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The Role of Secondary Education in Promoting Sustainable Development in the Caribbean and Latin America

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The Role of Secondary Education
in
Promoting Sustainable Development in
the Caribbean and Latin America

by

Renee N. Richardson Rose

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Submitted in partial fulfillment of the requirements for the degree

Doctor of Education

College of Education and Human Services - Education Leadership

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SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
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APPROVAL FOR SUCCESSFUL DEFENSE

Renee Richardson Rose has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this Spring Semester 2019.

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Dedication

This dissertation is dedicated to my immediate and extended family, especially my mother, Sylvia A. Brooks, who was the first member of her family to come to America. She, in turn, reached back and helped others to build a successful life for themselves and their families, here and in Jamaica. Although she did not have the opportunity to go beyond a high school education, she helped to ensure that I and others would.

My husband, Michael L. Rose I, who took care of our children while I spent many hours completing my work;

My daughter, Brooke Sylvia N. Bachia, who frequently checked on the progress I was making towards completion. I had to finish because I knew she was watching;

My son, Michael L. Rose II, who unselfishly gave me quiet time when I desperately needed it;

My sister, Sonia Richardson Nicholson, who shared my children and became “Mommy Auntie” for an entire summer so that I could get started on my doctoral journey and finally to

My cousin-in-law, Leonie Ricketts, who along with my mother served as the co-captains of my own personal “Pep” squad. She never let me get too tired not to finish.

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The completion of this dissertation is the culmination of a goal deferred but not forgotten. I first considered earning a doctorate fourteen years ago. During the time between then and now, I continued my education and have grown personally and professionally. Many individuals contributed to my growth and development; it is because of their unwavering support that I am here today. Experiences with family, friends, and colleagues, past and present, helped me to continue moving forward.

I am deeply indebted to Dr. Deborah Harvest, who has been my mentor since the infancy of my career. She played a decisive role in expanding my capacity as an educator by always challenging and encouraging me to do more and to be better. Dr. Jacqueline Young provided suggestions throughout this process. Her insights helped me to examine my work through a different lens. Dr. Stephen Webb and I spent many hours writing, he on his dissertation and I on mine. The power of mutual moral support can never be underestimated. Dr. Jermaine Monk and his 'poison' pen almost always provided the first round of critiques which helped to keep the momentum going when I felt myself falling into a rut. Mr. Imaga Idika unselfishly shared his statistical expertise when I doubted my analyses.

I want to thank my committee, Dr. Elaine Walker, Dr. Michael Kuchar, Dr. Deborah Harvest and Dr. Jacqueline Young for guiding me through the completion this dissertation; without them, it would not have been possible. My deepest appreciation goes to my dissertation mentor, Dr. Walker. She asked hard questions and was persistent and consistent, always reminding me to keep the end in sight.

Abstract

This dissertation research completed a secondary data analysis of international education data collected for Latin American and Caribbean countries. This study utilized a quantitative methodological approach which established correlative, frequency and factor sparsity (Pareto) illustrations. This project sought to understand how secondary education contributes to sustainable development in Latin American and Caribbean (LAC) countries. The *Global Education Monitoring Report 2017* analyzed educational outcomes of second and third world countries and became the basis of this research. However, for this secondary data analysis research project, the researcher only focused on data specific to LAC countries. The following key areas of inquiry: (1) efforts by LAC to provide access to universal secondary education, (2) disparities in educational access based on gender, income and location, (3) in-school deterrents and social norms, (4) disparities in educational outcomes based on gender were used as a guide for this research project. The World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified four major areas of concern for LAC regarding educational outcomes: (1) a lack of public investment in universal education impacts achievement of education at all levels, (2) failure to invest in female students increases economic instability (3) gender bias in educational outcomes and (4) social norms and in-school deterrents and its effect on completion. This research found that sustainable development does have an impact on educational outcomes for male and female students at both the lower and secondary levels. Further, the wealth gap that exists between LAC countries significantly contributes to educational outcomes.

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Chapter 1 Introduction and Background

The seventeen Sustainable Development Goals (SDGs) also known as Universal Goals were developed in 2012. In 2016, they replaced the eight Millennium Development Goals (MDGs), which previously provided the blueprint for worldwide poverty reduction and elimination. SDGs continue the goals of MDGs by providing a framework for reducing and eliminating poverty worldwide by 2030. MDGs provided a shared language among nations that allowed them to communicate and monitor the progress of mutually agreed upon goals.

Despite the progress that has been made, the achievement of MDGs was not uniform among nations and was not consistent. MDGs goals also received criticism from countries that were excluded from the development process (United Nations, 2015). SDGs sought to be more inclusive of all stakeholders; additionally, an emphasis was placed on environmental sustainability, social inclusion and economic development (United Nations, 2015). Furthermore, the need for education has become critical for the attainment of sustainable development goals and will help to mitigate challenges related to achieving said goals.

The assumption is that those who are educated will be less likely to continue the cycle of poverty because they will have acquired knowledge that helps to broaden employment opportunities and command higher wages (Education and Poverty Eradication, 2001). In this respect, the transition from primary to secondary education is crucial (Thompson, 2009). Education access, particularly at the secondary level encourage lifelong learning even after students have left school (United Nations Educational, Scientific and Cultural Organization, 2014). Indeed, some researchers argue that an educated populace better understands individual and collective rights and responsibility (Ferris, 2010).

The cost of sustainable development initiatives seems insurmountable, especially for developing nations. Low and mid-income countries, such as those in Latin America and the Caribbean cannot depend on developed nations to foot the bill (Salazar & Katigbak, 2016). For innovative funding ideas and practices to be developed, access to the Universal Secondary Education (USE) is critical (Thompson, 2009). The completion of secondary education clears the path for tertiary education and specialized training that could translate into the development of human capital that will benefit nations.

As noted by Healy, human and social capital are intimately linked (2001). Thus, dedicating resources to the development of both is essential for meeting SDGs. Investment in secondary education is one strategy that can effectively lead to the growth and development of human and social capital. Each additional year of education contributes to the earning potential of an individual (Healy, 2001). In fact, the Social Capital Benchmark Survey indicated that sustainability has an opportunity to be achieved when healthy options for development are available (Portney & Berry, 2010).

Sustainable development in LAC countries faces many difficulties that are not considerations in the developed world, due in large part to economics (Nygard, 2017). LAC countries are classified as developing nations based on their gross domestic product (GDP). The GDP is “the total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports” (WebFinance, Incorporated, 2018). The GDP of LAC countries are lower than the GDP of developed countries. Developed nations have strong infrastructures and are financially able to subsidize health and education for its’ citizens. LAC countries, on the other hand, have developing or weak infrastructures and are generally unable to provide subsidies for health and education.

One of the most significant factors in working towards achieving sustainability is the capacity of a nation to meet sustainable development goals. Several issues impact whether or not achieving sustainability across all seventeen interrelated goals is possible. For example, is a nation with a high rate of poverty focused on education for all or will they be focused on providing better agricultural methods to eradicate hunger? How can one eradicate hunger without educating farmers? It is clear that education has the potential to be the driving force in working towards sustainable development in LAC countries (United Nations, 2018).

Universal secondary education has the potential to contribute to the attainment of SDGs in LAC countries (Thompson, 2009). Poverty is the root cause of many societal problems globally, and as such, eradicating poverty is an overarching theme of the 2030 Agenda (United Nations, 2018). For LAC countries, this is a daunting task. For example, only 70% of age-appropriate children in LAC countries were enrolled in secondary schools in 2014 (United Nations Educational, Scientific and Cultural Organization, 2014). Moreover, persistently high failure and dropout rates plagued many countries in the region; with students from lower income households, ethnic groups and rural areas disproportionately impacted (United Nations Educational, Scientific and Cultural Organization, 2014).

While countries are not legally obligated to work towards achieving sustainable development goals, it is an expectation that globally countries will take an active role in achieving sustainable development. Targets have been set for the next fifteen years, and countries are responsible for monitoring progress that is being made at local, national and global levels (United Nations, 2018). Countries are also encouraged to craft policies and implement practices that will improve the capacity of their nations to achieve these goals.

Secondary education has been redefined to focus on lifelong learning, a right of every citizen and not just a benefit for the more affluent. Basic skills should be developed to high

levels, student interests, motivations, and talents must be considered as a part of a diverse society that will enable more independent ongoing learning (United Nations Educational, Scientific and Cultural Organization, 2014). LAC countries are striving to ensure USE will be available to the masses as a normal part of the education cycle and no longer viewed as a luxury only within reach of a few.

Developed countries are encouraged to support developing countries and urged to honor their commitment to ensuring all global citizens live a life free of poverty. Developing countries are advised to examine resources that are available to them in order to identify innovative strategies, which can be implemented to meet financial commitments inherent in the changes that must take place in order for sustainable development to be achieved by underdeveloped countries. Global, public and private sector partnerships are recognized as key components in the financial processes required for change in LAC countries (United Nations, 2018).

Education is a catalyst for development, but it's potential to spark lasting change has not been embraced by all nations (Unesco, 2015). Access to education is tenuous for many and access is contingent upon finances, peace and other factors that may be prioritized above educating the neediest and most marginalized populations. In July 2014, a policy paper presented by the Open Working Group on Sustainable Development provided evidence that education is not only an end, but it is also a means. SDGs can be achieved by providing education across a wide range of areas that are in alignment with the goals (Unesco, 2015).

Universal primary education is essential to improving a child's life but continued education, at least through the completion of secondary school will lead to improvements for not just a child and his or her family, communities will also reap benefits, potentially strengthen the economies of LAC countries (Caprini, 2016). LAC countries have not uniformly provided access to USE. Some countries had secondary enrollment rates below 50% while others reported

secondary enrollment rates above 80% (United Nations Educational, Scientific and Cultural Organization, 2014). In addition to educating young children, adolescents and teens, adults must also be educated in order to highlight the importance of the need for change and how changes will lead to improvements in the quality of life for society.

Education must occur across all spectrums, not just in the classroom. According to UNESCO, education has the potential to benefit a country, its sectors (agricultural and others) and its citizens in multiple ways:

1. Statement of the Problem

The changing needs of modern society require a more educated population; this is also true for LAC countries. Matriculation through secondary education, then, becomes a priority in LAC countries. Currently, the completion rate for students in LAC countries is not uniform (Busso, Bassi & Muuoz, 2013). In 2010, 53.5% of young people between the ages of 20 to 24 had completed secondary education. In the same year, 21.7% of the young people from that age group from the poorest families completed secondary education (United Nations Educational, Scientific and Cultural Organization, 2014).

The lack of universal secondary education for all children in Latin American and Caribbean countries has implications for reducing the levels of poverty currently evident in these countries. It is well documented that those who are the least educated are the most impoverished. Universal access to education, specifically secondary education provides individuals with expertise that is needed to acquire employment that commands higher wages as a part of a skilled workforce. Therefore, the problem this study seeks to address is how are LAC countries faring in their progress towards universal secondary education. To date, there are few studies that address this question for the region from a comparative perspective.

Figure 1

Long Term Benefits of Access to Universal Secondary Education

- Formal Employment will result in higher wages, informal workers earn lower wages and have less job stability
- Education can boost a farmer's income because they will be able to increase their effectiveness in responding to agricultural needs; improved fertilizer use, soil conservation and erosion measures will be better understood, and new seed varieties will be introduced
- The generational cycle of chronic poverty will be disrupted; starting and/or completing secondary education has led to better financial outcomes for families
- A mother's education improves a child's nutrition
- Higher levels of education reduces preventable childhood deaths
- The transmission of communicable diseases is reduced because of education
- Education provides women with skills for the labor force
- Women who are educated have decision making power in family planning
- Women are more visible in society and have a more equitable role because of education
- Expansion of educational opportunities reduces income inequality
- Citizens are more engaged
- Environmental concerns are increased

Source: Unesco, 2014

2. Purpose of the Study

The purpose of the study was to conduct a comparative analysis of secondary data available for LAC countries. The data was taken from the 2017 Global Education Monitoring Report (GEM) (UNESCO, 2017). The study focused on universal access, participation and completion of secondary education; gender disparity in education; the relationship between social norms and completion and the influence of school environment on participation and completion.

3. Research Questions

1. How effective are the efforts to provide universal education in Latin America and the Caribbean?
 - A. How accessible and what is the level of participation in secondary education in the Caribbean and Latin America?
 - B. What are the completion rates for lower and upper secondary?
 - C. For the countries reporting for reading and math, what is the percentage of proficient students?
2. What disparities exist between boys and girls in completion of the lower and upper secondary?
3. What is the association between in-school deterrents and social norms in the completion of secondary education?
 - A. What is the association between bullying and the completion of secondary education?
 - B. What is the association between physical violence and the completion of secondary education?

- C. What is the association between early marriage and the completion of secondary education?
 - D. What is the association between early pregnancy and the completion of secondary education?
4. What intra-country disparities if any exist in completion rates of secondary education?
- A. What disparities exist between students completing secondary education who live in rural areas and those who live in urban areas?
 - B. What disparities exist between students completing secondary education who are poor and those who are rich?
 - C. What disparities exist between the completion rate of the poorest boys and the completion rate of the poorest girls?

4. Significance of the Study

The research presented in this project is significant because other nations who are facing challenges related to providing access, support or quality secondary educational opportunities may use these findings to develop or strengthen policies and practices that will lead to an increase in graduation rates for all learners. Another area of significance is that it will allow countries in the region to understand what progress they have made toward achieving the goals set forth by the UN.

5. Conceptual Framework

Figure 2 depicts the conceptual approach this study takes. It starts with the assumption that the development of human capital is linked to participation in the secondary education system. However, an intergeneration cycle of poverty continues to be a pervasive problem in the LAC region, and gender inequality persists. Expanding access to secondary education is assumed

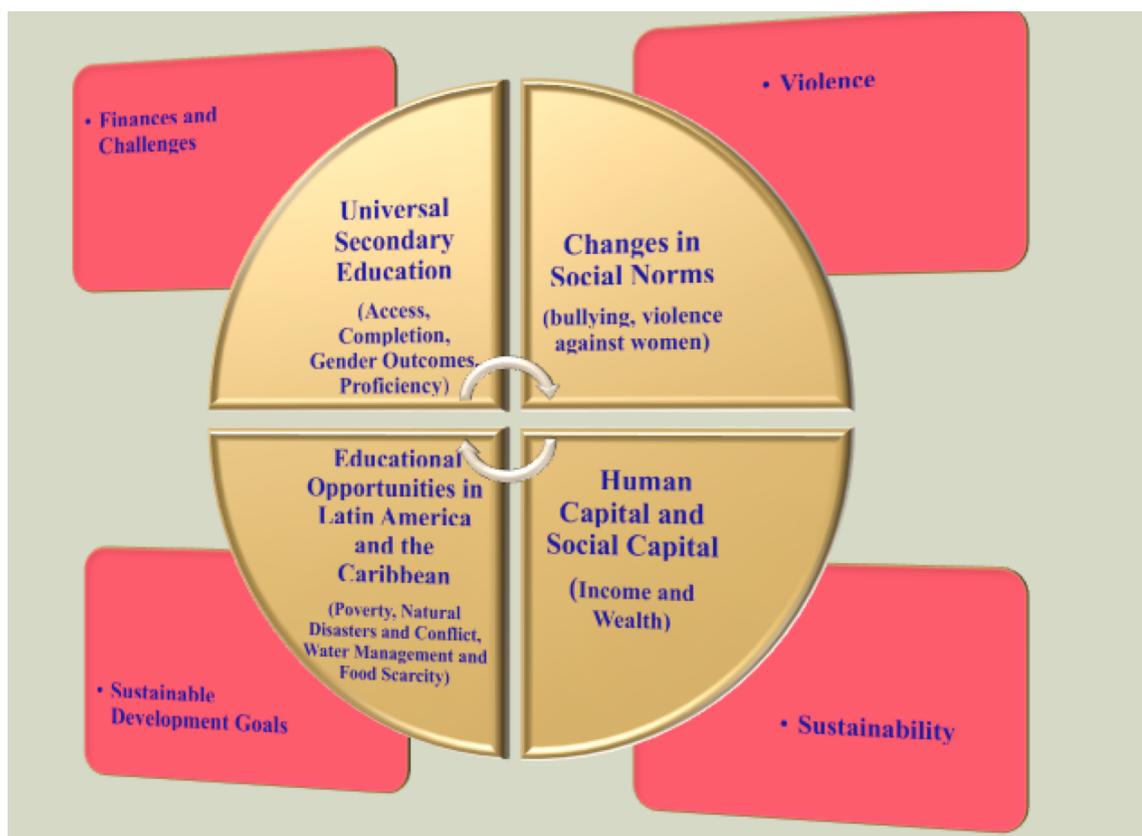
to be one means of fostering the development of human capital in the region for all groups. However, there are several existing mitigating factors related to gender, school environment and social norms whose influence on education need to be understood. For example, most LAC countries are still patriarchal, and men hold an elevated status above women (Healy, 2001). Practices that are accepted in informal and formal institutions such as the education sector will need to be changed if improvements are to be garnered for future generations (Connell, 2005). However, school environments must be facilitative if improvements are to occur. Negative behaviors such as bullying and violence can lead to students interrupting their schooling (Thompson, 2009). Similarly, social norms such as early marriages can lead to girls discontinuing their education (Busso, Bassi and Muuoz, 2013).

6. Limitations of the Study

All Latin American and Caribbean countries did not provide data. As a result, generalizations cannot be freely made for countries in the region. Another limitation is that countries have different policies which may affect some of the goals examined in the study.

Figure 2

Conceptual Framework



Source: Ferrant, 2015; Seguino, 2006 and Yasso, 2005

7. Definition of Terms

LAC – Latin America and Caribbean Countries (WebFinance, Incorporated, 2018)

MDG – Millennium Development Goals (“United Nations Millennium Development Goals,” 2015)

SDG – Sustainable Development Goal (“Sustainable Development Goals – United Nations,” 2015)

USE – Universal Secondary Education (Thompson, 2009)

Human Capital – “economics the abilities and skills of any individual, especially those acquired through investment in education and training, that enhance potential income earning” (Collins English Dictionary, 2012).

Social Capital - relationships, institutions and other social assets of a society or group, which gives an advantage, primarily economic (Yosso, 2005).

Chapter 2 Literature Review

This chapter provides an overview of the literature on the topic of sustainability and education in Latin American and Caribbean countries. Sustainability is measured differently in the international community (Unesco, 2017). Sustainability is defined in particular ways such as a country's gross domestic product (GDP), access to clean water, food availability and the emergency response to natural disasters (Akenroye et al., 2017). This dissertation research has identified sustainability as a variable that impacts educational outcomes for male and female students at both the lower and secondary levels. As such, this chapter reports the current research on the issue of sustainability.

This chapter is divided into six sections which highlight key research related to this dissertation. The following represents the categorization of each following section. Section (1) addresses the challenges to sustainable development. This section identifies a definition of the terms and the challenges LAC countries face with achieving sustainability. Section (2) identifies the Sustainable Development Goals (SDG) utilized by the United Nations and the World Bank (a) poverty, (b) natural disasters and conflict, (c) water management and (d) food scarcity. The third (3) section reports the current financial conditions that exacerbate overall sustainability of LAC countries. The fourth (4) section addresses the role human and social capital contributes to sustainability in underdeveloped nations. Section (5) introduces the current literature on educational outcomes for male and female students in both lower and upper secondary levels. Lastly (6), this chapter provides context for the issues of violence against women and bullying as variables impacting educational outcomes for students in schools in LAC countries.

1. Challenges of Sustainable Development

The idea of a peaceful more inclusive world, with no poverty, is not a new concept, but the enormity of such a noble idea is daunting. In order for such a goal to be achieved, global

collaboration and cooperation will have to occur with each nation having a voice and equitable, if not equal decision-making authority and input, particularly when discussing what the process towards this ideal will mean to them. Movement towards peace and inclusivity is a complex undertaking which will be challenging for all nations.

A major challenge that encumbers many societies is sustaining natural resources and stimulating economic growth that will contribute to the quality of life for its citizens (Jordan, Hayes, Yoskowitz, Smith, Summers, Russell, Benson, 2010). Policies, goals, measures, and monitoring are all critical in ensuring that sustainability is achieved. Human wellbeing and sustainable ecosystems are codependent (Jordan et al., 2010). Collaboration between economic factors, such as social, environmental, political and cultural, is critical to achieving sustainability (Hearnshaw, Smith, Carpenter, Pennington, Mowbray, Maplesden & Palmer, 2014). Institutions play a key role because they provide enticements for people to behave in a particular way. These behaviors can persist over time (Hearnshaw et al., 2014). “The intersection of society and the environment ultimately will determine the success of the human enterprise, nationally and globally, and it is critical to know where we stand” (Jordan et al., 2010, p. 1,535).

2. Sustainable Development Goals

Sustainable Development Goals (SDG) are a global set of priorities that identify targets and indicators that United Nation members have pledged to use during the next fifteen years to structure their programs and priorities (United Nations, 2015). Sustainable development is not a new concept. These targets and indicators replace Millennium Development Goals (MDG), which was a previous fifteen-year plan that focused on reducing poverty around the world.

Figure 3

United Nations Millennium Development Goals	
Goal 1	Eradicate Extreme Poverty and Hunger
Goal 2	Achieve Universal Primary Education
Goal 3	Promote Gender Equality and Empower Women
Goal 4	Reduce Child Mortality
Goal 5	Improve Maternal Health
Goal 6	Combat HIV/AIDS, Malaria and other Diseases
Goal 7	Ensure Environmental Sustainability
Goal 8	Global Partnerships for Development

Source: United Nations, 2015

Data from the culminating MDG Report showed this ambitious plan was the most successful global anti-poverty movement in history (United Nations, 2015). United Nations members strive to continue progress towards the eradication of poverty in all countries. On September 25, 2015, the United Nation pledged to continue working towards the permanent eradication of universal poverty by ending hunger, achieving full gender equality, improving the quality of healthcare and enrolling every child in school (United Nations, 2015). Although progress has been made, the same level of success has not been achieved across all nations. The most underprivileged and the most underprivileged countries remain locked in a cycle of poverty with little access to quality education and limited protection against violence (Caprani, 2016).

In spite of the success of MDGs, questions have arisen regarding the likelihood of that SDGs will be fully realized. The ideas of progress are shaped around a Western idea that influences global economic and institutional arrangements that favor Western stakeholders. Developing countries are at a disadvantage (Brissett, 2017). Inequalities and global capitalism have contributed to many issues faced by underdeveloped countries that are structurally excluded from the decision-making process and the rewards of the economic system (Brissett, 2017).

