

**Youth and at-Risk Behavior: The Aftermath of Hurricane
Maria in the Caribbean Island of Dominica**

by

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THESIS EXAMINATION INFORMATION

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An oral defense of this thesis took place on September 16th, 2021 in front of the following examining committee:

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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

ABSTRACT

Hurricane devastation in the Caribbean has become a very common phenomenon over the past decades, and the destruction that follows comes with severe implications for the people directly affected by it. This study aims to explore the experiences and perspectives of youth in the aftermath of Hurricane Maria on the island of Dominica concerning deviant behaviors in youth, educational aspirations, and choice. The challenges in the aftermath of a hurricane in the Caribbean are unique for many reasons. Due to these unique challenges, this study is necessary to understand how the youth in developing Caribbean islands respond to destruction after a hurricane. In general, the youth describe increased involvement in deviant behavior after the hurricane. There was also a shift in choice and an increase in educational aspirations after the hurricane. These changes have important policy implications which are relevant to youth in the Caribbean after a natural disaster.

Keywords: Youth; Risk-behavior; Caribbean; Hurricane; Aspiration

AUTHOR'S DECLARATION

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Esther James-Charles

STATEMENT OF CONTRIBUTIONS

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this thesis.

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LIST OF ABBREVIATIONS AND SYMBOLS

PTSD	Post Traumatic Stress Disorder
PTS	Post Traumatic Stress
PTSS	Post Traumatic Stress Syndrome
HIV	Human Immunodeficiency Virus

Chapter 1 Introduction

On September 18, 2017, Dominica, a small island located in the Caribbean, was hit by a Category 5 hurricane causing damage, which was described by the media as "mind-boggling" (Pasch, Penny, & Berg, 2019, p. 7). Hurricane Maria made landfall on Dominica with wind speeds of about 145kt – equivalent to winds of about 252 kilometers per hour or higher (Pasch, Penny, & Berg, 2019). Hurricane Maria caused catastrophic damage in Dominica, seriously destroying the majority of structures and defoliating most trees and vegetation on the island. The roofs of the majority of the buildings in Dominica were either completely blown off or damaged. There was extensive damage to roads, power, phone, and internet services were cut off completely, leaving the island incommunicable with the rest of the outside world. Hurricane Maria caused the direct death of 31 people, and 34 people were reported missing in Dominica. The estimated total damage in Dominica is \$1.31 billion US Dollars (Pasch et al., 2019).

Hurricane devastation in the Caribbean has become a very common phenomenon over the past decades, and the destruction that follows comes with severe implications for the people directly affected by it. Few research studies have been conducted in the United States of America concerning the impact that hurricanes have had on youth with respect to deviant behavior and future aspirations. Some of these studies were conducted in Colorado, New Orleans, Minnesota, and Louisiana (Peek et al., 2011), (Teasdale et al., 2013), (Schroeder et al., 2004). They indicate that after a hurricane, youth who are affected tend to be prone to deviant behaviors. This research seeks to understand the manner in which a natural disaster, particularly a hurricane, can influence deviant behaviors, educational aspirations, and choices in youth in the

Caribbean island of Dominica. This research is unique since it will study the impact of hurricanes on youth on the island of Dominica, which is a developing country.

About Dominica

Dominica is a small island located in the Caribbean, it is very mountainous with lush green forests. Dominica is situated in the eastern Caribbean, south of Guadeloupe and north of Martinique (OWNO, 2020). Dominica has a population of approximately 71,986 people (WPR, 2020). Dominica's population has not had much growth over the past four decades and remains relatively stagnant. The majority of the population in Dominica is concentrated in the capital and largest city of Roseau with about 16,500 people living in the city (WPR, 2020). There are no other cities in the country with a population of over 5000 people. Most Dominicans are of African descent, with an average of 86.5 percent of the population identifying as Black in 2011 (WPR, 2020).

Prior to Hurricane Maria, Dominica had an economy that was dependent on agriculture but was in the process of transitioning to tourism with a special focus on ecotourism. After the passage of Hurricane Maria, much of the agricultural sector was destroyed. The government's focus has then been to bring the country back in financial shape with a focus on cruise ship tourism (CIA, 2019). Dominica suffers from high debt that increased from 67% of GDP in 2015 to 77% of GDP in 2016 (CIA, 2019). Recent poverty data are not available for Dominica, but a study conducted in 2009 shows that the poverty rate was estimated at 28.8% (KCL, 2009). Children and youth accounted for 52.1% of the poor. Approximately 65% of household heads stated that conditions of poverty had worsened over the previous years (KCL, 2009). Dominica, at that time, was classified as having the third-worst poverty record in the Caribbean and 58th

globally (CIA, 2019). Dominica scored 44.7 on the Gini index in 2015, making it one of the countries with the lowest possibility of social mobility (CIA, 2019).

Justification of Study

With the increase in strength, intensity, and frequency of hurricanes throughout the past two decades, there is a growing chance of vast destruction, particularly in the Caribbean islands, which are vulnerable due to their geographic location. From 1984 to 2012, Dominica was struck by nine different hurricanes (Strobl, 2012). Damages caused by a hurricane can take several forms; strong winds can cause structural damages to buildings and crops, heavy rains may cause extensive flooding and landslides in sloping areas, and high seas can sweep away structures close to coastlines.

Prior to Hurricane Maria, in 2015, Dominica was also devastated by Tropical Storm Erica that caused extensive damage on the island, killing 30 people and causing 500 million US dollars in damages (Masters, 2017). Natural disasters are often associated with considerable economic loss, but the Caribbean islands are also vulnerable to the destruction of social structures, which could in-turn have a major effect on the population, particularly the youth.

Research shows that there are negative psychosocial impacts after a natural disaster and an increased possibility for risky behavior among youth, which can lead to deviance and criminality (Banks & Week, 2014). Banks and Weeks (2014) in their study on the risk of psychological distress among youth, examined the associations among family and peer social support and the level of hurricane exposure. The study found that high peer social support may be diminished after a hurricane and higher levels of hurricane exposure were related to lower levels of social support from family and peers (Banks & Week, 2014). Edmunds et al. (2010)

performed a literature review of 96 recent studies on post-traumatic stress symptoms in youth post-disaster (Edmunds, Kendall, Furr, & Comer, 2010). They found that disasters had a significant effect on youth post-traumatic stress (Edmunds et al., 2010). It is notable, however, that most of the existing research on the topic focuses on psychological impacts, as compared to social impacts, and that the majority of research on social impacts of natural disasters on youth has been done in the US.

Widespread devastation after a hurricane in the Caribbean is unique for two reasons. First, it is unique because of the small physical size of the islands. When hit by a hurricane it is almost inevitable that the entire island will be exposed to parallel levels of destruction. Second, many of the islands in the Caribbean are developing countries and as a result, face existing economic challenges. This makes their ability to recover after a hurricane particularly difficult without the intervention of foreign nations. These unique challenges are non-existent in the US where hurricanes have also caused widespread damage in the past.

Due to these unique challenges, this study is necessary to understand how the youth in developing Caribbean islands respond to destruction after a hurricane. For example, there is reason to believe that youth living in developing countries might be particularly vulnerable when recovering and rebuilding after a hurricane. Returning to normalcy might be slow due to widespread damage after hurricanes and the existing low or unstable economic situation on the islands. Furthermore, the economic situation in the Caribbean islands may make it more difficult for families or individuals to be able to sustain themselves in the aftermath of a hurricane. These economic factors and their implications are unique to the islands, therefore, the challenges that youth face may be unique and could lead to different types, levels, and extents of risk behavior.

For these reasons, it is important to understand the social impact on risk behavior on the island of Dominica in the aftermath of Hurricane Maria.

This study will provide information concerning at-risk/deviant behavior, educational aspirations and choice in youth which will be relevant to a range of stakeholders, including international aid agencies, youth workers, educational institutions, mental health practitioners, and the criminal justice system. In particular, it will assist with developing current and future recovery strategies for youth after a natural disaster, including those focused on improving healthy coping strategies and helping young people avoid involvement in risk-taking behavior.

This project is guided by the following research questions:

Is there a shift in the behaviors of youth in the aftermath of a hurricane?

Is there a shift in the perception of youth concerning choice in the aftermath of a hurricane?

Are the educational aspirations of youth affected by a hurricane?

Chapter 2 Literature Review

Over the past years, several research studies have addressed the impact of natural disasters on youth and the effects with respect to deviant behaviors, aspirations, and resilience. Many research studies have concluded that natural disasters appear to have a negative impact on youth, and in some ways impact their behaviors, hopes, and ambition.

Post-Traumatic Stress

Post-Traumatic Stress appears to have an effect on youth following a natural disaster. In a study conducted by La Greca et al. (1996), they examined the symptoms of post-traumatic stress in children from grade 2 to 5 during the school year after Hurricane Andrew (La Greca, Silverman, Vernberg, & Prinstein, 1996). In total 442 students were evaluated at 3, 7, and 9 months intervals after the hurricane, concerning their exposure to traumatic events during and after the hurricane, preexisting demographic characteristics, the occurrence of major stressors, the availability of social supports, and the type of coping strategies used to cope with disaster-related distress (La Greca, Silverman, Vernberg, & Prinstein, 1996). The findings showed that although a substantially high proportion of students were experiencing levels of PTSD symptoms, symptoms of post-traumatic stress declined over time (La Greca, Silverman, Vernberg, & Prinstein, 1996). Although symptoms of PTSD had decreased over time, 12 percent of children were still reporting severe to very severe symptoms of PTSD 9 months after the hurricane.

