heaton, 2000). Depending on the purpose of the secondary-analysis, some participants may not consent to their information being used for a purpose that is different than the original objectives (Heaton, 2000).

Ethical concerns regarding the current study. The original research team and I determined that my research questions are within the scope of the original overall research goals.

Moreover, like other qualitative research studies, precautions have been taken to ensure the confidentiality and privacy of all participants. Thus, only de-identified transcripts of the original interviews were used in this study and pseudonyms have been created to protect the identities of all individuals who participated in the YLEC workshops in all five countries.

Although there are a number of ethical concerns to consider when conducting secondary-analysis, some of them are not as applicable in this case because I was involved in the original YLEC study during various phases of the research process. More specifically, I conducted qualitative interviews with the Canadian students, I wrote memos for qualitative transcripts from students in Uganda, the US, Canada, and India, and I was also involved in some data coding. Additionally, I also attended team meetings in which other researchers informed me about the data collection process shortly after the data collection had occurred. Thus, I had a good understanding of the research context and the way in which the research was carried out and data collected prior to completing the current secondary analysis.

My involvement throughout the original YLEC study helps to address two major ethical concerns 1) can the data fit within new research questions? And 2) can I effectively re-use the qualitative data collected for the original YLEC study? Firstly, given my involvement and familiarity with the data I was able to acknowledge that additional information was present throughout the data set that had not addressed during the original YLEC study. Therefore, I was able to develop research questions that further explored the data to reveal new themes and information. Thus, my knowledge of the data allowed me to create unique research questions that would 'fit' within the existing data set, and the threat of creating inappropriate research questions was avoided. Secondly, my involvement in the original study provided me with an opportunity to interact with the data, which is a process not all secondary-analysts are provided with.

Additionally, unlike some secondary analysts I have remained in close contact with other researchers who have worked on the original YLEC study, and therefore I am able to verify my findings and observations with these researchers.

Population and Sampling Frame

The YLEC study. As discussed, the Youth Leading Environmental Change was an international study conducted within six countries. To provide some context, I will briefly discuss each country profile to provide some background, as well as highlight how YLEC was implemented within all six countries. Unless otherwise noted, the descriptions are based on information provided in background documents developed for the YLEC study (Riemer, 2012).

India. India is a country located in South Asia, with a population of 1.2 billion people. Due to its dense and growing population, India is facing many social issues such as: increasing poverty, inadequate healthcare, corruption, and poor housing. Additionally, India is currently facing many environmental problems such as: poor garbage disposal, high pollution, lack of flood control, and outdated transportation vehicles, which dramatically contribute to poor air quality. The YLEC program was introduced into the St. Xaviers College in Mumbai, in which 24 students enrolled in the course. The YLEC workshop was implemented through a number of components and regular course work. For example, students developed and implemented an action project, they participated in a live-video exchange, they completed journals and assignments, and they also heard from guest speakers. For the video exchange, students from India were paired with students from Germany. The video exchange occurred at multiple points throughout the course to allow students to converse with others in a different geographical context and to learn from their experience and insights. Furthermore, in an effort to enhance students' knowledge and understanding of environmental issues on a local and global scale,

students also had the opportunity to hear from numerous guest speakers. Some guest speakers were individuals who worked for local organizations such as 350.org, E-Waste Incarnation, and the Centre for Environmental Research and Education (CERE), as well as two other speakers who came to share their lived experiences of environmental injustice. First, students had the unique opportunity to meet and hear from Sarah, who shared her experiences of environmental injustice and the effects it is having on her farm. Secondly, students also had the opportunity to hear from John, who also gave a personal account of his struggles with farming, and the difficulty of working against the ‘Green Revolution’. In addition to the other course components, meeting the guest speakers provided students with a unique opportunity to gain perspective and inform their understanding of environmental issues and environmental justice.

Canada. Currently, most of Canada is not facing immediate impacts of climate change; however, Canada has the highest carbon footprint per capita in the world. When it comes to environmental action, the Canadian population could be doing more. Unfortunately, there is a lot of focus on developing the fossil fuel industry by promoting the Alberta Tar Sands, and the petro-chemical industry in Sarnia, Ontario. Despite its reputation, Canada could be doing much more to protect the environment and become more civically engaged. Furthermore, when it comes to civic engagement, many people rely on the government to make decisions, and few take the required steps to become politically active. The YLEC program was integrated into an existing course titled Environment Psychology and Action offered at Wilfrid Laurier University. Similar to the YLEC framework implemented in India, students participated in a number of course components and regular course work. For the video exchange, students from Canada were paired with students from Uganda. Additionally, students also heard from a guest speakers who worked for local organizations, and participated in environmental activism. More specifically,

students also had the unique opportunity to meet and hear from environmental activist Ella, who is a member of a local First Nations Reserve in Ontario. During her presentation Ella had the opportunity to educate students about the environmental injustice occurring in her community, as well as to inform students about the negative impacts that industries have had on her life and her well-being. Based on students' responses, meeting and hearing from Ella was a very informative and transformative experience (Stovold, 2012, undergraduate thesis).

Bangladesh. In Bangladesh, many people are politically engaged and have a strong awareness of what is going on in their country. However, despite their political engagement, there seems to be a lack of environmental engagement among individuals in Bangladesh. Although, it appears as though youth are taking more of an interest in environmental issues and are beginning to move toward environmental engagement. Currently, it seems as though citizens are focusing on the social issues in Bangladesh, which are government corruption and large populations of poverty. The YLEC program was offered as a certificate course at the University of Dhaka, in which 21 students participated. The YLEC workshop was implemented using a similar framework to the other countries. For the video exchange, students from Bangladesh were paired with students from the US. Additionally, students also had the opportunity to meet and hear from numerous guest speakers: Nazir, Sadia, and Adnan. In particular, Adnan spoke to the students about his experience of environmental injustice, and his struggle with poverty. More specifically, Adnan talked about the challenges of farming in the south of Bangladesh due to the many negative impacts of GCC, which is then negatively impacting the social welfare of surrounding communities.

USA. The USA is known as one of the worst polluters in the world, due to consumptive, unsustainable behaviour. For example, carbon emissions are extremely high due to a

transportation system that is primarily composed of individuals driving their own vehicles. Additionally, Americans tend to consume a lot of material products; however, this produces a lot of waste that is not properly disposed of. Moreover, the USA claims to be a democratic country, where young individuals are not politically engaged, as they are unsure of how to get involved and at what level. In addition to lack of political engagement, young people also seem disengaged on an environmental level as well. The YLEC program was offered through a graded class, in which students received a university level credit toward their degree. The YLEC course was offered at Western Kentucky University in Bowling Green, Kentucky and there were a total of three participants. Similar to the other countries, the YLEC workshop was implemented using the same model and framework. For the video exchange, students from the USA were paired with students from Bangladesh. Unlike the other countries mentioned, the USA sample did not have any environmental justice guest speaker. Instead, one of the peer facilitators, shared her personal experiences of environmental justice.

Germany. Support for environmental groups and environmental initiatives started in East Germany during the 1970's, and by the 1980's the environmental movement had spread across Germany and other countries (Sabbagh, 2005). Furthermore, in 2002 Germany adopted the National Strategy for Sustainable Development, which put sustainability and environmentalism at the forefront (OECD, 2014). To this day, Germany has become a leader in being green, as they continue develop and implement numerous environmental policies and initiatives with regard to sustainability, climate change, biodiversity, energy efficiency and more (OECD, 2014). The YLEC program was offered through a graded class, in which youth received a university level credit toward their degree. The YLEC course was offered at Universitaet des Saarlandes and there were a total of six participants. The YLEC workshop was implemented using the same

framework as the other countries. For the video exchange, youth from Germany were paired with youth from India. Similar to the USA sample, the German sample did not have any environmental justice guest speaker.

As demonstrated, the YLEC program was implemented in each country using the same framework, and participants were provided with similar experiences that were tailored to their local context. It should also be noted, that all youth who participated in the YLEC study were of a relatively privileged social standing, as they were able to attend a university institution. Due to their social position, some youth may be disconnected from the negative impacts of GCC and environmental degradation, which may limit their understanding of environmental justice and current environmental issues. Alternatively, some youth from countries like Uganda, India and Bangladesh were from more rural and less privileged positions. Thus, due to their social standing they may be more aware of negative environmental impacts due to exposure, which may lead to an increased understanding of environmental issues on a local and global scale.

In regard to data collection, both qualitative and quantitative measurements were used to obtain information. In total 83 qualitative interviews were conducted with a variety of stakeholders including participants, peer facilitators, and community partners, as well as a variety of quantitative data. Qualitative data was collected from numerous stakeholders to provide multiple perspectives and insight into how individuals experienced the YLEC workshop.

Current Research

Participants

Given the nature of the current research I focused on youth experiences specifically and selected 33 out of the 65 interviews conducted with youth. Interviews were drawn from five out of the six countries as follows: 10 from Canada, 10 from Bangladesh, 4 from Germany, 6 from

India and 3 from the USA. Data from Uganda were not analyzed in this current study because there were language issues with the interviews and time required for the analyses of the transcripts would have gone beyond the scope of what was feasible given the timeframe for this thesis. Thus, I selected to review and analyze data from three developed countries (Canada, USA, and Germany), and two developing countries (India and Bangladesh). For each country, I selected a maximum of ten interviews as a representative sample. For India and the USA all available interviews were used while for Germany two interviews were excluded because they were conducted in German and a translation was not available at the time of my study.

All youth who participated in the YLEC study were between the ages of 18 and 25 years. Among those participants from the original sample, there were 40 females, and 25 males. When comparing the current study's sample with the original YLEC sample, there are no statistically significant differences with regard to age and gender. For the current study, there were 23 females and 10 males with an average age of 21 years. All of the youth who participated in the YLEC course were either recruited by collaborators of the course, or they became interested through course postings. Due to their enrollment and participation in the YLEC course, all participants had an interest in learning about environmental issues.

Primary Data

Interviews. For the original YLEC study, qualitative semi-structured interviews were conducted with participants approximately three months following the last workshop. The interviews were designed to learn more about youths' experiences throughout course. For example, the interview guide was developed to learn more about youths' initial knowledge of environmental issues, to discover how youths' knowledge and understanding was enhanced, to determine what components of the course youth enjoyed or did not enjoy, to learn more about

social mechanisms, and to gain feedback for how the course could be improved for the future. For the current research study, I focused specifically on how youth frame environmental issues, how they conceptualize and understand environmental justice, which cultural aspects youth reference when discussing their understanding of environmental issues, and lastly, what aspects of the YLEC course do youth reference as contributors to their learning. Semi-structured qualitative interviews were appropriate for data collection, as researchers wanted to hear about participants' unique experiences, and how their involvement in the YLEC course may have shaped their perspectives and understanding (Patton, 2002).

Analysis

As a first step in the analysis, I reviewed and coded ten interviews from the Canadian sample in an effort to familiarize myself with the data and identify important in-vivo codes and emerging themes and refining my research question to ensure they fit the data available to me. Following this process, I met with my thesis supervisor to discuss my insights, and determine whether my coding scheme, and proposed research questions were adequate. After receiving approval to move forward, I started to construct a detailed codebook for data analysis.

In composing the codebook for this secondary analysis I also reviewed the codebook for the original study, which included multiple relevant codes that I integrated into my codebook. The objective was to use consistent codes as much as possible. In addition, I developed new codes as the analysis process continued to ensure that findings were reflective of the data and my specific research questions.

Using the research software program Nvivo 10 (QSR International, 2012), I created a codebook, and uploaded all necessary interviews. I determined that it would be best to code all interviews by country, as it would be easier to identify emerging themes and key findings that

were specific to each country. Once country-specific themes were identified, I was able to compare these across countries to identify common as well as unique themes. In addition to coding in Nvivo, I also kept detailed researcher memos based on information shared by each participant. After analysing all of the interviews from the first country, Germany, I created ‘summary’ notes to highlight important or interesting findings based on interviews. This same process continued for all other countries.

Using my Nvivo codes, I began to organize findings according to my four research questions. After dividing key findings and themes by question, it was evident that there was not enough data related to the question, ‘What cultural aspects do youth reference when describing their understanding of environmental justice?’ and as a result, information obtained for this question was then utilized to answer the remaining research questions where appropriate. Thus, there were only three research questions in total. I met individually with three researchers who worked on the original YLEC study to discuss and corroborate my findings. All three of the individuals had worked on the development, implementation and analysis of the YLEC research. After confirming my findings with these individuals familiar with the original study, I moved onto the writing the results section.