According to Lily Caprini (2016), the development process for SDGs was more inclusive and done in consultation with in-person surveys of citizens of more than over 100 hundred countries worldwide. The list also includes 17 priorities as opposed to the original eight that were identified by the MDGs. Additionally, SDGs emphasize the importance of environmental and climate sustainability, without mitigating the need for economic development and equity for all people. The crucial importance of governments and their role in the maintenance of peace and protection of their citizenry is also highlighted. Lastly, cooperation between the private and the public sector is encouraged as a means of accomplishing the goals that have been set forth. The aforementioned differences can be summarized as the five Ps (Caprini, 2016), which are the heart of the Sustainable Development Goals:

- People
- Planet
- Prosperity
- Peace
- Partnership

SDGs provide forward movement for the world's children. The goals are universal, for every child, everywhere regardless of country of residence. MDGs were developed in the context of how richer nations could support poorer nations, commonly called developing countries. Since 2001, economic changes have been seen worldwide, particularly for some Asian nations that have moved into middle-income status (Caprini, 2016). During the same time frame, some South American countries have gone into financial recessions. The disadvantages that were traditionally seen between the rich and the poor have become even more entrenched, and the gaps have become wider. Some of the most financially disadvantaged people in the world do not

live in the world's poorest countries, in actuality they live in middle-income nations (Caprini, 2016). Education has traditionally been seen as a vehicle for changing financial circumstances.

A. Safeguarding Against Poverty

One way to safeguard against children continuing to live in a cycle of poverty is to provide quality education (Education and Poverty Eradication, 2001). The goal of universal education has yet to be met, but there has been a significant increase in primary school enrollment in the past 15 years. According to Caprini (2016), it was estimated that 91% of the world's children were enrolled in primary school, but issues of equity still abound. Girls and students with special needs are enrolled at lower rates (Caprini, 2016). Quantity should not be prioritized over quality. SDGs stress the importance of access to quality education as a right of every child that will ultimately increase the capacity of each nation to build stronger, more nonviolent and more just societies. This is especially true for those who are the most marginalized, historically excluded or social barriers impede educational attainment. Quality educational opportunities should be available from early childhood and extend through life without adversely impacting the ability of future generations to sustain themselves. Business partnerships play a vital role in supporting the execution of SDGs.

MDGs focused on aid spending as a catalyst for achieving goals. The proposed funding from donor nations have not materialized as originally envisioned (Caprini, 2016). Donor government spending represents a smaller proportion of resources driving growth. SDGs have been developed with a more inclusive outlook that encourages and is framed in a manner that allows for economic development for all stakeholders. The business community has a significant impact on the development of the infrastructure that is necessary to move forward. Decent employment opportunities will reduce the threat to children that arise out of illicit sources of income revenue (Caprini, 2016). There is a clear recognition of the role of the private sector in

accomplishing goals and support for developing nations to establish their own revenue-producing abilities. Businesses are also charged with supporting and putting practices in place that will protect the environment. Sustainability extends to the awareness that environmental protection will preserve the planet and enhance the prosperit for those that will come after. Under MDG guidance, environmental and developmental priorities were addressed separately (Caprini, 2016).

B. Natural Disasters and Conflict

SDGs were designed around the concept of the Bruntland description of sustainability, which determined that countries had to integrate economic and environmental factors in order to achieve sustainability (McChesney, 1991). Economic and environmental development, work in tandem to address today's need and provide the structure for a sustainable future. All children must have enough energy, food, clean water, clean air and basic resources for lifelong success (Caprini, 2016). Climate change poses an imminent danger to worldwide sustainability; natural disasters related to climate change destroy and damage infrastructure, impact food security and burden economies. Eighty-seven percent of all natural disasters that occurred in 2014 were directly related to climate changes (Caprini, 2016). Developing countries with the fewest financial resources to recover from large-scale disasters were disproportionality impacted, and the children of those nations experienced several setbacks that impacted their growth and development. The response to natural disasters can be impacted by the political climate and/or the state of peace in a region (Ferris, 2010). Conflicts exacerbate the effects of natural disasters by deteriorating state, community and individual ability to respond (Ferris, 2010). One out of ten children lives in an area ravaged by conflict, which includes significant violence, fighting and war (Caprini, 2016). Predictions have been made that indicate children who continue to live in abject poverty will reside in conflict-ridden regions. "SDGs recognize that a world without

violence will only be achieved when all children enjoy a childhood without violence” (Caprini, 2016, p. 104). The eradication of conflict will support the goal of achieving SDGs.

Although the ideals outlined by the SDGs are altruistic, questions have arisen regarding the number of goals, which are more than double in number when compared to the eight MDGs and the financing of the infrastructure required to support the processes that will lead to the attainment of the 17 SDGs.

Figure 4

United Nations Sustainable Development Goals	
Goal 1	No Poverty
Goal 2	Zero Hunger
Goal 3	Good Health and Well-Being
Goal 4	Quality Education
Goal 5	Gender Equality
Goal 6	Clean Water and Sanitation
Goal 7	Affordable and Clean Energy
Goal 8	Decent Work and Economic Growth
Goal 9	Industry, Innovation and Infrastructure
Goal 10	Reduced Inequalities
Goal 11	Sustainable Cities and Communities
Goal 12	Responsible Consumption and Production
Goal 13	Climate Action
Goal 14	Life Below Water
Goal 15	Life on Land
Goal 16	Peace, Justice and Strong Institutions
Goal 17	Partnership for the Goals

Source: United Nations, 2015

The goals have been translated into 169 targets and relevant factors, with three overarching scopes of sustainable development. Social, environmental and economic issues which frame priorities with qualities of peace, justice, and effective institutions are woven throughout (Akenroye, Nygard, & Eyo, 2017). Viewpoints differ regarding how the number of goals is reviewed. Some have commented that more goals, make it more difficult to prioritize needs (Akenroye, Nygard, & Eyo, 2017). Other viewpoints express the need for many goals and

targets in order to clarify and delineate what is needed to achieve true sustainability (Akenroye, Nygard, & Eyo, 2017). The guidance that has been provided for SDGs encourage nations to apply the goals in a manner that will address the needs of their people.

Enormous financial investments that amount to trillions of US dollars must be made if goals are to be fulfilled. All nations, but especially developing nations that already face issues of economic, social and political instability will have significant challenges in meeting goals (Akenroye, Nygard, & Eyo, 2017). If developing nations are to have a voice at the decision-making table, they cannot depend on foreign aid to finance programs that will contribute to their attainment of SDGs. They must determine how the goals will be implemented to best meet the needs of their population with financial resources that are generated within their borders (Caprini, 2016).

C. Water Management

Water is the world's largest natural resource, only 3% of it is fresh water is suitable for consumption; of the available water only 1/3 is accessible, the rest is frozen in glaciers or are deep underground (Global Environment Facility, 2017). Global financial prosperity has increased the demand for water. Industries that require high volumes of water have strained the world's freshwater water reserves that rely heavily on aquifers. Over 2 billion people depend on aquifers, underground water stores for their water supply (Global Environment Facility, 2017). If the world continues to consume fresh water at the current pace, available freshwater needed to safeguard energy supplies, food security and basic water requirements will drop by 40% (Global Environment Facility, 2017).

Global warming and unpredictable climate change also have serious implications for the availability of water sustainability. Floods and droughts have occurred with more frequency around the world. Ecosystems are destroyed or altered to such a degree that the quality of life

for millions of people is adversely impacted (Global Environment Facility, 2017). According to the Nature Conservancy study, one in four large cities is water stressed (Global Environment Facility, 2017). The United Nations has championed the cause of clean water and sanitation for all as part of MDGs and efforts continue with the implementation of SDGs. Increased hardships will ensue if a concerted effort is not undertaken to promote and apply sustainable habits for water use (Global Environment Facility, 2017).

The Caribbean and Latin America face challenges related to the consistent availability of fresh water to meet the needs of the population in their region of the world. Politics and economics have a significant impact on the ability of nations in the region to promote sustainable water consumption practices.

In the Caribbean, the capacity to handle water resources and services change according to institutional needs and political climates (Cashman, Nurse, & John, 2009). The availability of freshwater in the Caribbean, particularly the eastern Caribbean has caused concern for the past 30 years. It is a top priority for small island states. The water reserves of the region are under significant stress because of the growth of tourism, urbanization and economic development. Any slight deviation in the amount of rainfall could lead to disastrous outcomes (Cashman, Nurse, & John, 2009).

Almost all island states in the region heavily promote tourism because tourism revenue accounts for a large amount of money generated for goods and services (Cashman, Nurse, & John, 2009). Tourism holds a favored place in society over other consumers since its financial resources have a considerable impact on a country's gross domestic product (Cashman, Nurse, & John, 2009). Restrictions that have been placed on the everyday consumer have not been felt by the tourist industry, despite the huge demand that it places on water resources. Many citizens of

these nations experience water interruptions as a part of their daily lives (Cashman, Nurse, & John, 2009).

According to the World Bank, many nations in the Caribbean are classified as middle to high income, irrespective of the high debt burden that they carry. Their debt burden impedes the ability of the country to invest in public services such as water management (Cashman, Nurse, & John, 2009).

The Caribbean is very heterogeneous; the lack of uniformity makes it impossible to make general conclusions about water resources. Some countries depend on groundwater, others rely on rainfall, and still, others rely on rivers and streams. There could also be a reliance of a combination of all three or two out of three for fresh water. It has been noted that there are no complete documentation sources of consumer consumption patterns. “The total exploitable water resources, which are available to be utilized to support development taking into consideration the economic, environmental, and physical factors, are usually significantly smaller than the natural water resources” (Cashman, Nurse, & John, 2009, p. 45).

The chart below illustrates the shortage of water in the Caribbean:

Figure 5

Table 1. Caribbean States Water Statistics

Country	Total Renewable Water Resources Km ³ /Year	Total Renewable Water Resources Per Head of Population m ³ /Capita/Year	Total Withdrawals Per Capita m ³ /Capita/Year	Percentage of Agricultural Use	Percentage of Industrial Use	Percentage of Domestic Use	Desalination Mm ³ /a
Antigua & Barbuda	0.052	702	78.13	20	20	60	3.3
Barbados	0.080	294	334.6	22	44	34	44
Belize	18.560	69,756	597.6	20	73	7	6.9
Cuba	38.120	3,358	727.5	69	12	19	
Dominica	—		218.4				
Dominican Republic	20.990	2,333	313.5	66	2	32	
Guyana	241.000	313,802	2 147.0	97	1	2	
Haiti	14.030	1,641	120.5	94	1	5	
Jamaica	9.404	3,482	156.1	49	17	34	0.5
Puerto Rico	7.100	1,814					
St. Kitts & Nevis	0.024	571					
St. Vincent & Grenadines	—		85.78				
Trinidad & Tobago	3.840	2,929	238.8	6	26	68	36.5

Note: There are no data reported for Grenada and St. Lucia.

Source: FAO aquastat database, water scarce countries shown shaded <1000 m³/capita.

Source: Cashman, Nurse, & John, 2009

The Caribbean almost universally provides access to clean water and basic sanitation to its residents. Some of these nations have taken steps to make systemic changes in their water sectors, but disparities exist when evaluating success among regions. High levels of success have been realized when attempts have been undertaken to separate service from environmental and regulatory functions (Cashman, Nurse, & John, 2009). The ability to make infrastructure investments is still constrained by a lack of financial resources. Water resources are viewed more as a social factor as opposed to an economic concern (Cashman, Nurse, & John, 2009). Often scarcity is coupled with a rise in cost for a resource that is in demand; however, the low cost of water has not produced a level of urgency among consumers to signal that water is scarce and is in high demand to maintain a modest quality of life. Careless record keeping also contributes to the regions inability to maximize available water resources. “Rates of unaccounted or

nonrevenue water of up to 60%, depending on whose figures are accepted, which in itself is an indication of the serious lack information management” (Cashman, Nurse, & John, 2009, p. 50).

Demand is often highest during the dry season when water is less bountiful. According to Cashman, Nurse & John (2009), the following steps have been identified as effective ways to increase water capacity:

- Increasing available water storage
- Maintain existing water services infrastructure and implement a plan to reduce the percentage of unaccounted water
- Promote water harvesting and reusing measures and technologies
- Incentivize the tourism industry and water efficiency
- The Caribbean Community and Common Market (CARICOM) must guide local governments to complete their water efficiency plans

The statistics for Latin American countries are not much better (See Figure 6). Latin America provides 1/3 of the world’s fresh water from run-off but only accounts for 13% of the planet’s total land mass (Willaarts, Garrido, & Llamas, 2014). Surface water makes up 80% of Latin America’s renewable resources, but 53% of the total renewable water supply comes from the Amazon River. The region is also blessed with an abundant amount of groundwater (Willaarts, Garrido, & Llamas, 2014).

Water quality is essential for maintaining a satisfactory standard of living (United Nations, 2015). A person who is unable to attain affordable clean water for drinking, washing or their means of support is considered water insecure (Rijsberman, 2004). In an effort to ensure that no person has to endure water insecurity, it is critical that special care is taken to limit or eliminate sources that pose a pollution threat to water resources. Financial limitations, minimal

water management and a lack of water treatment centers hinder pollution management in Latin America (Willaarts, Garrido, & Llamas, 2014).

Figure 6

Table 2
Water Indicators by Country
Latin America and Caribbean Region

Water Indicators	GNI cap	Area	Population	Urban Pop	Urban Growth Annual %	Ag land	Ag Land	Hydropower	Freshwater	Water Withdrawal	Water Supply Urban Coverage	Water Supply Rural Coverage	Sanitation Urban Coverage	Sanitation Rural Coverage	Under-5 Mortality	Diahrrea Prevalence
Units	US\$	000 Km ²	1,000.00	%	1990-2005	%	mill Ha	%	M3/cap	%	%	%	%	%	1000 births	% under 5
Mexico	7,310	1,908.70	103.10	70.00	1.70	56	106.89	11.20	3,967	19.10	100	87	91	41	27	9.70
Guatemala	2,400	108.40	12.60	47.20	3.20	43	4.66	34.70	8,667	1.80	99	92	90	82	43	13.30
Belize	3,570	22.80	0.29	48.30	3.00	7	0.16		54,832	0.90	100	82	71	25	17	11.00
Honduras	1,120	111.90	7.20	46.50	3.60	26	2.91	48.10	13,311	0.90	95	81	87	54	40	19.30
Nicaragua	950	121.40	5.10	59.00	2.50	58	7.04	11.40	36,840	0.70	90	63	56	34	37	14.00
El Salvador	2,450	20.70	6.90	59.80	3.30	82	1.70	31.20	2,587	7.20	94	70	77	39	27	19.80
Costa Rica	4,700	51.10	4.30	61.70	3.60	56	2.86	79.00	25,975	2.40	100	92	89	97	12	
Panama	4,630	74.40	3.20	70.80	2.00	30	2.23	65.60	45,613	0.60	99	79	89	51	24	12.60
Cuba		109.80	11.30	75.50	0.60	61	6.70	0.60	3,361	21.50	95	78	99	95	7	
Jamaica	3,390	10.80	2.70	53.10	1.20	47	0.51	1.90	3,540	4.40	98	88	91	69	20	
Puerto Rico	10,950	8.90	3.90	97.60	2.70	25	0.22		1,815							
Dominican Republic	2,460	48.40	8.90	66.80	2.80	76	3.68	11.50	2,361	16.10	97	91	81	73	31	20.10
Haiti	450	27.60	8.50	38.80	3.30	58	1.60	47.50	1,524	7.60	52	56	57	14	120	25.70
Trinidad and Tobago	10,300	5.10	1.30	12.20	2.90	26	0.13		2,911	8.20	92	88	100	100	19	
Barbados		0.40	0.27	52.70	1.40	44	0.02		371	90.00	100	100	99	100	12	
Antigua and Barbuda	10,500	0.40	0.08	39.10	2.50	32	0.01		1,208		95	89	98	94	12	
Dominica	3,800	0.80	0.07	72.90	0.50	31	0.02				84	100	86	75	15	
Grenada	3,860	0.30	0.11	30.60	0.50	38	0.01				97	93	96	97	21	
Saint Kitts and Nevis	7,840	0.40	0.05	32.20	0.40	28	0.01				99	99	99	99	20	

Source: Akhmouch, Aziza, 2012

It is challenging to determine if there is a true lack of water, as in are freshwater resources inadequate or if the demand for water around the world is so high that minimal water needs of many people go unmet or is it available and not being used efficiently (Rijsberman, 2004). In comparison to the rest of the world, Latin America has significantly more water availability according to the Falkenmark Water Stress Indicator (Willaarts, Garrido, & Llamas, 2014). The Falkenmark Water Stress Indicator proposes that countries sustain 1,700 m³, those which cannot sustain 1,700 m³ per capita per year are water stressed. Countries who fall below the 1,000 m³ threshold are experiencing water scarcity and below the 500 m³ is considered

absolute scarcity (Rijsberman, 2004). Although Latin America does not have widespread water scarcity, several regions are water stressed. Additionally, water supplies are impacted by climate changes, urbanization and population expansion (Willaarts, Garrido, & Llamas, 2014). The use of runoff water is more expensive and more vulnerable to contamination. In some countries, less than 40% of sewage is treated, and the downstream flow threatens the reliability of runoff water (Willaarts, Garrido, & Llamas, 2014). The use of groundwater is more economical, has greater protection from pollution and does not fluctuate in volume as much as runoff water that varies in volume depending on climate and weather conditions (Willaarts, Garrido, & Llamas, 2014).

Government intervention in the form of legislation and infrastructure investment is needed to secure and protect clean water resources in both the Caribbean and Latin America. It is incumbent on these regions of the world to generate revenue that can ensure water is available for their burgeoning populations. Failure to develop and execute a plan for water management will hamper efforts towards sustainability for future generations.

D. Food Scarcity

Globalization and health are intimately linked; food security is a priority for nations around the world (Leroy, Ruel, Frongillo, Harris, & Ballard, 2015 & Young, 2004). Several events have threatened the production and availability of food: wide fluctuations in prices, extreme weather occurrences, and climate change have had significant impact on the food chain worldwide (Leroy, et al, 2015). The most generally recognized description of food safety was given in 1996 at the World Food Summit; all people at all times have adequate access to safe and nutritious food that meets dietary requirements and food preferences for healthy active lifestyles. The relationship between food and sustainability was established during the 1980s, when sustainable development was identified as a central guiding principle for all nations; the World Commission on Environmental Health and Development identified a connection between

poverty, rapid population expansion, and global environmental deterioration. Sanderine Nonhebel of the University of Groningen noted that it is possible to diminish environmental burdens on food systems if the following are decreased:

- Worldwide transport of food and feed
- The use of artificial fertilizers
- The use of meat and ready-made frozen foods, which consume a significant amount of energy during production (Aiking & De Boer, 2004)

The popular belief is that if food supplies are increased, food scarcity will decrease. In June 2002, 67 million people needed emergency food aid (Young, 2004). Food shortages have been a recurring theme in the history of the world. For the past forty years of the twentieth century, industrialized nations have experienced food security. During the 1990s, economies in transition saw a rise in malnutrition, particularly the former Soviet Union and countries in Southeast Asia (Young, 2004). Acute hunger accounts for between 5 and 10% of deaths worldwide, which are a direct cause of malnutrition (Young, 2004). Food insecurity varies greatly; it can be a sporadic missed meal or a full-blown famine (Sustainable America, 2012). Chronic hunger does not impact all populations equally.

Children are the most vulnerable to food insecurity and malnutrition (Young, 2004). Stunting is the most widely used measurement of malnutrition in children. The assessment is not only used to measure health and nutritional standing in children, but it also measures inequities in human development faced by populations (Young, 2004). Young (2004) reports that over 70% of the world's children with stunted development live in Southeast Asia. Worldwide malnutrition as measured by stunting has declined from 47% in 1980 to 33% in 2000. Despite these gains, child malnutrition continues to be a major public health issue in developing nations and its

continuance mitigates efforts to make progress towards other sustainable development goals (Young, 2004).

The most underprivileged rural populations have felt corrosive practices diminish their ability to sustain through food entitlements (Young, 2004). “Peasant farmers have lost access to land, labor and capital as a consequence of land concentration and increased specialization” (Young, 2004, p. 14). The decrease in domestic food production and instabilities in the price of food compromises food security for many.

3. Financing Sustainable Development Goals

In order to attain SDGs around the world, issues of conflict must be addressed. SDGs seek to identify root causes that contribute to a lack of progress towards meeting goals (Nygard, 2017). Financial resources are not the only factor that hinders progress towards SDG attainment. Norway was a major contributor to the development of SDGs. It is a country that has historically participated in peacebuilding and stabilization operations around the world. Norway has vast experience in measuring its efforts and impact on peace. Since its inception, Norway has provided financial assistance to countries struggling with peace and stability. The Norwegian Official Development Corporation (ODC) along with other Norwegian agencies serves as a conduit for aid distribution. In order to remain transparent and accountable to its citizens, Norway has invested substantially large sums into independent research institutes that have been charged to engage in basic and applied research into numerous matters of importance to international development (Nygard, 2017). In 2013, ODC determined that it had grown too large and its effort to positively impact countries was diminished because aid was being sent to too many countries, the list was shortened from 116 countries to 83 countries (Nygard, 2017). Additionally, results were not being analyzed; private enterprise and trade/commerce were being ignored (Nygard, 2017).

The aforementioned concerns each hold their own place of importance if financial investments are to reap benefits. Global goals are set to improve the lives of all people around the world; however many of the goals are politically sensitive. Justice and peace have not customarily been included as a part of UN goals. Efforts have been made to undermine progress towards goals that may not be aligned with the traditional values of some countries (Nygard, 2017). “The international community needs to remain vigilant to ensure that the spirit of the SDG agenda is realized” (Nygard, 2017, p. 15).

Critically important to the achievement of SDGs goals is not only the disbursement of funds, organizations need to develop metrics that will determine if they have the skills required to achieve SDGs (Najam, 2002). “Institutions (at all levels) will need to be invested in a different set of performance metrics; measures which gauge the ability of institutions to deliver on their developmental goals, rather than focus only on financial accounting” (Najam, 2002, p. 153). Financing is an important goal but not the most important goal. The developed world is viewed as the benefactor, while the developing world holds the position of a beggar, they must also put mechanisms in place to ensure the financial resources they receive are used efficiently to benefit their communities (Najam, 2002). “Financing, therefore, would not be the ‘end’ but the ‘means’ to larger socially desirable goals” (Najam, 2002, p. 156). Unlike MDGs, SDGs help to balance the burden of improving lives globally. They are not just a set of aspirations for less affluent countries; they are universal guidelines all nations should aspire to achieve.

It is inherently understood that countries with less financial capital will have the most difficulty attaining SDG. Low-income countries cannot depend solely on foreign aid to achieve goals, especially given that several countries with high incomes have not honored their commitments to provide financial assistance for those in need (Salazar & Katigbak, 2016). Innovate ideas should be implemented to ensure all countries move forward towards improving

the lives of all citizens. The Act on Agenda highlights the belief that ultimately each country is responsible for its own economic and social development; while at the same time recognizing that foreign direct investment, private investment, and government support must work collectively to meet goals (Salazar & Katigbak, 2016). Partnerships with the private sector are critical to the momentum needed for SDGs to become a reality given the limited resources of many governments.