The following study explores the effects of hurricane Katrina on youth. This study done by Kronenberg et al. (2010) assessed the response and symptomatology of children and adolescence for an area heavily devastated by Hurricane Katrina 2 to 3 years after the hurricane (Kronenberg, et al., 2010). This study specifically focused on development factors such as age, gender, and life stressors associated with multiple development systems and their impact on post-

Katrina patterns. This study hypothesizes that students' report of PTSD and depressive symptoms decreases over time and that change in symptoms will relate to gender and age (Teasdale et al., 2013). It also hypothesizes that older children and males will be more likely to report a decrease in symptoms over time than younger children and females. Immediately after Hurricane Katrina, students were assessed each school year for mental health from the 2005 to 2006 school year to the 2007 to 2008 school year (Kronenberg, et al., 2010). The results of this study showed a significant decrease in depression and PTSD symptoms between the second and the third year post-Hurricane Katrina. The findings also showed that younger people were more likely to score significantly higher on depression, PTSD, re-experiencing, and avoidance. Further, female participants scored significantly higher on depression, PTSD, experiencing, and avoidance than males (Kronenberg et al., 2010).

This study examines the mental impact based on a combination of two different natural disasters. A study by Osofsky et al. (2016) examined the interactive effects of stress related to the gulf oil spill on the mental health of children and adolescence (Osofsky, Osofsky, Weems, Hansel, & King, 2016). An explosion in the Gulf of Mexico occurred on April 20, 2010, caused large amounts of oil and dispersant to be released into the Gulf of Mexico. This resulted in damage to the environment and disruption in the way of life for many people in the community. There were severe concerns among children and families about their livelihood, such as loss of work, loss of family business, the inability to eat local seafood, and loss of normal activities. Although the stress experience may not be severe, they are likely to be highly stressful and exacerbate existing difficulties associated with the exposure to trauma, since the residents of the region were still recovering from the devastation from Hurricane Katrina (Osofsky, Osofsky, Weems, Hansel, & King, 2016). This study was done in collaboration with the schools of

children who were affected by both Hurricane Katrina and the Gulf oil spill. Data was collected from 1730 children and adolescents in the Gulf region directly impacted by the oil spill, they were assessed before and after the spill. This study found that school-age children and adolescents assessed showed PTSD symptoms, which were associated with the oil spill (Osofsky, Osofsky, Weems, Hansel, & King, 2016). This study helped to demonstrate that there is a linkage between stress related to the Gulf spill and PTSD symptoms in youth, which are not simply due to preexisting symptoms. However, there appears to be an interactive effect such that those with high preexisting PTSD symptoms, high previous hurricane exposure, and high oil spill-related stress had the most elevated post-oil spill PTSD Symptoms (Osofsky, Osofsky, Weems, Hansel, & King, 2016).

Also, a study by Furr et al. (2012) evaluated the overall effects of natural disasters on PTS and examined the effects on the relationship between post-traumatic symptoms and pre-existing aspects of the child, such as age and gender, the disaster experience, and study methodology (Furr, Comer, Edmund, & Kendall, 2012). The study "hypothesized that across literature disaster could be associated with an overall effect of PTS symptoms in youth" (Furr, Comer, Edmund, & Kendall, 2012, p. 6). This study included 96 studies published before January 1st, 2009. The study found that despite variation across studies, each study found that disaster had a significant effect on PTS in youth. It also found that pre-existing characteristics, such as gender, the child disaster exposure, and the study methodology were significantly associated with the variation in the magnitude of the disastrous effect on the youth PTS symptoms (Furr, Comer, Edmund, & Kendall, 2012). Furthermore, the studies found that the timing of assessment affected the strength in the association between the disaster and youth post-disaster PTS. This study found that studies conducted within the first year post-disaster showed a

more powerful effect for PTS in youth than studies conducted beyond the one-year post-disaster (Furr, Comer, Edmund, & Kendall, 2012).

Similarly, the Teasdale et al. (2013) study investigated the effects of Hurricane Katrina on the adolescents' feelings of social isolation after a natural disaster (Teasdale, Stephens, Sloboda, Stephens, & Grey, 2013). That was a comparison study done on students in New Orleans compared to five other cities. This post-hurricane survey found a significant difference between the students in New Orleans and students in the five other cities who did not experience a hurricane. The findings indicated the need for intervention for adolescent students after a natural disaster. Although the behaviors vary in each research, there is an overall pattern of change in the behavior of youth after a natural disaster as it related to posttraumatic stress.

Mental Health

Many studies have documented symptoms of mental health problems in youth who have experienced natural disasters, such as earthquakes, tsunamis, and hurricanes in the past. Schroeder and Polusny (2004) performed a study six months following the March 29, 1998, widespread tornado destruction in rural Southern Minnesota, they examined the effect of disaster exposure on adolescent psychological function and the use of alcohol. They found that the extent of trauma exposure was associated with greater binge drinking amongst adolescents (Schroeder & Polusny, 2004).

Additionally, Rohrbach et al. (2009) studied the exposure to Hurricane Rita and changes in adolescent substance use from 13 months pre-disaster and seven months post-disaster. The participants were 280 high school students in southern Louisiana. They found that there was a positive relationship between post-traumatic stress from the impact of the hurricane and an

increase in the use of alcohol and marijuana. This finding suggests that an increase in substance abuse may be one of the behaviors that youth display in reaction to exposure to hurricanes.

This study also explores the mental impact of hurricanes on youth. Peek, Morrissey, and Marlatt (2011) performed a study of 23 families' adjustment process who were displaced to Colorado after Hurricane Katrina. This study showed that as a result of the displacement and the move to Colorado, the children were overwhelmed by a reported sense of sadness and loneliness, they were unable to perceive the benefit of moving to Colorado and had a strong desire to return home. They also found that children were worried about the present and future well-being of their families, although they did not always express these fears to their parents (Peek et al, 2011).

The following study does not explore the mental effect of one natural disaster but instead explores previous studies on several disasters. In this study, Lai et al. (2014) examined the depressive symptoms among youth after a natural disaster. They specifically examined the prevalence of depression, risk factors associated with depressive symptoms (Lai, Auslander, Fitzpatrick, & Podkowirow, 2014). They examined seventy-two peer-reviewed studies conducted with youth under the age of 18 years that examined post-disaster symptoms (Lai et al., 2014). This study found that disaster was associated with elevated rates of depression among youth. No single risk factor was found to be associated with the risk of developing depressive symptoms in youth (Lai et al., 2014). This finding points to post-disaster depressive symptoms in youth, which may be influenced by many factors. They found that disaster exposure was a risk factor for depressive symptoms in youth (Lai et al., 2014).

A study conducted on non-Post Traumatic Stress Syndrome (PTSS) on youth in the aftermath of a natural disaster examined internalizing and externalizing behavior problems in youth who were exposed to natural disasters (Ruben, Felix, & Hambrick, 2018). Youth reactions

to disasters include a range of internalizing such as depression and anxiety and externalizing such as aggression and disruptive behaviors (Ruben et al., 2018). The primary aim of the study was to conduct a meta-analysis of the literature on non-PTSS internalizing and externalizing behavior problems among youth exposed to natural disasters (Ruben et al, 2018). The study found that natural disasters have a small but significant effect on non-PTSS internalizing problems in youth. They found a growing empirical focus on how natural disasters impact diverse child internalizing and externalizing behaviors (Ruben et al., 2018). Their findings also suggest that providers should screen for an outcome such as depression, anxiety, panic, and aggressive behaviors when working with youth who have been exposed to natural disasters (Ruben, Felix, & Hambrick, 2018)

A research study by Oreno-Aguay et al. (2019) also explores the impact of natural disasters on the psychological well-being of youth more generally. Orenogo-Aguay et al. (2019) conducted a study after Hurricane Maria in Puerto Rico. The objective of this study was to determine the magnitude of disaster exposure and mental health outcome among Puerto Rican youth after Hurricane Maria (Orenogo-Aguayo, Steward, Arellano, Suarez-Kindy, & Young, 2019). In a school-based study conducted at each public school in Puerto Rico between February 1st and June 29th, 2018, 96,108 students participated in the survey. The finding indicated that youth in Puerto Rico experience significant disaster-related exposure after Hurricane Maria. Furthermore, it found that the association between the devastation and the child and adolescent mental health impairment were present despite the geographical location or the socio-economic status of the youth. They also found that 57.8% of youth reported having a friend or family member move away from the island after the hurricane (Orenogo-Aguayo, Steward, Arellano, Suarez-Kindy, & Young, 2019). The research also indicated that there was broad exposure to

numerous stressful characteristics associated with the hurricane included damaged homes, damaged belongings, forced evacuation, and fear of death or injury of friends and family. In addition, there was also stress in the aftermath of the storm associated with food and water shortage, theft and violence in the neighborhood, and friends and family moving away from the island.