Results

Through the analysis, a number of themes were identified. These themes were categorized into three main sections based on the research questions: 1) How do youth frame environmental issues, 2) How do they conceptualize environmental justice, and 3) What aspects of the YLEC workshop were referenced as contributors to youths’ learning about environmental justice. Table 1 in Appendix B provides an overview of the main themes and sub-themes.

1. How Do Youth Frame Environmental Issues?

At the beginning of the interviews, youth were asked to explain their understanding of environmental issues on a local and global scale. Although there were some commonalities amongst youths' responses, distinct themes also emerged from youth in each country. To begin, I will review emerging themes discovered from each country to demonstrate youths' overall understanding of current environmental issues based on geographic location. Then I will discuss commonalities between all participants with regard to youths' understanding, and what they viewed as causes, and possible solutions regarding the state of the environment.

Germany. The German sample available to me was quite small with only four interviews. Among these four, two youth in particular demonstrated a complex understanding of the state of the environment, and GCC. For example, Klaus stated:

We live in a country where the environmental politics are quite not as bad as in other countries, and in certain areas such as water pollution and clean air, there has been clear progress here since the seventies.... As for the global perspective I see in other countries, there still is undisturbed wilderness, and we see through media reports, that these are becoming increasingly smaller and that's why I assess the global situation worse than it is, here. Then, on top of that, as an inhabitant of an industrialized nation, one could think, the people there, on site, should make sure that they don't make the same mistakes we have made, but then we contribute to the exploitation of the natural world in other parts of the world with our consumption behavior and lifestyle.

Throughout his response, this student addressed a number of key issues such as socio-political context of environmental issues, environmental degradation, environmental justice, and cultural norms. Martin also addressed issues of environmental justice and climate justice when describing key environmental concerns and the state of the environment:

Well, dealing with the third world, meaning environmental justice, itself... the contributors are not usually the main group affected, that's a big problem, and that... it's also a thing that... the people in the North, let's say, have more means and also more technology to deal with... problems of climate change, whereas the South is more focused on their own needs, that is to say meeting the basic needs

Throughout their interviews, Klaus and Martin also discussed the differences between Germany and India, and the environmental challenges each country faces. Thus, these two youth appeared to have a thorough understanding of environmental justice and the unequal distribution of privileges and burdens. The other two youth, however, did not demonstrate the same level of awareness. For example, Leon provided a very generic response regarding the state of the environment, and he did not acknowledge the fragile state of the global environment. Leon explained,

If you look at the polar caps it's terrible because at the north polar cap's nearly gone, and the same with the rainforest, but other issues are kind of ok... some things are terrible and some things are ok, like, yeah... If you see how many organisations are protecting the environment, they're not always successful ...so I think it's not terrible yet in the whole world.

Within this limited sample some youth presented a thorough awareness of environmental issues on a local and global scale, whereas others simply demonstrated a surface understanding.

USA. Similar to the German sample, the USA sample was very limited with only three participants. Furthermore, the quality and richness of the interviews were not comparable to those of other countries, as the U.S. youth provided only short and not very detailed responses. Among the three participants only one participant demonstrated critical thinking with regard to the state of the environment. When asked to describe her understanding of current environmental issues, Rachel explained that her knowledge was enhanced due to participation in the class,

But most of my, the knowledge I gained about environmental justice was because of the class...so, realizing, talking with the students in Bangladesh and realizing, how big the issue was with the water bottles, using too much, needing to recycle... and realizing also that environmental justice wasn't just harm to the planet, it was harm to people. One of the students in the class...who helped teach the class, told us about what she was doing in California...there was a company that, the chemicals they were using were getting into their water, and the people in their neighbourhood were drinking it. So, not only was it hurting the environment, but it was making the people sick. And, I think I knew that before, but it was solidified in that class, you know, and this wasn't just harming the planet, it was harming the people.

Thus, when asked to describe the state of the environment, it was evident that this individual was able to acknowledge connections between environmental issues and social and environmental justice. Alternatively, the other two youth did not demonstrate the same level of critical thinking, as their answers were quite broad and lacked specific examples. Jack explained, “I’d say my understanding of the kind of issues in the environment is very limited... I’m very ignorant to issues and...I think that the, the problems are many, and that the solutions so far have been few”. Additionally, it appeared as though Jessica was aware of the need for change, but there was no direct link to specific environmental issues or environmental justice. She said,

I mean I think our environmental state, it could be so much better if people were more aware and people actually just, yeah, if everyone did a small thing, the environment would be so much better if... I’m really big on recycling but I mean if there’s, if there’s other ways too to help reduce our footprint on the earth... I guess, mainly that if people, and especially businesses did their part to help the environment, it would be a lot better. I mean, the environment affects so many aspects of our lives.

Based on the responses, it appeared as though youths’ knowledge of environmental issues could be more comprehensive overall. Of the limited sample, one participant could identify the need for change, but they do not relate to specific issues. Additionally, another student presented strong knowledge of environmental issues on a local and global scale; however, her knowledge was limited to what she learned in the course, and no alternative examples were provided.

Canada. Comparable to the USA sample, Canadian youth also mostly demonstrated a basic understanding of environmental issues. Youth from the Canadian sample expressed the poor state of the environment and that GCC is becoming a serious issue. For example, Paul stated, “I do believe we’re in big trouble, globally, in terms of climate change and... unrenowable and renewable resources and how we do or don’t use each of those”. Similarly, Sandra said, “I always knew that like you know issues in the environment were really

problematic and that we really need to do something about it now but I guess I didn't really know the extent of it."

Change is urgent. As youth discussed the fragile state of the environment, they also expressed that there is an urgent need for change. When asked to describe the state of the environment Alison explained,

Pretty bad. [*Pretty bad?*] Yeah, I think... I mean I don't think it's as bad as some people make it out to be, I definitely think some people exaggerate it, but I think that it's pretty bad and that it just, it needs to, like we need to do something like now. I think there's still hope, but we have to start now.

Similarly, when describing the state of the environment and key environmental issues Claire stated,

Well global warming is obviously a big one that a lot of people will talk about. I know there's a lot of controversy over that, and we've talked about that in class, the controversy of it... I think our conclusion was the fact that it is a real thing, and how we approach it needs to kind of be more direct and one of the things we did talk about was the urgency of needing to change.

Although youth expressed a need for change, they also explained that they are sceptical of how and when that change will occur. For example, Sophie explained,

I feel like environmental issues are kind of put aside and the government and everything and people don't really make it a priority and, environmental issues in the world and locally are becoming a lot worse so, I think it's important to take a stand, but I feel like often it's kind of put on the back burner.

The government is responsible for change. Interestingly, many youth displaced the responsibility for action onto local governments or the collective population. Youth did not seem to assume a lot of personal responsibility to take action beyond simple pro-environmental behaviour changes, or feel as though they were equally capable of creating change. Instead, many youth expressed that by engaging in simple pro-environmental behaviours they were doing

their part for the environment and their actions did not extend any further. For example, Paul explained,

I think I've always been just the kind of do my part on an every day basis kind of person. Like... you know, I've never been affiliated with any environmental organization, aside from like, you know, like on-line groups or stuff like that or, I've, you know, as you'll find out on the sheet, like I've never been to or organized a rally, that kind of thing, but it's more of like a what can I do every day to like lower my impact and make a conscious decision to, you know, buy less and recycle and you know, all that sort of thing.

Generally, Canadian youth demonstrated a basic, surface understanding of environmental issues. When describing the state of the environment, youth acknowledged that the environment is in a fragile state, and change is urgent. However, they did not think critically about the issues at hand, and they did not directly address local or global environmental issues. For example, youth explained that the state of the environment may be in trouble, but they did not reference or address any environmental issues to support their thinking. Thus, their knowledge of the state of the environment could have been more comprehensive.

India. When asked to describe the state of the environment, youth provided very lengthy, rich explanations. Throughout youths' descriptions a number of interesting themes were identified such as: youths' thorough understanding of environmental issues, their concern for the environment and the need for change, the conflict between economic development and the state of the environment, and the role of government amongst different countries.

Youth provided local examples of environmental justice. Firstly, the majority of youth demonstrated an in-depth understanding and awareness for environmental issues on a local and global scale; however, more local examples were provided. When describing the state of the environment, Tanya addressed a number of issues such as, local environmental issues, lack of government involvement, social inequality, and environmental justice. Tanya explained,

Water is an extremely [*important*] issue from where I come, I live in a state called Maharashtra, in India and this year we have been facing one of the worst famines in the last couple of decades... the government has not been able to do much and sadly enough... because Mumbai is the financial capital of the country, and it is also one of the most important commercial hubs, we in Mumbai do not even realize there is a famine going on, that there is not enough water. I can see water being wasted around me every single day, when I go to work, at the entrance there is a gigantic fountain on the ground floor, and, the sad thing is just a couple of hundred kilometers from me, say 2 to 3 hundred kilometers outside the city are our rural areas where we have famine, where the farmers commit suicide because they do not have water for irrigation, because of no crops being harvested this year, so, I think water is one of the biggest problems to date.

Mahima also provided another local example of environmental injustice while describing her understanding of the state of the environment,

So a couple of the biggest rivers in our country; the Ganga and the Yamana. And they have a lot of leather tanning industries on their banks and one city in Kanpur has around 12,000 leather tanning industries in that tiny city itself. And it's pretty small as a city, right? So what happens is these leather tanning industries, all of their waste goes right into the river. And that's supposed to be one of our most sacred, most ... our largest, our biggest, and our purest of rivers and all of this leather tanning hazardous waste material or whatever comes out of the industries, goes straight into the river from 12,000 industries concentrated in one place so imagine the amount of pollution that has been caused because of all of this.

Change is urgent. Secondly, youth in India expressed concern for the environment and the need for change. When discussing the state of the environment, Tanya stated that, “currently it is in a really precarious stage because it’s degrading, and if we don't save it, it is our existence that is at stake. So, we need to wake up and we need to realize that something has to be done about it”. Similarly, Prachi recognized that environmental initiatives are in place, but they are not enough. Prachi said,

India’s priorities for some, some practices have always been environment-friendly in a way. Indians have always been reusing things that we have. This whole idea of recycling newspapers has been a part of Indian households since generations, so there are these activities, which are very habitual which are environment-friendly which I am happy about... but, obviously more needs to be done.

Economic development vs. the state of the environment. Thirdly, throughout youths' interviews there was a lot of discussion regarding the conflict between economic developments and protecting the environment. Youth explained that in India, environmental concerns are not a priority to the government and development is more important. Prachi stated, "it's a developing country and environmental issues are very important in India. There's an original requirement to address all of this as well, but, if they do come in the way of development, most of the time the development wins and not the environment". Prachi went on to add that, "it's a very common issue in developing countries where we are progressing economically, but as a result of that, environmental issues take a backseat". Similar to Prachi's response, Mahima acknowledged the difficulties in trying balance between advancement and the environment,

So I think with India it's way more complicated. I'm not much aware about foreign countries because I do understand that there isn't as much poverty and as much income discrepancy over there as there is over here. So assuming that issues would be easy to deal with but again because I don't know much I won't say about that but, yeah, here there is a huge problem of how to bridge the gap between, you know, what exactly is good for the environment and what is good for the people.

Government involvement throughout different countries. The final prevalent theme was youths' discussions related to government involvement, and differences between India and Germany. Three out of seven youths explained that the government was much more involved and supportive of environmental initiatives in Germany, in comparison to India. Prachi stated, "environment was really taken care of by their government which is not the same as ours... The government seemed serious about their recycling projects and anything that is related to the environment in that way". When reflecting on what she learned from youths in Germany, Juvina said,

I felt was that our government does nothing and yeah. Basically not very pleasant thoughts towards our government also and also I found it shocking that most of the people over there are unconsciously doing their own bit for the environment, like even

the industries, the people themselves; they're all like working towards the environment here government is not doing anything like they put all the blame on the government which some of it is, you know the government does deserve but everyone has to make some sort of a contribution on his own.

Although the other youth expressed concern, Amit was able to positively reflect on the differences between government involvement in each country,

It gave me a hope I think because I could see that Germany being a very well developed country had a lot of, you know, attention devoted towards the protecting the environment and stuff like that. So I think ... I saw a bright future for India because... development doesn't necessarily mean the environment needs to be at stake or needs to be chastised in any way because Germany, like, the epitome of, I don't know economic development is doing really well on the environment protection front so I think it's something that we can hope for. And it's something that should actually give us happiness or... hope for the future.