Globally, private sector participation in financing or contributing to structures that are necessary to meet SDGs has been low (Salazar & Katigbak, 2016). One obstacle is private sector industries are businesses that need to make money in order to remain fiscally sound; participation in what is essentially public service endeavors such as education, health, and basic infrastructure does not promise immediate large returns. Governments must also ensure the services that are made available through private partnerships are provided at an affordable price to constituents. The Philippines was able to make significant progress towards SDG goals by aligning them to the country's development plan. Improvements were realized in the areas of maternal health, universal education, promoting gender equality and eradicating extreme poverty and hunger. The Filipino government understood that SDGs could not be achieved in isolation, linking them to the country's development plan mobilized resources and made them a priority for all.

Social Impact Bonds (SIB) are a relatively new idea in funding large-scale initiatives that benefit the public (Salazar & Katigbak, 2016). Under the SIB, independent commercial or philanthropic investors provide up-front funding for social programs through an intermediate. Subsequent financial resources are only disbursed if preapproved benchmarks are met. Additional funds that surpass original amounts may be applied if goals are exceeded. The same is true for independent investors. An independent party evaluates the results. The United Kingdom first implemented a SIB in 2010. One of the first SIB in the United States was implemented in

Chicago to provided educational outcomes and lasting trajectories on the lives of children living in disadvantaged communities (Salazar & Katigbak, 2016). Even though other investments are being used to support SDGs, official development assistance remains the primary source of funding for SDGs, increased private participation in funding can help to ensure all nations are able to meet the overarching goal of eradicating poverty for all people.

Innovative practices can surmount many of the barriers to creating, financing and sustaining structures that will lead to sustainable development, regardless of the gross domestic product (GDP) of a country. A collaborative, multi-national approach allows for a wide range of growth towards the attainment of goals. Efforts that encourage each country to contribute to the improvement of their own countries actively allow all stakeholders to have a part in the decision-making process. Stakeholder involvement increases acceptance and cooperation. Additionally, stakeholder involvement helps to clarify the needs of people and identify processes that will help to improve their lives (Smith,n.d.). “ There are no “blueprints” for sustainable development. Sustainable development actions depend on embracing complexity and working to reconcile different interests in environment and development” (Elliott, 2006, p. 260).

4. Human Capital, Social Capital, and Sustainability

Human and social capital can be considered two sides of one coin. “Human and social capital don’t exist in isolation from each other” (OECD, n.d.). Human capital is skill and knowledge that is garnered from education, training, and experience (Well-being of Nations, 2001). Social capital is the link, shared values and understandings in society that empowers individuals to trust each other so that they can work together (OECD, n.d.). Human and social have a direct correlation to health and well-being (Healy, 2001). Health and well-being are critical to developing sustainability in nations. It is believed that cities with high levels of engagement, participation, and work towards building social capital are more likely to take part

in policies and practices designed to improve sustainability (Portney & Berry, 2010). Investing in human and social capital is important for the attainment of SDGs. There is evidence that proposes poverty erodes social capital (Kawachi, Kennedy, Lochner, & Prothrow-Stith, 1997). Cultures that have large variations in income have a tendency to underinvest in human capital, education, and healthcare (Kawachi, et al, 1997). In addition to benefits gained by individuals, human capital also contributes to the economy of nations (Healy, 2001). Further, it has been shown that an additional year of education results in an increase of 4 to 7 percent per capita (Healy, 2001). Many non-economic benefits are a result of human capital; education is promoted for the next generation, people appear happier, decreased risk of criminal activity, better parenting, improved government, social and civil participation and charitable giving (Healy, 2001). Data collected from the Social Capital Benchmark Survey (Portney & Berry, 2010) illustrates that sustainability is more likely when social capital and opportunities to develop it are vibrant.

Investment in capital occurs in a variety of settings; communities, institutions, and homes all contribute to the development of human and social capital. These investments factor into an improved quality of life. A summary of social and human capital impact OECD countries provide a measure of its importance to sustainability. The findings indicated social capital is decreased in countries where young people are more engaged in technology-based activities such as watching television. Time focused on electronic engagement reduces the time that was used by previous generations for social interactions. When social interactions do not take place or are limited, opportunities to build social capital are missed. Some aspects of social capital are linked to economic development (Healy, 2001). Social capital that can be equated with connections may benefit some individuals or groups in the following ways:

- Employment opportunities

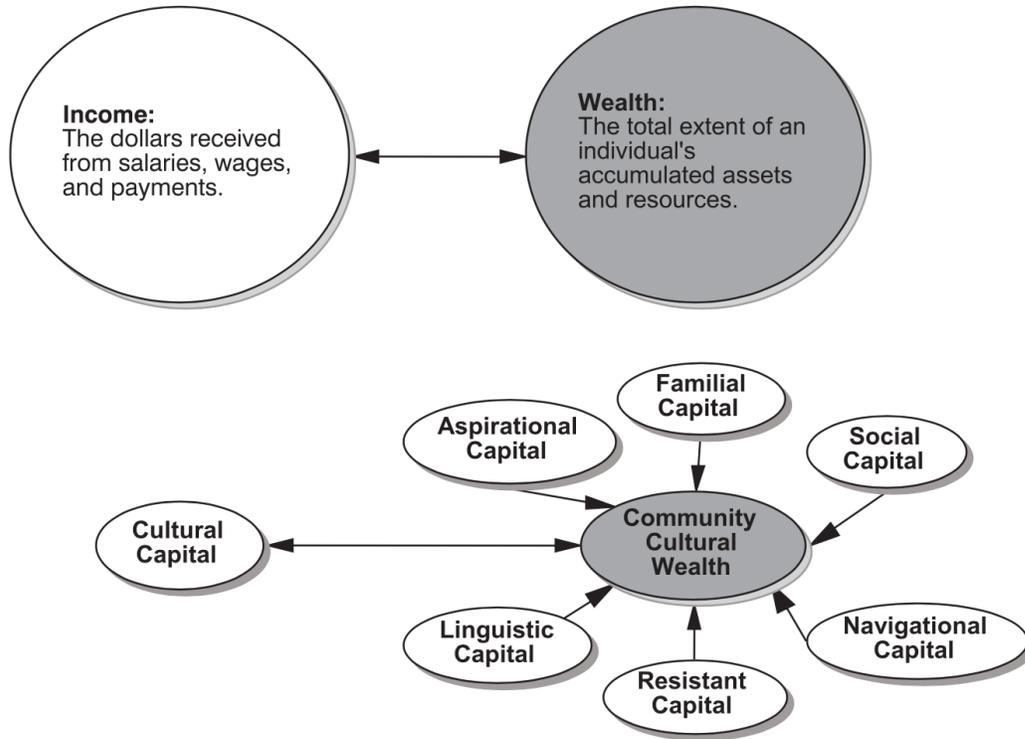
- Trust that leads to increased availability of credit
- Cooperative attitudes that could culminate or produce profit
- Local and state networks that spread and share knowledge

(Healy, 2001)

Governments can have a significant impact on developing human capital in constitutions by proposing and implementing policies that expand formal education and training. They also influence policy that has social impact; transportation, aiding in civic participation, family planning, crime prevention, and town planning are areas that directly impact an individual's ability to develop social capital. National and local decision-making can enhance or diminish social capital. Policies can also lead to the marginalization of groups, which will result in exclusion and can reinforce dominance and privilege (Healy, 2001 & Yosso, 2005).

Figure 7

A Model of Community Cultural Wealth



Source: Yosso, 2005

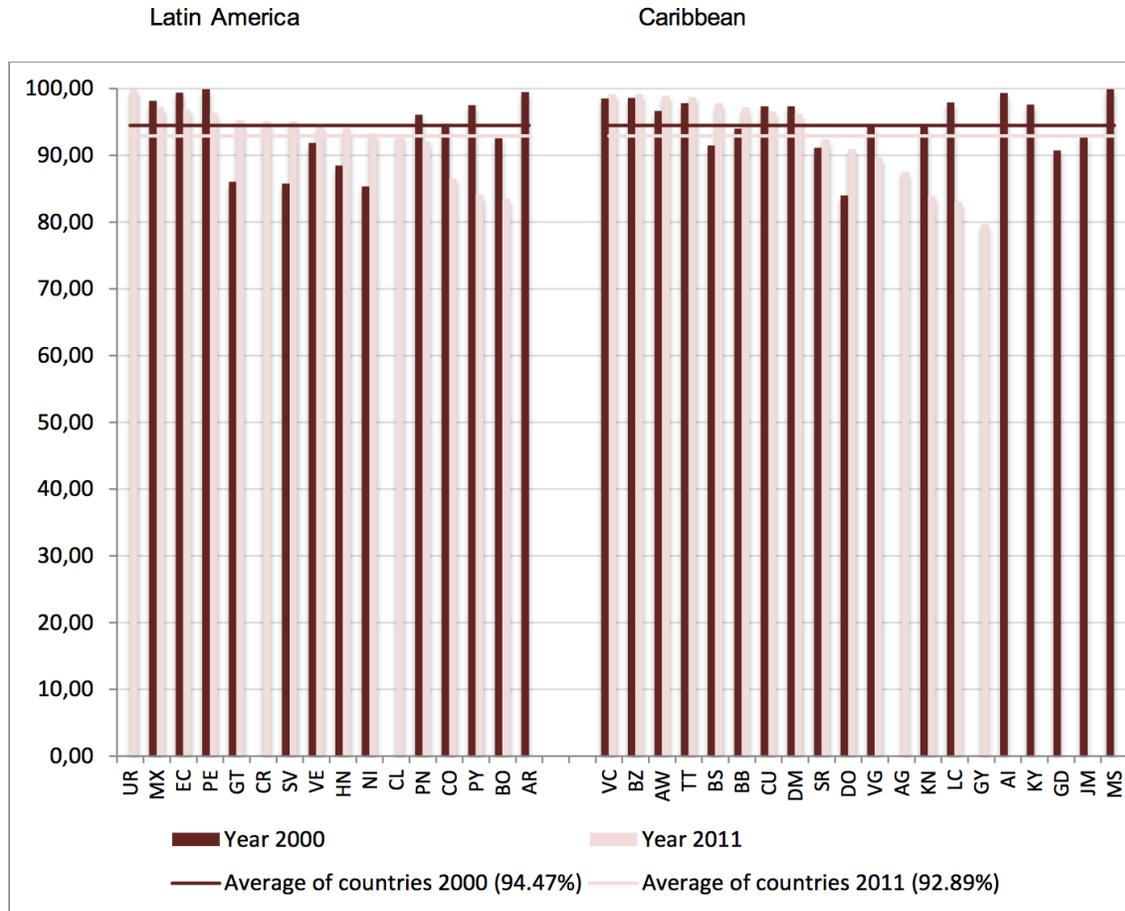
Research has shown trust in government increases political and civic participation and is linked to greater sustainability (Portney & Berry, 2010).

5. Educational Opportunities in Latin America and the Caribbean

The importance of having access to educational opportunities in Latin America and the Caribbean has a positive impact on the earning potential and livelihood of individuals. Ensuring access to free primary education as opposed to other educational levels has proven to have the most meaningful impact, especially for those in the lowest income brackets (Unesco, 2015).

Figure 8

Adjusted net enrolment rate in primary education



Source: UNESCO-UIS database.

Source: United Nations Educational, Scientific and Cultural Organization, 2014

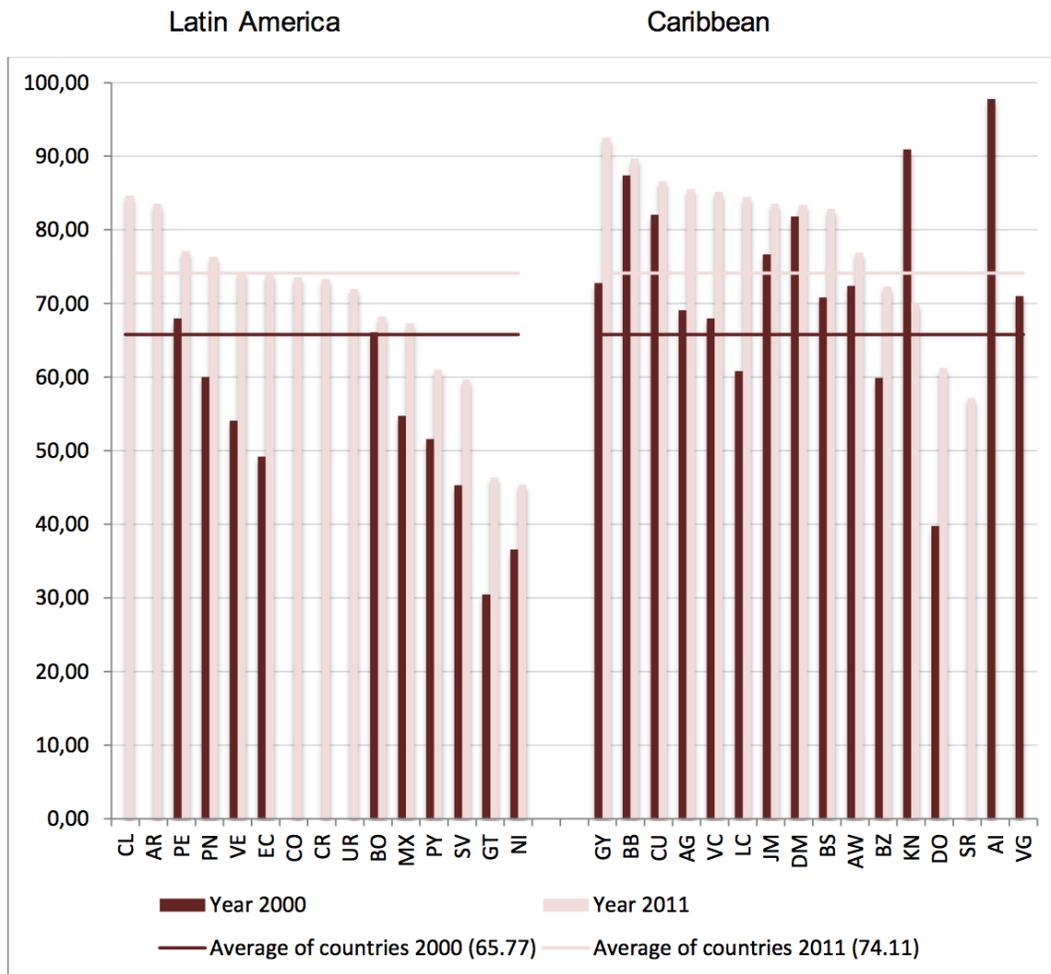
Data from numerous studies have made a connection between an individual’s educational attainment and their earning potential (Morley, 2001). “An explanation of earnings inequality must lie in the educational profile of the population and in the skill differential” (Morley, 2001, p.52). Latin America and the Caribbean have experienced the highest levels of income inequality since the 1960s. Income inequality persists at high levels when compared to the rest of the world.

Additionally, educational inequality is also increasing at a faster rate than in the rest of the world (Morley, 2001). Strategies used to provide educational opportunities differed in Latin America and the Caribbean when examined in relation to countries in Asia. Educational opportunities in Asia were made available to a larger group of youngsters by placing emphasis on middle and high school students to encourage matriculation through the completion of secondary education. In the Caribbean, an emphasis was placed on primary education and university level education. Primary education expansion impacted a fewer number of students (Morley, 2001). A lack of or limited support did not encourage students to remain in school beyond the completion of their primary education after which, many left school to enter the workforce. As a result, there is a loss of potentially talented students before they have had an opportunity to enter and complete high school with the prospects of obtaining a university education (Morley, 2001). The link between educational attainment and economic gains have been established; less education, less compensation, hence inequalities persist. “Of the 13 out of 106 countries^[1]_{S&EP} with data globally projected to achieve universal primary education (with at least 97% of a cohort of children likely to both enter school and reach the last grade), not one is from the region” (Unesco, 2015, p.4).

Financial constraints impact a youngster’s ability to matriculate to secondary school from primary school; marginalized groups are the most affected.

Figure 9

Net enrolment rates in secondary education (all programmes) (32 countries, %)



Source: UNESCO-UIS database.

Source: United Nations Educational, Scientific and Cultural Organization, 2014

Students who worked demonstrated lower achievement rates than their peers who did not. Inequalities in access were also reflected in where a family lived; rural families had a greater number of students who did not continue their education after primary school. Individuals who fail to matriculate have fewer opportunities to develop human capital, which can be translated

into social capital that is enjoyed by mainstream society (Kawachi, et al, 1997). Absences of equitable access to educational opportunities and a lack of development of human and social capital will impede the attainment of sustainable development goals.

According to Galiani, Cruces, Acosta, & Gasparini (2017), changes in the labor market and returns on education impact income distribution. Wages accounted for 75% of all household income in Latin America. Hourly wages were a significant factor in the equality of income per capita. Human capital is a major factor in income distribution. Accrued knowledge, skills, expertise, and other intangible assets can produce advantages over time that will lead to economic and social opportunities. The wage gap was largest between skilled and unskilled labor. The expansion of secondary and tertiary educational opportunities in Latin America increased earning potential. On average, educational attainment for all Latin American countries increased over the past 20 years (Galiani, et al, 2017).

The 1990s marked an increase in demand for a skilled workforce, not just in Latin America, worldwide (Galiani, et al, 2017). Countries who pass legislation and develop agendas that invest in human capital are more prepared to meet the needs of a changing society. Having residents who are prepared to adapt to new demands will increase sustainability. Investments in education benefit households, and it also benefits the economy (World Education Forum, 2016). Education and earnings increase. Increased earning contributes to a household and a community's ability to sustain them.

Expanding educational opportunities that are transparent and equitable benefit a nation. "Education is a collective responsibility" (Hutchings, 2017, p.12). All stakeholders must take ownership and have accountability for educational processes. Governments, educators, parents, students, etc., all have a role to play. It can be difficult to determine who is accountable for providing high-quality education, but it ultimately starts with the government. They have the

onus of ensuring a nation has the capacity to educate its constituents (Hutchings, 2017). The government cannot do it alone; the collective efforts of stakeholders will help to ensure an efficient educational system is developed and implemented. Trust in the government is imperative and at the core of collaborative efforts. Each person must be reliable and willing to contribute his/her best efforts to the process. Communication must be transparent with individuals having access to information that will support identified goals and lead to the attainment of said goals. Checks and balances should be implemented to hold everyone accountable for their commitment to providing high quality, equitable educational opportunities for all.

“Overall, the case for education as a contributor to economic growth has not yet been proven beyond a reasonable doubt” (Conrad, 2011, p. 281). Robert Lucas, Jr. believed rational expectations contributed to economic outcomes. The public believes the expansion of educational opportunities will lead to an increase in human capital (Conrad, 2011). In a 2002 study, Ramkissoon argues that Caribbean countries would be able to build human capital and increase their economic forecasts only if educational sectors were reformed at an equal rate of growth in order to draw in knowledge-based and technology industries (Conrad, 2011). Economies worldwide require skilled individuals to be competitive in an increasingly technologically global workforce.

A. Participation and Completion of Secondary Education

Economist of the 1960s began to see education as an investment in man and attributed increased educational attainment as a tool for increasing wealth; poor countries as a whole, consider education as a means of reducing poverty and prioritize it's attainment (Conrad, 2011). A 1996 UNESCO report stated that Caribbean countries have experienced a decline in its educational systems since the 1980s. Universal enrollment targets at the primary level and

secondary level as well as completion rates have not been met. Many children in the Caribbean and Latin American region, primarily the poorest, are being inadequately educated (Conrad, 2011). The level of education needed in countries is determined by the technologies used in products and services being offered. Equity and effectiveness, with an emphasis being placed on teaching, learning and critical thinking skills are required as opposed to an expansionist focus that provides greater access but does not monitor universal enrollment, continuity or completion.

After a period of economic growth for Latin American countries, from the 1950s thru the 1980s, a period of economic instability ensued and was exacerbated by rising international debt (Torche, 2010). The economic crisis in Latin America was widely acknowledged in 1982 when Mexico announced that it would not honor its financial obligations (Torche, 2010). Financial modifications were made throughout Latin America that included but were not limited to currency devaluation, privatization of public services, public spending cuts and trade liberalization. The result of these changes was seen in high unemployment rates, declining wages and negative economic growth (Torche, 2010). Poverty increased in the 1980s, after a period decline in the 1960s and the 1970s (Torche, 2010). Austerity programs that were implemented to address debt burdens heavily impacted resources that were allocated to education, expenditures declined. Gains made during the 1970s were lost during the 1980s. Educational expansion that significantly impacted low-income children also had the most harmful effect on them when resources were severely reduced and/or eliminated. During economic hardship enrollment rates among the poor are hardest hit (Torche, 2010).

Education inequality in Latin America is aggravated by family income. Low-income families take their children out of school so they can go to work; the demand for education decreases and hopes for economic prosperity fade when individuals do not have an opportunity to become a part of a skilled workforce. High unemployment and low wages are an incentive for

youth to remain in school. Those who fail to complete school do not have the opportunity to maximize their human capital. Youth from more affluent families are more likely to matriculate through secondary and tertiary educational levels until completion without their schooling being interrupted in order to enter the workforce primarily to provide additional financial support for their families (Torche, 2010). Reduced human capital result in less intergenerational economic movement for poor families (Torche, 2010).

The aforementioned observations are true for most Latin American countries, except Chile. It can be concluded that despite financial hardships, poor families in Chile protected educational opportunities for their children (Torche, 2010). Additionally, the Chilean government made educational investments and reformed educational expenditures. There was also a high rate of return on educational attainment, which provided an incentive for poor families to keep their children in school. Education inequalities exist in Chile but not at the same levels as in other Latin American countries (Torche, 2010).

Graduation rates in Latin America began to increase in the 1990s (Torche, 2010). Countries in Latin America began to make changes to their education systems from 1990 to 2010. The mandatory entry age for primary school and the mandatory finishing age for secondary was revised, Chile is the only country that increased the mandatory minimum years of schooling and the Dominican Republic lowered the mandatory age for enrollment in primary school. National governments transferred the responsibility of overseeing schools to states and local municipalities. Lastly, secondary schools were reorganized from one five-year term to two terms of three-years; creating lower and upper secondary tracts (Busso, Bassi, & Muuoz, 2013).

Seventy-five percent of students in Latin America attend public, tuition-free schools (Busso, et al, 2013). The changes made to the public school system increased the number of students enrolled, which in turn increased the number of students who had the potential to

graduate from secondary school. Latin American countries must put strategies in place to ensure that a greater number of students who finish primary school continue on to secondary school. Sixty percent of those enrolled in secondary school finish and only forty-five percent finish on time (Busso, et al, 2013).