Career Aspiration

Although these studies are not directly related to natural disasters, they are relevant to this study because they explore the relationship between career aspiration and youth in stress relating situations. The effects of stressful situations on youth can not only lead to PTSD and mental health effects on youth, but it can also impact their career aspirations.

In a study about career aspirations, Furlong et al. (1996) explore the dimensions of opportunity structures to assess the relative impact of individual attributes such as gender, class, and education and contextual effects such as the labour market and neighborhoods on occupational aspiration (Furlong, Biggard, & Cartmel, 1996). Roberts (1975) created the concept of opportunity structure concerning the study of young people from school to work. Roberts (1975) argued that young people enter the sort of job to which they aspire, which means that ambitions are a subjective interpretation of a person's position within objective structures (Roberts, 1975). The concept of opportunity structure is important since it promotes greater awareness of the existence of the constraints that shape the experiences of social groups (Furlong, Biggard, & Cartmel, 1996). The concept of opportunity structure involves advantages and disadvantages that are associated with individual attributes such as class, gender, and race. To understand the effect that opportunity structure has on the transition from school to work for young people, Furlong et al. (1996) needed to understand the salience of the different

components of these structures of opportunity (Furlong, Biggard, & Cartmel, 1996). To assess the impact of individual and contextual effects on young people's occupational aspirations, the Cambridge scale was used to code the participant's answers. The question asked to the young people in this study was to name the job they hope to be working in five years. Overall, the study supports the theory that contextual effects were an important part of the male occupational aspiration whereas it had a weaker effect on the female occupation aspirations. Generally, they found that neighborhoods play an important role because of the direct effect on local deprivation in shaping youth aspirations, and it also affects school attainment which then affects the occupational and educational aspirations of youth (Furlong, Biggard, & Cartmel, 1996). These findings highlight the connection between the aspiration and ambition of youth despite environmental limitations.

In a similar study, Kabiru et al. (2013) explored the concerns, challenges, aspirations, and expectations of young people of the sub-Saharan African youth to investigate how the youth cope with constraints in order to achieve (Kabiru, Mojola, Beguy, & Okigbo, 2013). It explores how youth cope with neighborhood constraints to aspiration achievements. This study drew from a cross-sectional survey from 4033 youth, from 12-22-year-olds from two Kenyan slums, and also in-depth interviews conducted with 75 youths between the ages of 12-24. Almost 60% of the population of the countries in South-Saharan Africa are youth below the age of 25, many of which are growing up in rapid urbanization, limited educational opportunities, poverty, and high unemployment rates. The findings indicated that the key concerns amongst male participants were being worried about getting HIV, insecurities, police harassment, and not being able to complete their education. The key concern amongst the female was becoming pregnant, getting HIV, being harassed by police, not being able to complete their education, and being unable to

leave the slums (Kabiru, Mojola, Beguy, & Okigbo, 2013). Despite these concerns over 75% of youth had high aspirations, almost all of the participants reported that owning their own homes, having the ability to care for their parents, and having a good job was very important to them (Kabiru, Mojola, Beguy, & Okigbo, 2013). They also found that the youngest participants were more likely than the older ones to have high expectations of achieving life goals and these expectations decrease with age. There was no significant decrease difference in terms of expectation for males and females. The majority of the participants felt that completing secondary school was very important and that education was especially important for those who saw it as critical to achieve their career goals. The results also showed a positive correlation between aspiration-expectation and delinquency, which indicates that that the greater the aspiration and expectation the higher the likelihood of delinquency (Kabiru, Mojola, Beguy, & Okigbo, 2013). Overall, this study found that there is a likelihood that delinquency increases when young people's aspirations are higher than their perceived expectations to achieve their goals. This finding is important because it suggests that there is a connection between the youth aspiration even in the face of delinquent behaviors.

Exploring similar dynamics in a different context, Hill et al (2003) examined the career aspirations, barriers, and family support among low-income African-American, Euro-Americans and Mexicans- Americans and Mexican immigrants early adolescents (Hill, Ramirez, & Dumka, 2003). The goal of this study was to gain a better understanding of the adolescent's goals and the influence of parent-adolescent relationships. The participants were recruited from neighborhoods that had higher crime rates and higher rates of poverty. To participate, they had to come from families who reside in a census tract that had a median family income of less than \$25,000 and live in government housing (Hill, Ramirez, & Dumka, 2003). This study was done using one-on

one-interviews. The study suggested that despite the similarity in community and socio-economic backgrounds, there were gender differences in the expression of career goals. It showed that girls are more likely to express an understanding of the requirement to reach their goals than boys. The result of this study also suggests that women have a greater maturity of career aspiration at an earlier age than men (Hill, Ramirez, & Dumka, 2003).

Youth Resilience

Studies of resilience are relevant to provide an understanding of the effect of resilience in youth when faced with difficult situations. Van Breda and Theron (2018) study conducted a review of 61 journal articles on the resilience of children and youth in South Africa over a period of eight years. The study was conducted from 2009 to 2017 on the resilience of children and youth from ages 0 to 24 in South Africa (Van Breda & Theron, 2018). This study aimed to provide an understanding of South African children and youth on what enables their resilience. South African youth had the highest rate of unemployment globally, and between 2003 and 2017 child poverty was at 30% and almost a third of children were not able to afford a minimum balance diet. With such a high percentage of unemployed youth, a large proportion of youth were unable to contribute financially to their household. Due to these conditions, interest emerged in how some children and youth manage to develop and do well for themselves as young adults, in education, employment, and family life (Van Breda & Theron, 2018). The research found that from the perspectives of the young people the resources that mattered most often for their resilience were personal and relational resources. Structural and cultural resources were less frequently reported and interactional resources were infrequently noted. It is noteworthy that this reported finding implies that cultural and structural resources were not important in the resilience of South African children and youth and that the most relevant resources were personal and relational. According to Van Breda and Theron (2018), a possible explanation for the dominance

of personal and relational resources as being most important in the influence of resilience of youth in South Africa, is due to the fact the young people own individual strength and relational support are a visible part of their everyday experiences, as a result, it is more noticeable to them. Cultural and structural resources may be more invisible, therefore having a more indirect foundation from which personal and relational experiences are experienced (Van Breda & Theron, 2018). Another plausible explanation for the lack of prevalence of cultural and structural resources as it relates to resilience to the youth in South Africa could be due to South Africa's history of colonialism and apartheid. Both of these political factors have contributed to the systematic denigrate of black South Africa's sense of cultural pride and eroded the structural supports for resilience (Van Breda & Theron, 2018). Dominica, like South Africa, is a country that has experienced its fair share of colonization, and the research by Van Breda and Theron (2018) raises questions as to whether cultural pride might play a role in the resilience of youth from Dominica.

In a 2017 study, Sleijpen et al (2017) conducted a study on 16 youth refugees between the ages of 13 to 21. The study aimed to identify factors and processes that promoted resilience according to the refugees (Sleijpen, Mooren, Rolf, & Boeije, 2017). Young refugees are considered to be extremely vulnerable due to the psychological distress caused by the traumatic event they experienced in their country, their fight to get away from the country, and the new culture in the receiving country (Sleijpen, Mooren, Rolf, & Boeije, 2017). The participants in this study were eight males and eight females, four of whom did not have parents in the Netherlands, eight only had their mother and four had both parents. The study found that in general, the participants use four strategies to deal with the traumatic experience and stressors: acting autonomously, performing at school, perceiving support from peers and parents, and

participating in a new society (Sleijpen, Mooren, Rolf, & Boeije, 2017). These strategies helped the participants to strengthen their sense of power and control, as a distraction and to sustain their spirit within the family unit. They also found that the same adolescence can be both vulnerable and resilient depending on the available support system (Sleijpen, Mooren, Rolf, & Boeije, 2017). The result also showed that some participants functioned well in school while suffering from PTSD symptoms, meaning that positive adaptation can apply to a specific sphere and not across all areas. One of the things that negatively affect resilience was the duration of periods of uncertainty, when periods of uncertainty were prolonged participants show mental fatigue.

Both of these studies on resilience showed that the participants were able to display resilience when they draw from certain aspects of their everyday life. This study may relate to the youth in Dominica post-Hurricane Maria and their ability to draw on certain aspects of their life to bring out their resilience.

Resilience

Moving away from criminological theories of crime and deviance, the concept of resilience has been examined in a few studies to understand the connection between strain and aspiration in youth. I will consider the concept of resilience as it is an important concept in the research on young people and strain. I will elaborate on the concept of resilience to provide a deeper understanding of the concept and the role that it may play in influencing the behaviors of youth in Dominica in the aftermath of Hurricane Maria.

Resilience can be defined as a process and an outcome characterized by positive adaptation to adversaries. Resilience can be conceptualized as a product of protective factors and not a personal attribute (Theron & Theron, 2010). Resilience can be understood as an ecosystem

concept, that allows researchers to take into account the contextual and cultural forces that are distinct to a study participant and embrace cultural theories of resilience (Theron & Theron, 2010).