Overall, the youth presented an in-depth understanding of environmental issues on a local and global scale. Youth discussed prevalent problems occurring within their local environment, they acknowledged the need for change, they identified a conflict between politics and the environment, and they were able to critically compare the state of their environment to that of other countries. Furthermore, many youth presented thoughts that were multidimensional and they were able to critically evaluate the state of the environment with regard to the social and political underpinnings.

Bangladesh. Similar to India, youth from Bangladesh provided long, rich explanations when describing the state of the environment. This allowed for the discovery of prevalent themes such as: youths' knowledge of local environmental issues, the differences between developed and developing countries in the context of GCC, their connection to the environment and peoples' disregard toward environmental issues.

Youth described local examples of environmental justice. Like youth from India, youth from Bangladesh frequently discussed environmental issues on a local and global scale;

however, there was more discussion related to local examples. In particular, a number of youth discussed the changing seasons, and unpredictable weather patterns. Khan explained,

We used to call it a six-seasonal country: First there is summer, it's very hot, then there is rainy season, it rains almost for 2-3 days, but then there's stop for 2 days probably then again it rains for 2-3 days that was the rainy season, then there was other seasons, there was winter, there was spring at the end of the year, and the spring was- it was very colourful, the flowers are blooming, so it was very good and people saw it very naturally beautiful you know, naturally beautiful and then again you know came the summer. But if we observe, it was raining yesterday, its spring. It's not supposed to rain in spring, and last year the same thing happened...

Developed countries are responsible for GCC. While discussing local environmental issues, some youth also identified the inequalities that exist between countries, as they feel that more economically developed countries are responsible for GCC and they feel the impacts in Bangladesh. Dula explained,

Yes, definitely, because I think Bangladesh is worse sufferer and worldwide nation, like US, with the, I mean, with the carbon emission is the highest in the [*world*]... They are not that much, I mean, victimized, but we are the victim because you know this is one point because as far as I know they consume as much energy as they could but we have energy lacking so there is... inequality between these two countries and between two nations, developed and under developed countries so I think those countries should not be that much developed, they has to suffer a lot.

Developed countries are better able to cope. In addition to identifying who is responsible for environmental issues, youth from Bangladesh also discussed the differences between countries and their ability to cope with environmental issues. More specifically, youth acknowledged that developing countries such as Bangladesh are more vulnerable and less capable of coping with environmental disasters. Lima stated,

In the world, what I see in the TV and the newspaper, it seems that pretty (? guaranteed?) ...They were not talking about natural calamities. They don't actually have to cope up with this. They're good with them. If something happens they cope up very easy...In Bangladesh we wouldn't be good.

Nipa also acknowledged the importance of the environment and its impact on our future generations,

The most important thing that I think is disease. You know? There is a lot of disease people get to ... get to involved with this kind of disasters because if you want me to consider the countries that are very much developed, they don't ... they have a good medical treatment and everything but we don't have the things. So these are making differences and people have to die ... people have to suffer a lot from these things if you compare to developed to under developed countries. So disease and there's so many things... it becomes very much difficult for us to tackle the whole things you know?

Likewise, Puja discussed that it is easier for developed countries to recover from environmental issues, whereas it is more difficult for developing countries.

I think the current impact is the climate change. Natural climate change... because of the climate change, earthquakes... everything... is affected us. They're attacking the developing country, even they're attacking the USA. Recently Katrina attacked the US. They're not overpopulated country so they ... they may come over from it but like developing country us it takes time for us to come over it. And the poor people take time to recover the situation.

Youths' concern for the environment. Another prevalent theme was youths' connection to the environment. Unlike any other country, youth from Bangladesh expressed more concern for the environment, they demonstrated a holistic outlook, and they explained that everything in this world is interconnected. Additionally, youth also expressed that we must take care of the environment, as it is critical for our survival. Puja said,

Yeah environment is not about one element. It consists of so many elements that...regard multiple surrounding things around us. Everything is included into environment so we should take care of all of them and I think because of changes of one thing, it affects everything. All ... all species, land, water, everything gets affected because of changes in one element so we should be careful about that change.

Imran expressed similar views about the environment, as he explained that we must take care in preserving it,

Everything is connected to the earth... The atmosphere, the biosphere, I mean all the living things and also the minerals under the soil. All these things, they're interrelated. They're interconnected and they are always interacting with each other... And when

environmental degradation is occurring, when depletion is occurring, when resources, I'd say not inefficiently used or misused, I'd say abused resources, these things ultimately ... actually it's something like damaging the life of a battery. The battery has a certain life but you have to maintain it. Right? And so that will ensure that you could use that battery for long time, but if you don't then that battery won't sustain for long.

Nipa also acknowledged the importance of the environment and its impact on our future generations,

Actually environment is the thing where we live... which is very important for our ...lives and for the lives for our next generation. So we have to think about ... we have to think about... these situation or these environmental change so we have to... maintain a safe and a very comfortable environment for us and for our next generation so that's it.

Not everyone cares for the environment. Furthermore, although youth identified the importance of the environment, they also expressed that not everyone is able to dedicate the necessary time and resources to educate themselves about environmental issues. Due to this, people may not think about or consider the environment on a regular basis. Youth from Bangladesh expressed that most people do not think about the environment or view it as important. Nipa explained,

No. Actually don't care. Actually they don't understand. Actually they don't understand and they don't have that much ... time or that much enthusiasm to know about environmental issue but even the people who are suffering, they're not ... they don't know why these calamities are affecting them. Actually even they're not interested to know about environmental change.

Lima shared similar views as she stated,

I think some time should be given for the environment. If a...prosperous country is to be ... you know, achieved ... at first some time people have to really think about the environment at some point. They will actually eventually think about environment but they're not actually caring but at some time they will actually have to think about environment. So they can start thinking but no one is actually thinking about it.

Government does not view the environment as a priority. Additionally, youth also felt that the government does not view the environment as a priority. Kanta said,

No, according to me, no, because, according to me the government is not that concerned, that they should be, about these environmental issues. We are planting trees, we are making awareness, but I think it's not enough.

Overall, it appeared as though youths' knowledge of environmental issues, and the state of the environment is mixed. However, there are some commonalities based on geographic location and income-level of the country. For example, youth from Bangladesh and India appeared to have a more thorough awareness and understanding of the state of the environment, as their answers were long, rich and detailed, and they typically discussed complex issues within a local and global context. Furthermore, it was clear that youth from developing countries were already aware of environmental issues and environmental justice as they provided specific examples that extended beyond what they learned from YLEC.

Alternatively, youth from Canada, Germany and the USA appeared to have basic to moderate awareness and knowledge of environmental issues even after participating in YLEC. When youth from developed countries discussed the state of the environment, their responses were usually broad, and they did not critically discuss the complexities of environmental issues. In addition, youth from developed countries did not provide many new examples when discussing the state of the environment, which suggests that their understanding of environmental issues was limited to what they had learned in the class.

Although there may be varying levels of knowledge amongst youth from different countries, the majority of youth expressed a moderate to in-depth understanding of environmental issues, their causes and possible solutions.

Identified Causes

Throughout youths' explanations of the state of the environment, the majority of youth from both developed and developing countries suggested that the two leading causes of current environmental issues are: cultural norms, and lack of government influence.

Cultural norms. When discussing cultural norms, youth explained that our materialistic lifestyle, our consumptive behaviour and our reliance on natural resources has led to negative social and environmental consequences. Rachel from the USA explained how our consumptive lifestyles have led to negative habits, which are negatively impacting our environment,

You know, the need to constantly drive somewhere, you know... we're constantly consume, we're constantly getting more and more stuff, and that just after we just toss it out, and we don't think about where it's going when we toss it out.

Similar to Rachel, Khan from Bangladesh expressed similar concerns regarding our materialistic lifestyles, "We make our buildings, we make our shopping malls, and we do these things regardless of what impact we have on the environment".

Moreover, youth from developed and developing countries also discussed the prevalence of industries and our reliance on massive production with regard to our culture and way of life. Youth felt that on a local and global scale, industrialization is contributing to negative environmental and social impacts. Sandra from Canada discussed the state of the environment, and the negative aspects of industrialization and globalization,

Globally it's not good. It's really not good and I think... that's going to be harder to change, especially with everything and everyone becoming so industrialized and so into becoming more efficient regardless of the cost. I think that's something that it, it's just an entire way of changing the way of how people think in general, because not even just environmentally wise, if you look at like all the, the sweatshops and child labour camps and all those things, like they're only doing it because it's more efficient and it costs less, but like they're not looking at any other factors in that aside from the fact that saving them money. And until we can get people to stop thinking like that nothing can change, and that's going to be very very hard to do, 'cause we've been thinking like that for a very long time now.

Lack of government influence. In addition to cultural norms, the majority of youth explained that government bodies are not doing enough to protect the environment. In many instances, youth suggested that the government is not doing enough, and they placed a lot of responsibility on governments to lead the population. When discussing the state of the environment, Paul from Canada explained that as citizens we are restricted in what we can accomplish toward the environment, thus it is up to the government to establish a standard; however, they are not doing enough.

I would say each and every governing body of each country...because I think there are certain things you can do in terms of like that kind of top down approach. I mean, you can't legislate certain things to change in terms of the fuel and energy we use and in terms of... even things, like down to small things, like... the packaging you are allowed to not use or, you know, reusable glass bottles instead of plastic, right, they're not always the sexiest in terms of cost, but there are things you can do to force people to change, and so long as you're living under this government, then you're gonna abide by their laws, and they do have the power to make those choices. They just choose not to.

Throughout their discussions, youth felt that the two primary contributors of GCC are cultural norms and poor government. Subsequently, youth also felt that these 'causes' could also be reformed into possible avenues for change.

Identified solutions

When discussing the state of the environment, youth identified the following as possible solutions to current environmental issues: a shift in cultural norms, more government action, increased education and awareness, and more collective\social action.

Shift cultural norms. Firstly, youth across the different countries emphasized the need to shift our cultural norms. For example, people need to increase their pro-environmental behaviours, as well as refocus their mindset toward the environment. For example, Mahima from India suggested taking reusable bags, rather than accumulating unnecessary plastic bags when shopping, "when you go out shopping for your vegetables and stuff like that. You take ... take

lots of bags instead of plastic bags”. With regard to changing the way we view and perceive the environment, Prachi from India also expressed that, “all issues, whether it’s about environment or anything at all, it all starts with mindset changing”.

More government action. The second solution youth suggested was more government action. Youth explained that governments worldwide need to create and enforce more environmental laws and policies to encourage more pro-environmental behaviours from the general population. Furthermore, youth stated that governments have the power and authority to create change, thus it is their responsibility. Dula from Bangladesh stated that the government needs to pave the way for change,

Not only the government. The government should come forward and we should follow them, you know? If they pave the way to do us something definitely we can do but unless or until they have the utmost power... how can we contribute, I mean ... The path has to be paved.

Likewise, participant Nipa from Bangladesh said that without the support of the government, change will be difficult,

I think government should take necessary steps and actually our country's developing.. and we have lot's of things to do for our growth of economies so our government don't think about the environmental issue first... They think about unemployment, they think about poverty, they think about other things like... like foreign affairs, like anything but they don't think about environmental issues first. That's why I think government should do necessary steps because people... organizers who are think about environmental issues now, they cannot continue to do this without the support of a government

Additionally, youth also stated that it is important for governments to monitor and impose restrictions on corporations in an effort to limit their environmental impact.

Increase environmental education and spread awareness. Thirdly, the majority of youth stated that we must increase environmental education and spread awareness about environmental issues to encourage change. For example, Kanta from Bangladesh suggested that

we should organize workshops, and spread awareness to increase peoples' knowledge about the state of the environment,

According to me... they should organize workshops like this in different universities and different schools specially, schools, colleges and specially in the rural areas, because urban areas, people are, they have internet, they have access to internet they know stuffs, but in rural area they're like, they don't know a lot about the environmental changes and they keep polluting the air and creating some pollutions etcetera, and so in my view, rural areas people, children especially, should... get to know about this environmental problems.

Other youth also felt that increasing education and awareness is a proactive way to increase understanding, and motivate change.

