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# How Health Problems Affect Children's Anti-Social Behaviors and Their Attitudes Towards School

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HEALTH PROBLEMS AND CHILDREN'S ANTISOCIAL BEHAVIORS AND THEIR  
ATTITUDES TOWARDS SCHOOL

by

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B.A. May 2012, University of Cape Coast, Ghana

A Thesis Submitted to the Faculty of  
Old Dominion University in Partial Fulfillment of the  
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Approved by:

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## ABSTRACT

### HEALTH PROBLEMS AND CHILDREN'S ANTISOCIAL BEHAVIORS AND THEIR ATTITUDES TOWARDS SCHOOL

Prosper Kwame Mensah  
Old Dominion University, 2019  
Director: Dr. Ingrid Whitaker

The purpose of this study is to examine how health impacts certain aspects of children's educational experience. The study examined how health influences anti-social behaviors among children as well as their attitudes towards school. Children with health issues often experience disruptions in education leading to factors that impact their attitudes and behaviors towards school. The data for this study was taken from Health Behavior of School-Aged Children (HBSC), 2009-2010. The sample population consisted of 12,642 students. The files contained data on 12,642 students from 314 participating schools. Of the 314 participating schools a school administrator questionnaire was completed by 283 of the administrators. The hypotheses were tested using bivariate and multivariate analyses, including crosstabulation with chi-square and linear regression. General strain theory was used to explain how people respond to stressors in life by engaging in negative coping mechanisms. Results of the study showed that the more students are diagnosed with illness, disability or medical condition, the more they get into physical fights and the more positive students perceive their overall health, the more likely they will have positive feelings towards school.

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## CHAPTER I

### INTRODUCTION

Education and good health are essential resources that play a significant role in the contemporary industrialized world. Education plays a number of critical roles in society. People require good education to survive and thrive. First and foremost, educational attainment is associated with employment opportunities and subsequently, the ability to become economically mobile in America. In addition, education provides children with critical life values and it opens their minds to knowledge that is necessary for living a fulfilled life. The classroom setting can provide children with the opportunity to develop social skills, problem solving skills and creative skills. Thus, education plays an important part in the advancement of every nation.

In addition to access to education, the health of a population plays a significant role in the well-being of any society. Poor health affects not only the individual but has the potential to influence the well-being of communities and families. Illness and mortality influence the extent to which individuals can contribute to society and children are no exception. When children are sick, hurt or dying, the effects extend beyond the personal, affecting families, communities and the economy. Children who experience poor health are less likely to be able to fulfill many of the expectations associated with childhood. Key among these is educational attainment. According to (Jensen, 2009) children who experience health problems are more likely to experience disruptions in education as poor health may prevent children from not only attending school but may interfere with their attitudes toward school as well as their behaviors in school.

Children spend over one third of their waking hours in school (Shaw, Gomes, Polotskaia, & Jankowska, 2015). While children spend a significant amount of time in school, one aspect of their time in school that is often ignored is their health. In recent years, researchers have begun to

pay more attention to how academic outcomes may be affected by health issues (Brown et al. 2018). Children who are unhealthy are at higher risk for poor school performance and may exhibit more negative attitudes toward school than students who are free from medical problems (Bond, Lyndal, Butler, Thomas, 2007). Health problems that emanate from poverty, trauma from violence, mental health and physical ailments are the main factors associated with children's anti-social behaviors and their attitudes towards school (Bond et al. 2007). Health problems such as asthma, ADHD, poor nutrition, and mental health illness contribute to increased absences, internalization, lower grades and test scores (Bond et al. 2007). Poor health inhibits contribution in daily school activities (Shaw et al. 2015). Regular absenteeism, discomfort or pain, movement limitations, sleepiness, physical and psychological side effects of received medications among other factors limit students' abilities to participate in the education process (Shaw et al. 2015). Students with health issues also have a greater possibility of school failure, grade retention and dropout (Shaw et al. 2015).

In addition, children with medical conditions experience limitations in developing critical emotional bonds with teachers (Currie et al 2012). A child's physical health, and in particular physical fitness, is associated with enhanced confidence, perfected attention, reduction in health problems, improved social engagement, reduction in obesity, increased organization, and a host of potentially protective factors for students at risk for poor school outcomes (Shaw et al. 2015).

Schools are considered a good setting for addressing and bringing attention to child health issues because of the totality of time that children spend in schools (Brown et al. 2018). However, schools have become increasingly less likely to focus on health (Zimmerman, Woolf, 2014). Those who perceive their school as helpful are more likely to engage in positive health behaviors and have better health outcomes (Currie et al, 2012). Schools have a critical role in



supporting children's well-being and can act as a shield against negative health behaviors and outcomes (Currie et al, 2012).

While several factors are associated with children's health outcomes, studies show that children brought up in low-income families score lower than children from more affluent families do on assessment of health. According to Bond et al (2007), repeated exposure to traumatic events can modify psychobiological development and increase the risk of low academic performance, engagement in high-risk behaviors, and difficulties in peer and family relationships can have a great impact on how children behave as well as the attitudes they will develop towards school. Bond et al (2007) also suggested that damaging school experiences as a result of poor health usually account for young people becoming secluded or detached from school, therefore causing antisocial behaviors and negative attitudes towards school. When children are diagnosed with asthma, they are prone to experience a decrease in school performance due to acute intensifications of the disease, increased absenteeism and the effects of the asthma medication. Studies have revealed that children who experience poverty, trauma and psychological issues are more likely to experience educational difficulties and exhibit more negative attitudes toward school.

#### PURPOSE OF THE STUDY

The purpose of this study was to examine how health impacts certain aspects of children's educational experience. In particular, the study examined how health influences anti-social behaviors among children as well as their attitudes towards school.

Two central research questions guided this study.

1. How do health problems influence attitudes toward school?
2. How do health problems influence antisocial behaviors?

## SIGNIFICANCE OF THE STUDY

One of the persistent problems some public-school systems face today is disruptive behaviors that result in suspensions and expulsions. The cause of these disruptive behaviors has been examined from a number of different perspectives. Jacobsen (2013) stated that there are many reasons for children's disruptive behavior in the classroom. Jacobsen (2013) also pointed out the most usual cause of disruptive behaviors in school include Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD). It was discovered that internalizing disorders among the children sampled comprise diagnoses such as depression and generalized anxiety disorder (Jacobsen, 2013). In addition, when associated to other common childhood mental health conditions, children who have faced trauma exhibit related symptoms that can be tangled with symptoms of other common childhood mental health conditions such as "inability to concentrate and lashing out verbally or physically" in the classroom (Sitler, 2008). Some students who have faced trauma in childhood also show violent propensities towards others as well as display low academic performance (Sitler, 2008).

One factor that is now beginning to receive greater attention is how physical health problems in children may be associated with attitudes and behavioral outcomes. Another factor that has been examined is how children's attitudes toward school may influence antisocial behaviors. This literature review provides an overview of what has been learned about factors that influence children's physical health and how physical health is related to attitudes toward school and behavioral outcomes. The review also examines factors associated with children's attitudes toward school and how these attitudes are associated with behavioral outcomes. A number of factors have been linked to children's physical health.