Earlier researchers refer to children who were able to function well despite the odds as "invulnerable". As research extends across time and types of trauma the word "invulnerable" was replaced with terms such as stress-resistance and resilience. These concepts were thought to capture the interplay of risk and protective processes that takes place over time involving the individual, family, and larger sociocultural influence (Wright, Masten, & Narayan, 2013). Initial research in the area of resilience focused on the individual and the idea of success only through one's effort. Resilience adaptation always takes into account the threat of good adaptation with regards to risk, adversaries, and negative life events. Risk factors rarely occur in isolation, children with high risk are exposed to multiple adversaries extended over time or for a very long period in their life (Wright, Masten, & Narayan, 2013). It is critical to assess cumulative risk factors to be more accurate in the understanding of development outcomes.

In recent studies, the pathway informing resilience in context and culture has become the focal point in resilience research (Theron & Theron, 2010). According to Masten (2001) resilience is referred to as a good outcome (Masten, 2001). Resilience can be defined as an inferential and contextual construct that requires two types of judgments. The first judgment focuses on the threat side of the inference, which presumes that individuals are not considered resilient if they have never suffered a significant threat to their development (Masten, 2001). There must be risks that are based on predictors of undesirable outcomes with a high probability of a bad future outcome. In studies, resilience has been operationalized to include socioeconomic

status, life events that occurred in life, massive community events, and divorce (Masten, 2001). Single or multiple risks are often predictors of an undesirable outcome.

The second judgment is an inference about resilience that can be categorized by the quality of adaptation or development outcome is assessed as good or ok. Some developmental investigators have defined resilience based on an observable track record of meeting the expectation of a given society in a historical context, based on the behaviors of children and the current situation (Masten, 2001). On the other hand, other investigators have focused on the absence of low levels of symptoms and impairment as the criteria for resilience instead of academic or social achievements. When defining resilience a choice can be made about the adaption criteria or internal criteria or both.

Resilience research has identified three major strategies that can be used for promoting the adaptation of children and families when it comes to a significant threat. These strategies focus on risk, assets, and adaptive systems which must be tailored to the historical and cultural context of the affected populations (Masten, 2020). Risk focused strategies are aimed to prevent adversities from happening, while asset focused strategies can take many forms, such as educating adults about the needs of children in disaster planning for swift child care in times of disasters. Adaptive systems-focused strategies involves the restoration of powerful engines and resilience embedded in the protected system for children and families (Masten, 2020). The concept of resilience will be used to further explore whether aspiration can be seen as a form of resilience amongst youth in the aftermath of Hurricane Maria.

Overall, this literature review shows that there was a change in behavior in youth after a natural disaster, particularly, the effects that post-traumatic stress could have on youth behavior. It showed that after a natural disaster post-traumatic stress could negatively impact the behaviors

of youth. It showed that due to the effects of post-traumatic stress, youth could engage in behaviors which they typically would not have engaged in before the disaster. Another prominent theme in the literature review was the impact of stress on youth following a natural disaster. In general, the literature suggests that stress caused in the aftermath of natural disasters due to any reason can also have a negative impact on youth. It could impact their mental and psychological wellbeing making it rather difficult for them to function in the same manner as before the natural disaster. Although this was not a very prominent theme from the literature review, a few studies do suggest that career aspirations increases after youth were faced with some form of a traumatic event in their life. Resilience was introduced as a concept in the literature review because it plays an important role in assisting to provide a grasp of the behaviors of the participants in terms of educational aspiration after Hurricane Maria. Despite this revelation, these studies did not focus on deviant behavior and natural disaster or career aspirations, and natural disasters within the Caribbean context.

This study will address the gap in the literature review concerning the effects that natural disasters have on youth within a Caribbean context. It will explore whether youth in the Caribbean engaged in deviant behaviors in the aftermath of a natural disaster, whether there is an increase in educational aspirations and whether there was a shift in choice after a natural disaster.

Chapter 3 Theory

Merton Anomie and Strain Theory

The basis of the strain theory is rooted in Emile Durkheim's theory of anomie. Merton strain theory suggests that an integrated society is maintained through a balance between approved social means and approved goals (Akers, Seller, & Jennings, 2016). To Merton, Anomie is the form that social malintegration takes when there is a disconnection between valued culture, the ends, and the legitimate societal means to those ends. According to Merton, criminality also functions as the disjuncture between the goals valued by society and the means available to achieve them (Merton, 1957). In his work, Merton argues that this disconnection of means to end shows up in American society in two different ways. First, strong cultural emphasis on success in America is not equally matched by the strong emphasis on socially approved means.

Secondly, there is an inconsistency between the means and the end preserved by the class system in America (Akers, Seller, & Jennings, 2016). He claimed that although all Americans are socialized to hold high aspirations, yet still some of them are blocked from conventional and educational, and occupational opportunities (Merton R., 1957). Merton claimed that this produces strain on these groups, causing them to take advantage of whatever means of income is available whether it is illegitimate or not (Akers, Seller, & Jennings, 2016).

Merton's anomie and strain theory focus on why certain cultures, groups, and individuals were more prone to engaging in deviant behaviors (Murphy & Robinson, 2008). Merton's central hypothesis concerning deviance and criminality asserts that criminality functions as the elaboration of the goals which are linked to the American dream (Merton, 1957). Anomie and strain through Merton's perspectives state that criminality is due to a range of social causes (Merton, 1957).

In comparison to Durkheim's theory of anomie which focuses on the failures of society to regulate the process of goal aspirations, Merton's theory of anomie focuses on the failure of society to adequately regulate the process of achieving goals (Agnew & Kaufman, 2016). Merton argues that social disorder occurs when society holds high ideas of values for its members and some of the members are structurally unable to reach those ideas. Merton stated that all Americans are socialized to believe that hard work leads to success but achieving success by the conventional means is limited for those in the less privileged groups (Agnew & Kaufman, 2016). A certain segment is constrained from living up to the values of material success, which leads to strain on the lower class. These strains are produced by the disconnection between goals and the inequity of the social structures which are necessary to develop those promises. For Merton anomie is not a problem of constraining individuals but rather it is a problem of not allowing everyone to reach their cultural goals. Merton argues that with insufficient cultural means, individuals seeking to achieve cultural goals will result in social disorder and anomie as they strive to live up to the cultural value of success. They may find different alternatives, such as crime, to achieve these cultural goals. According to Merton anomie will result as different kinds of individual adapts to these cultural ideals depending on whatever means are available (Hinch, 2014)

Merton stated that most people do not engage in deviant behavior in strained or anomic conditions but rather individuals respond differently to strain. Most strain theorists state that delinquency occurs when individuals are not able to achieve their goals through legitimate means. This lack of means leads to frustration which results in an increased likelihood of crime to obtain money (Agnew & Kaufman, 2016).

Merton further proposed that on the macro-structural level individual behaviors are affected by culture and social structure. He identified five possible alternative modes of adaptation of the strain caused to individuals. The first adaptation mode is conformity, according to Merton conformity is when the individual simply accepts the state of affairs and continues to strive to succeed with the restricted traditional means available.

Merton's second mode of adaptation is innovation, it is based on the idea that delinquency is a result of the inability of the individual to achieve goals through legitimate means (Merton, 1940). Merton's innovation mode of adaptation is based on the idea that individuals are pressured into deviance. This results in the individuals turning to illegitimate means to achieve their goals to strike at their frustration.

The third mode of adaptation is rebellion, this happens when individuals reject the system altogether and replace it with a new one. One such example is the overthrowing of the system. The fourth mode of adaptation is retreatism, this refers to the escapist response to strain. It happens when an individual becomes a societal dropout and has given up on goals and the effort to achieve them. For Merton, drug addiction, alcoholism, vagrant, and individuals who are severely mentally ill, fit within this mode.

The fifth mode of adaptation is ritualism. This occurs when an individual gives up on struggles to get ahead in life but instead concentrates on retaining the little they have gained by adhering rigidly and devotedly to social norms.

In relation to this research study, Merton's strain theory may apply to the youth in Dominica, particularly, within some of Merton's adaptation modes. Some of the youth conformed and accepted their current state while others may have felt strained in the aftermath of the hurricane,

possibly leading to frustration among the youth, resulting in illegitimate means to achieve their goals.

Some of the youth may become rebellious and reject the conventional way of doing things and replace them with new ones, which could be seen as deviance. Others may retreat and give up on achieving their goals of obtaining their educational aspirations, and some may instead concentrate on retaining what they have achieved through devotion to the social norms and a lack of aspiration.

General Strain Theory

Robert Agnew later developed the general strain theory, he argues in, "*Foundation for a General Strain Theory of Crime and Delinquency*" that the strain theory plays a central role in the explanation of crime and deviance (Agnew, 1992). The general strain theory focuses explicitly on the negative relationship with others where the individual is not being treated as he/she wish to be treated. It typically focuses on relationships in which individuals are prevented from achieving positively valued goals. The general strain theory focuses on three major types of deviance-producing strain; (1) failure to achieve individuals positively valued goals, (2) the removal or threat to remove positively valued stimuli that individuals possess, and (3) the presentation or threat to present individuals with noxious or negative valued stimuli (Agnew, Brezina, Wright, & Francis, 2002).

Failure to achieve a positively valued goal can be understood within three dimensions. First, the concept of strain is the disjuncture between aspiration and expectation, of not only toward future goals but also immediate goals. Agnew included failure based not only on the blocked opportunity but also on individuals' inadequacy and skills (Agnew, 1992). Secondly, the gap between expectation and actual achievement, when the anticipation of reward and benefit

fails to become a reality, which leads to anger, resentment, and disappointment. Thirdly, when the consequences of an activity or relationship are not seen as comparable to the effort put into it and are viewed as unfair compared to the efforts of others (Agnew, 1992).