More collective/social action is necessary. Lastly, youth felt that more collective, social action could lead to change. Many youth expressed that they were sceptical of how much change one individual could produce, and as a result, they felt that collective action was the solution. For example, Ana from Canada said, "I don't think I can do anything huge to like change anything that's happening because I think everyone has to do it in order to make it big". Building upon this, Dula from Bangladesh explained, "I think the whole world has to be united to do something better. To provide something better so that we have a better world".

To conclude this section, the results related to this first research question can be summarized into three key findings. Firstly, throughout the entire sample youth presented a moderate to thorough understanding of environmental issues, they pinpointed direct causes and they also recommended possible solutions to address these matters. Secondly, youth from developing countries seem to have a more thorough awareness and knowledge of environmental issues in comparison to youth from developed countries. Thirdly, regardless of geographic location, most youth also discussed examples of environmental justice, when describing how they view the state of the environment. For example, in many instances youth from Bangladesh

referenced social and environmental justice when discussing the state of the environment on a local and global scale. Thus, although it was not explicit, youth from these countries were also demonstrating their understanding of environmental justice when discussing current environmental issues. In the next section I will review specifically how students discussed environmental justice, especially after they were prompted to do so.

2. How Do Youth Conceptualize and Understand Environmental Justice?

Upon analyzing how youth define and understand environmental justice, it appeared as though overall their understanding lacks comprehensiveness. Youth in developing countries demonstrated a better understanding of environmental justice, as their responses were richer, more critical and multidimensional. Alternatively, youth in developed countries demonstrated an awareness of environmental justice; however, their understanding was basic, and they typically did not apply the concept of environmental justice to a global perspective. After reviewing how participants define environmental justice, their responses were categorized into five main themes: 1) distributive justice, 2) rights, 3) negative examples of environmental injustice, 4) clear, specific examples, and 5) environmental focus.

Distributive justice. When asked to define environmental justice, many youth described local and global examples of distributive justice within the context of GCC. In many instances, youth would discuss the unequal distribution of privileges and burdens between countries. More specifically, when discussing environmental justice, youth explained that the developed countries are the primary contributors to GCC, and yet the developing countries are experiencing the negative impacts. For example, Martin from Germany stated,

Well, dealing with the third world, meaning environmental justice, itself, that the contributors are not usually the main group affected, that's a big problem, and... it's also a thing that... the people in the North, let's say, have more means and also more technology

to deal with... problems of climate change, whereas the South is more focused on their own needs, that is to say meeting the basic needs.

Similarly, Khan from Bangladesh also discussed distributive justice on a local and global scale,

I think it has something to do with... some people are causing or facing the troubles, or facing the consequences more, and few are facing the consequences less so this is injustice... and that's the way I see it, that people from Bangladesh, from the northern part of Bangladesh are facing more troubles, from South are facing less troubles, and if you talk about the other side of the world, they're probably not facing the threats of drowning or say the submerging of a country, they're probably not facing those threats, I think that's an injustice...

Rights. In addition to discussing the distribution of environmental consequences some youth also defined environmental justice with regard to human rights, and having equal access to a healthy environment. For example, Claire from Canada stated,

I feel like environmental justice is giving like let see... like being able to breathe fresh air, have access to clean water and have access to like no chemicals or pollution in the air, I think that's environmental justice, just being able to have like access to natural resources.

Likewise, Rachel from the USA shared similar views that everyone should have equal access to basic needs,

Environmental justice .. would be .. each .. person having access to .. the basic fundamentals of life, like water, air... things like that...

Similarly, Kanta from Bangladesh applied the notion of rights to caring for the environment, and protecting its rights as an entity, “ you have to do justice to environment. It's like nurturing the environment, environment and taking care of it and giving it proper rights, that's the thing”.

Examples of environmental injustice. Aside from human rights, youth also discussed examples of injustice to demonstrate their thinking. For example, Klaus from Germany provided a detailed example of the interconnected relationship between social inequality and environmental injustice,

For example there are areas of cities, where mostly poor people live because they can't afford to live in the richer areas, and there are a lot of examples, not only here in Germany, as there are quite a few laws that try to work against this, but more in other countries, where new industrial complexes which are always associated with pollution, noise, filth and all that are built in the areas where people are poorer, not where the rich live, meaning that they have a cleaner environment than the poor and the poor usually can't do anything about it.

Specific local and global examples. Another prominent theme throughout youths' definitions of environmental justice is they referenced very clear, specific examples. Youth provided examples on a local or global scale, they referred to information learned from guest speakers, and they explained inconsistencies between countries. For example, Mahima from India discussed the negative impacts of industrialization on a local city,

It was about this power plant, this thermal power plant next to ... close to the city of Bombay in this place called Dahanu, so what they did they used up a lot of land and built a power plant over there and the power plant... has the capacity to generate electricity to the whole of the city of Bombay and that's a large... that's a huge population. But at the same time because the power plant is built on land that... and because they're relieving all of their waste and ash and stuff like that right into the sea, there has apparently been a lot of degradation of the environment of the surrounding areas. So this wasn't just because you're using the environment to your benefit but at the same time you're degrading it, right?

Environmental focus. Finally, throughout participant responses, it appeared as though many youth understand environmental justice as protecting nature and caring for the environment. More specifically, youth explained that people should make an effort to protect the environment. Sumon from Bangladesh stated,

Stop pollution...stop serious pollution such as...don't throw any waste in the sewers, like that would be part of it as serious pollution. It is also environmental justice is making sure to reduce pollution.

Similarly, Mahima from India felt that using the environment for personal needs would be unjust,

For me environmental justice would mean that because the environment is a free resource and all of our rights and laws state that everyone has equal access to it. It would technically mean that everyone should have an equal right to use whatever he wants of the environment to the fullest ability to meet his or her needs. But at the same time,

degrading the environment to meet your own means wouldn't be just because you're taking away from something in order to fulfill you and that's not sustainable.

When reviewing how participants defined environmental justice, it was clear that youth do not have a unanimous understanding. Instead, each participant provided a unique response, which was then categorized into the above themes. Furthermore, it is important to acknowledge that in many instances youths' responses were multidimensional, as they addressed a number of themes, instead of one primary idea. For example, throughout one explanation a student could have discussed environmental justice as distributive justice, through describing a specific example, which then led to the importance of environmental protection. Overall, youth from all five countries presented multidimensional conceptualizations. However, distinct themes were also evident in each country, which I will explore below.

Germany. When asked to define environmental justice, two youth explained that the term should be 'environmental injustice' instead of 'environmental justice', as certain groups are treated unfairly. Brigitte explained,

EJ? First I have to say that I think it should be called environmental injustice, because for me the definition is that things that we are doing here affect people or ecosystems in other parts of the world in a negative way, so that's injustice, not justice. And the goal we have to reach is EJ.

Similarly, Leon also stated,

First of all I want to say that I didn't know what EJ was before... but I think I would define it as, actually as Environmental Injustice, because that's the easier way to define it when... people have... disadvantages... 'bout anything that has to do with environment... They get not treated fair... that's for me EI.

These youth expressed that they understand the underlying meaning of environmental justice, but their explanations did not provide any specific examples or references. Additionally, they presented a basic understanding of environmental justice, but they did not make any direct associations, nor did they display critical thinking. Alternatively, the other two youth

demonstrated critical thinking as they provided rich, informative responses, which described environmental justice from a global perspective. For example, Martin explained,

Well, dealing with the third world, meaning environmental justice, itself, that the contributors are not usually the main group affected, that's a big problem, and that... it's also a thing that... the people in the North, let's say, have more means and also more technology to deal with... problems of climate change, whereas the South is more focused on their own needs, that is to say meeting the basic needs.

USA. Of the three participants, one student did not provide a lot of information with regard to how he understands environmental justice. Jack simply said, “I guess that environmental justice would be that... equality, maybe fairness through environmental issues on a global scale”. His explanation gives a slight indication that he understands the underlying meaning behind environmental justice, but there is not enough information provided to suggest that he truly understands the concept of environmental justice. Alternatively, the other two participants provided more detailed explanations of what environmental justice means to them.

For example, Jessica established connections between social inequality and environmental justice,

Well, I guess people having unclean water because ... and this might not be in the U.S.... but it's just people anywhere that, not having access to clean water because a company or a factory nearby is, you know, putting pollutants, sending pollutants and debris into their source of water and therefore their access to it has been polluted for, I guess, the same with people who would... they live near a factory and they're having lots of health problems because the air is so polluted by the factory that... you know, they're getting sick but they can't move because they might not have enough money to then no one wants to buy their house because no one wants to be near them, so it's kind of like an injustice towards them is that they're basically still stuck in this position and being harmed because of this company.

Similarly, Rachel also described the complexity of environmental issues. She stated,

Environmental justice means to me it is like I said earlier, it's not only harm to the planet, it's not only hurtful to the, like to the environment in general, like to the people... it is hurting... like the weather, it's hurting the water, so, what's getting into our water systems and then affecting the people, like their health, and in turn it's affecting the way society works... and it's just a big cycle of injustice.

Canada. After analyzing youths' responses, three prominent themes emerged, 1) youth frequently discussed the environment and the importance of being a conscious citizen, and 2) many youth referred to their encounter with environmental activist Ella when describing their understanding of environmental justice, and 3) youth also considered the global impact of environmental justice.

When asked to define environmental justice, some youth explained the importance of the environment, and how we must take action to preserve it. For example, Sophie stated, "I think it's kind of taking a stand against the issues or for the issues that are happening in our environment and trying to make changes to better our environment".

Additionally, youth also referred to Ella and the injustice occurring in Ontario when describing their understanding of environmental justice. Alison explained,

Environmental justice, it makes me think of when we talked about like Sarnia, and how people were just like dumping the plants there and it was really really bad for the people and just saying that, you know, having proper environment, like the environment is a human right and I think it's interesting because I think it extends to the rest of the world and one of my issues and part of the reason why I feel like now I have to do something.

Throughout this quote, she not only referenced injustice occurring on a local scale, but she also extended her thinking to the global context as well. This was another reoccurring theme amongst youths' understanding of environmental justice. In some instances, youth were also able to identify the interconnected relationship between social inequality and environmental justice when describing their understanding. For example, Paul addressed distributive and procedural justice within the context of GCC when he said, "I mean ... less fortunate, less affluent, developing nations shouldn't be paying for the environmental choices that we as developed nations make... Especially when they're not, you know, consenting to it".

India. After reviewing the data no prominent themes emerged amongst all participants. Instead, youth from India discussed a variety of topics when explaining what environmental justice meant to them. Of the many topics discussed youth mentioned: 1) the negative impacts of progressive development, 2) they discussed the relationship between social and environmental justice, and 3) they explained that our lifestyles are unsustainable, and change is necessary.

When discussing their conceptualizations of environmental justice, some youth explained that in India economic development is important, and in many instances the environment is not seen as a priority, which is problematic. For example, Mahima explained that many ‘green zones’ are turned into ‘economic zones’,

We've had this new act which allows the government to convert green zones into economic zones and that act can't be amended or touched and a place by next to our place that was just huge wetland area that used to be home to around 50-60 migratory birds, all of that has been converted into a factory.

Additionally, when discussing their understanding of environmental justice, Tanya acknowledged that economic development is important; however, there also needs to be some kind of balance,

Environment justice is... when you ensure that the environment is protected, but at the same time you do not do it at the cost of the human beings living within that environment. So, it has to be a balance between environmental protection and satisfaction of human needs.

Similarly, other youth explained that we need to adjust our lifestyles in an effort to be more considerate of the environment and the resources we are using. When defining environmental justice, Mahima explained that we must not be selfish or greedy with resources, and instead we must find other ways to live sustainably.

For me environmental justice would mean that, because the environment is a free resource and all of our rights and laws state that everyone has equal access to it. It would technically mean that everyone should have an equal right to use whatever he wants of the environment to the fullest ability to meet his or her needs. But at the same time,

degrading the environment to meet your own means wouldn't be just because you're taking away from something in order to fulfill you and that's not sustainable right? So environmental justice to me would probably mean that the environment should be managed sustainably in such a way that, you know, all the parties that are stakeholders in the environment can lead a sustainable life too.