Good health is vital for learning, especially in supporting attendance and educational attainment. When children have medical conditions, it can affect their overall attitude and increase the likelihood of anti-social behaviors, thus affecting their academic performance. For students to be able to attend school regularly and take full advantage of the opportunities provided by schools, they must be in a state of good health in order to do so. Investing in children's health is subsequently an investment in their education.

Understanding the influence of student's health on attitudes toward school and behaviors can help improve student performance. The findings of this study can be utilized by multiple stakeholders. Educators can become more aware of the issues surrounding the health of their students and implement better strategies that allow students to become more successful. Parents in particular can use the research to provide healthier viewpoints and options at home to improve their child's outlook on school. School officials can develop and implement programs that will benefit the overall health of their students. Students can learn better habits that will contribute to their overall health and attitude towards school.

The next chapter will provide a review of the literature that examines how children's health problems influence antisocial behaviors and attitudes towards school.

## CHAPTER II

### LITERATURE REVIEW

While health is an important issue to examine in relationship to disruptive behaviors and attitudes toward school, several other factors have been examined in an attempt to explain why children may engage in antisocial behaviors in school and why children may have negative attitudes toward school. This literature review examines some of the most prevalent factors that have been examined outside of health. It is interesting to note that many of these factors are themselves related to health outcomes. These factors include poverty, trauma from violence, environmental conditions, and mental health. The literature review concludes with an examination of physical health and its link to attitudes toward school and behaviors in school.

#### CHILDREN'S PHYSICAL HEALTH: FACTORS RELATED TO HEALTH OUTCOMES IN CHILDREN

##### *Poverty*

This section examines the relationship between childhood poverty, health outcomes and antisocial behaviors as well as attitudes toward school. The research examines how poverty has a negative adverse effect on student's attitudes, behaviors and educational values. It also discusses how children that live in poverty experience numerous physical health issues as a product of their environment. Poverty has an impact on children's cognitive functions, and therefore alters their attitudes towards school.

Victor Battistich, Daniel Solomon, Dong-il Kim, Marilyn Watson, Eric Schaps (1995) created a study to examine the relationships between students' sense of school community, poverty level, and student attitudes, motives, beliefs, and behaviors among a sample of 24 elementary schools. Based on their study, they found that students that are faced with poverty are

generally alienated. Studies also show that students from poverty find educational values or goals relatively unattainable. Therefore, children may form groups with competing values in order to have a sense of identity and belonging in the school (Battistich et al, 1995). Their data also described poverty being negatively associated with student differences in achievement, indicating that students in poverty have a significantly lower reading performance: understanding and writing fluency (Battistich et al, 1995). As it relates to behavior, poverty also had a large negative effect on intrinsic prosocial motivation, but large negative effects on sense of autonomy, democratic values, concern for others, and sense of efficacy (Battistich et al, 1995).

Ferguson, Bovaird and Mueller (2007) stated that children brought up in low-income families score lower than children from more affluent families on assessments of health, cognitive development, school achievement and emotional well-being. With respect to health, Children who are poor are more likely to experience a number of health problems.

Gary W. Evans and Pilyoung Kim (2007), suggested that poverty in early childhood harms health because stress regulatory mechanisms are damaged by excessive exposure to cumulative environmental risks during childhood. Gary and Pilyoung (2007) also revealed that several physical and social environmental risk factors potentiate physiological stress and that both noise and crowding intensify blood pressure in children. Early exposure to family instability, turmoil, and harsh, unresponsive parenting is linked to similar physiological outcomes (Gary and Pilyoung, 2007).

Thomas E. Fuller-Rowell, Gary W. Evans and Anthony D. Ong (2012), stated that, studies consistently establish an inverse association between income and mortality and morbidity. Childhood poverty is linked to a range of successive physical-health outcomes, including cardiovascular and neuroendocrine markers of physiological stress.

Thomas E. Fuller-Rowell, Gary W. Evans and Anthony D. Ong (2012), also revealed that, Social Causation theory suggested poor individuals develop psychological and physical health problems as a result of living with poverty-related hardship. For instance, poverty precedes the development of mental health problems, such as depression and anxiety.

With respect to behavior, Jensen (2009) notes that students raised in poverty are especially subject to stressors that undermine school behavior and performance. For example, girls exposed to abuse tend to experience mood swings in school, while boys experience impairments in curiosity, learning, and memory (Jensen, 2009). Also, low income children are more likely to use disengagement coping strategies, which have been found to elevate internalizing, externalizing, and social difficulties (Evans, Gary and Kim, 2013).

### *Trauma from violence*

The research presented in this section seeks to examine how trauma from violence is associated with health outcomes and how it has an influence on children's behaviors and attitudes.

Children that grow up afraid or under constant or extreme stress, immune system and body's stress response systems do not develop normally (National Child Traumatic Stress Network website). When the child is exposed to ordinary levels of stress, these systems may inevitably respond as if the individual is placed in extreme stress (Cicchetti, 2010). For example, a child may experience momentous physiological reactivity, such as rapid breathing or increased heart rate, or may "shut down" entirely when presented with stressful situations. Trauma can impair the development of the brain and nervous system. Children with intricate trauma histories could develop chronic physical health difficulties, such as headaches or stomachaches (National Child Traumatic Stress Network website). Extremely traumatized children commonly suffer

from body dysregulation, meaning they over-react or under-react to sensory stimuli (Shapiro & Nguyen, 2010). For instance, they may have hypersensitivity to sounds, smells, touch or light, or are unaware of pain, touch, or internal physical senses (Cicchetti, 2010). Consequently, they may harm themselves without feeling pain, suffer from physical problems without being aware of them, or may complain of continuing pain in several body areas for which no physical cause can be found (Shapiro & Nguyen, 2010).

Miller (2018) reflects on how traumatic experiences are related to both behavioral health and chronic physical health conditions, especially those traumatic events that occur during childhood. Many children experience trauma through ongoing exposure, to abuse, neglect, homelessness, domestic violence or violence in their communities (Miller, 2018). Chronic trauma can cause serious problems with learning and behavior in children which can affect their anti-social behaviors and their attitudes to school. Miller (2018) stated that children who have been neglected or abused have problems forming relationships with teachers and find it very difficult to express themselves in the class.

According to Ko, Kassam-Adams, Wilson, Ford et al (2008), roughly 25% of children and adolescents in society experience at least one potentially traumatic event during their lifetime, including life-threatening accidents, disasters, maltreatment, assault, and family and community violence. Repeated exposure to traumatic events can alter psychobiological development and increase the risk of low academic performance, engagement in high-risk behaviors, and difficulties in peer and family relationships (Ko et al 2008). Ko et al. 2008, goes on to suggest that a positive association may exist between imitation and bullying for children who experience violence. Children who are victims or witnesses of bullying within their

household or neighborhood are more likely to associate bullying as a preferred or acceptable style of communication (Ko et al 2008).