Challenges with the quality of education provided by secondary schools persist. Students in Latin America countries perform poorly on international standardized assessments (Busso, et al, 2013). In addition to the overall, weak performance, there were disparities among students within Latin America countries. Males scored lower than females. Rural students performed worse than urban students and poor students scored at a lower achievement rate than well-off students (Busso, et al, 2013). Affluent Latin America students scored significantly lower than the average score for OECD students (Busso, et al, 2013).

Efforts to expand enrollment have contributed to a more heterogeneous environment in schools. Students from poor families who have not benefited from having literate parents or early educational exposure now sit beside peers who have had educational advantages that provide them more academic skills. School systems must put interventions in place to assist struggling students to support their continued development and attendance. Promotion and graduation require learning (Busso, et al, 2013). Latin American countries must put strategies in place to ensure that a greater number of students who finish primary school continue on to secondary school (Busso, et al, 2013).

Today's labor market requires a secondary school diploma as a pre-requisite for entrance. It is critical for schools in Latin America to provide an education for students that will prepare them for entry into the competitive world of work. Educational returns must be visible for students in order for them to continue their education to the end of the secondary cycle. Educational systems must increase their efficacy to ensure students do not choose to drop out,

the emphasis has been on access and not quality (Busso, et al, 2013). Interventions focused on nutrition, school management, and parent education had small impacts. The largest gains were made when interventions included class size reduction, professional development, teacher incentives, and instructional technology. Lastly, teacher quality must improve in order to improve the quality of education that is provided to students (Busso, et al, 2013).

Education opportunities are vital for people to complete primary school, matriculate to secondary education and achieve their full potentials (Unesco, 2014). Education is a spark for improvement, yet it remains vulnerable to changing conditions; financial hardships, government instability, natural disasters, etc. It must be a priority of all nations to collaboratively work together if real progress is to be made toward achieving global sustainable development goals. Leaders in all areas, including health, education, politics, and economics, must identify commonalities in order to achieve the goal of all citizens of the world leading lives free from poverty. “Education is empowerment. It is the key to establishing and reinforcing democracy, and development, which is both sustainable and humane. It is also the only avenue for a lasting peace founded upon mutual respect and social justice” (Conrad, 2011, p. 286).

B. Gender Outcomes in Education in Latin America and the Caribbean

Gender equality and cognitive functioning as individuals age can be linked to access to childhood education in early life (Maurer, 2011). Making educational opportunities available to male and females in the Caribbean and Latin America have far-reaching impact. Men who have more years of early childhood education have higher levels of cognition in later life (Maurer, 2011). On a whole, data shows the education gender gap has closed for the group of people born at the end of the 1960s, and has reversed to the point that of those born in the 1980s, females have approximately $\frac{1}{4}$ more of a year of formal schooling than males (Duryea, Galiani, Nopo, & Piras, 2007).

While male and female students move through schools at similar rates in Latin America, gender bias is still a problem. Primary school completion for ages thirteen through fifteen was equal to and in some cases higher for the region for the time period spanning 2000 to 2006 (Grant & Behrman, 2010). Studies have indicated that gender bias is still present when families chose to enroll their sons over enrolling their daughters (Duryea, et al, 2007). Girls who are enrolled may come from families who have more resources to support the education of all the children in one's family. It has been suggested that efforts should be made to ensure that girls do not miss early opportunities to enroll in school (Grant & Behrman, 2010). "Globally, more than one in five girls of primary school age are not in school, compared to about one in six boys" (Duryea, et al, 2007, p. 5). Of countries that have universal or nearly universal enrollment, gender disadvantages appear when students matriculate to the secondary level (Grant & Behrman, 2010).

The availability of resources and societal norms impact the continued enrollment of girls in schools. Gender inequality in developing countries is connected to insufficient material resources (Seguino, 2006). Economic growth is touted as an important mechanism for reducing and eliminating gender bias and increasing wellbeing. Countries with more educated populations have more success in attaining development goals. Educating girls is a planned priority (Duryea, et al, 2007). Educated women are more prepared to participate in the labor market. Expanding the number of women who are educated is important; however, without quality education, economic benefits will not come to fruition. "Gender inequality in schooling can limit the potential for economic growth by restricting the pool of talent and reducing average labor force quality" (Buvinic, Das Gupta, & Casabonne, 2009, p. 354).

When girls are denied equal access to education, they continue to hold a precarious place in society, and their wellbeing is at stake. It is less likely that women will own or have access to

secure assets such as land, they are more susceptible to poverty in old age, have weaker support systems and have lower lifetime earnings (Buvinic, et al, 2009). Women are seen as more attractive workers in global labor markets because they do not hold a favored position; it is argued they are more disadvantaged than their male counterparts. Women are often paid lower wages and have less job stability (Seguino, 2006).

Compared to other regions, women in Latin America and the Caribbean have higher levels of wellbeing in the areas of health and education, but they do not have equitable opportunities to earn a living and are excluded from powerful positions in political and economic institutions (Seguino, 2006). Women are undermined by values that favor males and are invisible in the upper echelons of power. One example that can be used to illustrate this point is the role of women in trade unions in Jamaica. A patriarchal culture is perpetuated in trade unions, with a small percentage of women in leadership positions; issues that affect them are neglected by the leadership despite the benefits of increased participation by women (Phillips, Roberts, & Marsh, 2011). Women are encouraged to take on clerical roles and men are encouraged to take positions that will lead to leadership opportunities. Women are not given equitable opportunities in spite of being academically prepared and having acquired prerequisite skills that make them equally qualified to lead. Additionally, women in nontraditional occupations face discrimination, are sexually harassed and have limited chances for promotion (Phillips, et al, 2011). Out of 11 trade unions examined in Jamaica, only one had a higher percentage of women in leadership roles; the Nurses Association of Jamaica and it can be deduced that this is the case because nursing is a profession that is dominated by women (Phillips, et al, 2011). Females were able to gain influence by holding the position of vice president in some unions, but the presidency was overwhelmingly male. Eighty-eight percent of unions reported having a male president and those

that had a stronger female influence catered to occupations that were heavily female populated such as nursing and teaching (Phillips, et al, 2011).

In Latin America fifty-seven percent of all jobs were considered informal, almost half of all women are employed in these positions, which are typically low paying and without benefits that are part of the compensation package for those who work in jobs that are characterized as formal (Seguino, 2006). This pattern feeds the narrative that depicts males as the provider of the family. These jobs undercut the importance of females in the labor market, limit their opportunities for advancement and weaken job security. In order for economic advancement to occur, educational gains and attainment must be recognized for all members of a society, which will contribute to achieving sustainable development goals for all nations.

6. Changes in Social Norms

“Culture, fortunately, is malleable, and studies show that son preference can diminish in the face of modernization, especially if the media and other sources are used to reshape attitudes toward daughters” (Buvinic, Das Gupta, & Casabonne, 2009, p. 361). Increasing the worth of females in society and in a family can be achieved by investing in reducing gender inequality in the workforce and in education (Buvinic, et al, 2009). Family planning helps families to make decisions regarding the number of children they can financially support and adequately care for benefits women by lowering the mortality rate of young women who have had three or more children and benefits children by ensuring that they are wanted. Additionally, evidence suggests that increasing educational opportunities for women decrease infant mortality and increases life expectancy. Families also have positive intergenerational benefits when mothers are educated. Globally marriage is being delayed (Duryea, et al, 2007).

Delaying marriages allow individuals time to focus on building careers, pursuing additional education and become more financially stable (Duryea, et al, 2007).

Increasing per capita income should produce more family income. More household income will increase financial resources that are available to invest in children, particularly girls (Seguino, 2006). Developing female human capital implies that economic growth is sufficient to surmount structural bias (Seguino, 2006).

Gender inequalities impact many facets of life. Resources will increase for not just the family but also for society because the working age population will be larger than the dependent age population (Ferrant, 2015). In the political arena, women are likely to show kindness and unselfishness. They are less likely to make decisions based on nepotism and are not as susceptible to corruption (Ferrant, 2015). “Empowering women as economic, political, and social actors can change policy choices” (Ferrant, 2015, p. 317). Formal and informal institutions are influenced by women and can be changed by the decisions they make, not just for their benefit but also for the benefit of nations. Women are more self-sacrificing than men and often act on behalf of others, especially children (Ferrant, 2015). For example, when women are in charge of household budgets, the share allocated for food increases dramatically, while the allocations for cigarettes and alcohol declines (Ferrant, 2015). A mother’s education level has a bearing on how prepared she is to protect her children against life’s challenges (Ferrant, 2015). Women who enjoy independence are free to make decisions for the good of their family. Most Latin American and Caribbean cultures are patriarchal with men holding a privileged status.

Progress toward gender equality requires thoughtful change that includes new habits, practices, and actions in institutional as well as daily life (Connell, 2005). Support is required for men and boys to gain momentum and sustain growth. The United Nations declared the period from 1975 to 1985 as the UN Decade for Women. Women put the issue of gender equality forth as a policy discussion for obvious reasons; they are in the disadvantaged position and have issues to redress (Connell, 2005). Resistance to change is not uncommon. Men may be receptive to

change yet behave in ways that preserve their favored status. Many parts of the world protect the status of men through religious beliefs, biology, culture and/or organizational missions (Connell, 2005). Women recognized that in order to change the status quo, they must have the support of those who overwhelmingly hold positions of power to ensure future generations make progress towards achieving sustainable development goals.

A. Violence Against Women

The female species continues to be undervalued worldwide as evidenced by selective gender abortions. The victims are almost universally girls (Eberstadt, 2012). The range of violence against women is worldwide, and it happens in both developed and developing nations. “Estimates state that one in three women experience violence in childhood, adolescence, or adulthood” (Wilson, 2013, p. 3). The UN Declaration on the Elimination of Violence against Women declared violence based on gender as a form of discrimination that would result in equality (Wilson, 2013).

When the human rights of women are ignored, minimized or viewed as less important than the right of men, overall health suffers, especially their susceptibility to communicable disease (Eberstadt, 2012). The effects are seen globally.

Data collected from Papua New Guinea (PNG), Botswana and the United States of America illustrates how women are disproportionately impacted by HIV/AIDS when their human rights are violated (Eberstadt, 2012). Violence against women in PNG is common. Polygamy is practiced, and men can have five or more wives. Most women do not have credit and cannot gain access to it in order to improve their circumstances. Cultural norms and the lack of governmental action on behalf of women has resulted in the majority of people infected with HIV/AIDS in PNG being women (Eberstadt, 2012).

Women in Botswana are also the most infected group of people with HIV/AIDS in that country; it has the second highest rate of infection in Southern Africa (Eberstadt, 2012). Men are inheritors of land and property; women are disenfranchised. Men can demand sex and women are expected to provide upon request. Violence against women is prevalent, and the law does not protect women against domestic violence. Men have the right to use corporal punishment as a means of disciplining women in the same manner in which they would chastise their minor children (Eberstadt, 2012).

Lastly, in the United States of America, African-American women are also made more vulnerable to the scourge of HIV/AIDS when their human rights are mitigated. They account for eighty-three percent of all new HIV/AIDS cases despite only being seventeen percent of South Carolina's total population (Eberstadt, 2012). In *Whitner v. State* (S.C. 1997), the courts held that a viable fetus was a child (Eberstadt, 2012). Mothers were then prosecuted for engaging in any practice that could be interpreted as potentially hazardous to a fetus. The courts essentially granted fetus' rights that superseded those of its mother. Women whose lives are directed by the will and desires of others are vulnerable to communicable diseases, particularly HIV/AIDS (Eberstadt, 2012).

Violence against women is also perpetuated in the Caribbean and Latin America. This violence also impedes their ability to enjoy healthy lives free from fear. Seventy-five percent of domestic violence cases that were initiated by female victims were dropped (Lazarus-Black, 2008). Those abusive to women were often victims of violence themselves during childhood. Violence in childrearing is not an anomaly in the Caribbean; it is often identified as discipline or punishment (Lazarus-Black, 2008). Men are often physically abusive towards women while women are often verbally abusive to men. Women will suffer abuse silently, but they will step in to protect their children because they are accountable for their emotional and physical health.

Men must be pardoned for their wrongdoings in order to preserve the family for the children (Lazarus-Black, 2008). The cycle of abuse continues from one generation to the next, it is normalized by its regular occurrence. Women who dare to seek outside assistance are sometimes scorned or blamed by those from whom they seek relief.

Domestic violence is a major issue in Latin America. Data conducted from interviews that was collected in 2006 revealed that 80% percent of women experienced psychological abuse, 40% were incidents that involved physical aggression, 13% percent encountered violence, 48.5% felt sexually coerced by partners (Lazarus-Black, 2008). Women who completed more years of education experienced higher rates of violence when compared to less educated women. The culture of manliness that is present in the Latino culture may explain why more educated women would have higher rates of violence (Lazarus-Black, 2008). Women who have resources independent of their husbands may feel less compelled to acquiesce to their directives. “Domestic violence, including physical, sexual, and verbal aggression, is typical of machismo and a way to strengthen men's power within the household; especially if they feel economically insecure” (Wilson, 2013, p. 6).

Ending violence against women benefits all members of society. Individual and community consequences are far-reaching. Continued exposure to violence leads to diminished or lost educational opportunities, mental health issues, financial burdens related to violence, poor social skills and a myriad of issues caused by the cycle of violence (United Nations Entity for Gender Equality and the Empowerment of Women, 2012). In order to improve the future and achieve sustainable development goals, all stakeholders must invest in ensuring that all groups enjoy safe and nurturing environments that positively contribute to their wellbeing.

B. Bullying

Bullying is often thought of as a rite of passage that all youngsters must endure on the way to adulthood. The once popular childhood ditty, “Sticks and stones may break my bones, but words will never hurt me,” was once chanted on playgrounds daily. Advising one to ignore harmful words is easier said than done. According to the U.S. Department of Health and Human Services: National Institute of Health (2017), individuals who are involved with bullying have a greater risk of experiencing depression. Individuals who were victims of bullying and were also victimizers of others were faced with higher risks of having behavioral and mental health issues. Additionally, bullies were also more susceptible to substance abuse, increased incidents of academic problems and a greater propensity of violence towards others in later life (United States Department of Health and Human Services: National Institute of Health, 2017). Bullying has emerged as a serious problem that has not received widespread attention in the past. Bullying can impact all involved parties in the short and the long term. All societies experience bullying, and it occurs when people come together in a social context.

Bullying is entrenched in the culture of all schools, and an average primary classroom will have minimally one or two victims of bullying (Trach, Hymel, Waterhouse, & Neale, 2010). School bullying is defined as harassment, intimidation, and bullying (HIB) that repeatedly occurs between students. A bullying scenario involves three players; the victim, the perpetrator, and witnesses (Trucco, HerausgeberIn, Ullmann, HerausgeberIn, 2016). Bullying is common during adolescence when youth are struggling to develop their identities. A 2011 UNICEF report explained that violence in childhood is common and can be managed with the proper guidance and support from adults (Trucco, et al, 2016). It is normal at that stage of development. The violence that occurs during adolescent is not developmentally appropriate. It is a conscious act on the part of the perpetrator (Trucco, et al, 2016). Perpetrators use HIB to

reaffirm their status, gain self-recognition and validation among peers. Some reports have suggested that physical bullying has decreased, but psychological bullying has increased (Trucco, et al, 2016). Psychological bullying can have greater implications because its impact may not be immediately evident.

Latin American and Caribbean countries also experience school bullying within their educational institutions. In 2000, twenty-three countries in this region had their adolescents take the Global School-Based Student Health Survey. Data revealed that one-third of the students who participated in the survey had experienced bullying on a daily basis in their lives at school (Trucco, et al, 2016). Additionally, UNICEF and Plan International did an indirect measurement of violence at school; fifty to seventy percent of respondents indicated that they had been a victim of peer aggression or witnessed it at school (Trucco, et al, 2016). Data from several national studies conclude that bullying is not limited to any social class; it occurs across all economic demographics (Trucco, et al, 2016). Bullying rates were not significantly different for boys and girls. Peer victimization decreased with age (Abdirahman, Bah, Shrestha, & Jacobsen, 2012). Cyber Bullying as an area of concern and is gaining traction.

Cyber Bullying is defined as a hostile intentional act by an individual or groups of people using electronic means such as a cell phone or computer against a victim that cannot easily defend him or herself (Smith, Mahdavi, Carvalho, Fisher, Russell & Tippett, 2008). The ease, with which an aggressor can make electronic contact with a victim, expands the scope of the bullying beyond the length of the school day. It has been noted that cyberbullying can lead to suicide (Smith, et al, 2008). Processes must be put in place to protect youth from all forms of bullying. Bullying is a problem that everyone must work to solve.

Issues of school bullying in Latin America and the Caribbean are not dissimilar to those of developed countries. However, limited research has been done in these regions. More studies

must be conducted in order to develop interventions to meet the specific needs of students in developing countries. In order for global citizens to attain SDG goals, collective efforts must be undertaken to ensure the mental and physical health of our youth, which ultimately is the future for all of us.

Figure 10

Bullying Prevention in the School Community

Responsible Person	School	Teacher	Parents
	Administrator		
Indicators			
I	Know, understand and ensure that all staff is aware of bullying legislation and how to respond to incidents of bullying.	Know and understand all bullying policies that pertain to the school environment.	Talk with and listen to your child daily.
II	Model behaviors that support an anti-bullying stance.	Treat students with understanding and respect.	Volunteer to spend time in your school community.
III	Assess the extent of bullying in the school community.	Develop and conduct lessons around the issue of the issuing bullying.	Create healthy anti-bullying habits in your home.
IV	Develop a school-wide code of conduct.	Take immediate action when bullying is reported.	Ensure that your child understands bullying.
V	Promote over arching values in your school community that are reflective of an environment that does not tolerate bullying in any form.		
VI	Increase adult supervision.		

Source: Edutopia, 2011

Chapter 3 Methods

1. Introduction

Latin American and Caribbean countries face challenges in the area of sustainability. This study sought to understand the role that education played in helping to create more sustainable LAC communities. Reports have examined the role of sustainable development in the areas of water management, food scarcity and financial stability (Cabrini, 2016; Akhmouch, 2012; Conrad, 2011 and Ferrant, 2015). Similarly, evaluations have been conducted in LAC countries regarding educational outcomes, i.e., graduation rates, gender inequality and educational opportunities (Maurer, 2011 & Torche, 2010). However, there have been limited studies that examine the relationship between education and its role in sustainability for LAC countries.

This study conducted an analysis of secondary data culled from the 2017 GEM Statistical Tables on universal access; participation and completion of secondary education; eliminating gender disparity in education; achieving gender equality in education; and eliminating disparities in school completion and outcomes to examine the relationship between secondary educational attainment, financial stability, and sustainability within Latin America and Caribbean countries.

2. Methods/Designs

This quantitative descriptive study sought to understand the role education plays in promoting sustainable development in LAC countries. This study utilized the 2017 GEM Statistical Tables on universal access; participation and completion of secondary education; eliminating gender disparity in education; achieving gender equality in education; and eliminating disparities in school completion (2018). According to the Association for Educational Communications in Technology, descriptive research has three main purposes, “describe, explain and validate findings” (2001, paragraph 9).

3. Population/Sample

The 2017 GEM report identifies forty-three LAC countries, some of which are independent nations while others are still under colonial governance. The predominant languages spoken in these countries are English, Spanish, Haitian Creole/French, and Dutch. Population size varies from country to country. Nations such as Montserrat have a small population of 5,100 to Brazil, which has a large population of 200 million (*NationMaster.com*, 2018). Similar to populations, gross domestic product (GDP) also has a wide range. Haiti has the lowest GDP of \$1,800.00 per year while Bermuda has the highest GDP of \$89,000.00 per year (*NationMaster.com*, 2018). Secondary education completion rates range from a low of 42% in Haiti to over 90% in Barbados (*NationMaster.com*, 2018).

4. Variables

Data was extracted from the 2017 GEM Statistical Tables, which was organized by the seven SDG 4 targets. Implementation statistics related to education matriculation from primary to tertiary, basic demographic information, education system information and domestic education finance were all considered. SDG 4 monitoring framework is comprised of 43 similar indicators, of those 11 are accepted as global indicators, and 32 are considered thematic indicators. Retention, dropout, and transition from primary to secondary and secondary to tertiary also included as additional indicators that are not a part of the monitoring framework.

Table 1.1

SDG 4.1 – Universal access, participation, completion and learning secondary education
Data collection: 2010 – 2015: are for the most recent years available, the school year ending in the year noted
Universal Access: all individuals can participate regardless of race, gender, ethnicity, socio-economic status, background or ability
Participation: who is enrolled in education opportunities
Completion: who finished the lower and upper secondary cycle
Learning: who is proficient in reading and mathematics after completing secondary education
Secondary Education: Lower Secondary – the final stage of basic education, Upper Secondary- the stage before tertiary education

Source: Global Education Monitoring Report, 2017

Table 1.2

SDG 4.5 – Gender – Eliminating gender disparity in education
Data collection: 2010 – 2016: data came from previous subsequent statistical tables broken down by male, female and total population. Data are for the most recent years available, the school year ending in year noted
Achievement Data is based on nationally representative, regional and international formative learning assessments. <i>Caution must be used when interpreting data because assessments are not necessarily comparable.</i>
Parity - Gender parity is the ratio of female to male rates and is based on data from previous statistical tables

Source: Global Education Monitoring Report, 2017

Table 1.3

SDG 4.5 – Equity - Achieving gender equality in education
Data collection: 2010 – 2017: are for the most recent years available, the school year ending in year noted
Country groupings by income level are as defined by the World Bank
Global School-based Student Health Survey was administered
If key terms were covered and/or included in curricula ratings were determined: Low (1 or 2 items covered) Medium (3 items were covered) High (4 or 5 items were covered) <i>Key Terms:</i> gender equality, gender equity, empowerment of girls/women, gender sensitive (ity) and gender parity
World Marriage Data from 2015 was used to calculate averages
The fertility indicators are from the United Nations Population Division estimates, revision Nations, 2015). They are based on the median variant and refer to the period 2015-2020.
<i>Key Terms:</i> gender equality- equal access to resources and opportunity regardless of gender; gender equity- movement of achieving equality between men and women; empowerment of girls/women – increasing and improving the social, legal, political and economic strength of women and girls; gender sensitive(ity) – the way people think about gender; and gender parity – relative equality in the proportion of men to women ("Home page UNICEF," 2003).