Finally, youth discussed the interrelated relationship between social inequality, environmental justice and climate justice when describing how they conceptualize environmental justice. For example, Prachi demonstrated an in-depth understanding of environmental justice through providing a very detailed, multidimensional explanation,

Developing countries also have a booming population, like India and China- HUGE populations, and... it is often the people at the lower rungs of the socioeconomic strata that get affected by these. Well, let's say for example, it's an environmental issue, in India, as well I'm sure as in other developing countries as well... we have residences being built, these are expanding but at the same time those who cannot afford the housing etc. are pushed into more crowded areas, as a result in India we have slums... Rural areas may get neglected too... I'm sure it does apply internationally as well, and I think India then, with these global warming temperatures rise .. it's already .. I think gone up by a degree in the last, oh, I don't know how many years- I am not sure of that, but in the end everybody is going to be a loser, it's not just in developing countries, everybody is going to suffer the consequences of not taking the steps when they were supposed to be taken. So yeah, I think of the whole world together, so I would just start with that.

Bangladesh. Throughout responses, it was evident that youth from Bangladesh view environmental justice and social inequality as closely linked. Youth frequently discussed the inequality that exists within their country, explaining that poor, marginalized individuals are often exposed to the worst environmental conditions. Additionally, some youth explained that they were not originally aware of this imbalance, and thus, some youth also reference Adnan, and the struggles he experiences when discussing their understanding of environmental justice. Moreover, when explaining their understanding of environmental justice, the majority of youth discussed distributive justice, and the inequality that exists between countries. Youth consistently expressed that the developed countries are responsible for GCC as they are the primary contributors, and yet developing countries suffer the consequences. Munna explained,

The developed nations are emitting the main gases, mainly if you see the USA and... China where the people effect but we are affected... they are telling us to adapt. Adapt with that. And I don't think this is justified because we are not harming the nature that much. We are being... we are suffering from that. Like one third of the Bangladesh... will go under the sea water and you know that our population is lot of population so it will be very tough for us.

In conclusion, three key findings emerged after reviewing data pertaining to the second research question. Firstly, youths' conceptualizations of environmental justice were limited, more intuitive and not very multi-dimensional. Secondly, youth did not present a unanimous understanding of environmental justice across all samples. Instead, all youth provided multiple definitions, which included explanations with regard to distributive justice, rights, local and global examples of injustice, and protecting the environment. Thirdly, similar to findings from the first research question, youth from developing countries appeared to have a more in-depth understanding of the injustice occurring on both a local and global scale, and their responses were more multidimensional. In many cases youth from developing countries defined environmental justice in conjunction with social and climate justice. Alternatively, youth from developed countries made reference to the global context of environmental justice, but in most cases their understanding applied to the local context. Additionally, youth from developed countries demonstrated an understanding that injustices exist as they would briefly comment on the relationship between environmental justice and social inequality, but their responses were not as detailed or explicit as youth from developing countries.

3. What Aspects of The YLEC Course Do Youth Reference As Contributors To Their Learning About Environmental Justice?

After assessing the data, youth identified two primary components of the YLEC workshop, which contributed most to their learning about environmental justice. The first component that contributed to youths' learning was the environmental justice speaker, and the

second component was the video exchange. According to the youth, the action project component and class readings did not have a large effect on their learning about environmental justice (although they were important in regard to other learning).

Environmental justice guest speaker. When asked to describe which YLEC component had the biggest impact on them, or which component enhanced their learning about environmental justice, youth frequently discussed their experience of meeting and hearing from the environmental justice speaker. Interestingly, this finding was consistent across all countries who heard from an environmental justice speaker. Throughout their discussions, youth explained that they enjoyed listening to the guest speaker for a number of reasons: 1) it helped to enhance and increase their knowledge of environmental justice, 2) it allowed them to emotionally connect to the topic of environmental justice, 3) they appreciated the firsthand knowledge, 4) the guest speaker taught them change is possible, and 5) they found the experience quite eye-opening.

Increased knowledge and awareness. Unlike conventional teaching approaches, youth had the opportunity to learn about environmental justice through the use of the narrative approach. During this session, youth met and heard from an individual who has lived experience of environmental justice. In Canada youth heard from environmental activist Ella, and in India youth heard from two individuals, Sarah who has experienced environmental injustice and John, an individual working with a local organization. Additionally, youth in Bangladesh heard from a farmer at the vulnerable south coast, and in the USA youth heard from a peer facilitator who had personal experience of environmental injustice. When discussing their experiences, youth stated that hearing from the guest speaker increased their knowledge of environmental justice, and also helped to reshape their perspectives. When asked what helped to inform youths' understanding

of environmental justice, Ana from Canada explained that hearing Ella's story provided her with a concrete definition of what environmental justice can look like:

Well, it was mainly Ella's talk...I'm a very visual learner and examples are things that kind of give me the definition and so with the story and her explaining her side of it... and how there is all these things around and there's even studies done about the less boys... being born, and that things are still not being done. And then her going through all this process and still not getting a lot of places. And so I think that's really what gets, like that's what really helped me understand that.

Likewise, Sandra from Canada also stated that meeting Ella really helped to enhance her knowledge of environmental justice,

When she came and talked to us and we just talked about how much damage was going on, not just to the community, but to like the wildlife and everything around her community... And I think hearing her story and hearing how much you know, the government officials and so many people did not want to hear what she had, her community had to say about their health and the wildlife health you know and blaming what was going on with their health on the stereotypes that people have around Aboriginals... That was...something I definitely took to heart and understanding what environmental justice was.

Likewise, Dula from Bangladesh discussed a similar experience when she met the environmental justice guest speaker,

Well I had ... though we're living in the same country ... we're citizens of the same country but the thinking everything just got changed overnight...I never thought the situation could be so worse you know? But Adnan said this that ... I mean they don't even have food. They don't even have shelter. I was totally stunned by hearing this. I never expected this situation could be that much worse.

Throughout her discussion, Dula suggested that this particular experience exposed her to new issues, and altered the way in which she perceived her surrounding environment.

Guest speakers provided youth with an emotional learning experience. In addition to enhancing youths' knowledge, hearing from guest speakers directly allowed the youth to emotionally connect with the speaker and their experience of environmental justice. Dula from Bangladesh said,

It was very much like it was all of us when we heard this, we feel very much emotional you know. We feel like okay, we're the same citizen ... same country citizen and why this inequality between all of us.

Furthermore, when discussing her experience Claire from Canada explained how meeting and hearing from someone with lived experience not only established an emotional connection, but the experience was unlike conventional teaching approaches. Claire stated,

The most I enjoyed about the course was speakers coming in... like that was something different. I've never had speakers come into my class in university, and like you could have like emotional connection with them and they gave their experiences from their point of view. Like you read all this stuff in books and stuff, and that's different but hearing it from like an actual individual who's gone through these obstacles, like that's, I really like that... And it makes you want to do more just by listening to someone.

This student's experience is noteworthy, as she highlighted how conventional teaching approaches do not provide the same type of learning experience as the narrative approach. This is an important discovery to consider; as this participant has expressed that the narrative approach is effective for teaching and engaging youth about the topic of environmental justice.

Firsthand knowledge is important. Moreover, youth also discussed that they enjoyed learning about issues from someone with firsthand knowledge. Alison from Canada said,

I think it was, it was really good, because like I said one of the issues we have is that we're kind of like, we're not safe from it, but we're not exposed to it, so having someone who's first-handedly experiencing how much the environment can impact you and your family and your health I think was really good for people to hear.

Additionally, Amit from India explained how he appreciated hearing from someone with firsthand experience,

I really liked the whole guest lectures because those people who came to speak to us had first hand information and they had actually been out there on the field so when... when people like... when such experts speaks to you, it... it makes a difference. It makes... an impact.

Change is possible now. Another theme that emerged was youths' realization that they can create change now. This particular theme was prevalent among Canadian youth in particular.

Youth expressed that prior to speaking with Ella, they felt as though they did not have the proper resources or authority to create change at an early age; however, Ella demonstrated that change is possible at any stage. For example, Sophie from Canada explained,

I think she kind of inspired me 'cause she made me realize how anyone can kind of just speak up and make a difference and whether it's through a petition or going directly to the government and taking a stand, that you don't have to be like someone who's a prominent political figure to make a difference, so it think it did kind of inspire me.

Meeting someone with lived experience was an eye-opening experience. Finally, youth from the Canadian sample explained that the experience of meeting someone with lived experience of injustice was eye-opening. This suggests that youth not only enjoyed the experience, but they were exposed to new issues, which may have altered or challenged their current ways of thinking. Lisa explained that prior to hearing from Ella, she was not aware that environmental justice issues occurred in Canada as well,

Well, first we had, we had a speaker come in from Sarnia to talk about the environmental issues there, and that kind of made me realize that there were people being affected by environmental issues already in Canada, so that was kind of an eye opener.

Likewise, Sophie also stated that hearing from Ella was an eye-opening experience,

I would just, hearing... the speakers speak, especially I know how you said that it was important to you when you heard that woman speak from Sarnia that was definitely something that opened my eyes to environmental justice.

Overall, youth explain that hearing from the environmental justice speakers was a very informative, positive experience, which helped to enhance their understanding of environmental justice. Given the success of this particular exercise, this suggests that the narrative approach was an effective teaching method for educating and engaging youth about a complex topic such as environmental justice.

Video Exchange. In addition to enjoying the environmental justice speaker, youth also identified the video exchange as a component of YLEC that had the biggest impact on them, and

increased their awareness of environmental justice. To clarify, the video exchange took place between youth living in developed and developing countries. Youth from Canada were paired with youth in Uganda, youth from the USA were paired with youth in Bangladesh, and youth from Germany were paired with youth from India. Throughout their discussions youth explained that the video exchange provided them with a number of learning opportunities. For instance, 1) the exercise was informative and it enhanced their overall knowledge of environmental justice, and environmental issues occurring around the world, 2) it opened their eyes and changed their perspectives, and 3) it encouraged them to think more about environmental issues on a global scale. The final theme was identified throughout interviews with youth from India and Bangladesh. After reviewing their responses, it appeared as though youth from developing countries felt that youth from developed countries could not relate to, or understand their environmental concerns. The identified discrepancies between countries led to frustration for youth in developing countries.

Increased knowledge and awareness. Firstly, a number of youth explained that the video exchange provided them with an opportunity to expand their knowledge about environmental issues occurring in other countries. For example, Lisa from Canada stated, “I really like the, learning from the students in Uganda because I, I knew literally nothing about Uganda or any of their environmental issues, or what they’d even think about the environment”. Additionally, Amit from India shared similar views, “the video exchange was actually informative in the sense about, you know, how ... how their government has been recycling waste and segregating e-waste for a long time and... how people deal with their own environmental problems. So overall that was really nice”. Furthermore, Puja from Bangladesh discussed that it was a pleasant experience to engage in knowledge transfer between countries,

It was really fun and I think we got to know much information from them...and they got to know about our awareness. They got to know that we students... want to save the environment. We students are interested in environmental issues. It's really alarming news for them... They got to know that we are concerned about environment. We want to keep our environment better... because of their activity the environment is getting polluted so it's also their responsibility to help us. It's also their responsibility to come forward for us and they got to know about the situation of Bangladesh...

Speaking to youth from another country was an eye-opening experience. In addition to enhancing youths' knowledge about environmental issues on a global scale, youth also expressed that the video exchange opened their eyes and changed their perspectives. When asked if the video exchange increased youths' knowledge, Paul from Canada replied,

It totally did, yeah. Politically, economically, those sort of things...they really brought those things to light in terms of the decisions that their government is making about, you know, their environmental future... so that's, that aspect was pretty eye-opening.

Additionally, Claire from Canada expressed how learning about environmental issues and initiatives in another country was a very eye-opening experience.

It was actually a really cool experience... Talking to someone from a different country and their experience are totally different and the issues they face are very, like they were facing, they need clean water, when they go to school how there's not enough electricity, their issues are really different, so it's an eye-opening thing that even students in different countries are trying to make change try to go towards the environmentally friendly pathway.

Brigitte from Germany also expressed a shift in thinking after talking to youth from India,

I already had a quite global perspective before, but I think it's even a bit more global by now, because I found really interesting to work together with the Indian group and I think that now I realised a bit that we have to do something, some more stuff here, to change the world that's all around. Because before I always wanted to go abroad and try to work there, but now I see that we have to do a lot of work in Germany.

Enhanced youths' global perspective. Another prominent theme was the way in which the video exchange encouraged youth to think more about environmental issues on a global scale. For example, Puja from Bangladesh explained how the video exchange encouraged her to think about how current environmental issues affect the USA as well,

We had a video conference with USA students so we got to know that they also sufferers... we always think that the developed countries are not sufferers but they also go through it... And ... I didn't know that the developed countries are also sufferers. They also go through the natural climate and... they need help.