Paccione-Dyszlewski (2016) adds that young children are particularly susceptible to the effects of trauma which can result in developmental delays in language and cognitive functioning, difficulty in maintaining attention and concentration, and difficulty in regulating emotions and functioning appropriately in a classroom setting. Children's exposure to domestic violence can lead to results of internalizing and externalizing problem behaviors during adolescence, comprising delinquency, status crimes, and engaging in violent acts. (Sousa, Herrenkohl, Moylan, Tajima et al, 2010). A child might be distracted by intrusive thoughts about a traumatic event that inhibits them from focusing in class, studying, or performing well on a test. Violence exposure also interferes with a child's ability to develop self-regulation and self-control (Swartz and Gorman, 2003). This can disrupt children's capacity to relate to others and to effectively cope with emotions (Paccione-Dyszlewski, 2016).

### *Mental health*

Mental health problems influence and co-occur with problems in many areas of children's life. Academic difficulties, school behavior problems, and varying school attendance may be signs associated with the existence of mental health problems in children (DeSocio & Hootman, 2004). Roderick and colleagues (1997) studied truancy in the Chicago public schools and identified mental health problems as factors contributing to poor school attendance in children.

Disruptive behavior disorders affect more than 10% of children and include Attention Deficit Disorder, Oppositional Defiant Disorder, and Conduct Disorder (USDHHS, 1999). It is not unusual for oppositional and disruptive behaviors to first emerge during the preschool years



and to continue through school age and adolescence (DeSocio & Hootman, 2004). Children with attention problems and disruptive behaviors have more trouble making school transitions, fitting in with their peers, and forming friendships (DeSocio & Hootman, 2004).

DeSocio and Hootman (2004), revealed that cumulative discrepancies in social performance compounded by peer denial may contribute to affiliation with deviant peers who have similar or more severe behavior problems. The involvement of children with peers who engage in defiant behaviors increases the development of aggressiveness which results in negative behaviors and poor attitudes towards school (DeSocio & Hootman, 2004). Those with early-onset disruptive and aggressive behaviors have a propensity to develop more complex and comorbid mental health problems over time (DeSocio & Hootman, 2004). Depressed children and adolescents draw less notice from teachers and school officials than do their disruptive classmates, but their academic performance can be considerably conceded by symptoms of poor concentration, distractibility, insomnia and daytime sleepiness, irritability, and low self-esteem which can affect their performance in school (DeSocio & Hootman, 2004).

Furthermore, the connection between mental health problems and school performance is bidirectional. Not only are children with mental health problems at risk for poor school modification, but children who begin school with learning difficulties are also at a greater risk for developing mental health problems too. School embodies an important domain in which children attain developmental milestones and interact with peers, children with language and learning difficulties are susceptible to intensified psychosocial stress that can lead to mental health problems (AACAP, 1998).

Nordqvist (2017), revealed that disruptive behavior disorders are among the simplest to identify of all coexisting illnesses because they involve behaviors that are readily seen such as

temper tantrums, physical aggression such as attacking other children, excessive argumentativeness, stealing, and other forms of defiance or resistance to authority. These disorders, which include ODD and CD, often first attract notice when they interfere with school performance or family and peer relationships, and frequently intensify over time (Nordqvist, 2017).

Mental health issues make it problematic for children to normalize their emotions and focus on learning. Often children lack basic skills essential to regulate their behaviors and, sometimes, to even acknowledge their own actions (Reback, 2010).

Gayle L. Macklem (2014), a substantial number of school-aged children and adolescents in schools are obstructed by problems affecting their mental health and their attitudes toward school. Frequently cited estimates indicate that as many as 20% of school-aged children have mental health problems affecting their behavior and learning which results in them developing a negative attitude towards school. He added that children and adolescents with problems in the area of mental health do not thrive well in school at the same rates as their peers and they are more likely to fail and drop out of school (Gayle, 2014).

### *Environmental conditions*

#### *Environmental factors' impact on attitudes towards school*

Stern (2012) suggest that school attitude and motivation cannot be understood in separation from the social and cultural contexts in which an individual is rooted. Exploration of demographic and external factors on school attitude is a developmental ecological systems framework conceptualized by Uri Bronfenbrenner in 1979 (Stern, 2012). This paradigm establishes that children's development is considerably affected by a system of "layers," each of which makes up a part of the environment in which they grow and develop (Bronfenbrenner,

1979). According to this model of layers, the microsystem layer is the fundamental dimension of influence on the psychosocial development of the individual (Bronfenbrenner, 1979). The microsystem layer involves associations with cultural and ethnic values of the family as well as peer group, school, and neighborhood (Bronfenbrenner, 1979). Given the powerful impact of these elements in shaping values and behaviors, it is important to include microsystem variables when evaluating school attitude of individuals (Stern, 2012).

Other layers of influence that shape school attitude stem from ethno-cultural values that are strengthened by parents and extended family members (Bankston & Zhou, 2004). These values and expectations exert an influence on school attitude and the importance of school in the child's life (Stern, 2012). When parents level of education and aspirations for future are high then the child will be influenced to share those same desires.

In addition, the physical environment (toxins, pollutants, noise, crowding, chaos, and neighborhood quality) have consequences on children and adolescent's cognitive, socio-emotional and health outcomes (Ferguson, et al, 2013). Chronic noise experienced in early childhood delays reading acquisition (Ferguson, et al, 2013). Also, long-term memory is negatively disturbed by noise and attentional strategies are changed by noise (Ferguson, et al, 2013). If a child is affected by significant noise disturbance, it may affect their sleeping patterns and mood, therefore causing poor attitudes about school. Their motivation may not be to focus on valuable information being taught in school but rather obtaining sleep.

#### *Environmental factors' impact on behavioral outcomes*

Chaos has been connected to academic triumph and socioemotional improvement, including behavior comportsment difficulties and symptoms of internalization (Ferguson, et al, 2013). Chaos has also been associated with discrepancies of self-regulation, learned helplessness

and comprehension social cues (Ferguson, et al, 2013). Children that display discrepancies of self-regulation display behavior consistent with chaos of their environment. For instance, interference with overall adaptation and functioning, such as attention, mood, impulse control, and other behavior.

Similarly, Ferguson et al. (2013) found that secondary school aged children attending noisy schools (proximate to road traffic) had more focused attention problems compared to their peers in relatively quiet secondary schools. Evidence from both laboratory and field studies in North America and Western Europe shows that noise exposure is stressful, creating irritation and annoyance and elevating cardiovascular indicators of stress such as blood pressure and neuroendocrine stress hormones (Ferguson et al, 2013).

#### CHILDREN'S PHYSICAL HEALTH, SOCIAL ATTITUDES AND BEHAVIORAL OUTCOMES

While the above factors are important to consider with respect to attitudes toward school and behavioral outcomes, in recent years, the issue of physical health has gained more attention.

This section seeks to discuss the relationships between physical health, social attitudes and behavioral outcomes. First, there will be an examination of behavioral problems caused by physical health issues. Lastly, this section will explore the attitudes that impact a student's performance in school due to physical health issues.

##### *Physical health and behavioral problems*

Depending on the severity of the physical health condition, children may require hospitalizations, home health care, and extensive medical care (Champaloux & Young, 2015). They may have a host of medical burdens compounded by everyday life challenges, including completing standard education by graduating high school (Champaloux & Young, 2015). For

example, Maslow et al. found that young adults with chronic health conditions were significantly less likely to graduate high school compared with their healthy peers (Champaloux & Young, 2015).