Another source of strain identified by Agnew is the experience of negative stimuli. The confrontation with negative stimuli refers to another set of stressful life events that involve the encounter with the negative actions of others.

Since adolescents are not able to legally escape from family and school then legitimate ways to escape the stress from parents and teachers are blocked. This causes an individual to act in a rather deviant manner (Akers, Sellers, & Jennings, 2017). According to Akers et al (2017), strain by itself is not sufficient to induce deviant behaviors but it is most likely to occur when strain generates negative emotions (Akers, Sellers, & Jennings, 2017). Especially emotion such as anger, which results when one blames the system or others, rather than themselves. The presentation of negative stimuli may lead to aggression and negative outcomes in situations even when the escape from such stimuli is legally possible (Agnew, 1992). Negative stimuli may lead to delinquency as adolescence tries to escape, terminate or seek revenge against those negative stimuli. Some examples of negative stimuli that have been linked to delinquency are child abuse and neglect, criminal victimization, physical punishment, negative school experience, and a wide range of stressful life events (Agnew, 1992). The relationship between negative stimuli and delinquency may be due to a causal effect of the negative stimuli on delinquency instead of delinquency on the negative stimuli (Agnew, 1992).

The three types of strain identified by Agnew show that there is an increase in the likelihood that individuals may experience one or more negative emotions. For example, those emotions could include disappointment, depression, fear, or anger. Anger is the most critical

emotion when assessing general strain theory (Agnew, 1992). Anger happens when an individual blames their adversity on others. It is a key emotion because it increases the level of injury which the individual feels, therefore, creating a need for revenge, energizing the individual for action, and lowering inhibitions (Agnew, 1992). Delinquency may occur as a response to other types of negative effects although it is less likely in other cases (Agnew, 1992).

According to Agnew's general strain theory, if legitimate coping strategies are not available or are ineffective then individuals will likely assume illegitimate means of coping (Broidy, 2001). Negative emotions can create pressure for corrective action and one possible response is delinquency (Agnew et al, 2002). Anger is an emotion that is known to be conducive to delinquency because it motivates individuals for actions and creates a desire for revenge (Agnew et al, 2002). When strain causes high levels of anger that cannot be alleviated through legitimate means because these means are unavailable or ineffective then criminal/deviant behavior becomes a likely response (Broidy, 2001).

Another negative emotional reaction linked to strain is stress. Stress may present or threaten to present negative or harmful stimulus which could stem from events involving the loss of positive stimulus and events involving the presentation of negative stimuli (Agnew, 1992). Delinquency may be used to evade or reduce strain, seek revenge against those who are responsible for causing the strain, and reduce the negative feelings that have been caused by the strain (Agnew et al, 2002). Strain may lead to delinquency as adolescents try to escape from negative stimuli, terminate or alleviate negative stimuli, seek revenge against the source of the negative stimuli, and manage the negative effect of the stimuli by taking illicit drugs (Agnew, 1992). Delinquency has been particularly linked to harmful stimuli such as negative relationships with parents, negative relationships with peers, and a wide range of stressful events (Agnew,

1992). According to Agnew (1989), the relationship between negative stimuli and delinquency was due to the casual effect of the negative stimuli on delinquency and not due to the effect of the delinquency on the stimuli. These negative stimuli are often harmful regardless of the goal that the individual is trying to achieve.

The strain theory predicts that many factors condition the effects of the strain on delinquency. These factors could be either internal or external factors. These factors include; values, coping skills, coping resources, self-esteem, self-efficiency, conventional social support, level of control, association to others who are prone to delinquency, identities that are threatened, and the importance of attachment to a goal (Agnew et al, 2002).

Other factors of macro-level constraints such as criminal coping, lack of illegitimate opportunity, lack of high level of social control, and factors that increase deviance or criminal behavior such as deviant peers and disorganized neighborhoods (Broidy, 2001). The general strain theory allows for an individualized conception of strain and does not rely on a certain universal goal; this allows the theory to take gender, racial, class-based, and other personal differences in goals and strain into account (Broidy, 2001).

The general strain theory will explore whether the strain experienced in the aftermath of a hurricane can lead to deviant behaviors in youth. It will test how failure to achieve positive goals due to the destruction in the aftermath of Hurricane Maria creates a sort of strain on the youth. In addition, the general strain theory will also explore how strain is created when positive stimuli such as schools, churches, and other daily social structures were suddenly eradicated from the lives of the youth in Dominica. Lastly, it will explore the impact on the youth when negative stimuli were introduced in their lives after the hurricane,

Control Theory

Control theory focuses on the question of, "how does anyone conform" (Akers, Sellers, & Jennings, 2017). According to control theory, we conform because social control prevents us from doing crimes, and when these controls break down or weaken, deviance will occur (Akers et al, 2017). Control theory assumes that delinquent act results when an individual's bond with society is also broken or weakened (Hirschi, 2002). It argues that a negative relationship leads to delinquency because they lead to a reduction in social control (Agnew, 1992). It also argues that people are inherently motivated to conform by social control, however, they do not need special motivation to violate laws (Akers et al, 2017).

This natural motivation refers to the assumption that there is no individual motivation to commit crimes, rather the incentive to commit a crime is evenly distributed across society (Akers et al, 2017). The control theory asserts that because of this uniform motivation to commit a crime, we all push up against the rules of society and will break them unless we have control. According to Hirchi's (2002) social bonding theory, a person is free to commit delinquent acts because their ties to conventional order have been broken. He focuses on the bond between the individual and society and it assumes that deviance occurs because the ties to the conventional order may be weak or non-existence (Hirschi, 2002). It suggests that the bond is an attachment to any object outside of one's self. Individuals who are connected to others, attached to conventional goals, involved in conventional activities, and believe in general conventional values will be constrained from committing delinquent behaviors (Boman, Krohn, Gibson, & Stogner, 2012). Social control represents restraints on behaviors that are imposed by social groups, institutions, and neighborhood conditions (Rankin & Wells, 2016). Individuals are more likely to act up their anti-social impulses when external control over them is weak. Hence the difference between delinquent and none delinquent behaviors lies in the availability or the

absence of external control in schools, families, and neighborhoods. According to Hirschi (1969), a weak attachment from others causes the individual to be less concerned with the reaction of others, allowing for delinquency to occur.

According to Hirschi (1969), since conformity is achieved through socialization, the formation of the bond between the individual and society comprises four major elements: attachment, commitment, involvement, and belief. Control theory suggests that youth become delinquent because of inadequate socialization to conformity (Bridges, Crutchfield, & Weis, 2001). The stronger each of these elements of the social bond, the less likely it is for delinquent behavior to occur (Hirschi, 1969). Attachment corresponds to the affective ties that youth can have with their significant other. For example, the family environment is a source of attachment because parents act as role models and teach their children behavior that is socially acceptable (Hirschi, 1969). Commitment is related to the aspiration of going to college and attaining a job status. Attaining an education and a job is an investment in conventional behaviors that may be at risk of being attained if a youth engages in delinquent behaviors (Hirschi, 1969). Involvement is the participation in conventional behaviors that leads toward socially valued success and status objectives. There is a connection between youth's activities and their future goals and objectives which are important in preventing delinquent behaviors (Waitrowski et al 1981). Belief is embracing moral validity as the central social-value system, which sees social rules as central (Waitrowski et al 1981).

The control theory will be used in this study to explore whether there is a connection between youth activities and future goals and objectives, and whether they play a role in preventing delinquent behaviors in youth? It will explore how the aftermath of the hurricane caused the social bond in Dominica to be broken, creating a path for the youth in Dominica to

engage in delinquent behaviors. It will further explore how attachment, commitment, involvement, and belief, the four elements which form the bonds between society, could be impacted by Hurricane Maria. Overall, the control theory will help in providing an understanding of how the destruction of social structures due in the aftermath of Hurricane Maria may influenced delinquent behaviors in the youth in Dominica.

Chapter 4 Methodology

This research study aims to understand specific patterns in the behaviors of youth in the aftermath of a hurricane. As previously noted, it is guided by three research questions:

Is there a shift in the behaviors of youth in the aftermath of a hurricane?

Is there a shift in the perception of youth concerning choice in the aftermath of a hurricane?

Are the educational aspirations of youth affected by a hurricane?

Answering these questions will address gaps in the research literature. Specifically, it will help address a lack of research on the impact of natural disasters concerning youth crime and deviant behaviors, particularly, within a Caribbean context.

The data collection method used in this study were interviewing and focus groups. Focus groups and interviews were chosen because they both allowed for the participants to have the opportunity to provide comprehensive responses. Open-ended questions were used that allowed the participants more time to provide in-depth answers (Morgan, 2011). They also allowed me to seek clarification and have the participants expand on abrupt responses. The focus groups were useful because they allowed me to include more young people in the project, and they allowed the participants to build on each other's points. Interviews were used because they allowed for an in-depth discussions with the participants and made it possible for young people to share their perspectives in a private and confidential setting (Heath, Brooks, Cleaver, & Ireland, 2009).