Source: Global Education Monitoring Report, 2017

Table 1.4

SDG 4.5 – Equity - Eliminating disparities in school completion and learning outcomes
Data collection: 2010 – 2015: calculations based on data from national and international household surveys
Disparity – differences
Participation: who is enrolled in education opportunities
Location Parity: the ratio of completion for students living in rural areas to their urban counterparts
Wealth Parity: is the completion rate of students living in the poorest 20% of households to those living in the richest 20% of households

Source: Global Education Monitoring Report, 2017

Table 1.5

GEM Report Statistical Table, 2017	Research Question Alignment
Table 3: SDG 4.1: Universal access, participation, completion and learning secondary education	Question 1: How effective are the efforts to provide universal education in Latin America and the Caribbean?
Table 7: SDG 4.5: Eliminating gender disparity in education	Question 2: What disparities, if any, exist between males and females in participation in secondary education?
Table 8: SDG 4.5: Achieving gender equality in education	Question 3: What is the association between in-school deterrents and social norms in the completion of secondary education?
Table 9: SDG 4.5: Eliminating disparities in school completion and learning outcomes	Question 4: What intra-country disparities if any exist in completion rates of secondary education?

Source: Global Education Monitoring Report, 2017

5. Data Collection

Most of the data collected was provided by education ministries worldwide. However, other sources of data are included as a part of the data presented in the statistical tables. The tables list 209 countries and territories. The present study examined 43 countries classified as Latin America and the Caribbean. Not all LAC countries submitted data for every year that was reported in the tables. Not all data are comparable because countries may have their own definitions that do not align with international standards. More detailed information on the GEM statistical table can be found at <https://en.unesco.org/gem-report/node/6>

6. Data Analysis

The goal of this study was to understand the role secondary education plays in promoting sustainability in LAC countries. The *2017 GEM Report* contains, in tabular form, several country-level data regarding educational outcomes; however, this study used the following four statistical tables data directly from the report: Table 3- Access, participation, completion and learning outcomes in secondary education; Table 7- Eliminating gender disparity in education;

Table 8- Achieving gender equality in education; and Table 9- Eliminating disparities in school completion and learning outcomes. The researcher utilized frequency, percentages, pareto, and correlation. The table below provides the quantitative data analysis method used for each research question (See Table 1.6).

Table 1.6

Research Question	Method of Analysis
Question 1: How effective are the efforts to provide universal education in Latin America and the Caribbean?	<ol style="list-style-type: none"> 1. Frequency 2. Percentages 3. Pareto
Question 2: What disparities, if any, exist between males and females in participation in secondary education?	<ol style="list-style-type: none"> 1. Pareto
Question 3: What is the association between in-school deterrents and social norms in the completion of secondary education?	<ol style="list-style-type: none"> 1. Correlation
Question 4: What intra-country disparities if any exist in completion rates of secondary education?	<ol style="list-style-type: none"> 1. Pareto 2. Percentages

Chapter 4 Results

1. Introduction

This chapter reports the findings for this doctoral research. The UNESCO report provided statistical educational information regarding Latin American and Caribbean (LAC) nations (2017). The purpose of this study was to conduct a secondary data analysis of universal access; participation and completion of secondary education. The areas of examination are the following: elimination of gender disparity in education; achievement in education; and disparities in school completion and outcomes. LAC countries are classified as developing nations. Sustainable development in LAC countries face many difficulties that are not as formidable as those in the developed world, due in large part to their economics (Nygard, 2017). The changing needs of modern society, however, require a more educated population and this is also true for LAC countries. Matriculation through secondary education, then, becomes a priority in LAC countries. Moreover, secondary school retention, as well as school quality, are important for ensuring students are prepared to enter the workforce.

2. Descriptive Information for Major Study Variables

Data was extracted from the 2017 GEM Statistical Tables, which was organized by the seven SDG 4 targets. Implementation statistics related to education matriculation from primary to tertiary, basic demographic information, education system information and domestic education finance were all included in the present study. The SDG 4 monitoring framework is comprised of 43 similar indicators, of those 11 are accepted as global indicators, and 32 are considered thematic indicators (See Tables 1.1, 1.2, 1.3 and 1.4 – Chapter 3). Most of the data collected were provided by the education ministries in each country; however, other sources of data are also included in the statistical tables. Not all of the 41 LAC countries submitted data for each of the years that were reported in the tables. There is also the issue that not all the data are

comparable given differences in countries' definitions some of which do not align with international standards.

With regards to the statistics that were used in the present study, first, the gender parity index (GPI), was used to measure equity in access, participation, and completion. The index is based on the ratio of the number of females to males. A GPI of 1 indicates that parity is attained. When lower than 1, females are disadvantaged. When greater than 1, males are disadvantaged. Second, the location parity index is based on the ratio of the number of rural to urban residents. An LPI of 1 indicates that parity is attained. When lower than 1, rural residents are disadvantaged. When greater than 1, urban residents are disadvantaged. Third, the wealth parity index is based on the ratio of the number of poor to wealthy residents. A WPI of 1 indicated that parity is attained. When lower than 1, poor residents are disadvantaged. When greater than 1, wealthy residents are disadvantaged. Fourth, gross enrollment rates were used to measure the number of students enrolled at various education levels based on the eligible population. Fifth, completion rates were calculated as the percentage of enrolled students who complete their studies at different educational levels. Sixth, the early pregnancy and marriage rates for females in the age range 15-19 were used in the study and finally statistics on school-related physical violence and bullying for students in the age range of 13-15.

There are forty-one LAC countries. More than half of the countries in the LAC region did not report data. Analyses of these research questions are based on descriptive statistics which include pareto graphing and correlation analyses. The chart below indicates the research questions and the corresponding data analysis figures.

Research Question 1	Figure 11, 12, 13, 14, 15, 16 and Table 2
Research Question 2	Figure 17, 18
Research Question 3	Figure 19, 20 and Tables 3-4
Research Question 4	Figure 21 22 23, 24, 25, 26 and Table 5

Findings

3. Research Q1

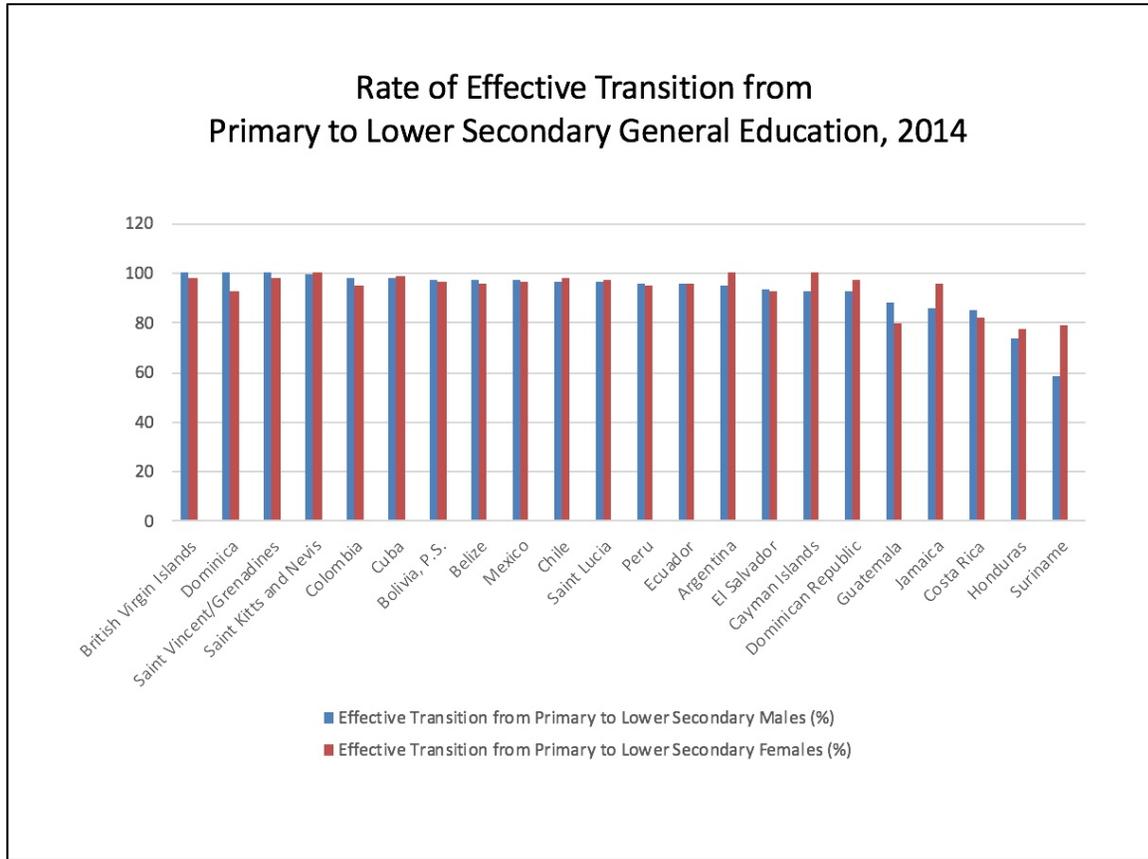
How effective are the efforts to provide universal education in Latin America and the Caribbean?

According to Global Partners in Education (GPE), an education sector plan is critical in promoting the development of an education system. Robust primary education completion leads to higher levels of lower secondary education enrollment. In order to design, implement and sustain effective education policies that will reach all children, countries should know how many children are in school, what children are learning, which students are out of school and what are the conditions of teaching and learning? (Global Partnership for Education, 2019). GPE reports data collection is a problem in developing countries. Data collection helps to hold schools accountable for the teaching and learning process by determining if regulations are being met based on quantitative evidence.

Figure 11 depicts the rate of effective transition from primary to lower secondary general education for males and females among 22 countries that reported data for the year ending 2014. Percentages are based on population rates in the thousands.

A little under half of the 22 countries (10) have rates of effective transition that are higher for males than females. Saint Kitts and Nevis has the highest rates of transition from primary to lower secondary education, 100% for both males and females. Conversely, Suriname had the lowest rates of effective transition from primary to secondary education. Suriname also had a 20% gap, the largest of the 22 reporting countries between males and females. Fifty-nine percent of males and seventy-nine percent of females effectively transitioned from lower secondary to upper secondary. In Suriname, the rates of effective transition favored females compared to other countries in the study. Guatemala and Dominica had the largest gap in favor of males. For males in Guatemala, 88% effectively transitioned from primary to lower secondary education compared to 80% of females. For males in Dominica, 100% effectively transitioned to the next phase in education compared to 93% of females.

Figure 11



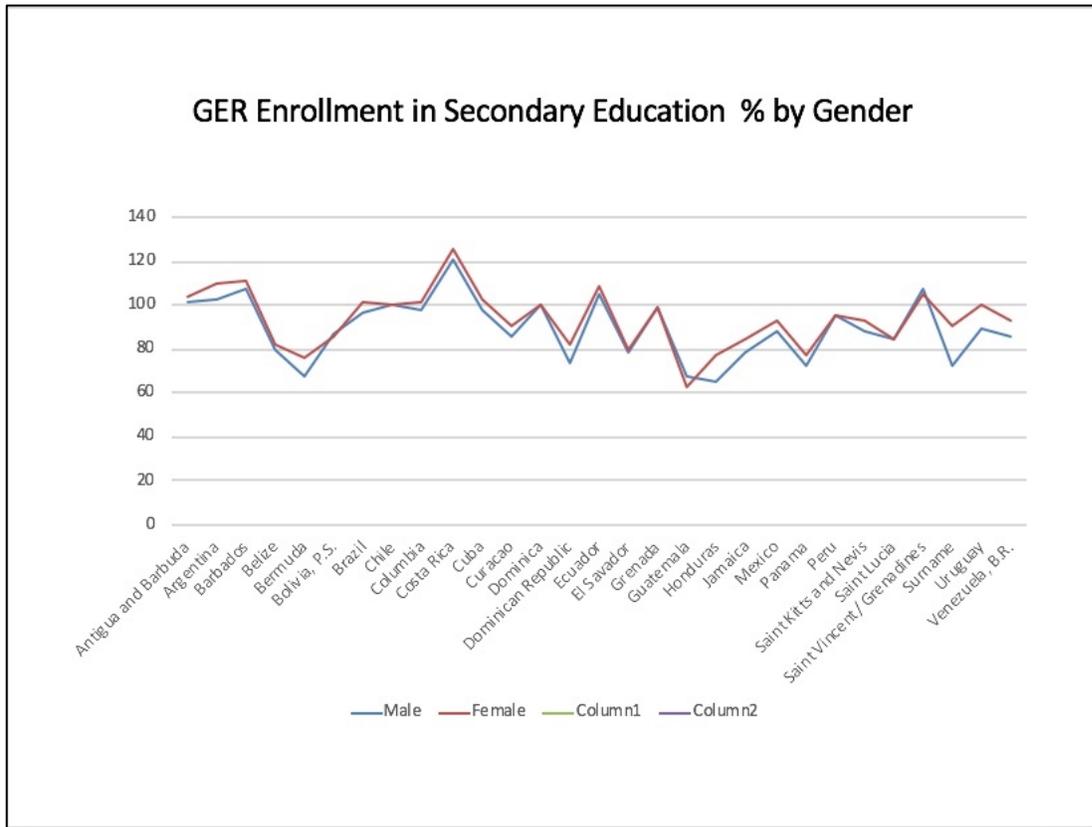
Source: GEM Statistical Tables, 2017, Table 3

1 A. How accessible and what is the level of participation in secondary education in the Caribbean and Latin America?

Access to education is commonly measured using the gross enrollment rate. Figure 12 depicts the gross enrollment ratio (GER) of secondary education for 29 countries that reported data between the years 2010-2015. The gross enrollment is the total enrollment regardless of age. It is articulated as a percent of the official school-age population matching the same level of education ("Gross enrolment ratio," 2018).

Eight of the twenty-nine reporting countries report ratios above 100%. The ratios may exceed 100% because all enrolled children, including those older or younger than the official age of education level, are counted ("How can gross school enrollment ratios be over 100 percent? – World Bank Data Help Desk"). The GER is greater for females than males in twenty-seven of the twenty-nine countries. In both Dominica and Guatemala, the GER is greater for males as opposed to females. The GER is equal for males and females in Grenada, Peru, Saint Lucia, and Saint Vincent.

Figure 12



Source: GEM Statistical Tables, 2017, Table 3

1B. What are the completion rates for lower and upper secondary?

Schools are held formally accountable by governments and informally accountable by families to provide their nation's youth with knowledge and skills that are transferable to the workplace (GEM Report, 2017). "The Organization for Economic Cooperation and Development (OECD) is a forum where the governments of [34 democracies](#) with market economies work with each other, as well as with more than 70 non-member economies to promote economic growth, prosperity, and sustainable development" ("What is the OECD?," 2019). A majority of adults in OECD countries have completed upper secondary education, which makes the completion of upper secondary education a minimum threshold for successful labor market entry and continued employability (Organization for Economic Co-operation and Development, 2016).

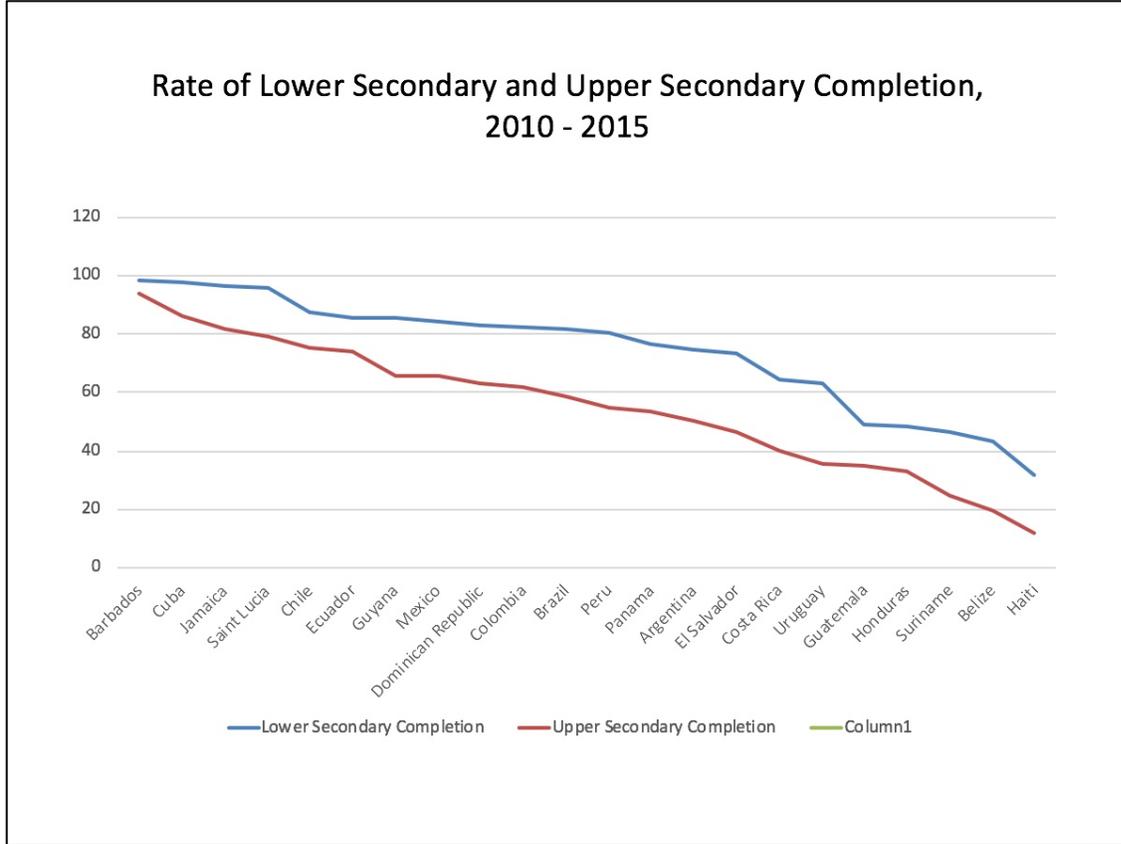
Countries with the higher gross domestic product, generally have higher school completion rates. Skill gaps in workforces hurt economies. Research shows that hundreds of millions are lost a day in profits and economic growth is negatively impacted (Gillespie, 2015). Most young people who leave school before completing their upper secondary education have difficulty in the labor market and demonstrate low cognitive skills when compared to upper secondary graduates. Upper secondary represents the last step of a basic school system whose goal it is to ensure young people leave the education system with minimum qualifications required for employability and continuing education (Organization for Economic Co-operation and Development, 2016).

Being enrolled in school does not assure school completion. Figure 13 illustrates the rate of completion for lower secondary and upper secondary education for 22 countries that reported data between the years 2010-2015. Among all countries reporting, Barbados had the highest rate for lower secondary completion, 98%, and upper secondary completion, 94%. Barbados also had the smallest difference in the rate of completion at the lower secondary and upper secondary

levels. Haiti had the largest difference (lower and upper secondary completion) when compared to other countries, a difference of 40 percentage points. In this country, thirty-two (32%) percent of the population completed the lower secondary level of education. The rate of completion of upper secondary education was drastically lower at 12% of the population. Uruguay and El Salvador had the second largest disparity within a country between the rates of completion of lower and upper secondary education, a difference of 27 percentage points (Please see Figure 12). All countries reporting data had higher rates of lower secondary completion as opposed to completion rates for upper secondary. Globally for 2010 - 2015, the completion rate for lower secondary education was 69%, and for upper secondary education it was 45% (GEM Report, 2017).

Investments in human capital contribute to an improved quality of life (Healy, 2001). Government support significantly impacts the development of human capital, supporting educational infrastructure may lead to an increased quality of life for citizens. National or local decisions can enhance or diminish the quality of life (Yosso, 2005). Human capital in LAC countries is not fully developed because adequate opportunities for education and training do not uniformly exist. In 2016, Cuba was the only LAC country which ranked in the top 50 countries with the highest human capital development, while Brazil, Dominican Republic, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, and Venezuela were in the bottom 50 countries with the lowest human capital development (Fiszbein & Stanton, 2018).

Figure 13



Source: GEM Statistical Tables, 2017, Table 3

“Globally, less than one in five countries guarantee twelve years of both free and compulsory education. 47% of LAC countries currently require free and compulsory education for 12 years (GEM Report, 2017). It is common for richer countries to have higher levels of school completion. Figure 14 shows the distribution of the rate of lower secondary level of education among 22 countries reporting data between the years 2010-2015. Four countries, Barbados (98%), Cuba (98%), Jamaica (96%), and St. Lucia (96%) accounted for the majority of lower secondary completion within LAC countries. Table 2 indicates two of the highest performing countries are English-speaking (Barbados and Jamaica) in the Caribbean and one English-speaking country (Panama) in South America. Barbados, Panama, and St. Lucia have high GDPs per capita when compared to the countries with the lowest secondary completion

rates ("GDP (current US\$)," 2019). Overall, 16 countries accounted for 80% of the lower secondary completion rates. Haiti (32%), Belize (43%), Suriname (47%), Honduras (48%), and Guatemala (49%) had the lowest rates of completion of lower secondary education.