In Champaloux and Young's study (2015), they found that youth who reported having a chronic health condition had significantly higher odds of not completing high school by 21 years of age compared with youth who did not report a chronic health condition. Specifically, this association held for asthma, and cancer, diabetes, or epilepsy, but not for heart or cardiovascular conditions. Also, studies found that children with poor health have a higher likelihood of engaging in risky behaviors than their healthy peers (Eide, Showalter & Goldhaber, 2010). Some exhibited behaviors by students with chronic physical health conditions are increased school absences, inadequate class achievement, not feeling safe at school, and poor cognition (Champaloux & Young, 2015).

A child's physical health is associated with improved confidence, increased attention, reduction in health problems, improved social engagement, reduction in obesity, increased organization, and a host of potentially protective factors for students at risk for poor school outcomes (Shaw et al, 2015).

#### *Physical health and attitudes towards school*

Health-related problems play a key role in limiting the motivation and ability to learn of urban minority youth. School attendance has been identified as a variable for school success, suggesting that poor physical health decreases a child's chance at maintaining good attendance. Moreover, when a chronic illness causes an increase in missed school days, there is evidence that this can decrease school performance (Blumenshine, Vann, Gizlice, & Lee, 2008).

At times when a chronic disorder limits performance, affected individuals experience less interest in school, poorer attention, more bullying and bully victimization which leads to lower academic achievement (Forrest, Bevans, Riley, Crespo and Louis, 2013). According to Blumenshine, Vann, Gizlice, & Lee (2008), a number of studies have proven a positive relationship between health and cognitive development and a correlation between poor health and lowered productivity.

Schools have long recognized the relationship between student health and attitudes toward school. It has also played a role in diagnosing and treating student health conditions related to vision, hearing, and speech impairments, as well as asthma, mental disorders, and more recently obesity (Council of Chief State School Officers, 1998). Research from the medical community confirms that common health conditions can have negative consequences on children's ability to learn (Eide, Showalter & Goldhaber, 2010). Significant hearing loss among children can interfere with phonological and speech perception abilities required for language learning, which subsequently can lead to low academic performance, especially in reading (The National Institutes of Health, 1993). Children with speech impairments score lower on reading tests than children in non-impaired comparison groups (Eide, Showalter & Goldhaber, 2010). Children with asthma miss more days of school than children without asthma, and experience restrictions in other daily activities, such as play and sports (Newacheck, 2000).

Frequent absence, discomfort or pain, movement limitations, sleepiness, physical and psychological side effects of received medications among other factors limit students' ability to engage in the education process (Shaw et al, 2015). In addition to the harmful outcomes related to school functioning, children with medical conditions experience restrictions in developing critical emotional bonds with teachers (Shaw et al, 2015).

Based on the four hypotheses in this study that explained poverty, mental health, trauma from violence, environmental conditions and physical health and how it affected students' antisocial behaviors and attitudes towards school. The study focused more on overall health and diagnosable illnesses and how it affected the student's antisocial behaviors and the feelings the students had about school.

## THEORETICAL FRAMEWORK

General strain theory (GST) states that people respond to strains or stressors in life that increases the likelihood negative emotions like anger and frustrations. Strains (stressors) increase the likelihood of engaging in deviant behaviors. Strains are linked to low social control and create some pressure or incentive for negative coping mechanisms (Agnew, 2014). This framework can be used to explain how children with health problems may respond to the stress associated with health problems in negative ways. Children with health problems become isolated and may act "out" in different ways to deal with the isolation.

Agnew (1992) describes three major sources of strain that can ultimately lead to crime or delinquency (Stogner and Gibson, 2010). The first of which is the inability to reach positively cherished goals (Stogner and Gibson, 2010). Using this framework, one can argue that, children with health problems do not do well as compared to children who do not have health problems because children with health problems cannot positively reach their goals at the same pace as healthy children. Agnew's (1992) second source of strain includes the loss of positively valued stimuli such as a family member or property. Lastly, the final source is the presence of a negative stimuli (Stogner and Gibson, 2010). The negative stimuli of a chronic illness may result in increasing absenteeism in school, which ultimately leads to poor performance and a negative attitude towards school.

Problems caused by poor health can lead to all three types of strain described by the General Strain Theory (Stogner and Gibson, 2010). Health related problems normally may meet one or more of those criteria and could have an impact on emotionality and behavior (Stogner and Gibson, 2010). Health related strains can lead an individual to behave in unproductive ways such as angry outbursts, substance use or abuse, and becoming depressed (Stogner and Gibson, 2010).

One of the ways that poor health can lead to strain is through the addition of toxic stimuli (Stogner and Gibson, 2010). According to Stogner and Gibson (2010), these stimuli can be in the form of slight issues such as nagging aches, soreness, malaise, or pain or be more major problems such as chronic illness, tremors, or seizures (though these more serious health strains are not the focus of the current analysis).

Furthermore, when individuals experience health difficulties, they may feel that they have been unfairly hurt (Stogner and Gibson, 2010). Those negative thoughts or feelings produce strain. These individuals, or those who experience vicarious strain from their condition, may thus be more likely to respond in anti-social ways (Stogner and Gibson, 2010). It is expected that those affected by the most severe conditions experience the greatest strain, but those conditions may prevent them from committing traditionally measured delinquent acts (Stogner and Gibson, 2010).

According to GST, the principal reasons these strains are connected to crime and delinquency is because they heighten the possibility that individuals will experience negative emotions, such as anger, resentment, anxiety, and depression (Brezina, 2017). These emotions are said to produce pressures for corrective action, with aberrant behavior being one likely response (Brezina, 2017). Strained individuals may opt for anti-social behaviors or delinquency,



because it allows them to address the source of strain or because it allows them to alleviate the negative emotions that tend to accompany strain (Brezina, 2017). The experience of prolonged or repeated strain, may abate relationships with conventional others and result in low social control. It may also raise beliefs favorable to crime, upsurge the demand of delinquent peer groups, and contribute to particular traits that are helpful to crime, such as negative emotionality and low self-control (Brezina, 2017).

School-level anger considerably affects student encounters with peers, but not student aggressive behavior (Wareham, et al, 2005). Measures of strain and stressful life events influence changes in both adolescent participation in delinquency and adolescent self-concept over time (Wareham, et al, 2005). Based on this we now know that children that have been exposed to trauma will have such strains that will automatically affect their attitudes and antisocial behaviors.

## SUMMARY AND CRITIQUE OF LITERATURE

The research literature indicates that there are numerous factors associated with how health problems influence anti-social behavior and attitudes toward school amongst children. Health problems that emanate from poverty, trauma from violence, mental health and physical health are the main factors associated with children's anti-social behaviors and their attitudes towards school. Health problems such as asthma, ADHD, poor nutrition, and mental health illness contribute to increased absences, internalization and lower grades and test scores. Poverty and trauma also affect the developmental process of the children also causing poor performance and bullying.