Developed countries do not experience the same level of environmental issues as developing countries. The final theme identified throughout the data was that youth from developing countries felt that youth from developed countries did not experience the same environmental disasters. Thus, youth from developing countries felt that youth from developed countries could not relate to, or understand environmental issues that occur in developing countries. For example, Lima from Bangladesh stated, “we thought what was our ... they don't have actually natural disaster...they're solving it themselves... they don't have actually natural problems. They don't actually have compared to us... We have so many problems”. Also, Mahima from India explained that since her partner country does not experience the same level of environmental issues, the youth from Germany were not able to relate,

Yes I did because A) I learned that the countries are really different, that the very fact that they couldn't understand what we were ... what we were trying to tell them showed that, you know, the solutions that we apply over here won't work so easily in their country.

Additionally, Tanya from India builds upon Mahima's concerns,

With Germany and India, I see the problem with Germany is that it's at least 20 years ahead of us at least as far as environmental technology is concerned, so, I think their action problem had something to do with thanking people for taking care of the environment, and my classmates could not even realize, like we could not even believe something of this sort is possible because, I mean we have yet to find the people who actually bothered about the environment, so thanking them for doing that is a much much bigger thing.

Due to this disconnect, youth in developing countries became frustrated, as they felt that youth in developed countries do not do not take enough responsibility or action toward environmental issues. Nipa from Bangladesh expressed some frustration toward the USA youth, as they did not appear to understand how their behaviour affects people living in Bangladesh,

But they ... they confessed it too that they ... students and the other general people are not interested, not at all interested in environmental issues... To know about environmental issues or to work for it. That's the thing that strikes as ... because you were harming us ... harming us so why don't you think about ... why shouldn't you think about that. Even their government are not concerning it ... about the climate change.

Likewise, Kanta from Bangladesh shared similar views, as she was also bothered by the USA youth, and their lack of initiative toward the environment,

They told us that in their country, in their country global climate change it's not a very burning issue... they are not, they are not giving any... strategies about the environmental pollution, and... they are not taking any steps about this environmental problems. And it bothered me and it struck me like, ok this should be the one and this should be the one, about this annoying, about this problems and because we are, we are sufferers and especially they, it's a big country and they are creating a lots of environmental pollution, and this should be a there and they should know more about it.

Overall, youth enjoyed the video exchange, and they felt as though participating in the exchange increased their knowledge about environmental justice, and environmental issues on a global scale. Although many youth had a pleasant experience, some youth from developing countries were frustrated to learn that youth in developed countries do not face the same level of environmental issues, nor do they take initiative to limit their impact. In summary, youths' responses suggested that the video exchange is another unconventional teaching approach that enables youth to learn about the complex topic of environmental justice through the use of unique methods.

In concluding this section, three key findings emerged pertaining to the final research question. Firstly, the majority of youth enjoyed the environmental justice guest speaker and the video exchange as YLEC course components. The youth explained that these two components were emotionally stimulating, eye-opening and they allowed the youth to connect to the issue of environmental justice on a deeper level. Secondly, youth felt that these particular components were impactful for their learning about environmental justice as a concept. In some cases youth

explicitly stated that the guest speaker or video exchange clarified their understanding of what environmental justice is and what it can look like. In other instances, some youth explained that participating in these components broadened their thinking and changed their perspectives.

Thirdly, based on youths' responses, findings suggest that these two approaches to environmental education were quite effective given that the youth were able to connect to the issues and the exercises helped to enhance youths' understanding about a complex topic such as environmental justice. In the next section, I will discuss these and the other key findings in more detail and relate them to the existing literature.

Discussion Section

Through the analysis, a number of interesting findings were discovered. In the following section, I will discuss some of the key findings related to the following research questions: 1) How do youth describe the state of the environment? 2) How do youth define and conceptualize environmental justice? and 3) what aspects of the YLEC workshop enhanced youths' knowledge of environmental justice? In discussing my findings I will link them to the literature reviewed earlier. Finally, I will discuss the limitations and implications of the current study and conclude with recommendations for future research.

1. How Do Youth Frame Environmental Issues?

After thoroughly reviewing the data, three key findings were identified, 1) youth from developing countries are more knowledgeable about current environmental issues than youth from developed countries, 2) youth from developed countries have the privilege of postponing environmental action due to other priorities, and 3) youth commonly describe aspects of environmental justice when discussing the state of the environment. The subsections below explore each of these main findings.

Youth from developing countries are more knowledgeable. Firstly, when asked to describe their understanding of environmental issues, the current study found that youth from developing countries have a more thorough awareness of environmental issues in comparison to youth from developed countries. More specifically, youth from developing countries demonstrated complex thinking with regard to current environmental issues, as indicated by their responses, which were rich, detailed, and they often connected environmental concerns to other social issues. Furthermore, when describing environmental issues, youth frequently discussed environmental issues occurring within their country that were not mentioned throughout the YLEC course. This finding demonstrates that youth from developing countries came into the YLEC course with a foundational understanding of current environmental issues and further supports the notion that youth from developing countries have more in-depth knowledge. Edelstein (2004) explains that individuals who are exposed to environmental pollution or live in hazardous environments have no choice but to acknowledge their environmental surroundings and respond accordingly, in comparison to individuals who are not exposed. Edelstein refers to this type of adjustment as “de facto environmental education”, as youth who are exposed to negative environments are able to learn about major issues and become ecologically literate through simply studying their own backyards or surrounding environment.

Edelstein goes on to explain that, “victims are forced to recognize the vulnerability of natural systems, and their intimate connectedness and interrelatedness with their surround. The environment is now central to their understanding of life” (p. 83). Edelstein’s theories could be applied to the context of exposure to GCC, and the youth in the current study. For example, youth living in developing countries may be more knowledgeable about environmental issues, because they have had to react and adjust to more environmental concerns, than youth living in

other parts of the world. Edelstein's theory may explain why youth from developed countries do not display the same level of awareness and understanding when discussing the state of the environment.

When describing the state of the environment, youth from developed countries acknowledged that social and environmental inequality exist on a local and global scale, but their responses were superficial, as they did not provide specific examples to support their thinking, nor was their thinking detailed and thorough. Edelstein (2004) explains that although Americans acknowledge that there are environmental problems, they do not see the immediate threat of environmental issues, as their daily lives are not directly impacted. This could explain why youth from developed countries did not typically relate to, or describe local environmental issues. Instead, youth from developing countries frequently referenced issues that were addressed during the YLEC course, which suggests that youths' knowledge of environmental issues was limited, as they did not have personal exposure to environmental issues. I am not suggesting that youth from developed countries are free from environmental issues; however, it could be argued that they do not experience the same level of environmental issues, in comparison to youth from developing countries. Furthermore, youth from developed countries are better able to adjust and cope with environmental changes due to advanced technology and abundant resources. Thus, although they may be exposed to some environmental issues, they are able to easily adapt.

Youth from developed countries can choose how to react. When discussing the state of the environment, youth from developing and developed countries were able to acknowledge that environmentally things are getting worse, and as a society, we need to dramatically alter our behaviour and way of life. Additionally, youth in both groups explicitly discussed urgency for change after hearing from the environmental justice speaker. Although there was a push for

immediate change from youth, two key findings emerged throughout interviews with youth from developed countries.

The first key finding was that youth from developed countries felt that engaging in individual, pro-environmental behaviours was enough of a contribution toward environmental issues. In many instances, youth explained that by being a conscious citizen, and making an active effort to recycle, compost, and making smart shopping choices they were already doing their part for the environment. Although pro-environmental behaviours are important, it did not seem as though youth made the direct association between their pro-environmental actions and environmental justice. Instead, it appeared as though they were engaging in these behaviours simply because they knew it was better for the environment. Furthermore, youth from developed countries did not discuss taking any social or political action to address environmental issues at the systems level. Among youth from developed countries, only one youth briefly mentioned participating in online petitions. Youths' lack of political involvement may be due to the fact that they feel as though they are already doing in enough at an individual level. Moreover, young people may refrain from civic engagement for the following reasons: 1) they may feel that they have a lack of education to take political action, 2) they may not be motivated or interested in participation, 3) they may feel that there are negative attitudes toward youth, and 4) there may be a lack of opportunity for your involvement (Camino and Zeldin, 2002; Flanagan and Levine, 2010; The Centre for the Study of Social Policy, 2011; The Grantmaker Forum on Community and National Service, 2001). Interestingly, some youth from developing countries expressed that they tried to get involved politically, but due to their government's laws and policies forms of activism were discouraged. Due to these barriers for civic and political engagement, young people may resort to individual-level actions because they are easier, they allow immediate

control over their own actions, and they can be certain change will occur. This may explain why individual action is generally limited to pro-environmental behaviours.

Interestingly, youth engagement can also be connected to Edelstein's theory regarding environmental exposure and knowledge of environmental exploitation and injustice. For example, given that youth in developed countries are not immediately impacted by the threats of GCC, this may explain why individuals from developed countries resort to small, individual level changes, rather than more collective and political changes. Additionally, worldviews and culture are two other variables that may explain why youth from developed countries resort to individual level change. When discussing the DSP, Koger and Winter (2008) explain that individuals from Western culture are often overwhelmed by the entirety and complexity of environmental issues that they resort to using defense mechanisms. Thus, perhaps individuals from developed countries engage in pro-environmental behaviours because they are not prepared to make large scale change, but through individual efforts they are still making a difference. Moreover, individuals who associate with the DSP are often disconnected from nature, and they view the environment as a separate entity that should be exploited for their own needs and advancements (Koger and Winter, 2008). Interestingly, youth from developing countries discussed the environment as a source of life, and as a sacred entity that should be cared for and protected. Although developing countries are influenced by the DSP, their connection to nature seem to be different from youth in developed countries. Thus, youths' connection to nature and their view of the environment may also provide insight into why youth from Western countries continue to exploit the environment and resort to small-scale change. Moreover, given that Western cultures focus heavily on consumerism and capitalism, the DSP may also explain why individuals from developed countries resort to small change rather than committing to larger

changes such as: not using a car, or buying only local, and environmental actions such as organizing a community event, boycott or rally.

The second key finding was identified among interviews with Canadian youth particularly. Like other youth in developed countries, youth from Canada expressed urgency for change; however, some Canadian youth disregarded the pressure to take action, because they were too busy with other priorities such as school and work. Some youth explained that although they would like to become more environmentally active, they are unable to dedicate the necessary time and mental energy to other things aside from school. Since youth in developed countries are not immediately impacted by GCC, this type of attitude is a luxury, as youth in developing countries do not have the option of choosing to act because they are already feeling the negative impacts of GCC.

In summary, youth from developed countries identify the need for change; however, they focus primarily on individual level change, which is not enough to address environmental issues on a global scale. Moreover, youth from developed countries may resort to individual level change because addressing environmental issues on a larger scale is overwhelming, or committing to large scale change would alter their lifestyles too dramatically.

Connections between youths' knowledge of the state of the environment and environmental justice. In addition to youths' overall knowledge of environmental issues, another key finding emerged throughout youths' responses. When asked to describe the state of the environment, youth frequently discussed concepts that directly related to environmental justice without being prompted. For example, when explaining their view of environmental issues, many youth would discuss inequalities that exist on a local and global scale, and they would describe aspects and examples of distributive justice. Based on an assessment of youths'

responses regarding the state of the environment, youth most frequently refer to distributive justice throughout their explanations. Moreover, youth from developing countries referenced distributive justice and climate justice more so than youth from developed countries when discussing current environmental issues.

2. How Do Youth Conceptualize Environmental Justice?

After analyzing the results, there are three key findings with regard to youths' conceptualizations of environmental justice: 1) youth from developing countries have a more in-depth understanding of environmental justice in comparison to developed countries, 2) youth definitions of environmental justice are closely related to some of Clayton's (2000) theories of environmental justice and 3) youth frequently discuss distributive justice when defining environmental justice. The subsections below explore each of these themes.