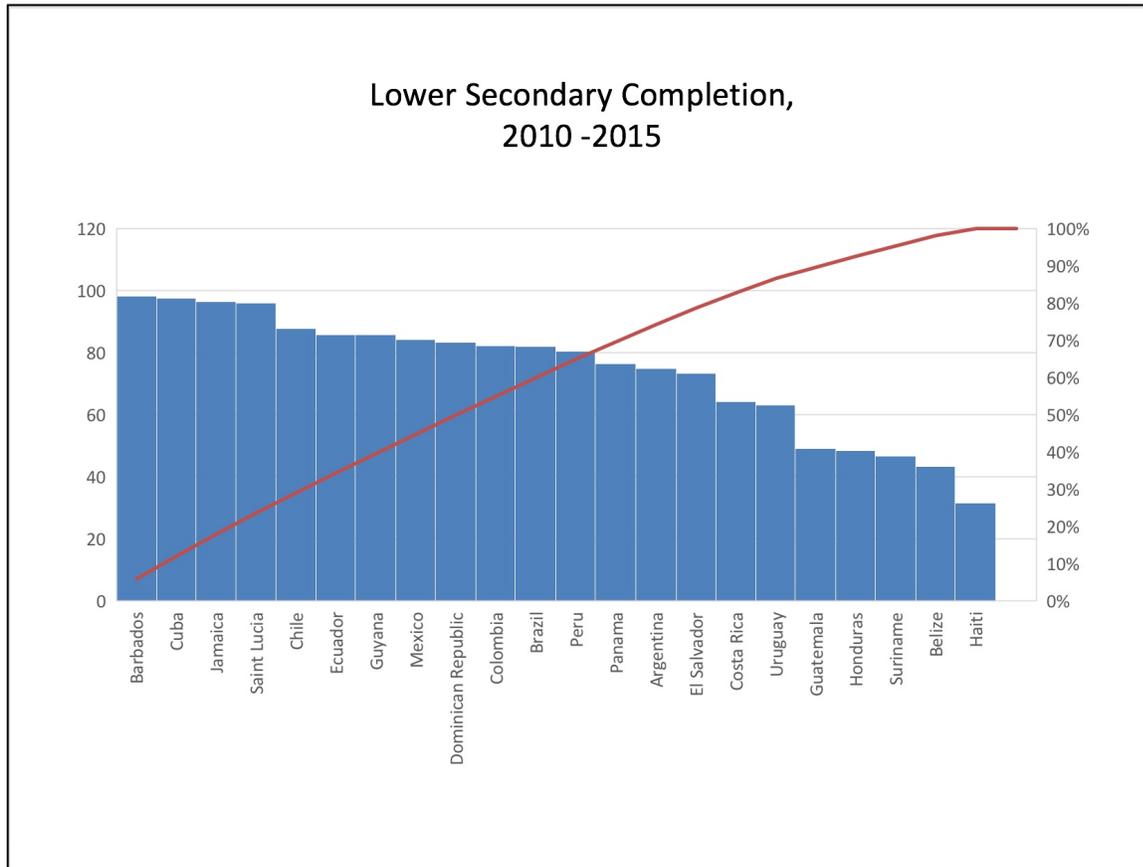
Table 2

GDP Per Capita and Secondary Completion

Country	GDP Per Cap	Lower Secondary Completion	Upper Secondary Completion
Barbados	\$16,356.00	98	94
Belize	\$4,971.00	43	20
Guatemala	\$4,470.00	49	36
Haiti	\$758.00	32	12
Honduras	\$2,580.00	48	40
Jamaica	\$5,114.00	96	79
Panama	\$15,196.00	76	53
Suriname	\$5,317.00	47	25
St. Lucia	\$9,574.00	96	82

Source: GEM Statistical Tables, 2017, Table 3 and Web Finance, Inc., 2018

Figure 14



Source: GEM Statistical Tables, 2017, Table 3

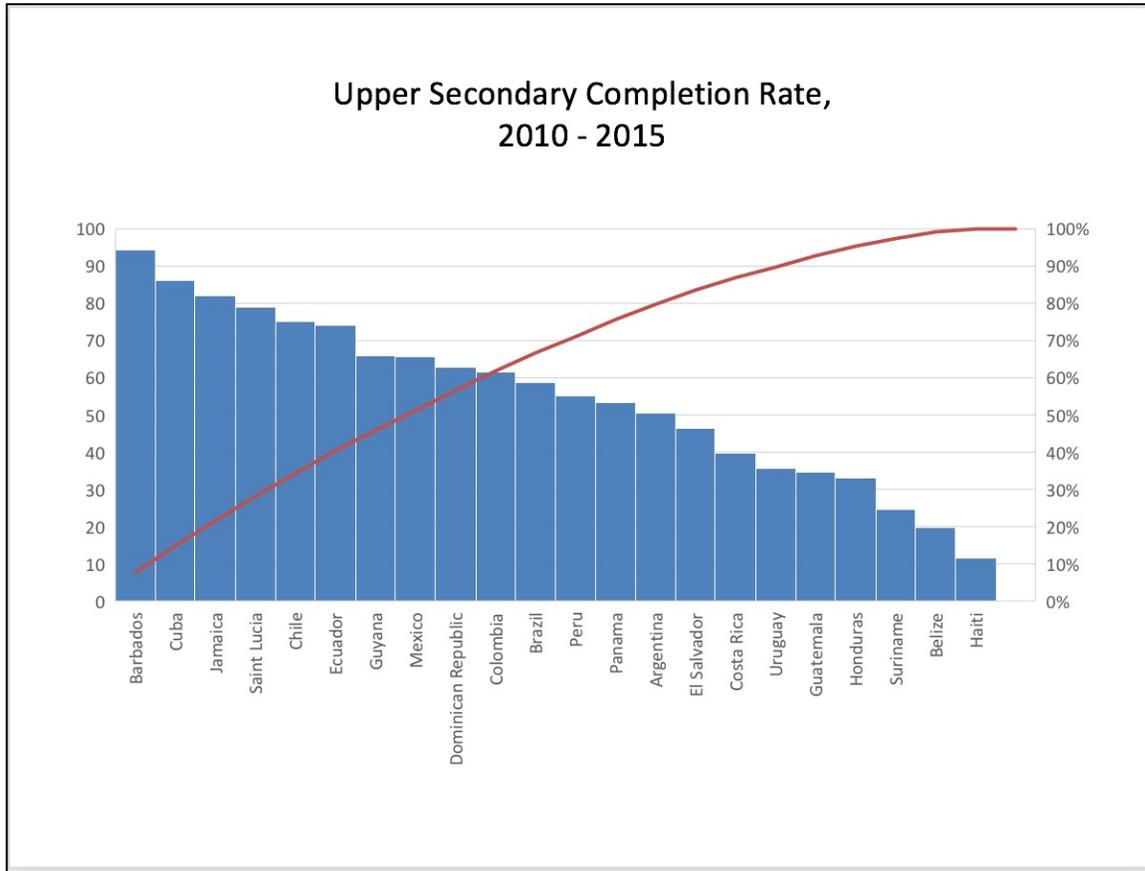
Public spending in education seemed to be the one main factor behind national differences in the achievement of education for all goals. Spending tends to be proportionally higher in OECD countries across all levels of education. High repetition and dropouts impact school completion rates (Organization for Economic Co-operation and Development, 2016). Figure 15 illustrates the distribution of the rate of upper secondary level of education among 22 countries reporting data between the years 2010-2015. Fourteen countries account for 80% of the upper secondary rates of completion. Barbados (94%), Cuba (86%), Jamaica (82%), and St. Lucia (79%) accounted for the majority of upper secondary completion within LAC countries. Two of the highest performing countries are English-speaking (Barbados and Jamaica) in the

Caribbean and one English-speaking country (Panama) in South America. Haiti (12%) and Belize (20%) had some of the lowest completion rates of the region for upper secondary. In addition, Suriname (25%), Honduras (33%), and Guatemala (35%) had the lowest rates of completion of lower secondary education. In the case of Haiti, Belize, and Suriname, the rate of completion of upper secondary education is half that of the rate of lower secondary education completion.

1C. For the countries reporting reading and math, what is the percentage of proficient students?

Collecting and analyzing data will help in the development of education policies that will contribute to meeting sustainable development goals (GEM Report, 2017). Proficiency data is important because countries that have a more educated workforce are more productive. Better educated workers have a greater capacity to engage in tasks that require literacy and critical thinking. Countries with a more educated populace experience faster economic growth than countries with less educated workers. Education is an investment in human capital, similar to the investment in better equipment (Radcliffe, 2008).

Figure 15

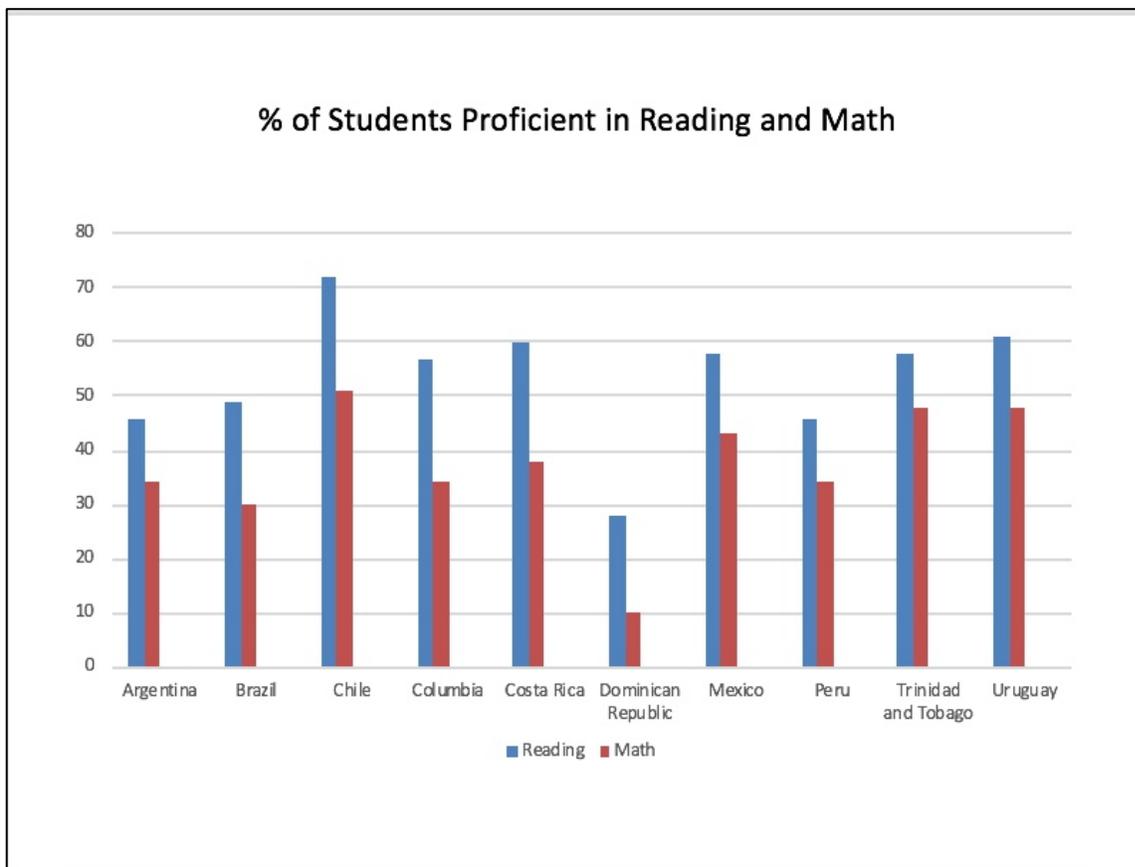


Source: GEM Statistical Tables, 2017, Table 3

The international community is working towards creating global definitions to measure literacy and math proficiency for learners. Collecting data on proficiency levels help to gauge the quality of education students are receiving. Data collection also helps to identify where inequities exist. When inequities are addressed, more students will have an opportunity to receive a sound education. Currently, there is not a global standard of measure for proficiency. Each country measures proficiency differently, and those measurements are often not comparable. Figure 16 illustrates the minimum proficiency rates in reading and math at the end of lower secondary for reporting countries between the years 2010-2015; ten countries gave data for both categories.

Chile reported the highest proficiency rate in reading, 72%. The Dominican Republic reported the lowest rate of minimum proficiency in reading, 28%. Chile also reported the highest minimum proficiency rate in math, 51%. The Dominican Republic reported the lowest minimum rate of proficiency in math, 10%. Of the ten countries reporting, four reported less than 50% minimum proficiency in reading and 9 reported less than 50% minimum proficiency in math. 40% of reporting LAC have more than half of their populations not proficient in reading at a lower secondary level, and 90% of reporting LAC have more than half of their populations not proficient in math at a lower secondary level.

Figure 16



Source: GEM Statistical Tables, 2017, Table 3

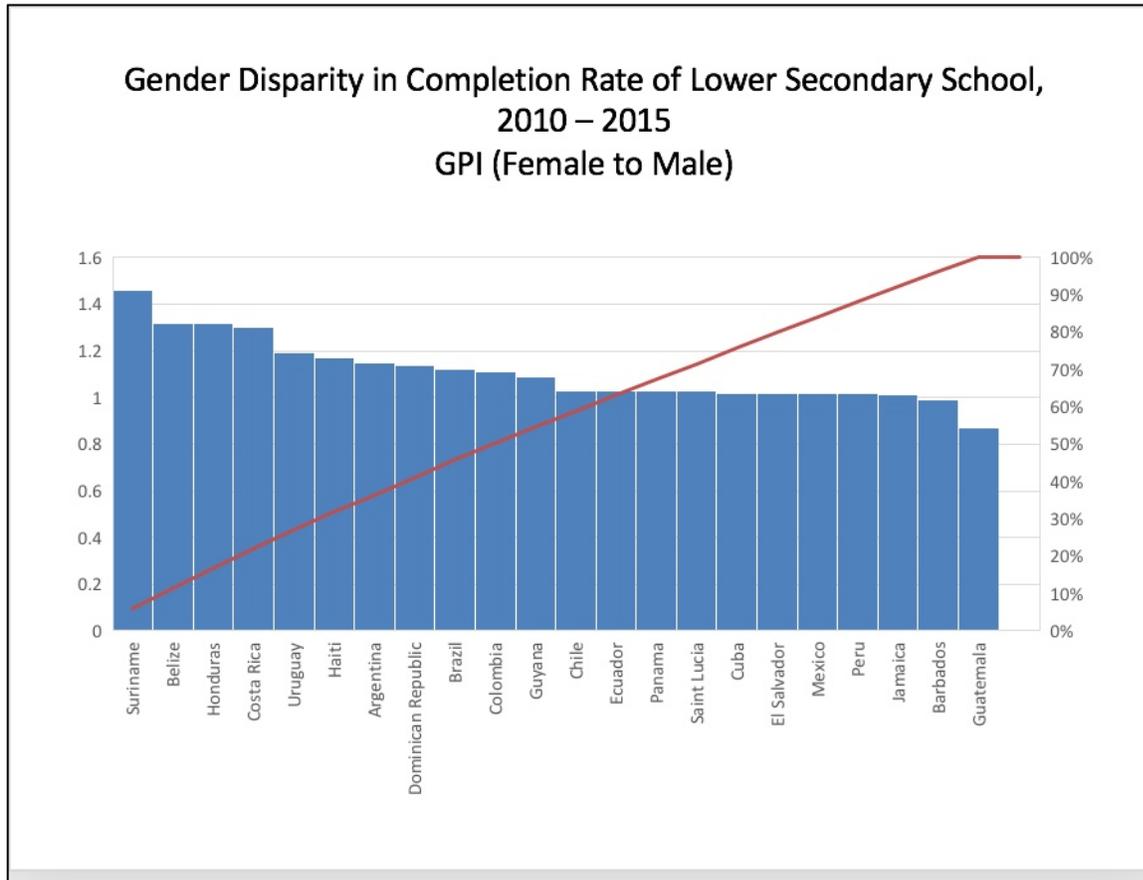
4. Research Q2

What disparities if any exist between males and females in completion of lower and upper secondary education?

Ensuring all individuals have an opportunity to receive a good, inclusive and equitable education which promotes lifelong learning is at the core of SDG 4. Girls are disproportionately sidelined in the education arena. Globally, 15 million girls, compared to 10 million boys are not enrolled in primary school; as students matriculate a greater number of girls drop out of secondary education than boys (GEM Report, 2017). Achieving gender parity in education increases opportunities for individuals to participate in all aspects of one's society. Equal representation in leadership and shared decision making is likely to positively impact the quality of life for all people.

Providing opportunities for a better life begin with equitable access to education. Figure 17 depicts the gender disparity in the rates of completion of lower secondary school from the years 2010-2015 based on the gender parity index (GPI) of females to males. Jamaica has the greatest degree of gender parity among all countries reporting data with a GPI of 1.01. Cuba, Mexico, and Peru have the second greatest degree of parity in the completion rate of upper secondary education with a GPI of 1.02. Guatemala with a GPI of 0.82 has the greatest rate of disparity where females bear the weight of disadvantage in completion rates of lower secondary school; Barbados has a rate of disparity where girls are disadvantaged with a GPI of 0.99. Conversely, Suriname is among the countries with the highest rate of disparity where males bear the greatest disadvantage with regard to completion of lower secondary school with a GPI of 1.46. In addition, 22 countries contribute to 80% of the disparity in lower secondary school completion between females and males.

Figure 17

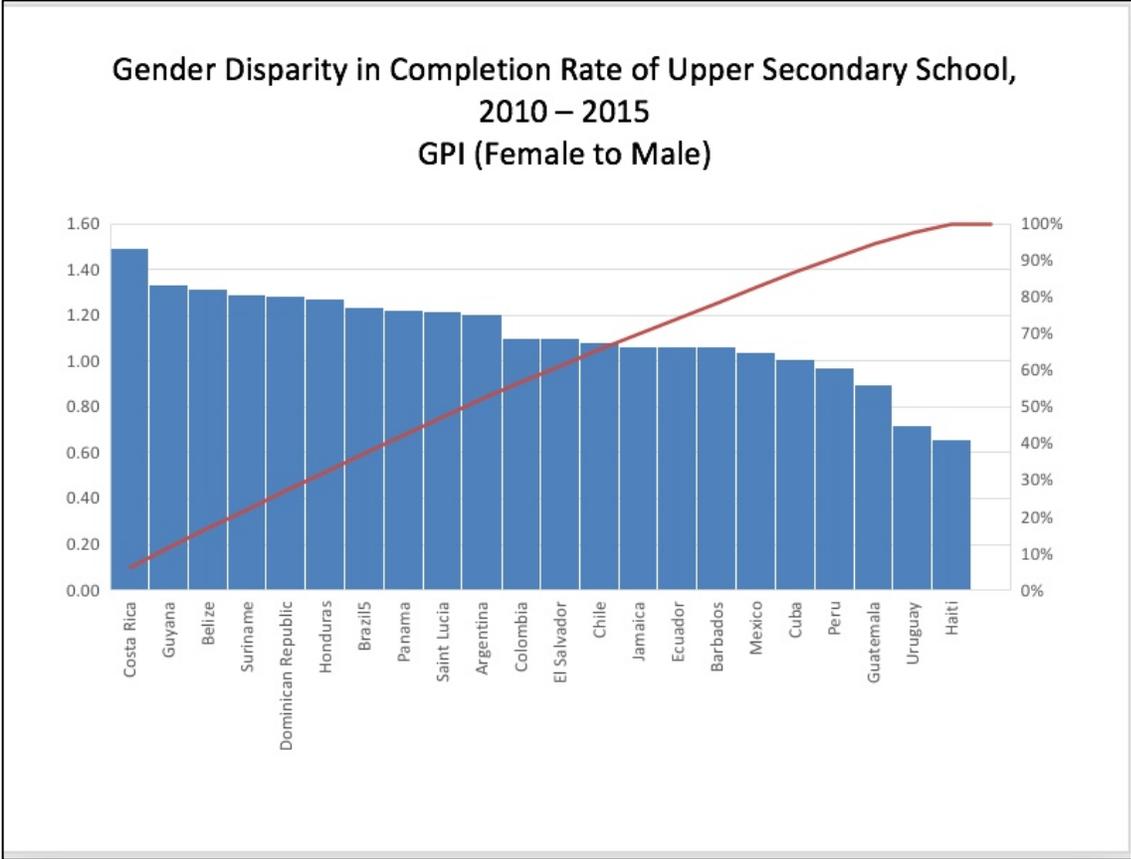


Source: GEM Statistical Tables, 2017, Table 7

It is critical that gender disparities do not exist in the completion of upper secondary education in order to ensure all individuals have equitable opportunities to enter job markets and continue lifelong learning. Figure 18 depicts the gender disparity in the rates of completion of upper secondary school from the years 2010-2015 based on the gender parity index (GPI) of females to males. Cuba has the greatest degree of gender parity among all countries reporting data with a GPI of 1.01. Mexico has the second greatest degree of parity in the completion rate of upper secondary education with a GPI of 1.04. Uruguay with a GPI of .72 and Haiti, with a GPI of .66, have the greatest rate of disparity where females bear the weight of disadvantage in completion rates of upper secondary school. Conversely, Costa Rica is among the countries with

the highest rate of disparity where males bear the greatest disadvantage with regard to completion of upper secondary school with a GPI of 1.49. In addition, 22 countries contribute to 80% of the disparity in upper secondary school completion between females and males.

Figure 18



Source: GEM Statistical Tables, 2017, Table 7

Overall, the secondary completion for both males and females was higher for lower secondary school. 80% of secondary school completion for both lower and upper comes from 20% of the countries in the LAC region.

5. Research Q3

What is the association between in-school deterrents and social norms in the completion of secondary education?

The purpose of using correlation in this analysis is to determine whether there is statistical evidence for an association between lower and upper secondary education completion for the years of 2010-2015 and each of the four domains in eleven selected countries with complete information. The four domains were “Bullying,” “Physical Violence,” “Early Marriage,” and “Early Pregnancy.” Please see Table 3. The rates are based on the population per 1,000. Bullying and physical violence examined youth between the ages of 13 – 16. Early marriage examined the ages of 15 – 19.

Table 3

CORRELATION ANALYSES: RESULTS AND IMPLICATIONS

COUNTRY	Secondary Education Completion		Bullying	Physical Violence	Early Marriage	Early Pregnancy
	LOWER	UPPER				
Argentina	750	660	250	340	130	64
Barbados	980	940	130	380	10	34
Belize	430	200	310	360	30	62
Chile	880	510	150	290	60	46
Guatemala	490	360	230	230	200	77
Guyana	860	550	380	380	130	86
Honduras	480	400	320	280	230	61
Jamaica	960	790	400	500	30	53
Peru	800	740	270	370	110	41
Suriname	470	250	250	210	20	44
Uruguay	630	330	190	260	110	54
Average	702.7	520.9	229	327	96	56.5

Source: GEM Statistical tables, 2017, Table 3 and Table 8

Table 4 gives a correlation coefficient for respective domains in lower and upper secondary completion:

Table 4: Correlation Coefficient Lower and Upper Secondary

DOMAIN	CORRELATION COEFFICIENT (LOWER & UPPER SECONDARY)	
	Upper Secondary	Lower Secondary
Bullying	r = - 0.662	r = - 0.073
Physical Violence	r = 0.687	r = 0.684
Early Marriage	r = - 0.217	r = - 0.362
Early Pregnancy	r = - 0.362	r = - 0.284

For the two secondary levels, Physical Violence was positively correlated to the completion of secondary education, while Bullying, Early Marriage, and Early Pregnancy were negatively correlated. Countries with higher rates of physical violence were also likely to have relatively higher rates of secondary completion. However, countries in which the incidences of bullying were fairly prevalent saw lower completion of upper secondary. Married early or pregnancies were weakly associated with lower completion rates. Eleven countries with complete data sets: Peru, Jamaica, and Guyana have the highest rate of bullying among 13 – 15-year old children between the years of 2010 – 2015; Guatemala, Honduras, and Bolivia have the highest rates of early marriage between the years of 2010 – 2015; and Guatemala, Bolivia, and Guyana have the highest rates of early pregnancies between the years of 2010 – 2015 (Please see Table 3).

There is a growing awareness of bullying. It affects all youth. The perpetrator, the victim, and the observer. Youth can experience negative physical, social and mental health issues (school violence, 2019). Figure 19 illustrates the global distribution of the gender parity indices regarding bullying between the years 2010-2015. Of the 14 countries reporting data, four countries, Bahamas, Barbados, Guyana, and Saint Kitts and Nevis, had an index of over 1.00,

which indicates a disparity in that more females than males experience bullying. Peru had an index of 1.00 which indicated parity between the genders with regard to the rate of bullying. Bullying among males tended to be a more prominent trend across countries. Suriname had the greatest disparity between genders with an index of .71, which indicates males experience more bullying than females.