The limitations of this literature include small sample sizes and limited age groups. The majority of the research either focused on high school or college students. The research

predominantly focused on the relationship between staff and students. Although there is some attention paid to health in schools recently, there is not enough research carried out on how it affects children's antisocial behaviors and their attitudes towards school.

The general strain theory was used as the theoretical framework, which best suits this research.

## CHAPTER III

### METHODOLOGY

This chapter provides an overview of the research methodology that guided this study. It begins with a discussion of the research design and then the presentation of the research questions. Also, the data source, variables, data analysis employed are discussed.

#### RESEARCH DESIGN

This research utilized a secondary data analysis of a cross-sectional survey. The data for this study is taken from Health Behavior of School-Aged Children (HBSC), 2009-2010. The sample population consists of 12,642 students. The sample was a nationally representative sample, collected through a three-stage stratified design, with census divisions and grades as strata and school districts as primary sampling units. To make the sampling process more practical, the large population of the schools were divided into sampling stages to get a more accurate data.

#### RESEARCH QUESTIONS

This study was designed to explore the influence that health problems have on children's anti-social behaviors and attitudes towards school. To examine this relationship, the following research questions guide the current study:

1. How do health problems influence attitudes toward school?
2. How do health problems influence antisocial behaviors?

The general strain theory states that, adolescents with health conditions, feeling their lives are restricted or limited, may become more reckless or less constrained in their behaviors than others in an attempt to live life to the fullest (Kort-Butler, 2015). Thus, people experiencing frequent or continuing health problems may develop higher levels of negative emotionality and

low constraint, putting them at risk of coping mechanisms that are deemed unacceptable hence, developing negative antisocial behaviors and attitudes.

## RESEARCH HYPOTHESIS

The following research hypothesis guides the current study.

H1: Children who report poorer perception of health are more likely to have more negative attitudes toward school.

H2: Children who report long-term illness, disability or medical condition are more likely to exhibit negative attitudes toward school.

H3: Children who report poorer health exhibit a higher incidence of engagement in physical fights.

H4: Children who report long-term illness, disability or medical condition are more likely to engage in physical fights.

## DESCRIPTION OF DATA SOURCE

The data for this research study is taken from the 2009-2010 HBSC survey which asked questions about nutrition, physical activity, violence, bullying, relationships with family and friends, perceptions of school as a supportive environment, alcohol, tobacco, marijuana and other drug use.

The data provided are from the results of the United States survey conducted during 2009-2010 school year. The files contained data on 12,642 students from 314 participating schools. Of the 314 participating schools a school administrator questionnaire was completed by 283 of the administrators. The study results can be used as a stand-alone data or can be compared with the other countries involved in the international HBSC. The HBSC study had two main objectives. The first objective was to monitor health-risk behaviors and attitudes in youth over

time to provide background data and also to identify targets for health promotion initiatives. The second objective was to provide researchers with relevant information in order to understand and explain the development of health attitudes and behaviors through early adolescence.

The study contains questions about family composition, student's physical health, and other health behaviors and attitudes. Some of these topics include eating habits, dieting, physical activity, body image, health problems and bullying. A school administrator also completed a survey concerning the school's programs and policies that affect student's health and the content of various health courses.

The student survey took approximately 45 minutes to complete and was administered in a regular classroom setting to participating students by a school representative (e.g., teacher). The school representatives read scripts that explained the survey procedures.

An auxiliary questionnaire was sent to a school administrator in the responding schools to obtain school level information on health-related topics, with a special focus on nutrition, meal service, physical activity programs, and violence prevention and security practices employed by the school. The questionnaire was designed to take no more than 15 minutes for completion.

## VARIABLES IN THE STUDY

### *Dependent variables*

The dependent variables for this study are antisocial behavior and attitudes towards school. The dependent variable attitudes towards school was operationalized using responses from respondents to the question "How do you feel about school at present?" and the dependent variable antisocial behavior was operationalized using responses from respondents to the question "During the past twelve months, how many times were you in a physical fight?"

### *Independent variable*

The independent variable for the research is student health. It is operationalized using the responses from the questions “Would you say your health is.....? and Do you have a long-term illness, disability, or medical condition (like diabetes, arthritis, asthma, allergies, ADHD, or cerebral palsy) that has been diagnosed by a doctor?”

### *Control variables*

For the purpose of this study, there are three control variables. The first control variable in this study is age. Age was measured using responses from the respondents to the question “How old are you?” For age the code was as follows: 1= 10 or younger, 2= 11, 3= 12, 4= 13, 5=14, 6=15, 7=16, 8=17+.

The second control variable is gender created by the question “Are you a boy or a girl?” and measured by indicating whether the participants are males or females. The code for gender was 1= Male, 2= Female.

The third control variable is race and was measured using the responses from respondent to the question “What do you consider your race to be?” by indicating which social group the participant shares a national or cultural tradition with. It was coded as 1= Black, 2=White, 3=Asian, 4=American Indian/ Alaskan Native, 5= Native Hawaiian, 6= Two or more races, 7= Hispanic.

The three standard sociodemographic variables used as controls in the research was age, gender and race or ethnicity. These sociodemographic variables may have a strong effect on the dependent variables in this study. For example, males may be more likely to engage in physical fights, or older students may have poorer attitudes towards school. These relationships need to be

controlled for statistically, to protect against identifying a spurious relationship between student health and school attitudes or school fighting.

Past research has provided findings that have different studies with respect to differences in behaviors and attitudes towards school. There is a large frequency of negative behaviors experienced by children as a function of their age, gender and race or ethnicity.

Table 1 provides a summary of the variables in the study.

**TABLE 1. Variables in Study**

DEPENDENT VARIABLES	OPERATIONALIZATION	CODING
<i>Attitudes towards school</i>	How do you feel about school at present?	1= I like it a lot, 2= I like it a bit 3= I don't like it very much 4= I don't like it at all
<i>Engagement in physical fights</i>	During the past twelve months, how many times were you in a physical fight?	1= I have not been in a physical fight 2= 1 time 3= 2 times 4= 3 times 5= 4 times or more
INDEPENDENT VARIABLES		
<i>Perceptions of Student Health</i>	Would you say your health is...?	1= Excellent 2= Good 3= Fair 4= Poor
<i>Long-term illness, Disability, or Medical Condition (Diagnosable illnesses)</i>	Do you have a long-term illness, disability, or medical condition (like diabetes, arthritis, asthma, allergies, ADHD, or Cerebral palsy) that has been diagnosed by a doctor?	1= Yes 2= No
CONTROL VARIABLES		
<i>Age</i>	How old are you?	1= 10 years or young 2= 11 3= 12 4= 13 5= 14 6= 15 7= 16 8= 17+
<i>Gender</i>	Are you a boy or a girl?	1= Male 2= Female
<i>Race</i>	What do you consider your race to be?	1= Black 2= White 3= Asian 4= American Indian/ Alaskan Native 5= Native Hawaiian 6= Two or more races 7= Hispanic



### *Data analysis*

The SPSS statistical package was utilized to run all the statistical analyses on this data. A general description of the sample was acquired by employing descriptive statistics. The hypotheses were tested using bivariate and multivariate analyses, including crosstabulation with chi-square and linear logistic regression.