Youth from developed countries have a more in-depth understanding. The first key finding is similar to a key finding from the first research question, which is that youth from developing countries have a more in-depth understanding of environmental issues and environmental justice in comparison to youth from developed countries. Similarly, youth from developing countries provide complex responses with regard to how they understand environmental justice. In some instances, youth would discuss the complex relationship between environmental issues and other social issues such as poverty or corruption. Furthermore, in many instances, youth from India and Bangladesh make direct reference to distributive justice, and the notion that developed countries are creating the problem, and yet developing countries are suffering. Additionally, youth from developing countries also demonstrated critical thinking skills, indicated by how they discussed issues at a systems level, described issues within a local

and global context, and demonstrated an in-depth understanding of the importance of the environment.

In contrast, youth from developed countries did not present the same level of understanding and awareness with regard to environmental justice. Alternatively, youth from developed countries did not present the same level of understanding and awareness with regard to environmental justice. Similar to youths' knowledge of environmental issues, youth from developed countries demonstrated that they understand the underlying meaning of environmental justice, but they did not support their answers with concrete references or details. For example, youth discussed distributive justice on a global scale; however, not many discussed how these environmental problems began, or who is responsible. Furthermore, it appeared as though youth from developed countries associated environmental justice with more local examples. For example, the majority of Canadian youth explained that they associate environmental justice with the guest speaker, Ella and her experience of environmental injustice.

Based on the literature, developing countries experience more negative impacts of GCC in comparison to developed countries (Global Humanitarian Forum, 2009; Ibararán, Ruth, Ahmad, & London, 2009; O'Brien & Leichenko, 2000; Park & Roberts, 2000; Rosa, 2001; Roberts 2001). Therefore, it is not surprising to learn that youth in developing countries have a concrete awareness and understanding of environmental justice, in comparison to youth from developed countries (Edelstein, 2004). Thus, it was expected that youth from developing countries would have a more thorough understanding of environmental justice given that they are exposed to negative environmental conditions more regularly, and they are likely able to relate directly to the concept of environmental justice.

The relationship between youths' conceptualizations of environmental justice and Clayton's models of environmental justice. The second key finding from this research question, is that youths' conceptualizations of environmental justice closely relate to Susan Clayton's (2000) typology of environmental justice. Some types, however, are more clearly and frequently referenced than others. To review, Clayton proposed that individuals associate the concept of environmental justice with five specific models: 1) equality, 2) rights, 3) responsibility, 4) justice of the marketplace and 5) procedural issues. *Equality* relates to principles of distributive justice, *rights* refers to respecting and maintaining human rights, *responsibility* refers to caring for the earth, *justice of the marketplace* refers to viewing the environment as a material resource, and finally, *procedural issues* relates to procedural justice and participatory decision making processes. As demonstrated throughout the results section, youths' responses were categorized into five main themes: 1) distributive justice, 2) rights, 3) negative examples of environmental injustice, 3) clear, specific examples, and 4) environmental focus. Among the five themes identified, three directly relate to Clayton's typology of environmental justice.

Firstly, youth frequently discussed distributive justice when describing their conceptualizations of environment justice. Interestingly, youth described explanations similar to Clayton's type of equality, which states that, "some people and countries consume far more of our environmental resources than others, and some people and countries are affected by environmental pollution to a far greater extent than others" (Clayton, 2000, p. 461). Therefore, youth understand environmental justice with regard to equality and equal distribution of privileges, burdens, responsibility, and resources.

The second theme would be that youth frequently discussed their understanding of environmental justice with regard to human rights and environmental rights. Similar to Clayton's definition of rights, youth frequently associated environmental justice with human rights, and the notion that every individual should have access a clean, healthy environment and feel free from environmental hazards. Additionally, youth described their understanding of environmental justice with regard to environmental rights, and the fact that we must invest more time and energy in protecting and caring for the environment, rather than exploiting it for personal needs. Some youth also made references that related to the *responsibility* type. In Clayton's typology, *responsibility* relates to the notion that people should not exploit the environment for personal gain, and instead should care for and protect the earth.

Additionally, a few youth also provided responses that relate to Clayton's types of *procedural issues* and *justice of the marketplace*; however, these themes were not very prevalent.

In summary, it is evident that there is some overlap between the way youths' conceptualize environmental justice, and Clayton's proposed typology of environmental justice. Thus, similar to what Clayton reported as common types, youth in this study also frequently associate things such as rights, responsibility, and equality when defining or conceptualizing environmental justice.

3. What Aspects of the YLEC Workshop Do Youth Reference as Helpful for Their Learning About Environmental Justice?

The final key finding is that youth identified the environmental justice speaker and the video exchange as components of the YLEC workshop that had the biggest impact on them, and contributed to their learning about environmental justice. These finding are noteworthy, as they demonstrate the effectiveness of the transformative teaching approach with regard to enhancing youths' knowledge and connecting them to a complex issue. Throughout this section, I will

discuss three key findings: 1) youths' experiences of meeting and hearing from the environmental justice guest speaker, 2) youths' reflections from participating in the video exchange, 3) the effectiveness of the transformative learning approach. I will also discuss sub-themes identified within each key finding.

The environmental justice speaker. To begin, youth explained that they enjoyed meeting and hearing from the environmental justice speaker for a number of reasons. Firstly, youth appreciated that they were learning firsthand information, in comparison to learning from a textbook or lecture. Youth explained that learning about environmental justice in this way allowed them to connect with the material on a deeper level, in comparison to traditional style approaches. For instances, if youth had learned about environmental justice through a lecture style approach, the outcome of youth learning may not have been the same. This is important to consider when teaching youth about the topic of environmental justice. In some cases, youth explained that the narrative approach was the primary component that helped to clarify or enhance their knowledge of environmental justice.

Secondly, youth described feeling an emotional connection toward the guest speaker, and their lived experiences of injustice. This finding is noteworthy, as it directly relates to the literature on the concept of 'othering'. As previously mentioned, 'othering' relates to the notion that we view others or another group as different or inferior to ourselves (Krumer-Nevo, 2002). Interestingly, youths' responses to the guest speakers were quite similar across countries, even though each guest speaker was different and they discussed different examples of injustice. Also, guest speakers from the YLEC workshops may have been of a different socio-economic status from the youth, or they may have been part of a different social or cultural group. Regardless of the speaker's characteristics, it appeared as though the youth cared for the speaker and they could

emotionally connect to the speaker's experience of injustice. These findings offer potential that youth would be able to overcome 'othering' in additional ways. For example, perhaps meeting the environmental justice quest speaker will encourage the youth to proceed with sensitivity and understanding when meeting new people who are of a different group or social status. This notion of conquering 'othering' could also be applied on a local and global level.

Furthermore, youth describe being able to relate to environmental justice in an emotional, empathetic way, even though they may not fully comprehend the concept cognitively. In some instances, youth explained that they were shocked and saddened to hear that this type of injustice existed. Additionally, some youth explained that hearing about the guest speaker's experiences challenged their views, and encouraged them to look at things from a different perspective.

These findings demonstrate that youth experienced transformative, emotional learning while listening to the guest speaker. Mezirow (1997) explains that transformative learning involves exposure to knowledge or experiences that challenge or alter our current ways of thinking. Furthermore, all of the narratives involved some form of injustice, which may have encouraged individuals to challenge their views and assumptions about their surroundings. As discussed earlier, the justice component within education is important, because it encourages youth to think about others and care for their well-being. Additionally, the concept of injustice may elicit an emotional response amongst the audience as they feel injustice and mistreatment has occurred, which makes the approach effective (Stovold, 2012, undergraduate thesis). Therefore, these key findings are important as they demonstrate the effectiveness of the narrative approach and transformative learning with regard to unconventional teaching approaches.

In summary, it appears as though the narrative approach was quite effective in teaching youth about environmental justice, as it allowed them to emotionally connect to the topic, it

exposed them to new information, and it broadened youths' perspectives and understanding. Interestingly, these findings are consistent throughout past literature, as Stovold (2012) found similar results when assessing the effectiveness of the narrative approach. Finally, the implementation of narrative approach could add to a growing body of literature with regard to how youth perceive injustice, specifically within environmental education.

The video exchange. In addition to the environmental justice speaker, youth also explained that their participation in the video exchange helped to increase their knowledge of environmental justice.

Firstly, youth enjoyed the video exchange because it was interactive and unlike other conventional teaching approaches. Given that youths' satisfaction for this particular component, could explain why youths' knowledge was enhanced. More specifically, given that youth enjoyed themselves throughout their participation, they may have been more attentive and invested, which may have led to an increase in youth knowledge regarding environmental justice.

Secondly, youth stated the video exchange enhanced their knowledge and understanding of environmental justice because they were able to communicate with youth from another country to learn about different environmental issues and initiatives. Some youth explained that they were unaware of environmental issues occurring in other parts of the world, and it was interesting to speak with youth to learn more about their country. Furthermore, youth stated that the video exchange exposed them to new knowledge as they were unaware of government structures and environmental initiatives occurring in other countries. Although the video exchange increased youths' knowledge, not all youth were pleased with what they learned. For example, some youth from India and Bangladesh became frustrated by the video exchange

exercise, as they learned that youth in developed countries do not experience the same level of environmental issues or concerns. More specifically, youth from Bangladesh were frustrated to learn that youth in the USA do not take initiative to lower their impact, nor were youth well informed about the context of the global environment. Lastly, youth from developing countries were frustrated to hear about the resources and government involvement in developed countries. For instance, youth in India explained that the government in India does not consider the environment as a priority, and it is difficult to engage people environmentally, whereas in Germany, the government is investing in multiple environmental initiatives, and people willingly do their part.

In summary, key findings from the current research study contribute to a growing body of literature, as there is very little empirical research available regarding effective teaching methods for engaging and educating youth about environmental justice (Haluza-DeLay, 2013). Furthermore, key findings demonstrate that unconventional teaching approaches such as the narrative approach or a video exchange can provide youth with a unique learning experience, which allows them to connect to issues on a deeper level. Furthermore, these unconventional teaching approaches allow youth to create emotional connections to difficult material, and establish an understanding of this complex issue that does not limited to a cognitive level. Lastly, based on youths' responses it was evident that youth enjoyed participating in these two YLEC components, which further supports the notion that unconventional teaching approaches can be utilized to enhance youths' learning experiences in a variety of ways.

The effectiveness of the transformative learning approach. Key findings demonstrate that unconventional teaching approaches such as the narrative approach and the video exchange provided youth with a unique, transformative learning experience as students were able to

emotionally connect to the issue of environmental justice. As discussed by the youth, these two components enhanced their knowledge, and motivated change due to the personal encounter of meeting someone with lived experience of injustice and hearing their stories firsthand. Thus, these unconventional teaching approaches are able to provide students with a unique learning environment, which may be lacking within traditional approaches (Werle, 2004). The primary component that made the transformative experience possible was the concept of justice, as perceptions of injustice can lead to feelings of discomfort, which motivates efforts toward redress (Mikula, Scherer, and Athenstaedt, 1998). Through the narrative approach and the video exchange, youth were able to connect to a complex topic, and emotionally relate to others. Thus, given the effectiveness and positive response to these approaches, perhaps the concept of justice needs to become more prevalent throughout environmental education through the use of unconventional approaches.

Haluza-DeLay (2013) examined environmental justice education literature, and found that although efforts are being made to integrate more environmental justice into the curriculum of education, attempts to do so have been limited and lack empirical support. Additionally, Haluza-DeLay found that some articles discussed topics of equality and justice, but only few go on to discuss the topic of environmental justice. Furthermore, among the few articles that do mention the topic of environmental justice, their discussions were viewed as superficial, given that they did not discuss the concept in great detail (Haluza-DeLay, 2013). Haluza-DeLay concludes that, “for the most part, however, all of these discussions represent exhortations to get on with the task of including justice dimensions in environmental education and there remains little research literature on such practices” (p. 397). Perhaps if the concept of environmental justice was better integrated into environmental education, more youth would take an interest in

the topic and become socio-politically involved in current environmental issues. This study provides some empirical evidence for approaches that can be used for that purpose.

Limitations

The current study had three major limitations: 1) the nature of the sample, 2) the use of only one researcher in doing the analyses, and 3) the process of procedural analysis. This section discusses these limitations.