This study analyzed the information from the focus groups and interviews using both a qualitative and quantitative analytic approach. The qualitative aspect will provide specific information on the types, extent, and reasons for behaviors and attitudes. Whereas, the quantitative data will help capture and summarize cross-cutting trends. Combined, the two approaches provide information concerning the general theme of deviant behaviors, perspectives

on the future, and the perception of freedom after the hurricane in comparison to before the hurricane.

Selection of participants

The island of Dominica was selected as the location for the study because it recently experienced a Category 5 hurricane which caused extensive damage to the island. Also, I have a personal connection to the island which made getting access to secondary schools relatively easy. The necessary permission was solicited and given by the Ministry of Education of the Commonwealth of Dominica to conduct this research study within the secondary schools. I was permitted to conduct the study in 10 of the 15 secondary schools on the island.

The sample included mainly youth who were on the island of Dominica during the hurricane and remained on the island after the hurricane. The research sample studied youth, both males and females between the age of 13 and 17 years old. Ten focus group meetings were conducted, one focus group meeting was held at each school and included groups of participants from 4 to 12 for a total of 89 participants. Precisely 40 one-on-one interviews were conducted with participants between the ages of 13 and 17. Interviews were conducted in nine out of the ten schools, interviews were not conducted in one school due to time restraints and the difficulty which would be created for students to travel home after the interview, because of the isolated location of the school. A total of 129 participants took part in this study.

A purposive sampling method was used to select students from the population of the 10 high schools across the island. Students were informed of the study by posters placed around the school and by announcements made to invite interested students to volunteer to participate in this study. Students who volunteered to participate in the research study were given a choice as to whether they would like to participate in the focus groups or one-on-one interviews.

Interview and Focus Group Process

The interviews and focus group meetings were conducted at the location of the school that the students attended in June of 2018. Each interview was conducted in an enclosed room with one participant in the room. Each interview ran for between 10 to 15 minutes per participant. Each participant was asked approximately 12 interview questions, the first five questions were demographic.

The focus group meetings were also conducted at the school which the participants attended. Each meeting was conducted in an enclosed room with the participants who chose to participate in the focus groups. Each focus group meeting took about 30 minutes to an hour based on the number of participants in the focus group. The larger focus groups included between 8 to 12 participants and took approximately one hour. Each participant in the focus group was asked 9 questions, each one had an opportunity to answer the questions when asked. Some of the demographic questions which were asked to the interview participants were not asked directly to the focus group participants due to the personal nature of the questions, and to ensure that personal information was kept confidential.

Research Questions

These are the research questions that guided this study. Each question will fall under the applicable theme.

Deviant Behavior

Have you or your peers been involved in activities that could cause potential harm to others or yourself, or that society would not approve of before the hurricane?

Have you or your peers been involved in activities that could cause potential harm to others or yourself or activities that society would not approve of after the hurricane that they would not have participated in before the hurricane?

Educational Aspiration

Are there any changes in your future aspirations from before the hurricane to after the hurricane?

Do you feel like you have the same opportunities after the hurricane as before the hurricane?

Choice

Do you feel that hard work will lead to success in your education and prosperity or that your future was pre-determined no matter what, before the hurricane?

Have your feelings about this changed since the Hurricane?

Analytical Framework

A content analysis approach of categorizing was employed because the participants did not spontaneously provide detailed responses, instead, they provided yes or no responses. Using a content analysis approach, the responses to the questions asked were categorized and classified according to sub-themes and main themes. The interview and focus group meetings were transcribed and each response was read, and sentences were used as the unit of analysis. The transcripts were then reviewed for key responses such as 'yes' or 'no' and responses from follow-up questions. Four main themes were created based on the questions asked in the interview and focus groups. The main themes created were deviant behavior, educational aspirations, and choice. The follow-up responses provided an elaboration to the 'yes' or 'no' answers. These elaborated responses were coded and fell within a sub-theme of negative or positive positions. Whether they represented a negative or a positive position was based on the questions asked. Six of the questions asked generated responses that were coded as either negative or positive. The sub-themes of negative or positive was then coded into the four categories of main themes. This

process is explained below. When coding under the theme of 'deviant behaviors' the exact behavior was taken into account and the reason for the behavior was taken into account. Some examples of the behaviors that were considered negative include, looting, destroying property, consuming illegal drugs, stealing, prostitution, physical fights, consuming alcohol, staying out late at night, sexual intercourse, running away from home, teasing peers, spying on peers, purposefully getting peers in trouble, lying about peers, rough playing, and willfully destroying the belongings of peers. On the other hand, a positive position would be coded when acts were approved by society and would include words or phrases such as being good, obeying parents, helping others, and staying home.

Future perception and ambition were coded as positive when the responses indicated a desire to graduate from secondary school, pursue post-secondary education and show interest in job opportunities and express or imply that there is a belief that opportunities exist. A negative position would be coded when participants clearly stated no desire to follow any of these paths and express or imply that the opportunities do not exist.

Under the theme of hard work and success, the response would be coded as positive when there is an indication that schoolwork is important, passing of courses with the A and B range, a willingness to work hard academically is expressed, and a desire to succeed is included. A response would be coded as negative if there is no willingness to engage in striving academically, grades fall under the B average, there is not a willingness to succeed academically and there is no mention of a desire to succeed. Under the freedom of choice theme, responses were not coded as negative or positive, instead, the 'yes' or 'no' responses were calculated and the expanded responses were mainly examples to support the 'yes' or 'no' answers.

The quantitative aspect of this research is simple, in that it does not diverge into complex statistical analysis but rather the calculation of numerical value for comparison purposes. The 'yes' or 'no' answers were counted and summed and then calculated into percentages. These calculations were employed to provide a comparison of the main themes and clear numerical findings.

Chapter 5 Findings

The findings showed that there was a change in the behaviors, the educational aspiration and the choices of youth in the aftermath of Hurricane Maria. This chapter will provide a quantitative breakdown of the findings and direct quotations to further support the findings.

The Impact of the Hurricane

The aftermath of Hurricane Maria had a significant impact on the participants. Participants were asked to describe how they felt the morning immediately after the hurricane. The two main feelings described by the participants were fear/shock and hopelessness. For example, 45% of the participants described feeling fear or shock on the morning after the Hurricane. One participant stated that "I was not expecting all of that to happen", another one said, "I was a surprise because they said it (The Hurricane) was not going to hit us that hard and it changed". Another participant expressed shock by stating "I was like wow, because everything, all trees fell down. I do not want to go through that again".

Twenty-eight percent of the participants mentioned feeling worried and confused immediately after the Hurricane. One participant spoke of her worries and confusion and her emotional break down on the morning of the hurricane, she stated "I have never seen anything like that, I started to cry and my mom told me don't cry, because my mom went through Hurricane David when I looked out the window I saw bare trees. I had never seen that. I'm from Antigua but all my life I grew up in Dominica and I always know Dominica as green with shade, everywhere as beautiful". One participant stated that she felt "Dominica was finished" when she was outside the day after the hurricane. Some felt like things that were dear to them had been destroyed. One participant stated that "I felt devastated because I was planting some flowers and they got mashed up." Some of them expressed their frustration about their living condition after

the hurricane. One participant said that he was frustrated, "because there was no light or water so every day you have to carry water up a hill, there was no food."

The remaining 27% were not sure or were not able to explain their emotional state after the hurricane. The majority of the participant expressed that they were happy to be alive and felt the need to go out into the communities to assist others.

There was also an overall feeling of anger which was expressed by about 60% of participants. One participant said "I was angry, I was very angry at the hurricane for destroying my life, I was not able to do the things I use to do anymore". Another participant stated that; "Hurricane Maria just change my life, I did not know if things would be the same again"

Deviant Behavior

Based on the findings, before Hurricane Maria, 8% of the participants for the interview group and 13% of participants from the focus groups claimed to have engaged in deviant behaviors. On the other hand, 92% of participants from the interview and 79% of the focus group participants claimed to have not engaged in behaviors that were considered deviant before the hurricane. After Hurricane Maria, 65% of participants from the interview and 55% of participants from the focus group claimed to have engaged in behavior that was considered deviant. While 35% of participants from the interview and 37% of participants from the focus group claimed to not engage in behavior that is considered deviant after the hurricane.

For the interview respondents, there is a 57% jump in the number of participants from the interview who engage in deviant behavior after the hurricane compared to before the hurricane. One of the interview participants, when speaking about this change in behavior after the hurricane stated, "It (his behavior) was changing before Maria, so after Maria, it got worse and I

am trying to get better, it took about 3 or 4 months after Maria before I started to calm down with regard to the gang. I was frustrated. I was out of school."

For the focus group, there was a 42% jump in the number of participants who engaged in behaviors that are considered deviant after the hurricane compared to before the hurricane. One focus group participant stated, "Yes after the hurricane- we when to (Village)... We ended up smoking weed.... I was always adventurous... I had more time on my hand after the hurricane".

Overall the findings indicate that there was an increase in deviant behavior among participants after the hurricane than before the hurricane. The reason for the increase in deviant behaviors can be attributed to factors such as anger, frustration, and an increase in freedom among the youth.