Figure 19

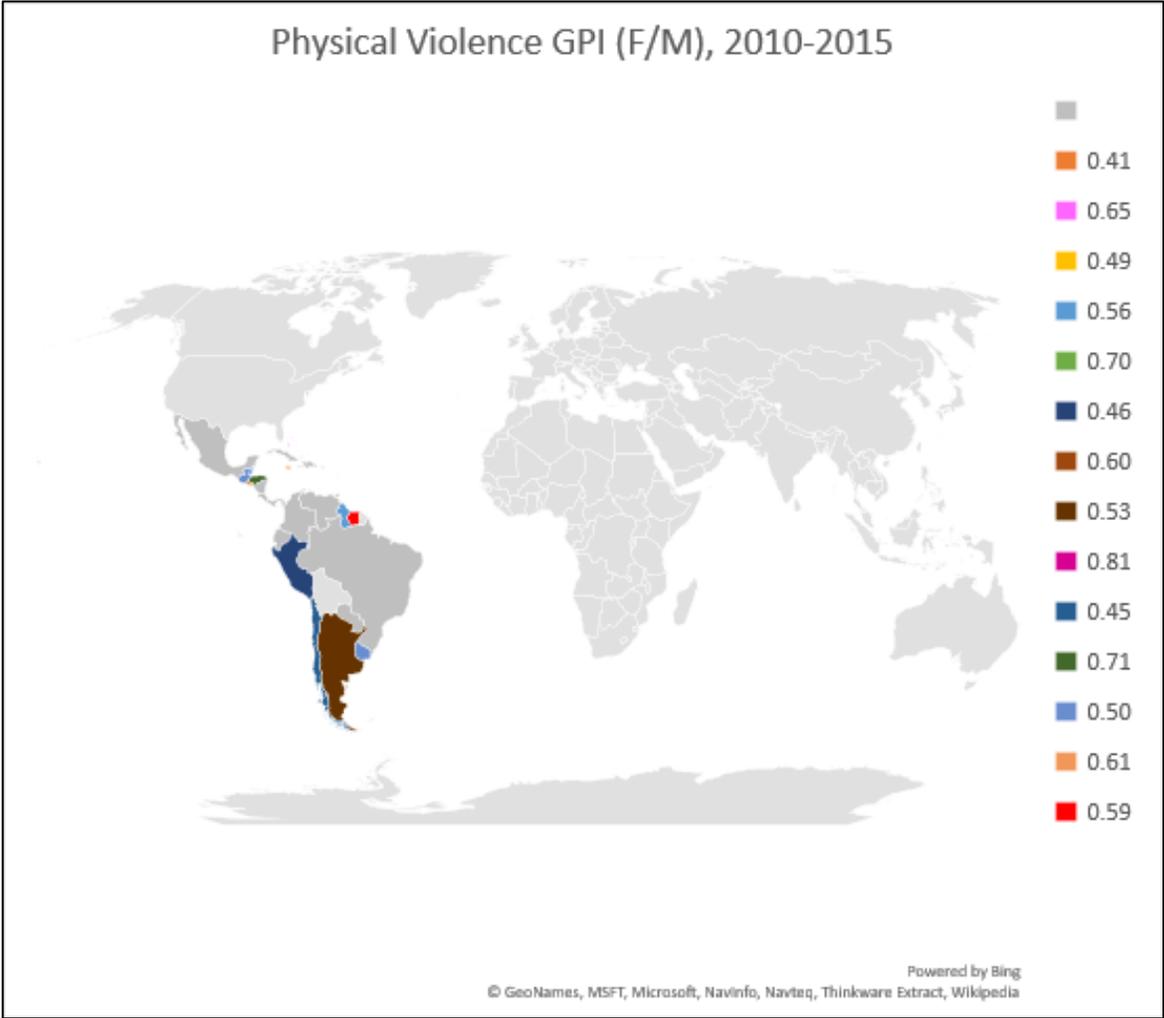


Source: GEM Statistical Tables, 2017, Table 8

School violence is not confined to a particular kind of school; it is present in all demographics. The most successful school programs aimed at reducing violence include curriculums on peaceful co-existence, mediation and conflict resolution in theory and practice (school violence, 2019). Figure 20 illustrates the global distribution of the gender parity indices

regarding physical violence between the years 2010-2015. Unlike the measure of bullying, none of the countries experienced parity among the genders with regard to physical violence. Males experience physical violence more than females.

Figure 20



Source: GEM Statistical Tables, 2017, Table 8

6. Research Q4

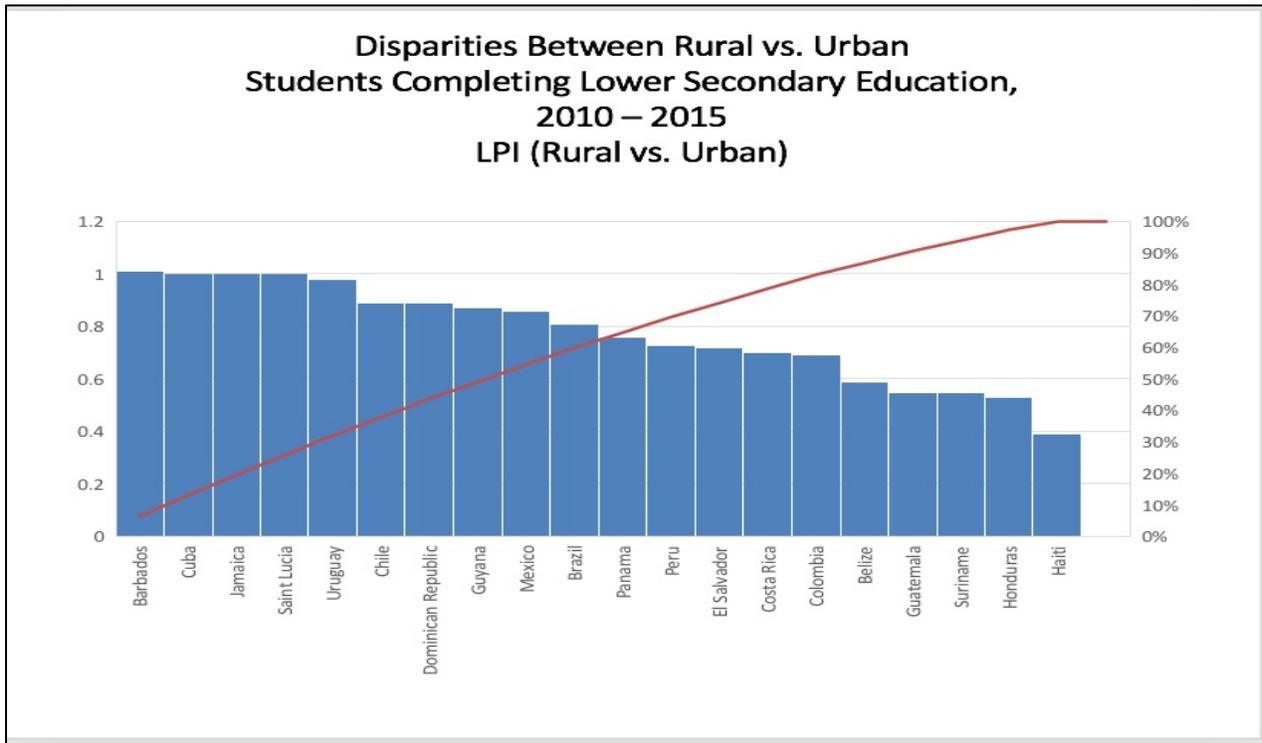
4. *What intra-country disparities if any exist in completion rates of secondary education?* Many LAC countries have not reached parity for location, wealth or gender.

4A. *What disparities exist between students completing secondary education who live in rural areas and those who live in urban areas?*

Equity in educational opportunities remains a critical issue in LAC countries. In order to achieve SDGs, barriers to fair and equitable access to quality education must be mitigated and eliminated. Figure 21 and figure 22 depicts data for twenty-two countries that reported location data in relation to the completion of secondary education. Cuba, Jamaica and St. Lucia have attained parity with LPIs of 1. Barbados followed an LPI of 1.01, 101 rural residents completed lower secondary education for every 100 urban residents who did the same, suggesting that parity also exists in this country. Of the countries which reported, Haiti was the most disadvantaged with an LPI of 0.39, which favors those living in urban areas; for every 100 urban residents who complete lower secondary education, 39 rural residents did the same. Rural residents in Belize, Guatemala, Honduras, and Suriname are also heavily disadvantaged with LPIs of 0.58, 0.55, 0.53 and 0.55 respectively.

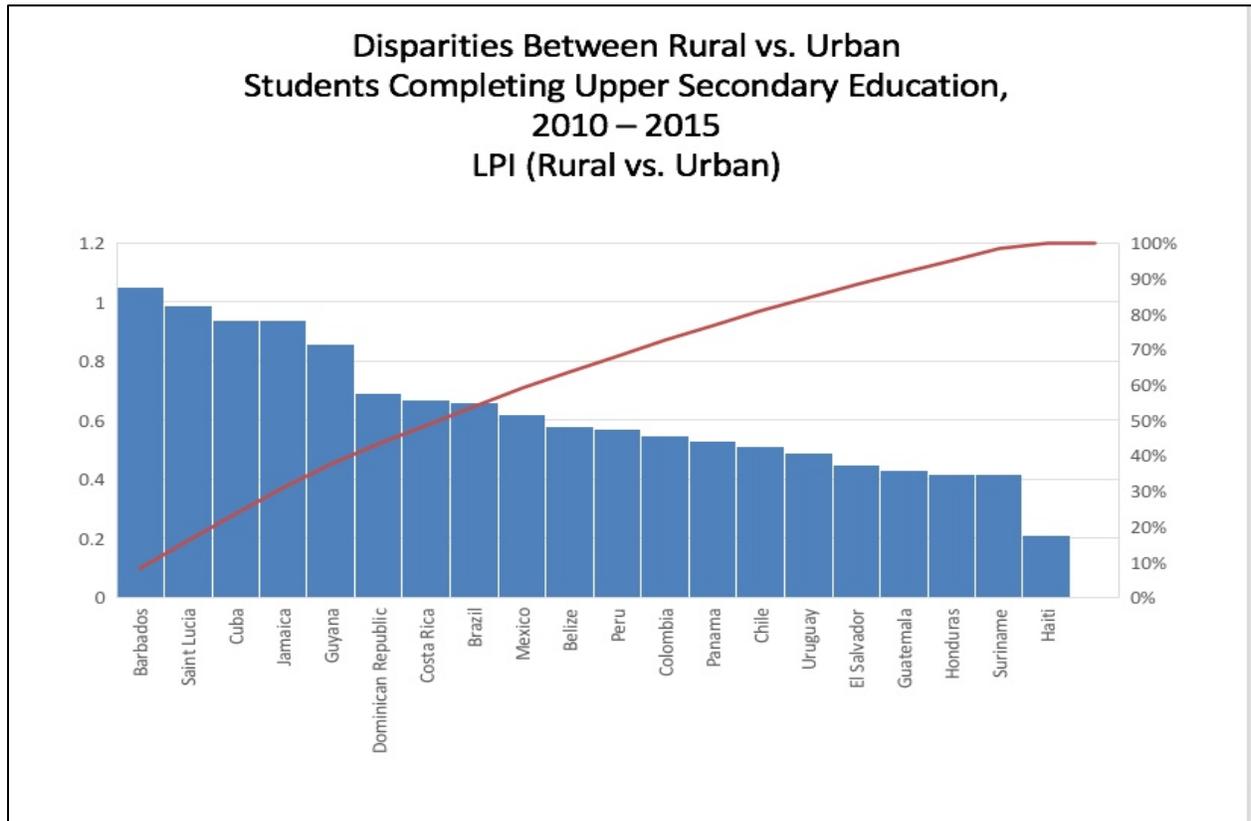
Twenty-two countries reported location data. Only Barbados favors rural students in terms of upper secondary completion with an LPI of 1.05. For every 105 rural students who complete upper secondary, 100 urban students do the same. Parity has not been attained in the other twenty-one countries. St. Lucia is the closest to parity with an LPI of 0.99, in favor of urban students. 51% of the countries in the region account for 80% of the secondary education completion rates related to location.

Figure 21



Source: GEM Statistical Tables, 2017, Table 9

Figure 22



Source: GEM Statistical Tables, 2017, Table 9

4B. What disparities exist between students completing secondary education who are poor and those who are rich?

Wealth disparities impact school completion. At the secondary level, it is more pronounced. Poor students are the most disadvantaged. Those who complete secondary education are often the most desirable candidates in the job market. Modern workforces require workers who are able to undertake complex tasks and engage in critical thinking. Secondary education better prepares individuals to undertake such roles and responsibilities (Healy, 2001). Those who enter the workforce without completing secondary education are at a disadvantage.

Secondary school completion has the potential to change the trajectory of one's life and has life-long implications (Portney & Berry, 2010). Figure 23 and figure 24 illustrates data reported by nineteen countries in relation to secondary school completion and income. The striking differences are between completion at the lower and upper levels. Countries like Haiti, Suriname, Honduras, Belize, and Uruguay are amongst the lowest performing compared to countries like Barbados, Jamaica, St. Lucia and Chile who are outperforming other LAC countries. Belize is among the LAC countries that underperforming both at the lower and upper secondary levels. Belize exhibits disparities amongst the poor and wealthy at the lower secondary level at an average of 0.3 v. the upper secondary which is even more depressed- 0.15. Access to education is starkly lower for students who attend Belizean schools at the upper secondary level. None of the reporting countries reached parity for either lower or upper secondary completion. Poor students in Belize Guatemala, Haiti, Honduras, and Suriname are the most disadvantaged of the countries who reported. Please see table 5.

Table 5

Wealth Parity Index for Secondary School Completion:

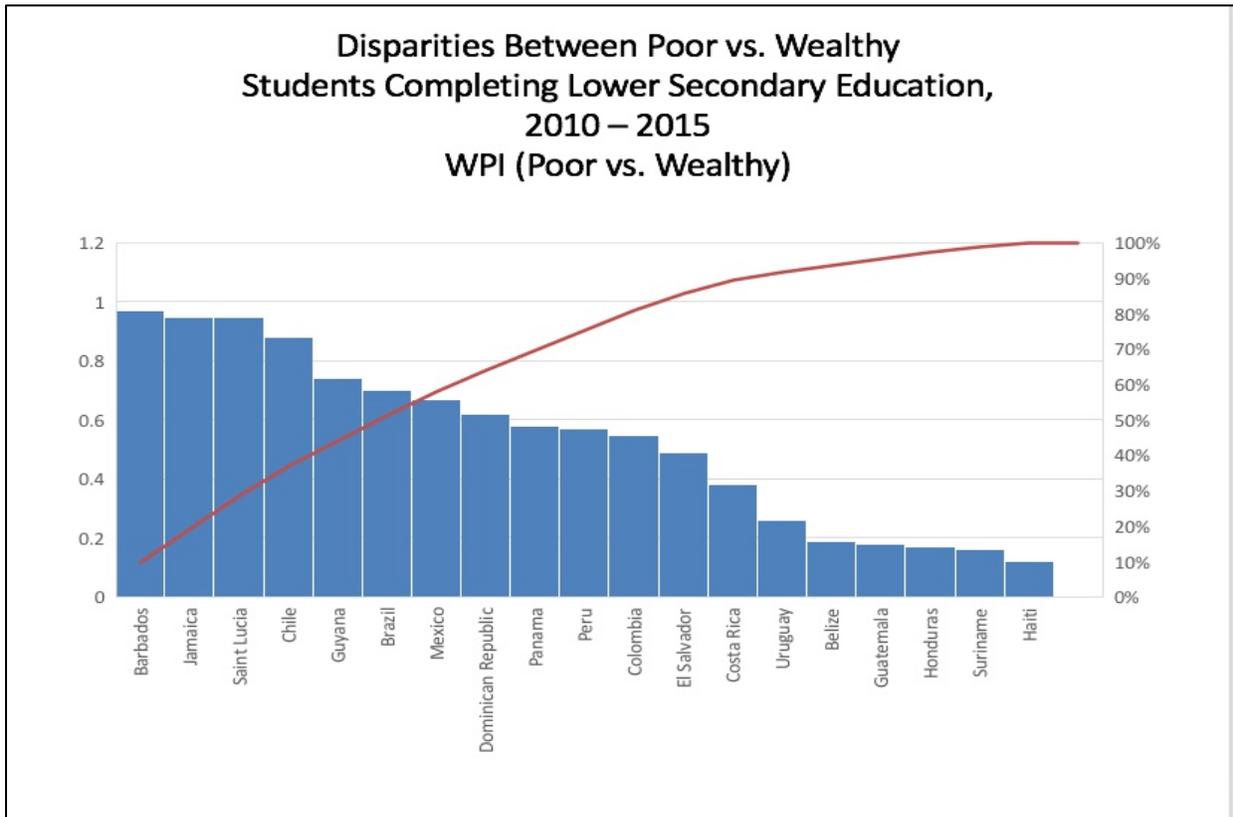
Lowest Secondary Completion Rates in the LAC Region

Country	Lower Secondary Completion	Upper Secondary Completion
Belize	0.19	0.07
Guatemala	0.18	0.06
Haiti	0.12	0.03
Honduras	0.17	0.10
Suriname	0.16	0.08
Uruguay	0.26	0.01

Source: GEM Statistical Tables, 2017, Table 9

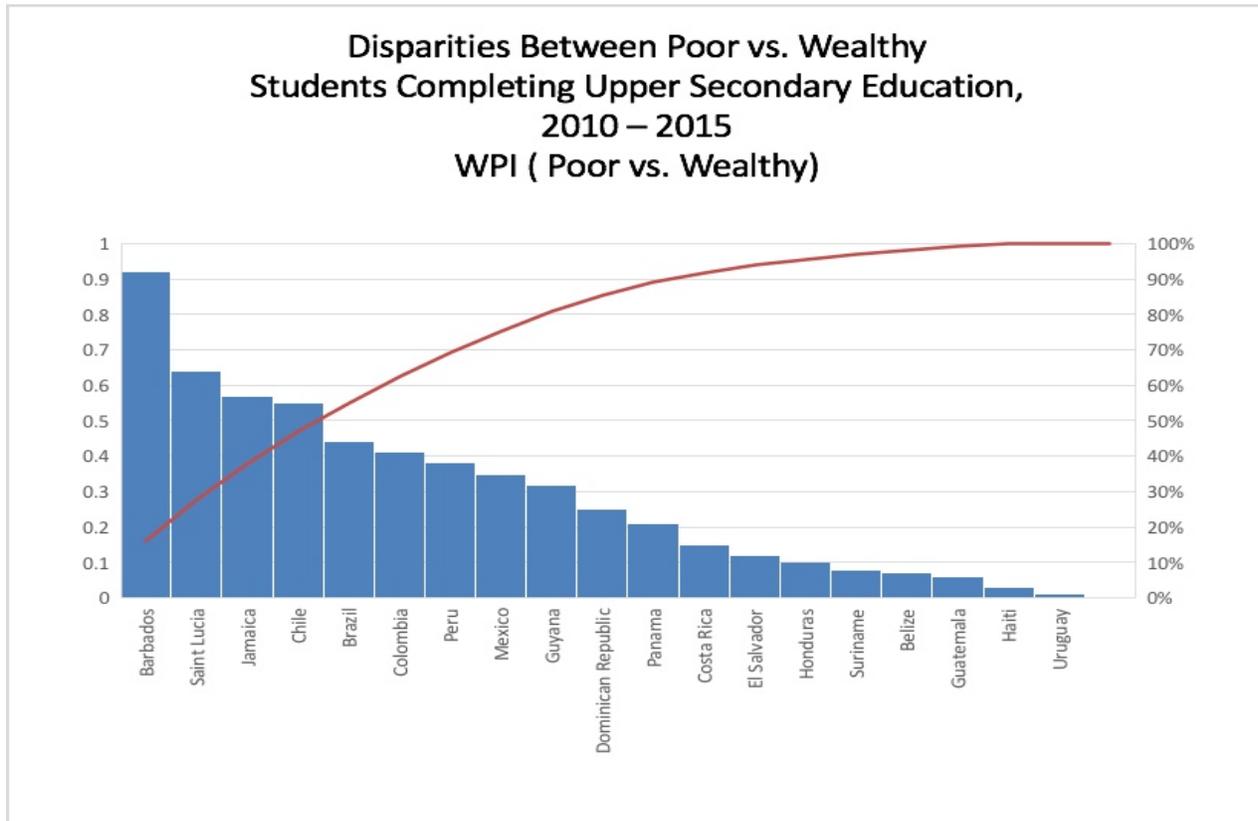
Each country reported low completion rates for both lower and upper secondary completion. For upper secondary completion, Barbados (WPI 0.92) is close to parity 92 poor students completing upper secondary for every 100 rich students; poor students are disadvantaged. 44% of the countries in the region account for 80% of the secondary education completion rates related to the family income.

Figure 23



Source: GEM Statistical Tables, 2017, Table 9

Figure 24



Source: GEM Statistical Tables, 2017, Table 9

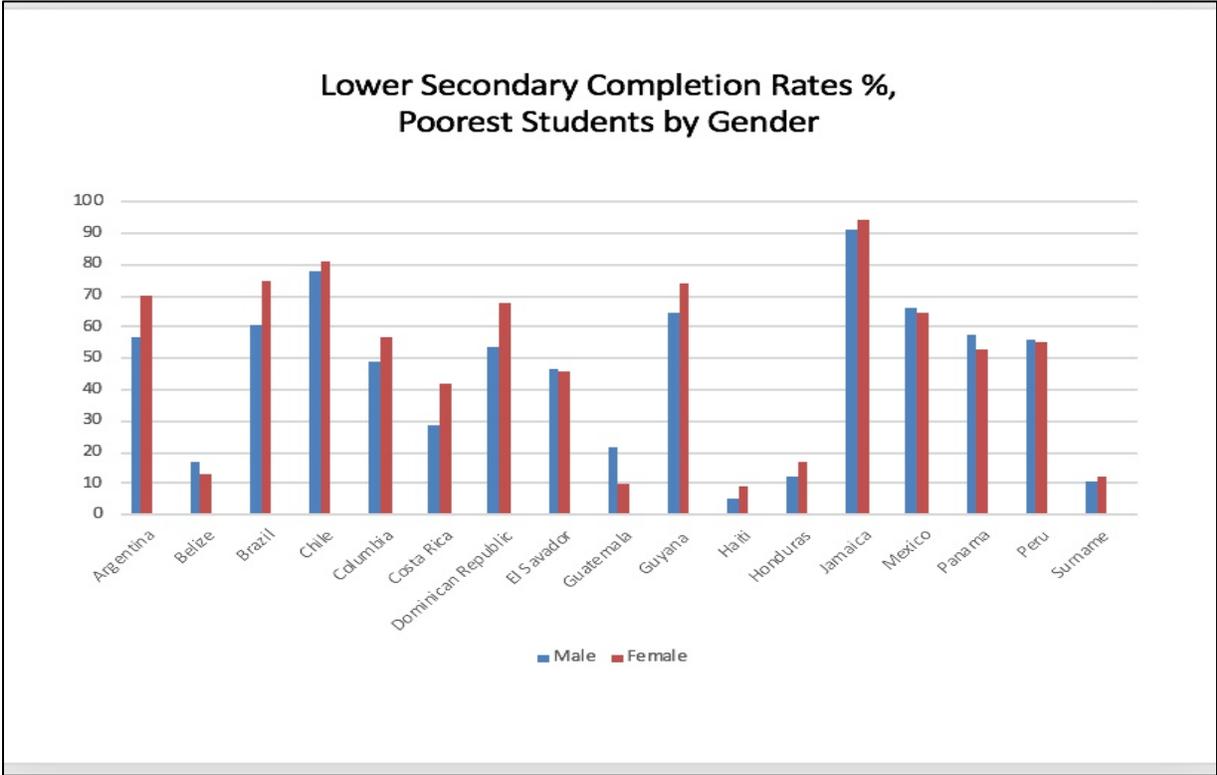
4C. What disparities exist between the completion rate of the poorest boys and the completion rate of the poorest girls?