Nature of the sample. The first limitation of the current study is the sample size. Although there were 65 qualitative interviews in total, 33 were analyzed for the current study. As previously discussed, interviews from the Ugandan sample were not considered due to communication barriers, and there were also two interviews from Germany that had not been transcribed into English. Additionally, there was one interview from India that was not fully transcribed and, as a result, it was discarded from the current study. In total, the group of interviews included in my analysis consisted of ten from Canada, ten from Bangladesh, six from India, four from Germany, and three from the USA. As demonstrated, some sample sizes were adequate, whereas others were quite small. More specifically, Germany and the USA had few students, which makes it difficult to draw overall conclusions. Additionally, given that there were only a small number of participants from these countries, it should be noted that the views of these students do not comprise a representative sample. Furthermore, students from all country samples were recruited through the collaborators of the YLEC course. Thus, all participants were not selected to participate, and instead students were invited to join the course, which means that there was limited control over the sample and may explain why some samples were smaller than others. Thus, we can rely more on the findings from Canada, India and Bangladesh, as there was more data from more participants.

In addition to the sample size, the quality of the interviews varied as well. This could be due to students' overall knowledge, the way the YLEC workshop was implemented within that country, or it could simply be that the participants did not have much to share. Lastly, participants throughout the sample were from different fields of study, which may have influenced the quality and richness of their interviews. For example, some students may have come from a social science or environmental science background, whereas others may have come from an economics background, which is less directly relevant to the topics at hand.

Overall, the sample size and quality of the interviews is a compromise given that I am using secondary data, which was collected for a different purpose. Instead, my study is explorative and future research should consider drawing on a bigger and more representative sample when exploring students' knowledge about environmental issues and environmental justice.

One primary researcher. Given that the current research study was a secondary analysis of a larger project, there was one primary researcher. This may be viewed as a limitation, as I did not have any direct contact with participants, and thus, I was unable to complete member checks with participants to ensure that my observations and interpretations were accurate. Furthermore, when there is only one researcher conducting the analysis there is a higher possibility that the researchers assumptions or expectations may shape the findings of the research. Alternatively, when there is more than one researcher analyzing the same data, more rigorous methods such as inter-rater reliability and consensus could be used to support the validity and reliability of the study. In an effort to compensate for this limitation, I contacted three other researchers who worked closely on the original research project to discuss my findings. I spoke with these three individuals because they are familiar with the data set, and they would be able to validate that my

findings were correct. After speaking with each researcher they confirmed that my conclusions were reflective of their impressions of the data, and they found similar themes and trends.

Procedural analysis. Since I was not a primary researcher on the original study, it could be argued that I was not as familiar with the data as others and, thus, I may have overlooked important themes and findings. In an effort to ensure that no themes or findings were missed, I engaged in three specific processes. Firstly, as an exercise, I reviewed 10 interviews from the Canadian sample to gain a foundation of skills for coding and begin identifying major themes. Following this exercise, I met with my thesis advisor to ensure that I was coding interviews appropriately, and the themes I had identified thus far were accurate. Secondly, the codebook for the current study was developed using codes from original study. Developing codes based on the original codebook enabled me to begin data analysis with a concrete outline and structure. Additionally, the original codebook ensured that I did not miss or overlook important themes or categories. Lastly, while completing data analysis I created an audit trail, with detailed researcher memos to demonstrate my thinking and verify my findings. Therefore, my thoughts and interpretations were clearly documented throughout the entire analysis process to demonstrate when and where emerging themes were identified. Thus, there is support to demonstrate that findings were not fabricated for the purposes of answering the proposed research questions.

Implications

Based on findings from the current study there are three primary implications. To begin, findings from this research could have significant implications on the way environmental justice is taught at the university or college level. Based on the students' responses, approaches like the narrative approach and video exchange could be used to provide students with unique learning opportunities, and allow them to emotionally connect to a variety of complex topics.

Furthermore, in the context of environmental justice, these approaches could be used to encourage students to adopt pro-environmental behaviours and create a culture of sustainability and environmental justice. Therefore, these approaches not only increase knowledge and understanding, but they have potential to alter attitudes and behaviours, but inspire action as well. In addition to educational settings, these unconventional teaching approaches could be utilized at the community level, as they could be integrated into the development, execution and implementation of environmental workshops and programs for youth.

Secondly, the key findings from this study could have different implications for different countries. For instance, it is evident that students from countries such as India and Bangladesh already have an established understanding and awareness of current environmental issues and environmental justice, whereas countries like the USA and Canada could broaden their knowledge more. Thus, the findings from this study could be used to strengthen environmental education curriculums within countries where students' knowledge of environmental justice could be more developed and thorough.

Lastly, the findings from this research contribute to a growing body of literature. As discussed, there was little empirical literature available regarding students' knowledge of environmental issues, and what teaching approaches are effective for increasing students' knowledge about environmental justice. This study helps to fill the gap between the literature, as the current study explored students' understanding of environmental issues and environmental justice on an international scale, amongst five different countries. Although, not all samples were representative, they do provide overall insights. Furthermore, the current study also addresses gaps in the literature with regard to teaching approaches that effectively enhance students' knowledge of environmental justice. As discussed previously, it became evident that the

narrative approach and the video exchange were two unconventional approaches that increased students' knowledge about environmental justice.

Future Research

After completing the current study there are some recommendations for future research. Firstly, future research should consider utilizing a larger, more representative sample to learn more about students' understanding of environmental issues, and how they conceptualize environmental justice. As discussed, some sample sizes were too small, which created difficulty when applying interpretations to a larger group or population.

Secondly, future research should consider including marginalized groups such as First Nations Peoples to learn more about how they define environmental justice and view the state of the environment. Additionally, future research should consider including marginalized groups from various socioeconomic status. Likewise, researchers Klein and Riemer (2011) conducted a study to learn more about how homeless individuals experience GCC. Throughout their study, researchers asked individuals experiencing homelessness to define environmental justice. The researchers found that individuals experiencing homelessness define environmental justice with regard to their immediate, surrounding environment (Klein and Riemer, 2011). Thus, their research provided interesting insights into how different groups understand and conceptualize environmental justice.

Lastly, when considering topics for future studies, researchers should consider focusing primarily on the narrative approach or the video exchange, to assess the effectiveness of these unconventional teaching approaches within the context of environmental justice. Another topic future research should consider is related to students' understanding of environmental justice, and how they act upon those understandings. For example, if students present a thorough

understanding of environmental justice, are they more engaged? Do they participate in change at an individual or collective level? Are they involved at a political level? Alternatively, if students do not demonstrate an in-depth knowledge of environmental justice, are they less engaged? Is their action toward change limited? These would be questions to explore further.

Conclusion

In summary, the current research brings awareness to a neglected and under-researched topic. As discussed previously, it was difficult to locate academic journals that discussed how environmental justice is taught within higher-level education. Additionally, there is also little literature available with regard to how youth understand and conceptualize the topic of environmental justice. As mentioned by Haluza-DeLay (2013), there is a need for more literature and studies regarding environmental justice education. The current research addresses this need by contributing to a growing body of literature, and by providing information regarding how youth conceptualize and learn about environmental justice..

In addition to building upon existing literature, the current study also has implications for the field of community psychology (CP). Although, advancements are being made to increase the presence of environmental issues throughout the field of CP, it appears as though topics such as environmental justice or GCC receive very little attention within CP (Riemer and Harré, In Press; Riemer and Reich, 2011). This is surprising as there is a lot of overlap between issues of social justice, diversity, well-being, and the environment, as Riemer and Reich, (2011) point out. These authors explain that, “given these interconnections of community psychology and GCC, we have been surprised by the relative silence about this topic within our field” (p. 350). Thus, the current research study builds upon existing literature with regard to the relationship between

community psychology and GCC, as it demonstrates a link between social justice, environmental justice, quality of life, and individual and community well-being.

Appendix A: Qualitative Interview Protocol for Students

Youth Leading Environmental Change Study

Qualitative Interview Protocol

REB #3302

Primary Investigator: Manuel Riemer

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Thank you for agreeing to participate in this interview. As you may know, this interview is one component of a research study that is exploring the impacts of the YLEC workshops on participants' thinking and actions related to environmental issues. As a participant, you have direct experience with the workshops and its outcomes. We would like to hear about your experiences and perspectives.

This interview will be audio recorded and then transcribed into text. After we transcribe your interview all information that could identify you will be removed from the document. Feel free to ask me any questions at any point during the interview. We can also pause the recording if you would like to clarify anything off the record. I will let you know at the end of the interview when I have stopped recording.

There are no right or wrong answers to these questions. I'd like to hear about your experiences, whether positive or negative. Please don't feel rushed. Take the time you need to think before answering the questions. Also, if you want me to repeat any questions, just let me know.

Do you have any questions or comments before I start recording?

[Wait for response and respond to any questions]

I'm going to turn on the recorder now.

[Turn on recorder]

1. How did you become involved in the YLEC workshop?
2. What was your involvement with environmental issues before the workshop?
 - a) How has your involvement in environmental issues changed since the workshop?
3. When you think about major environmental issues like global climate change, what is your place in its causes and cures?
 - a) What can you do about them?
 - b) What should you do about them?
 - c) How has your perspective on your role in the causes and cures of environmental issues changed since the beginning of the workshop?
 - d) Was there anything in particular from the workshop and action projects that caused you to change your perspective?
4. Please describe what you want to do in the future to help fix environmental problems.
 - a) What keeps you motivated to help address these environmental issues?
 - b) How did the workshop affect your motivation?

- c) What parts of the workshop had the greatest impact on your motivation to work on environmental issues?
5. What kinds of behaviour changes and actions have you started doing because of the workshop?
 - a) What other things do you plan to change?
 - b) What elements of the workshop most influenced your behavior regarding environmental issues?
6. Have you been able to influence how other people think or act about the environment? If so, who and how?
 - a) How has the workshop helped you with that?
7. In your own words, tell me: What is environmental justice?
 - a) When you think about environmental injustices, how do they make you feel?
 - b) What do they motivate you to do?
 - c) What elements of the workshop changed your views and motivations related to EJ?
 - a. How did they change?
8. What are the differences between your view of the environment and those of the students you spoke with in the video conference?
 - a) Think back to your definition of environmental justice; how do you think they would likely define environmental justice?
 - a. Like you? How would it differ?
9. Have you stayed in contact with the community partner for your action project? If so, can you tell me more about it?
 - a) Have you kept working with them? If so, how?
 - a. What kinds of barriers have made it difficult to continue working with them?
 - b. What kinds of things have made it work?
10. Have you stayed in contact with the facilitators for your workshop? If so, can you tell me more about it?
 - a) Have you kept working with them? If so, how?
11. Have you stayed in contact with any of the students in the other country? If so, can you tell me more about it?
12. Have you made connections with any other students or organizations working on environmental issues? If so, can you tell me about those connections?
 - a) How did you make the connections?
 - b) What kinds of activities are you working on with them?
13. Is there anything else that you would like to add?

Thank you for your time!

Appendix B: Table 1. Main themes, and subthemes

Questions	Main Themes	Subthemes
1. How do students frame environmental issues?		
By Country:		
	Germany	
		Mixed review of overall understandings. Two youth presented complex thinking, the other two did not.
	USA	
		Very little knowledge presented.
		Knowledge could be more comprehensive across the sample.
	Canada	
		Basic/surface understanding of environmental issues.
		Change is urgent.
		The government is responsible for change.
	India	
		Strong understanding of environmental issues.
		Youth provided local examples of environmental justice.
		Change is urgent.
		Economic development vs. the state of the environment.
		Government involvement throughout countries.
	Bangladesh	
		Strong understanding of environmental issues.
		Youth described local examples of environmental justice.
		Developed countries are responsible for GCC.
		Developed countries are better able to cope.
		Youths' concern for the environment.
		Not everyone cares for the

		environment.
		Government does not view the environment as a priority.
Collectively:		
	Identified Causes	
		Cultural norms.
		Lack of government influence.
	Identified Solutions	
		Shift cultural norms.
		More government action.
		Increase environmental education and spread awareness.
		More collective action is necessary.
2. How do students' conceptualize environmental justice?		
Collectively:		
	Distributive Justice.	
	Rights.	
	Examples of environmental justice.	
	Specific local and global examples.	
	Environmental focus.	
By country:		
	Germany	
	USA	
	Canada	
	India	
	Bangladesh	
4. What aspects of the YLEC course do students reference as contributors to their learning?		
	Environmental justice guest speaker.	
		Increased knowledge and awareness.
		Guest speakers provided youth with an emotional learning experience.
		Firsthand knowledge is important.

		Change is possible now.
		Meeting someone with lived experience was an eye-opening experience.
	Video Exchange.	
		Increased knowledge and awareness.
		Speaking to youth from another country was an eye-opening experience.
		Enhanced youths' global perspective.
		Developed countries do not experience the same level of environmental issues as developed countries.

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