Educational Aspirations

With respect to a change in educational aspirations, 30% of participants from the interview group felt that there was a positive change in the educational aspirations , while 45% felt that there was no change, and 12.5% felt that there was a negative change in educational aspiration after the hurricane. One participant said that his goal before Hurricane Maria was to go the college after graduating from high school, when asked whether his plans were the same after the hurricane he said "yes". With respect to future perspective, when asked about his future goals before the hurricane he stated, "I wanted to be a football player and if that did not work out I wanted to be an accountant." And when asked whether he is still able to achieve this goal after the hurricane he stated, "yes, if I work hard". For the focus group, 27% of participants felt that there was a positive change and 56.3% felt that there was no change in aspiration after the hurricane and 12.5% felt that there was a negative change in aspiration after the hurricane.

Future aspirations for both the focus group and the interview group did not have a drastic change from before the hurricane compared to after the hurricane. Positive change and no change were much higher than the negative change. Overall, more participants from both the interview and the focus groups appear to have, on average, similar changes in future aspirations after the hurricane as before the hurricane.

When asked whether they feel that they had the same opportunity as before the hurricane 37% of the interview participants felt that they did not have the same opportunity as before the hurricane and 57.5% felt that they had the same opportunities as before the hurricane. For the focus groups, 59.5% felt that they had the same opportunities as before the hurricane, and 31.4 % felt that they did not have the same opportunities as before the hurricane. For the interview group, there was a higher percentage of participants who felt that they had the same opportunity before the hurricane, while with the focus group a smaller percentage of participants felt that they had the same opportunities before the hurricane as after the hurricane.

Hard Work

With regards to hard work leading to success, from the interview groups, 82.5% of participants believed that hard work would lead to success before the hurricane, while 7.5% felt that hard work would not lead to success. After the hurricane, 87.5% of participants from the interview believed that hard work would lead to success and 5% believed that hard work would not lead to success. One participant spoke proudly about his hard work after the hurricane by stating that, "before the hurricane, my grades were in the 70s/80s and now its 80s/90s." When asked why there was an increase in grades at school the participant stated, "I do not know because everyone was so lost so I am checking in the meantime let me push myself." Before the hurricane, 76.4% of participants believed that hard work would lead to success while 16.8%

believed that hard work would not lead to success. After the hurricane, 76.4% believe that hard work would lead to success, while 16.5% believe that hard work would not lead to success. Out of the 87.5% of the interview group who believe that hard work would lead to success after the hurricane, 37% felt stronger, 51% felt the same, while 11.4% felt that their optimism had weakened. For the focus groups, out of the 76.4% who believe that hard work would lead to success after the hurricane 28% felt that that feeling had become stronger after the hurricane, 66.1% felt that it had remained the same and 5.9% felt that the feeling of optimism had weakened after the hurricane. There is an increase in 5% of those who believe that hard work will lead to success in the interview group, while there is no change in the focus group. One participant stated that "Yes, I feel like education is more valuable now. If people are more educated about hurricanes they can help plan better. Education will take you where you want to go despite what happens". Another participant said, "Yes, I think education is still important because it's not just learning math it's learning to be sociable and making friends so I really think it's still important."

Overall the participants maintained a consistent view that hard work will work to success despite the hurricane. This was the same view they held before the hurricane and that did not change after the hurricane.

Choice

After Hurricane Maria, 92.5% of participants felt that they had more freedom, compared to 7.5% who felt that they did not have more freedom after the hurricane from the interview group. From the focus group, 78% of participants felt that they had more freedom after the

hurricane compared to 16% who did not feel that their freedom had increased after the hurricane. One participant stated, "There was nothing to do if you are with friends outside or playing your parents didn't mind at least you were doing something productive." Another participant stated, "I was able to go out more because my parents were busy and did not really care what I did".

In general, the participant felt that they had more freedom after the hurricane compared to before the hurricane.

Chapter 6 Discussion

The strain theory (Merton 1940), the general strain theory (Agnew, 1992), and the control theory (Hirschi, 1969) will be used separately to explore the findings of this study in an attempt to provide an understanding of the effects of the aftermath of Hurricane Maria on youth on the island of Dominica. Merton's strain theory, Agnew's general strain theory, and the control theory will be explored to determine whether they can contribute to explaining the increase in deviant behaviors, the increases in educational aspiration, and the increase in choice.

Exploring Merton's Strain theory, Agnew's General Strain Theory and, Control Theory

Concerning the first research question, the findings support that there is a shift in the behaviors of youth in the aftermath of the hurricane. This study supports Merton's (1940) strain theory that many of the youth in Dominica were experiencing strain after the hurricane, based on the findings that there was an understanding by many participants that their lives were negatively impacted. In the aftermath of the hurricane, the youth in Dominica suffered from a temporary breakdown of the link between means and the ends, which can be described as an anomic-induced strain. There was a breakdown of social order due to destruction in the aftermath of the hurricane, and the elimination of social structures after the hurricane. The schools, churches, homes, and social networks were destroyed. This situation could have caused the legitimate means of obtaining goals to become temporarily unavailable and as a result, the youth in Dominica turned to the illegitimate means to achieve their goals. According to Merton's strain theory, that can be explained as innovation. Looting was one of the key examples of deviant behavior after the hurricane. It can be seen as a behavior that can be linked to the fact that the youth were deprived of legitimate means at the time, in this way looting could be seen as an innovative form of adaptation.

From the literature review, it is clear that other researchers have found a link between deviant behavior in youth and the aftermath of a natural disaster (Peek, Morrissey, & Marlatt, 2011) (Teasdale et al, 2012). Also, many researchers have found a relationship between youth and post-traumatic stress in the aftermath of a natural disaster. Stress can be considered a form of strain. Although this case study did not include an analysis for PTS, it does provide results that showed that there was strain among the youth in Dominica after the hurricane.

There were examples of the three types of strain described by Agnew (1992). There were examples of positive stimuli being taken away when the schools were closed for an extended period after the hurricane. There were also other examples of positive stimuli being taken away such as not being able to have access to essentials such as food, clothing, and shelter due to the destruction from the hurricane. The positive influences which the youth received from schools, churches, and the community were no longer available immediately after the hurricane, causing the youth to become strained. There were examples of blocked opportunities, such as not having the opportunity to attend college. After the hurricane, the opportunities that the youth had before the hurricane were suddenly unavailable to them. There was also a sudden wave of negative stimuli that was introduced in the aftermath of the hurricane due to the destruction of property and loss of life.

Although the cross-sectional nature of the research makes it impossible to establish a causal sequence, based on the clear increase in self-reported deviant behaviors after the hurricane, there is an indication that the aftermath of the hurricane resulted in a strain on the youth and as a result, deviant behaviors increased as proposed by the strain theory. The findings also provide support for Hirschi's social bond theory (Hirschi, 1969). After the hurricane, the conventional order in Dominica was broken, the schools were closed, many homes

were either destroyed or damaged, infrastructure either vanished or was badly damaged and parents were busy trying to put their lives back together, as a result, there was reduced social control in the lives of the young people. The control theory supports that when there is no social control, deviance will occur. Young people in the sample described this process when they reflected on how their deviance and crime increased because there was less parental control in their lives. Individuals will conform when there are social controls in place but are more likely to not conform when there is little or no social structure in place. As soon as the social control was broken by the hurricane, some youth felt freer to engage in deviant behaviors which led to an increase in deviant behaviors amongst youth.

With respect to the second research question, the findings indicate the majority of participants felt that they had more freedom to make choices in terms of their behaviors because there were fewer restrictions. The increase in freedom can be understood as a risk factor for crime within the control theory, but it is worth noting that the outcome of this freedom was not just about deviance and risk. Many of the young people described having the opportunity to spend more time with friends, but it did not always result in offending or deviant behavior. Concerning the third research question, the findings of educational aspirations among the youth in Dominica did not seem to be negatively affected. In fact, the findings of this study indicate that there is a positive increase in the future aspirations of youth after the hurricane (Furlong et al, 1996) Kabiru et al., 2013) (Hill et al., 2003). Future studies on cultural influence on youth are needed in order to provide a clearer understanding of the impact that culture has in influencing positive educational aspirations despite an increase in deviant behaviors.

Limitation and weaknesses

A limitation or weakness in the research method is the lack of privacy during the focus groups because of the group setting. There is a risk that participants in the focus groups would modify their responses to gain the approval of their peers. That noted, the responses in the focus groups and the interviews were similar, which gives confidence to the findings from the focus group.

In addition, there is a potential weakness with the sampling method since a convenient sample selection led to a disproportionate number of female participants in comparison to male participants. For the interview, 32 of the participants were female and 8 participants were male. For the focus group meetings, 68 participants were female and 21 participants were male. In total 77.5 percent of the participants were female compared to 22.5 percent of the participant's males. This disparity can be explained by the fact that, in general, the percentage of females attending secondary schools in Dominica is higher than males. Although the samples are skewed in terms of gender, it is a general reflection of the population within the high schools in Dominica, this skewness does limit the ability to generalize these findings to young people not in school. Relatedly, another weakness of this research is that I did not capture the perspective of the young people who are disengaged in school, as a result, I may be missing the perspectives of some of the youth who may be most at risk or most involved in criminal behaviors.

Although there are a few weaknesses in this research, this study is still valuable and important to understand the impact that natural disasters have on youth in the Caribbean. The value of the finding provide are not in any way diminished by the theses limitations.