### *Descriptive statistics*

In order to provide a description of the sample, the measure of central tendency and frequencies were used. These are most appropriate because the dependent variable in this study is a scale level variable.

### *Bivariate analysis*

The relationship between the dependent and the independent variables was tested using cross-tabulation with chi-square. The chi-square summarized the statistical significance used to determine the relationship between the dependent and independent variables. In the current study, the level of significance also known as the alpha level or p-value, was set at .05. If the results of the chi-square test are significant ( $p < .05$ ), then there is a statically significant relationship between the variables. If the results of the chi-square test are insignificant ( $p > 0.5$ ), then there is no statistically significant relationship between the variables in question.

### *Multivariate analysis*

Linear regression was used to analyze the impact of the predictor variables. The linear regression combines the independent variables to predict the probability that an observation falls into one or two categories of a dichotomous dependent variable. A series of linear regression models are used to assess the impact of the predictor variables on each dependent variable. In all four regression models will be evaluated to impact the dependent variables separately.

The next chapter will discuss the findings from the data analyses.

## CHAPTER IV

### RESULTS

This chapter presents the findings of the data analyses that examined how health problems affect children's attitudes toward school and antisocial behavior. The chapter begins with a discussion of the descriptive statistics and bivariate analyses. The chapter will conclude with a discussion of the multivariate analyses and results.

#### DESCRIPTIVE STATISTICS ANALYSIS

Table 2 provides an overview of variables included in the study. A general description of the sample was obtained through the use of descriptive statistics, specifically frequency distributions.

#### DEPENDENT VARIABLES

The dependent variable was attitudes toward school and respondents were asked the question "How do you feel about school at present"? Accordingly, the most common attitude reported by the students was that they liked school a bit. Specifically, approximately 45 percent of the students like school a little bit, while less than 10 percent of the students do not like school at all. Again, regarding the dependent variable antisocial behavior (engagement in physical fights), respondents answered the question "During the past twelve months, how many times were you in a physical fight"? Responding to the number of times the student was involved in a physical fight, most students did not engage in physical fights at school. In particular, approximately 65 percent of the students report not being in a physical fight, with roughly 20 percent of students indicating being in 2 or more fights at school. On average, most of the students liked school a bit and have not been in a physical fight.

## INDEPENDENT VARIABLE

The independent variable student health asked respondents questions such as ; Would you say your health is? Do you have a long-term illness, disability or medical condition (like diabetes, arthritis, asthma, allergies, ADHD, or Cerebral palsy) that has been diagnosed by a doctor? Most of the students report their overall student health as good (52%), with more than half indicating that they do not have a diagnosable long-term illness, disability, or medical condition (i.e., diabetes, arthritis, asthma, allergies, ADHD, or Cerebral Palsy). Most students do not have a long-term illness, disability, or medical condition. On the average students report on overall health rating was good.

## CONTROL VARIABLES

Descriptive statistics were also calculated for the control variables. Regarding age, results showed that the average age of the students was 13 years with approximately 51 percent of the sample being males and 49 percent being females. With regards to race, the majority of the students identify as White (49%), with approximately 18 percent describing themselves as African American. Approximately 20 percent identify themselves as Hispanic and approximately 7 percent identify as Mixed (two or more races). Collectively, approximately 7 percent of the students are Asian (3.9), American Indian/Alaskan Native (1.8%), and Native Hawaiian (0.9%). On the average, most of the respondents considered their race to be white.

Table 2 provides the descriptive statistics in the study.

**Table 2. Descriptive Statistics of Study Variables**  
(n=12,642)

DEPENDENT VARIABLES	Frequency	Valid Percent	Mean	Median	Mode	S.D.	N
Attitudes toward school			3.0	3.0	3.0	0.88	12,283
<i>I don't like it at all</i>	922	7.5					
<i>I don't like it very much</i>	1971	16.0					
<i>I like it a bit</i>	5565	45.3					
<i>I like it a lot</i>	3825	31.1					
Engagement in physical fights			0.7	0.0	0.0	1.2	12,077
<i>I have not been in a physical fight</i>	7852	65.0					
<i>1 time</i>	1890	15.6					
<i>2 times</i>	975	8.1					
<i>3 times</i>	556	4.6					
<i>4 or more times</i>	804	6.7					
INDEPENDENT VARIABLES							
Overall Student Health Rating			3.0	3.0	3.0	0.76	12,469
<i>Excellent</i>	3305	26.5					
<i>Good</i>	6461	51.8					
<i>Fair</i>	2321	18.6					
<i>Poor</i>	382	3.1					
Long-term Illness, Disability or Medical Condition			0.4	0.0	0.0	0.494	12,451
<i>Yes, have a diagnosed illness</i>	5227	42.0					
<i>No, do not have a diagnosed illness</i>	7224	58.0					
CONTROL VARIABLES							
Age			13.0	13.0	13	1.7	12,623
Gender			1.49	1.00	1.0	0.500	12,638
<i>Male</i>	6502	51.4					
<i>Female</i>	6136	48.6					
Race			3.19	2.00	2.0	2.24	12,089
<i>Black/African American</i>	2164	17.9					
<i>White</i>	5903	48.8					
<i>Asian</i>	469	3.9					
<i>American Indian/Alaskan</i>	222	1.8					
<i>Native</i>	111	0.9					
<i>Native Hawaiian</i>	828	6.8					
<i>Two or More Races</i>	2392	19.8					
<i>Hispanic</i>							

## BIVARIATE ANALYSIS

### *Chi-square tests analysis*

#### *Student health perception and student attitudes toward school*

According to Table 3, findings indicate that the independent variable, overall student health rating, is significantly related to the dependent variable, attitudes towards school, at the 0.01 level ( $\chi^2=513.070$ ,  $p=0.000$ ). More specifically, approximately 45 percent of the students with an overall health rating of “good” liked school a lot, while approximately 8 percent of the students with an overall health rating of “poor” do not like school at all. Comparatively, approximately 49 percent of the students with an overall health rating of “good” like school a lot, while approximately 2 percent of the students with an overall health rating of “poor” do not like school at all.

#### *Diagnosable illnesses and student attitudes toward school*

Based on Table 3, the relationship between students with a diagnosable illness and attitudes towards school is statistically significant at the 0.01 level ( $\chi^2=12.501$ ,  $p=0.006$ ). For example, it was expected that students who have a diagnosable illness would not like school. However, it was observed that more than the expected students who have a diagnosable illness do not like school at all, suggesting that students with a diagnosable illness are more likely to not like school at all than those students with no diagnosable illness.