What can also be taken from this table is the low completion rates of poor children in countries such as Haiti, Belize, Suriname and Honduras. These realities are important to investigate and understand because the health and well-being of developed nations are affected by the health and well-being of those in underdeveloped ones. Access to education has been noted as necessary for young people to see their way out of poverty (Yosso, 2005). If underdeveloped countries are left to maintain themselves without support from developed

nations humanitarian crisis will prevail. Further, often untreated issues in underdeveloped nations become the burden of developed nations (GEM, 2017). The long-term effects of educational resources provided to LAC countries can lead to lower costs and support from the global economy. The global economy is enhanced when nations can be self-sufficient (Huber et al., 2005). The low secondary completion rates of boys and girls from the poorest countries is an issue that should be important to the global community. If the 2030 Agenda is to be met, all people must get the support they need to attain the SDGs. Haiti, Belize, Honduras, and countries like them need support to strengthen educational initiatives they already have in place and innovative resources to address areas in need of strengthening. Education can help to reduce and alleviate the impact of poverty. The problems of poverty are interrelated and rarely occur in isolation. It also impacts perception. Children do not see the benefits of education if they live with constant financial struggles at home. Poverty can threaten the stability of nations because of tensions that arise from income inequality ("Impact of Poverty on the Society," 2018). The world is increasingly smaller, and nations are increasingly connected. Beliefs spread at a more rapid pace. Peace, stability, and goodwill are more prevalent when all citizens experience general well-being and are satisfied with the quality of life (Nygard, 2017).

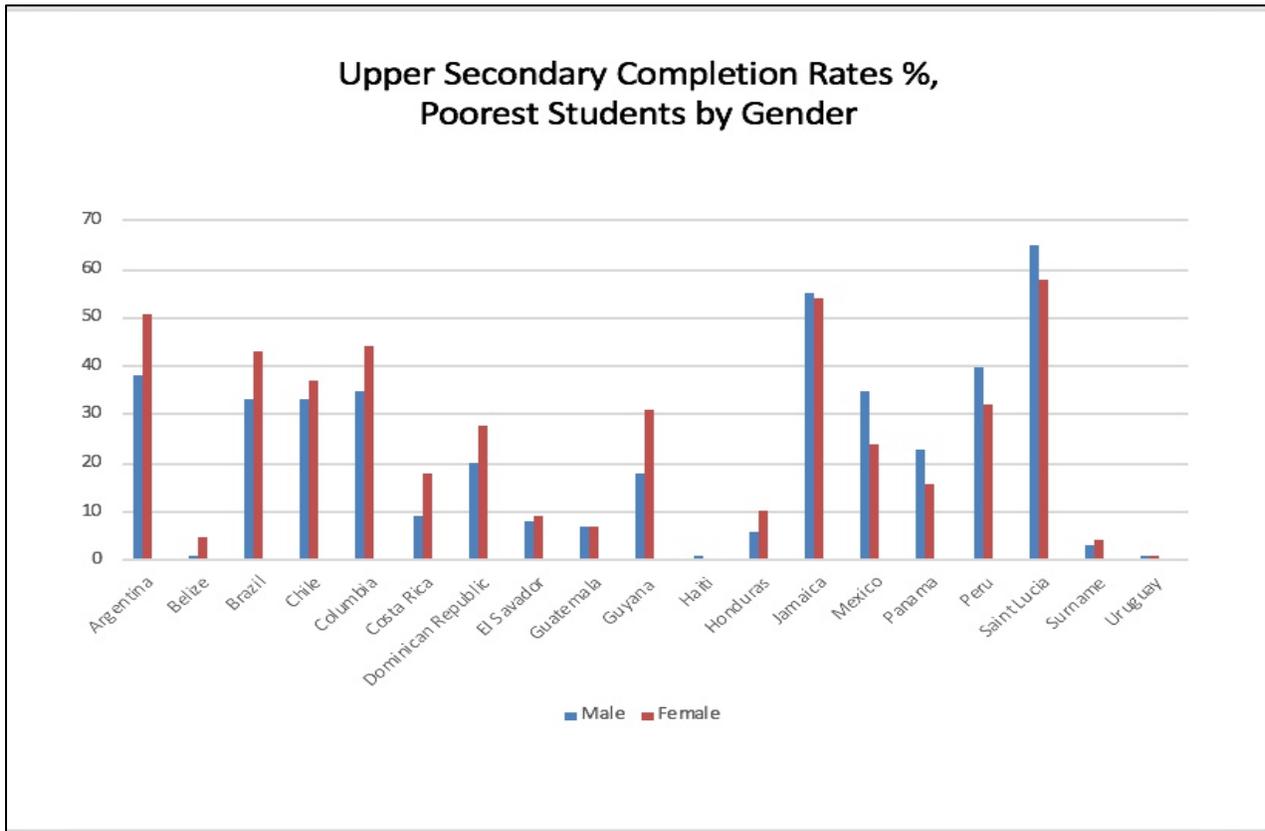
Figure 25 presents data from seventeen countries. The poorest girls from twelve countries outperformed the poorest boys by having higher completion rates for lower secondary education. In figure 26 nineteen countries reported data for upper secondary completion for the poorest girls and boys; girls outperformed boys by completing upper secondary at higher rates in approximately half of the reporting countries, nine.

Figure 25



Source: GEM Statistical Tables, 2017, Table 9

Figure 26



Source: GEM Statistical Tables, 2017, Table 9

Chapter 5 Summary and Conclusions

This dissertation research sought to understand how secondary education contributes to sustainable development in Latin American and Caribbean (LAC) countries. This research was based on secondary data analysis of the *Global Education Monitoring Report 2017* the report analyzed the educational outcomes of second and third world countries. However, for the purposes of this secondary data analysis, the researcher only focused on data specific to LAC countries. As result, this research identified the following key areas of inquiry: to guide research: (1) efforts by LAC to provide access to universal secondary education, (2) disparities in educational access based on gender, income and location, (3) in-school deterrents and social norms, (4) disparities in educational outcomes based on gender. The World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified four major areas of concern for LAC regarding educational outcomes: (1) a lack of public investment in universal education impacts achievement of education at all levels, (2) failure to invest in female students increases economic instability (3) gender bias in educational outcomes and (4) social norms and in-school deterrents and its effect on completion.

Education is a catalyst for development, but it's potential to spark lasting change has not been embraced by all nations (UNESCO, 2015). Access to education is tenuous for many and access is contingent upon finances, peace and other factors that may be prioritized above educating the neediest and marginalized populations. Developed countries are encouraged to support developing countries and urged to honor their commitment to ensuring all global citizens live a life free of poverty. Developing countries are advised to examine resources that are available to them in order to identify innovative strategies, which can be implemented to meet financial commitments inherent in the changes that must take place in order for sustainable development to be achieved by underdeveloped countries. Global, public and private sector

partnerships are recognized as key components in the financial processes required for a change in LAC countries (United Nations, 2018). Sustainable Development Goals can be achieved by providing education across a wide range of areas that are in alignment with the goals (UNESCO, 2015).

1. Outcomes

Effective educational programs develop, nurture and sustain learning communities that strive to meet the needs of the whole child, not just areas concerned with academia. Social and emotional supports are an integral part of the teaching and learning environment. However many LAC countries lack the necessary social supports needed to encourage school completion for primary and secondary students (GEM Report, 2016). Equal and sometimes more care is given to social/emotional growth and development because without it, it is very difficult, if not impossible for students to achieve academic goals. Many LAC countries face numerous educational outcome challenges due to decreased individualized academic instruction in addition to addressing non-educational needs such as behavior and familial connections causing the student to be unsuccessful in their educational endeavors (GEM, 2016).

Many students also require academic intervention because they are typically performing two or more years below grade level (GEM, 2016). Chronic absenteeism has a direct correlation to academic performance. Frequent suspensions and truancy may result in an accumulated deficit of academic knowledge that contributes to poor academic performance. Poor performance in the classroom is also a likely precursor to disruptive behaviors. Thus, some students would rather create a disturbance to the teaching and learning environment which challenges social norms confines in-school deterrents.

LAC countries have limited educational spaces which create challenges for them to provide adequate instruction at both the primary and secondary levels (GEM Report, 2016).

Many schools have shortages in their own teaching staff, support service personnel, and administrators. There is a lack of universal regulations for school systems throughout LAC countries regarding requirements related to attendance and academic performance that is often identical to their traditional counterparts in First World nations (GEM Report, 2016). The United Nations delineates all data from the school for Sustainable Development education initiatives purposes; however when reporting intra-country data from schools is not always consistent with data from a student's home school (UNESCO, 2015).

The findings of this secondary data analysis on the 2017 GEM Statistical Tables for reporting LAC countries, indicated more students completed lower secondary education when compared to upper secondary education. Females did not always bear the weight of disparity in regards to participation in secondary education. The GER is higher for girls in 93% of the 29 reporting countries, which suggests a high participation rate for girls. The GER includes all types of learning institutions, public and private (UNESCO, 2015).

Forty percent of LAC countries were not proficient in reading, and ninety percent were not proficient in math. Efforts to increase access to education in LAC countries began in the 1950s. Enrollment is now beyond seventy percent in many countries. The quality and relevance of what is taught in schools is a concern. When public education systems fail to provide adequate quality, private entities step in to fill the gap, but they operate without requirements. The most marginalized students are left behind (GEM Report, 2017). Additionally, high participation does not mean girls and boys receive equitable access to all content. Boys demonstrated higher achievement rates in mathematics, while girls demonstrated higher achievement rates in literacy (GEM, 2017). Skills acquired need to position all students to be competitive in the modern workforce.

Accountability measures in education have been established for many regions globally, but not all of them are helping to achieve SDG 4. It is becoming more common for educators and schools to be penalized when students demonstrate poor test scores. Sanctions based on the results of high stakes tests can have unintended consequences such as cheating and the narrowing of curriculums. Marginalized students are often the most impacted by such unintended consequences. Accountability does not mean taking punitive measures. It means having the power to make decisions and change through policy, legislation, and advocacy (GEM Report, 2017).

All LAC countries providing data showed wealthy students as having a greater advantage when compared to their less affluent counterparts. Poor students living in rural areas are the most disadvantaged. The poorest girls outperformed the poorest boys for lower secondary, but only 50% of poor girls outperformed poor boys in upper secondary. Table 1 illustrates a country's GDP and the completion rates of lower and secondary education. Wealthier countries had higher rates of completion. "Education and income are closely related" ("Education and Poverty in Latin America," 2019). Those who enter the workforce without completing upper secondary education experience a skill gap between what is required in the modern workforce and the skills they have acquired (Education and Poverty Eradication, 2001). Such individuals participate in the informal workforce which has fewer job protections and lower wages. Globally, some of the most financially disadvantaged people live in the poorest countries. Educational opportunities can help to break the cycle of intergenerational poverty (Ferrant, 2015). It is critical that all boys and girls minimally complete upper secondary education if they are to have an equitable chance to obtain employment which will provide a living wage (Organization for Economic Co-operation and Development, 2016).

Overall, boys experienced more violence and bullying than girls. Those who experienced violence were still likely to complete secondary school, but those who experienced bullying were not. Reducing violence in schools gives students an opportunity to focus on learning in a safe, comfortable atmosphere. Schools are uniquely positioned to provide students with academic and social skills. Teaching students to resolve conflict, control emotions and peacefully co-exist are life skills that will benefit them into adulthood. Violence (bullying in particular) may not have an immediate impact. Limited research has been done on bullying in the LAC region. However, it is important to take steps to protect the physical and mental health of students; they represent the unlimited potential of the region that has yet to be realized.

Early pregnancy and marriage also negatively impacted the completion of secondary education. Gender inequality disproportionately impacts females. A mother's education influences a daughter's education level (Ferrat, 2015). Families have positive intergenerational outcomes when marriage is delayed. (Duryea, et al, 2007). Developing female capital requires institutional change, cultural change, and new habits. Boys and men must be an integral part of the change process. Women are undervalued globally. In order for perceptions to change, women must be afforded opportunities that are equitable to those given to men (Wilson, 2013). Women rights are human rights, and when they are ignored, the impact is felt globally. To achieve sustainable development goals, all stakeholders must invest in the participation of all global citizens, especially the most vulnerable who are easily overlooked.

2. Policy Implications

Education has been identified as the “great equalizer.” This principle is even more applicable when applied to developing nations. LAC countries disproportionately suffer from vast economic downturns which hamper their overall development and sustainability. As such, universal access to educational institutions from the primary to collegiate levels are paramount to

their growth and ability to participate in a global economy. Developed countries have a number of governmentally sanctioned educational programs that allow their citizens access to educational institutions. LAC countries face many challenges in creating and maintaining educational opportunities. Even more, there are disparities as it relates to access for male and female students, rich and poor, urban and rural.

The World Bank and UNESCO have implemented a strategic and aggressive educational initiative to help increase the number of youth and young adolescents who participate in academic programs in LAC countries. This initiative coincides with the United Nations *Sustainable Development Goals (SDG)*. *The Global Education Monitoring Report* is an initiative that was created with the goal of creating equality within educational settings in developing countries. This initiative has been launched in over 50 countries worldwide. This has resulted in the development of the World Inequality Database on Education (WIDE).

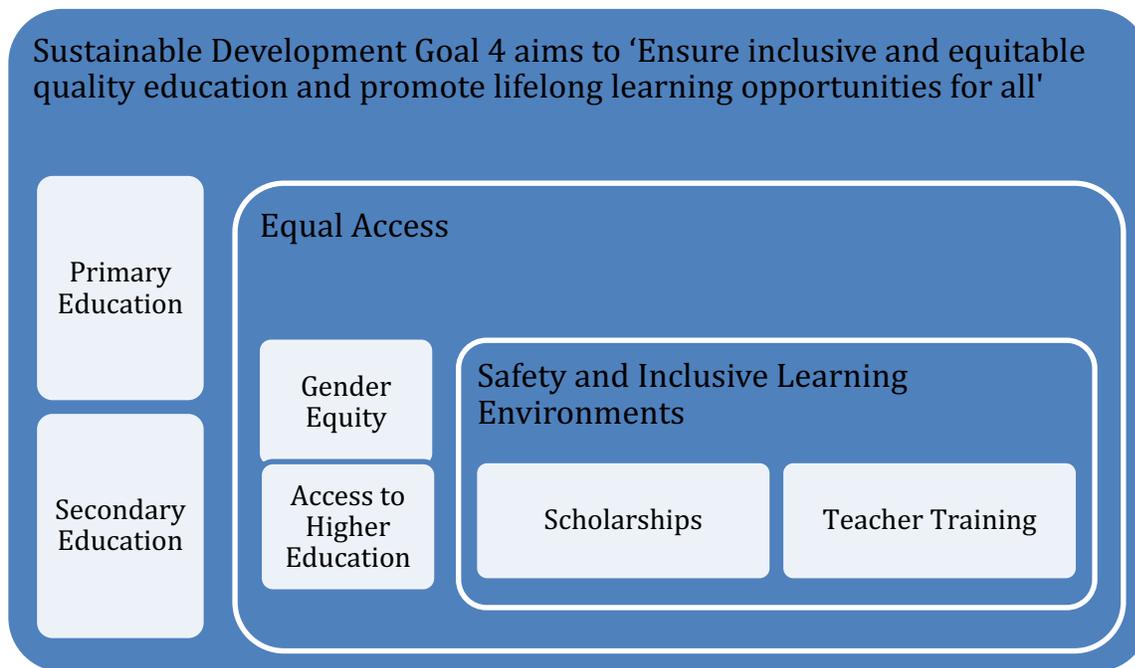
Fundamentally, LAC countries need increased support for their educational institutions. The ability of a country to educate its populous is paramount to their ability to be sustainable. Exploration of educational outcomes in LAC has become a policy initiative launched by the United Nations within the context of the Sustainable Development Framework. This dissertation research project has illuminated the work started by many international educational organizations and its connection to sustainability.

The ability to create and maintain educational equity in LAC countries depends largely on educational policies and resources subsidized by First World countries. “Global understanding has evolved into a framework developed by the international community and member state governments, UN agencies, multilateral and bilateral development partners...” (GEM Report, 2016). Educational policies in LAC countries have attempted to remedy the issues of inequity and disparities by gender. However, some countries have fared better with addressing

such challenges than others. The 2030 Agenda which is the initiative to address these challenges is in accordance with the Sustainable Development Goal 4. Sustainable Development Goal 4 seeks to create inclusive and comprehensive educational outcomes and lifelong learning opportunities.

Secondary education has been redefined to focus on lifelong learning, a right of every citizen and not just a benefit for the more affluent. Basic skills should be developed to high levels, student interests, motivations, and talents must be considered as a part of a diverse society that will enable more independent ongoing learning (United Nations Educational, Scientific and Cultural Organization, 2014). LAC countries are striving to ensure USE will be available to the masses as a normal part of the education cycle and no longer viewed as a luxury only within reach of a few.

Figure 27



Source: United Nations Educational, Scientific and Cultural Organization, 2014

The motivation to initiate educational policy for LAC countries did not begin with the 2030 Agenda. There were a number of historical international agreements that affirmed the right of education: Article 26 of the Universal Declaration of Human Rights in 1948, Convention against Discrimination in Education in 1960, Convention on the Rights of Children in 1989, and UN Assembly Resolution on the Right to Education in Emergency Situations in 2010 (GEM Report, 2016). These policies have demonstrated that education is a fundamental human right. Despite LAC countries, in most cases, being second and third world, their youth should have access to an equitable and sustainable educational system.

3. Recommendations

Education has been linked with sustainability and growth for nations around the world. As such, LAC countries must continue to strive for increased educational opportunities and outcomes for their students. It is important to identify and implement effective support systems for youth and adolescents so that they are afforded the opportunity to obtain an education. Youth, particularly those in Second and Third World countries, are increasingly marginalized and left out of the global educational market. Disproportionately male students in many LAC do not graduate at both the primary and secondary levels. As such, support programs to maintain matriculation are needed. It has been reported that in some cases these male students have faced disciplinary infractions that were once routinely handled by school staff, now result in suspensions, expulsions and/or police involvement. According to Porter (2015), the impact of purported race-neutral disciplinary policies, such as zero tolerance, in public schools is too harsh and fails to consider the crippling effects they have on the students subjected to exclusionary discipline. These punitive policies eventually deprive students of civil rights and liberties, the right to an education (Porter, 2015). It is important to note that some of the low retention rates

for male students are a result of income. In many LAC countries, education is not free. Further, some students are required to drop-out to obtain employment to assist with household needs.

LAC countries face numerous challenges in maintaining education programs as compared to First World nations. The World Bank and United Nations education initiative ensuring that all students receive a high-quality education is of critical importance for educators, including those in LAC countries as well as First World nations. Access to a stable educational system and a quality education, in part, hinges on teacher's perception of his/her role in the school community, formal/informal observations and relationships with students. Further, student completion, too, relates to access and sustainability. Teachers will do what they believe is best to meet the needs of their students (Moss, 2015). Student perceptions and educational outcomes will speak to the effectiveness of learning outcomes.

Access to education programs in LAC countries allows those students who are educated to be less likely to continue the cycle of poverty because they will have acquired knowledge that helps to broaden employment opportunities and command higher wages (Education and Poverty Eradication, 2001). The transition from primary to secondary education is crucial (Thompson, 2009). Education access, particularly at the secondary level may encourage lifelong learning even after students have left school (UNESCO, 2014). An educated populace better understands individual and collective rights and responsibility. Unfortunately, many LAC countries experience natural disasters which disrupt the educational process. Due to the lack of financial stability, many of these countries are unable to recover. As a result, there are long term effects that prevent continual educational progress. Incorporating human rights into disaster relief efforts; affirms the dignity of those in a weak position and will reduce the probability of conflict that often occurs in the aftermath of disasters (Ferris, 2010).

Secondary education in LAC countries impact on lifelong learning stimulates student's ability to engage in continuous exploration of the world around them and how their actions impact society. Global prosperity has heavily increased the demand for universal education (Global Environment Facility, 2017). Knowledge consumption, i.e. an educational system requires support from global organizations. LAC countries need to have skilled labor that has the knowledge that is required to manage human capital (Cashman, Nurse, & John, 2009). Lifelong learning stimulated by the completion of secondary education allows individuals to assess the conditions around them critically.

Universal education is a producer of human and social capital and are intimately linked (Healy, 2001). As such, international organizations willingness to continue dedicating resources to the development of both is essential for meeting long term Sustainable Development Goals. Investment in secondary education is one strategy that will effectively lead to the growth and development of human and social capital. Each additional year of education contributes to the earning potential of an individual (Healy, 2001). The Social Capital Benchmark Survey indicated that sustainability has an opportunity to be achieved when healthy options for development are available (Portney & Berry, 2010).

Universal secondary education has the potential to contribute to the attainment of Sustainable Development Goals in LAC countries (Thompson, 2009). Poverty is the root cause of many societal problems globally, and as such, eradicating poverty is the overarching theme of the 2030 Agenda (United Nations, 2018). The United Nations plays a significant role in addressing the overarching theme of the 2030 Agenda. Seventy percent of age-appropriate children in LAC countries were enrolled in secondary schools which emphasizes the potential for an educational opportunity with the support of First World and international organizations (United Nations Educational, Scientific and Cultural Organization, 2014). Conversely, high

failure and dropout rates once plagued LAC countries; students from lower income households, ethnic groups, and rural areas were disproportionately impacted (United Nations Educational, Scientific and Cultural Organization, 2014). LAC countries must continue to receive support in order to prevent prior dismal educational outcomes and to continue moving forward.

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[hurricane-maria-%e2%80%94-with-new-death-toll/ar-AAxZAih?li=BBnb7Kz](https://www.msn.com/en-us/weather/topstories/the-5-deadliest-hurricanes-in-american-history-now-include-hurricane-maria-%e2%80%94-with-new-death-toll/ar-AAxZAih?li=BBnb7Kz)

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