Final Thoughts

In conclusion, there appears to be an increase in deviant behavior in youth in the aftermath of Hurricane Maria. This increase could be explained as a temporary increase that occurred in the immediacy of the hurricane to deal with the strain that youth felt during that instance.

Furthermore, the findings also indicate that there was an increase in the freedom that the youth in Dominica had in the aftermath of Hurricane Maria. Although there was an increase in deviant behavior the finding also is indicative of an increase in educational aspiration in the aftermath of the hurricane. The close-knit culture and emphasis on educational aspirations in Dominica were suggested as a possible explanation for these findings. The findings from this research are important to provide an understanding of the strain that youth are exposed to in the aftermath of a natural disaster in a developing country and the implications that it could have on youth. The findings of this research highlight the need to develop policies to assist the youth in coping with the strains they encounter in the aftermath of a natural disaster.

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Appendices

Definition of concept

Freedom is defined as the ability to leave home (physically) for any period of time (short or extended) with or without the permission or consent of their parents or caregivers, and to indulge in activities with peers without the supervision of a parent or guidance or a responsible adult.

Deviant behaviors are defined along a spectrum from illegal to mischievous behaviors.

Illegal behaviors are considered the most deviant with mischievous behaviors being the least deviant. Illegal behaviors are behaviors that have the potential of getting the participants in legal trouble. Behaviors that are against the law. (eg, looting, destroying property, consuming illegal drugs, stealing, prostitution)

Culturally unacceptable or inappropriate behaviors are behaviors that are frowned upon by society at large. These behaviors offend the moral standards of society and usually are seen as taboo. There is often a stigma associated with these behaviors. Behaviors that lead to participants being disciplined by their parents or caregivers if known to them. (eg. Physical fights, consuming alcohol, staying out late at night, sexual intercourse, running away from home)

Mischievous behaviors are acts done amongst peers that are done with the intention to annoy, punish, or frustrate each other. They are mainly activities against peers and parents and others in authority are often not offended by these acts. (eg. Teasing peers, spying on peers, purposefully getting peers in trouble, lying about peers, rough playing, and willfully destroying the belongings of peers)

Future perception, plan, and ambition focus on what the participant intends to do after graduating from secondary school. Its' main focus is on post-secondary education and career choice. In terms of post-secondary education, it focuses on whether or not the individual wants to attend post-secondary education, and in terms of career choice, it concentrates on the specific career which they are interested in pursuing.

Hard work is defined within the context of schoolwork. It is defined as studying, doing assignments, and attending classes. Success is achieving good grades such as As and Bs. Success is not just passing a course it is a higher level passing grade. Prosperity means future prosperity in terms of achieving the career goals that the participants worked toward or a career that they are proud of. A predetermined future is a future where the participants will not be able to

accomplish the career goal set, despite the fact that the participants are successful in school, they are still not able to obtain the career goals that they have worked towards.

Research and Interview Question

Question asked to only interview participants

1. How old are you?
2. Please identify your gender?
3. What racial category do you identify with?
4. What grade are you currently in?
5. With whom do you reside?
6. What does your parent/caregiver do for a living?

Questions asked to both Interview and Focus Groups

7. Tell me a bit about your experience during the hurricane?
8. Have you or your peers been involved in any activities that could cause potential harm to others or to yourself that society would not approve of before the hurricane?
9. Have you been involved in activities that could cause potential harm to others or to yourself or activities that society would not approve of after the hurricane that you would not have participated in before the hurricane?
10. Are there any changes in your future aspirations from before the hurricane, to after the hurricane?
11. Do you feel that you have the same opportunities after the hurricane as before the hurricane?
12. Do you feel that hard work will lead to success in your education and prosperity or that your future was predetermined no matter what before the hurricane?
13. Have your feelings about that changed after the hurricane?
14. Do you feel that you had more freedom after the Hurricane?

A1 - Interview Participant statistics based on Schools

Name of School	Number of People Interviews	Age Range	Male	Female
Goodwill Secondary School	4	14-17	2	2
Saint Mary's Academy	1	16	1	0
Convent High School	7	14-17	0	7
Isaiah Thomas Secondary School	5	14-17	2	3

Dominica Grammar School	5	13-16	2	2
Wesley High School	5	14-17	0	5
North East Comprehensive School	4	14-17	0	4
Saint Martin High School	5	14-17	0	5
Portsmouth Secondary School	4	14-17	1	3
Grandbay Secondary School	0	14-17	0	0
TOTAL	40	13-17	8	33

A2 - Focus Group Participant Statistics Based of School

Focus Group:

Name of School	Number of People in Focus Group	Age Range	Male	Female	Interview Repeat
Goodwill Secondary School	7	14-17	4	3	3
Saint Mary's Academy	8	14-17	8	0	0
Convent High School	11	14-17	0	11	5
Isaiah Thomas Secondary School	8	14-17	3	5	0
Dominica Grammar School	6	13-16	1	5	0
Wesley High School	8	14-17	0	8	3
North East Comprehensive School	14	14-17	2	12	4
Saint Martin High School	0	14-17	0	0	0
Portsmouth Secondary School	11	14-17	2	9	3
Grandbay Secondary School	16	14-17	1	15	0
TOTAL	89	13-17	21	68	18

A3 - Coding and statistics for Research Themes

Themes	Interview	Focus Groups	Calculations
<p>Deviant Behavior (Have you or your peers been involved in activities that could cause potential harm to others or yourself, or that society would not approve of, before the hurricane?)</p> <p>(Have you or your peers been involved in activities that could cause potential harm to others or yourself or activities that society would not approve of after the hurricane that they would not have participated in before the hurricane?)</p>	<p><u>Before the Hurricane</u> Yes (negative behaviors) 7 -8% No 33-92% Unclear-0</p> <p><u>After the Hurricane</u> Yes (negative behaviours) 26-65% No 14 -35% Unclear 0</p>	<p><u>Before the Hurricane</u> Yes (negative-behaviours) 12-13% No 70- 79% Unclear 7-8%</p> <p><u>After the Hurricane</u> Yes (negative behaviours) 49-55% No 33-37% Unclear 7 -8%</p>	
<p>Educational Aspiration (Are there any changes in your future aspirations from before the hurricane to after the hurricane?)****</p>	<p><u>Future Plans and opportunities Before the Hurricane</u> [Yes] Change 12-30% (Positive-there are changes for the better) [No] No Change/negative change 23-57.5% (negative- or no change) Unclear 5-14%</p>	<p><u>Future Plans and opportunities Before the Hurricane</u> [Yes] Change 24-27% (Positive- yes there are changes for the better) [No] No change/negative change 56-65% (negative or no change) Unclear 9-10%</p>	<p><u>Interview</u> Change 12+15=27 Average=13.5-43.75% No change 23+23=46 Average =23=57.5%</p> <p><u>Focus Group</u> Change 24+53=77 Average=38.5=44.75 No Change 56+28=84 Average=42=47.2%</p>

<p>(Do you feel like you have the same opportunities after the hurricane as before the hurricane?)****</p>	<p><u>I did not calculate no change and negative change separately for this question. I only focused on positive change.</u></p> <p><u>Future Plans and opportunities Before the Hurricane</u> [no] Change 15-37.5% (negative-do not have the same opportunities) [Yes] No Change 23-57.5% (positive- still have the same opportunities) Unclear 2-5%</p>	<p><u>I did not calculate the no change and negative separately for this question. I only focused on positive change.</u></p> <p><u>Future Plans and opportunities Before the Hurricane</u> [No]Change 53-59.5% (Negative- not do not have the same opportunities) [yes]No Change 28-31.4% (positive- still have the same opportunities) Unclear 0</p>	
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<p>Hard work lead to Success (Do you feel that hard work will lead to success in your education and prosperity or that your future was pre-determined no matter what, before the hurricane?)****</p> <p>(Have your feelings about this changed since the Hurricane?)</p>	<p><u>Before the hurricane</u> Yes 33- 82.5% (positive- yes hard work lead to success) No 3-7.5% (negative- future is predetermined) Unclear 4-10%</p> <p><u>After the Hurricane</u> Yes 35 - 87.5% (Positive) Yes-become stronger: 13 Yes-remain the same: 18 Yes-become weaker: 4</p> <p>No 2-5% (Negative) NO become stronger: 0 NO remain the same: 2 NO become weaker: 0</p> <p>Unclear 3-7.5%</p>	<p><u>Before the Hurricane</u> Yes 68- 76.4% (Positive- yes hard work leads to success) No 15-16.8% Negative- future is predetermined) Unclear 6 – 6.8%</p> <p><u>After the Hurricane</u> Yes 68- 76.4% (positive) Yes-become stronger: 19 Yes-remain the same: 45 Yes, become weaker: 4</p> <p>No 15- 16.8% (Negative) NO become stronger: 0 NO remain the same: 15 NO become weaker: 0</p> <p>Unclear 6-6.8%</p>	
<p>Choice (Do you feel that you had more freedom after the hurricane?)</p>	<p><u>After the Hurricane</u> Yes 37-92.5 % No 3-7.5% Unclear-0</p>	<p><u>After the Hurricane</u> Yes 70- 78% No 14-16% Unclear 5- 6%</p>	