**Table 3. Cross-Tabulations. Overall Student Health, Diagnosable Illness, and Attitudes Toward School**

INDEPENDENT VARIABLES	Pearson's Chi-Square	Sig.	N
Overall Health Rating	513.070**	0.000	12,183
Long-term Illness, Disability or Medical Condition (Diagnosable Illness)	12.501**	0.006	12,180

\*p<0.05; \*\*p<0.01

*Student health perception and antisocial behavior (physical fight)*

Based on Table 4, a statistically significant relationship exists between students' overall perception about health and antisocial behavior, measured as student involvement in physical fights at school, at the 0.01 level ( $\chi^2=83.208$ ,  $p=0.000$ ). Specifically, results reveal that less than the expected students with an overall health rating of "good" engaged in four or more physical fights. This suggest that students with an overall health rating of "good" are less likely to engage in four or more physical fights. In comparison, more than the expected students with an overall health rating of "poor" engaged in four or more physical fights. Hence, students who have an overall health rating of "poor" are more likely to engage in four or more physical fights. Comparatively, more than the expected students with an overall health rating of "good" have not been in a physical fight, while less than the expected students with an overall health rating of "poor" have not been in a physical fight. These findings suggest that students with an overall health status of "good" are more likely to not engage in physical fights, while students with an overall health status of "poor" are more likely to engage in a physical fight.

*Diagnosable illness and antisocial behavior (physical fight)*

According to Table 4, findings show that the relationship between students with a long-term illness, disability, and medical condition and student involvement in physical fights as a measure of antisocial behavior is statistically significant at the 0.01 level ( $\chi^2=78.794$ ,  $p=0.000$ ). For instance, more than the expected count of students with a diagnosable illness engaged in four or more physical fights, while less than the expected count of students without a diagnosable illness engaged in four or more physical fights. This suggests that students with a diagnosable illness are more likely to engage in four or more physical fights than students without a diagnosable illness.



**Table 4. Cross-Tabulations. Overall Student Health, Diagnosable Illness, and Antisocial Behavior**

INDEPENDENT VARIABLES	Pearson's Chi-Square	Sig.	N
Overall Health Rating	83.208**	0.000	11,979
Long-term Illness, Disability or Medical Condition (Diagnosable Illness)	78.794**	0.000	11,989

\*p<0.05; \*\*p<0.01

## MULTI-VARIATE ANALYSIS

### *Linear regression models*

#### *Models Estimating Negative Emotions Towards School*

##### *Model 1: Student Health and Student Attitudes Toward School*

Overall, the model examining the relationship between the independent variables and the dependent variable is statistically significant and a good model fit ( $F = 162.42$ ,  $p = 0.000$ ). Approximately 6 percent of the variance in feelings toward school is explained by the age of the student, student gender, the race/ethnicity of the student, and students' perception of their overall health. Specifically, findings show that, while controlling for all other variables, the more positive students perceive their overall health, the more likely they will have positive emotions towards school. The age of the student, their gender, and their race/ethnicity were also found to be statistically significant. For instance, there is a negative and statistically significant relationship between the age of the student and their overall feelings towards school. Gender is also found to be negatively and significantly associated with student feelings towards school, with race/ethnicity being positively and significantly associated with student feelings towards school. Male students were found to have negative feelings towards school with their overall health as compared to females. It was revealed that white students had a positive feeling towards school with their overall health as good as compared to black or African Americans.

##### *Model 2: Diagnosable Illness and Student Attitudes Towards School*

Generally, the model examining the relationship between the independent variables and the dependent variable is statistically significant and a good model fit ( $F=80.99$ ,  $p=0.000$ ). Approximately 3 percent of the variance in feelings towards school is explained by the age of the student, student gender, race/ethnicity of the student and students' diagnosed illness and

disability. Findings reveal a statistically insignificant relationship between students diagnosed with long-term-illness, disability, and medical condition and feelings towards school.

Specifically, findings show that, while controlling for all other variables, the students diagnosed with illness and disability, are likely to report negative feeling about school. The age of the student, their gender and their race/ethnicity were found to be statistically significant. For instance, there is a negative and statistically significant relationship between the age of the student and their overall feelings about school. Gender is also found to be negatively and significantly associated feelings towards school with race/ethnicity being positively and insignificantly associated with students' feelings towards school with diagnosed illness and disability. Hence, the more a student is diagnosed with illness and disability the more they develop negative feelings about school.



*Models estimating fight frequency*

*Model 3: Student Health and Student Antisocial Behavior*

Overall, the model examining the relationship between the independent variables and the dependent variable is statistically significant and a good model fit ( $F=101.35$ ,  $p=0.000$ ). Approximately 4 percent of the variance of students involved in a physical fight is explained by the age, gender and race/ethnicity of the students. Findings reveal a statistically insignificant relationship between how often a student is involved in a physical fight and overall health. Specifically, findings show that, while controlling for all other variables, the more a students' overall health is excellent, the less they often get into physical fights. The age of the students' was found to be statistically significant; the gender and race/ethnicity was statistically significant. Gender is positively and significantly associated with students' overall health and how often they get into physical fights. Race/ethnicity is also positively and significantly associated with how students' often get into physical fights and their overall health. This means, the better their overall health, the less they are involved in physical fights.

*Model 4: Diagnosable Illness and Student Antisocial Behavior (Physical fight)*

The model examining the relationship between the independent variables and the dependent variable is statistically significant and a good model fit ( $F=108.05$ ,  $p=0.000$ ). Approximately, 4 percent of the variance of students involved in a physical fight is explained by age, gender and race/ethnicity of the students. Findings reveal a statistically significant relationship between students diagnosed with illness and how they are often involved in physical fights. Specifically, the findings show that, while controlling for all other variables, students diagnosed with illness and disability, are likely to be in physical fights. The age of the students

was found to be statistically significant; the gender and race/ethnicity was statistically significant. Gender is positively and significantly associated with students' diagnosed illness and how often they get into physical fight. Race/ethnicity was also found to be positively and significantly associated with how students' often get into physical when they diagnosed with illness. Males and the minority race were to be diagnosed with illnesses and engaged more in physical fights. Hence, the more students are diagnosed with illness and disability, the more they get into physical fights.

**Table 6. Linear Regression Predicting Fight Frequency**

	Model 1			Model 2			Model 3		
	B	Beta	S.E. B	B	Beta	S.E. B	B	Beta	S.E. B
Age	0.03	0.04*	0.01	0.03	0.05*	0.01	0.03	0.05*	0.01
Gender	0.43	0.18*	0.02	0.41	0.17*	0.02	0.41	0.17*	0.02
Race/Ethnicity	0.05	0.04*	0.01	0.06	0.04*	0.01	0.06	0.05*	0.01
Health scale	-0.08	-0.05*	0.02						
Diagnosed illness and disability				0.17	0.07*	0.02			
Constant	0.30*		0.11	-0.10*		0.09	-0.07*		0.09
Adjusted R Square		0.04			0.04			0.04	
<i>F</i>		101.35*			108.05*			100.32*	

\*p&lt;0.05

The small percentage of variance in the models was due to the limited number of control variables in the study. Future researchers should consider using various control variables related to the issues of physical health of children.

## CHAPTER V

### DISCUSSIONS

Previous literature has largely looked at how poverty, mental health, trauma from violence and environmental factors have affected children's behavior and attitudes toward school, but the issue of physical health has gained more attention in recent years. Children who experience poor health are less likely to fulfill many of the expectations associated with childhood. According to (Jensen, 2009), children who experience health problems are more likely to experience disruptions in education as poor health may prevent children from not only attending school but may interfere with their attitudes toward school as well as their behaviors in school.

Two research questions primarily guided this study. The research questions were: (1) How do health problems influence attitudes toward school? (2) How do health problems influence antisocial behaviors? The following hypothesis were used in this current study.

H1: Children who report poorer perception of health are more likely to have more negative attitudes toward school.

H2: Children who report long-term illness, disability or medical condition are more likely to exhibit negative attitudes toward school.

H3: Children who report poorer health exhibit a higher incidence of engagement in physical fights.

H4: Children who report long-term illness, disability or medical condition are more likely to engage in physical fights.

Overall, the analyses ran for this study showed that in regard to the first research question, the most common attitude reported by students was that they liked school a little bit



and most of them did not engage in physical fight. Also, most of the students indicated that they do not have a diagnosable illness. The student's average health rating was found to be good. The average age of the students was 13 years with approximately 51% of the sample being males and 49% being females. The majority of the students were Whites (49%). Hence, the results indicated that most of the white students reported having good health with good attitudes toward school and engage less in physical fight. This is clearly the opposite of the minority students that reported poor health with negative attitudes toward school and engaged in more physical fights. This is consistent with previous literature (Bond, Lyndal, Butler, Thomas, 2007., Eide, Showalter & Goldhaber, 2010).

When examining the relationship between students with diagnosable illnesses, and students' attitudes toward school, the analysis found that the relationship between students with diagnosable illness and students' attitudes toward school to be statistically significant. This suggests that, students with diagnosable illnesses are more likely to like school a lot. This result contradicts the second hypothesis that states that children who report long-term illness, disability or medical condition are more likely to exhibit negative attitudes towards school.

The analysis confirmed the relationship between the independent variables, overall health and diagnosable illness and the dependent variables, engagement in physical fight and attitudes toward school as being statistically significant. The findings showed that, the more positive students perceive their overall health, the more likely they will have positive feelings towards school. It was revealed in the study that, white students had positive feelings towards school with their overall health as good. This was not the same for minority students specifically Blacks and Hispanics who reported poor health which resulted in negative feelings towards school.

In studying how a student's health problem influence antisocial behaviors, the data revealed that there was a statistically significant relationship between a student's overall perception of health and engagement in physical fight. The findings further revealed that, students with an overall health rating of good do not engage in physical fights while students with poor health engage in physical fights. This finding confirms the third hypothesis that stated that children who report poorer health exhibit a higher incidence of engagement in physical fight. This finding is consistent with a previous literature (Eide, Showalter & Goldhaber, 2010).

Similarly, this study found a statically significant relationship between students with diagnosable illness and engagement in physical fight. The findings showed that more than the expected count of students with a diagnosable illness engaged in four or more physical fights while less than the expected count of students without a diagnosable illness engaged in four or more physical fights. Students with diagnosable illnesses were found to be engaging in more physical fights than students without a diagnosable illness. This explains the fourth hypothesis that states that children who report long-term illness, disability or medical condition are more likely to engage in physical fights.

In addition, findings revealed a statically insignificant relationship between how often a student is involved in a physical fight and their overall health. The more a student's health is excellent, the less they often get into physical fights. This means that, the better a student's health, the less likely they engage in physical fights.

Finally, the model examining students' diagnosable illnesses and engagement in physical fight was statistically significant. The finding revealed that students diagnosed with illnesses, engage in more physical fights. This finding also supports the third hypothesis that states that, students who report poorer health exhibit a higher incidence of engagement in physical fights.

Therefore, it can be concluded that, the more students are diagnosed with illness, the more they get into physical fights.

The general strain theory guided this study. This framework explains how children with health problems respond to the stress associated with health issues in negative ways. The negative stimuli of a chronic illness may result in some instances, negative feeling towards school and engagement in physical fights. However, based on the results, it is clear that how one feels about their health, may not always predict attitudes towards school as the researcher predicted. In particular, one surprising finding from this study was that children with a perception of poor health actually had positive attitudes toward school.

When individuals experience health difficulties, they may feel that they have been unfairly hurt (Stogner and Gibson, 2010). Children who experience vicarious strain from their condition, may thus be more likely to respond in anti-social ways (Stogner and Gibson, 2010). It is expected that children affected by the most severe conditions experience the greatest strain, but those conditions may prevent them from committing traditionally measured delinquent acts (Stogner and Gibson, 2010).

Strained individuals may resort to anti-social behaviors or delinquency, because it allows them to address the source of strain or because it allows them to alleviate the negative emotions that tend to accompany strain (Brezina, 2017). This supports the claim in the study that, children that report poor health and diagnosable illnesses have negative feelings towards school and engage in more physical fights.

## LIMITATIONS AND FUTURE RESEARCH

In the current research, limitations were present. The main limitation in the study is that the data was self-reported. Not only is honesty an issue in self-reported data, introspective

ability, understanding and response bias also pose a threat to the validity of the answers being given (Hoskin 2012). Future research should consider gathering data from a more accurate source that can be generalized.

Lastly, the reliability of data is impacted because the study did not examine specific illnesses. Some illnesses will produce poorer outcomes as compared to other illnesses. No particular illness was examined in this study making it very difficult to predict any reliable outcomes.

## CONCLUSIONS AND POLICY IMPLICATIONS

This research provides evidence of how physical health problems affect children's antisocial behaviors and attitudes toward school. Previous literature has found that children who experience poverty, trauma from violence, mental health and poor environmental conditions, specifically minorities often have poor health and exhibit antisocial behaviors and express negative feelings about school. The current analysis shows that white children are more likely to have good health and exhibit positive attitudes toward school as compared to minorities with diagnosable illnesses. It was revealed in this research that most of the students liked school a bit and have not been in a physical fight. The overall health of the students was good. The result shows that the more positive students perceive their overall health, the more the students develop a positive attitude towards school. More importantly, students that are diagnosed with illnesses, engage in more physical fights.

More specifically, Blacks and Hispanics who have poor health rating and have diagnosable illnesses exhibit higher incidence of engaging in physical fights and portray negative feelings toward school. The results of this study demonstrate the need to create programs and policies that address the health concerns of children.

The results of this study sheds light on how health problems affect children's anti-social behaviors and attitudes toward school. Given this result, our educational system should pay more attention to the physical health of students. More importantly, evidence shows there are still disparities in health and educational outcomes. Reforms are needed to address the physical health needs of children in our school system.

One of the most pressing social problems facing the school system is the school- to-prison pipeline. The expulsions and suspension of students from schools is often related to behavioral and attitudinal issues. Minority students have deeper rooted causes associated with their behavioral problems. In particular, these students are more likely to be exposed to environments that are likely to trigger health problems.

With this in mind, schools must implement supportive procedures that will address the underlying causes of negative behaviors and poor attitudes toward school, such as poverty, trauma from violence, mental health issues, and environmental conditions.

Based on support of the hypotheses, factors such as poverty, trauma from violence, mental health and environmental conditions should be addressed in future. Policies must be put in place to examine issues that relate to these problems. There should also be an agenda to improve the understanding of the effects of health problems on children and to identify and refine interventions that promote health.

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