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THE DIFFERENTIAL IMPACT OF TRAUMA ON STUDENT ENGAGEMENT
BASED ON SOCIAL CLASS

By

Barinaakerenen Ebenezer Kpuinen

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

Major: Sociology

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ABSTRACT

Trauma is an unfortunate part of society, and it has detrimental impacts on youths' developmental processes. High-school minority students, particularly those with low socioeconomic status, are the most affected by trauma, affecting their school performance. This study seeks to gauge how different types of trauma (emotional, psychological, and physical) affect high-school students' male engagements. Binary logistic regression was utilized to control for the different types of trauma. Results show that Asian and Hispanic students who interact with trauma tend to seek afterschool activities to help mitigate the effects trauma has on them. Students' socioeconomic (SES) background also contributes to this. Those coming from a high SES background are more engaged with extracurricular activities than those from a low SES background. This is not to say that those from low SES backgrounds do not benefit from taking part in extracurricular activities because being a part of extracurricular activity helps mitigate the effects of trauma.

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INTRODUCTION

People who experience trauma are affected profoundly in all aspects of their lives. Children are especially susceptible to trauma since they are still in the developmental stages of life. Trauma can take many forms, including sexual abuse, physical abuse, domestic violence, community violence, neglect/deprivation, etc. Trauma can be devastating in many ways, but this research focuses on its impact on children's educational development (Hornor, 2015; Lacona & Johnson, 2018; Stevens et al., 2019). According to a report by the US Department of Health and Human Services (2020) on child maltreatment in the US during 2018, 84.5% of children in the US experienced some form of maltreatment, of which 60.8% were victims of neglect, 10.7% of physical abuse and 7.0% of sexual abuse. Evidence suggests that such childhood experiences impact their performance in school.

Previous research related to the academic performance of children with traumatic history has primarily focused on the need for schools to be ready to assist children who have experienced trauma (Walkley & Cox, 2013; Hoover et al., 2018; Kuhn et al., 2019), as there is ample evidence to suggest that exposure to trauma negatively affects academic outcomes among school-aged children (Porche et al., 2011; Mathews et al., 2009; Voisin et al., 2011). Other related work examined how traumatic stress and socioeconomic status (SES) affected primary school-aged children's academic achievement (Goodman et al., 2012). They showed that high traumatic stress leads to increased absence from schools by students. Porche et al. (2011) note that trauma also plays a significant role in students' dropout rates. It is most detrimental for minority students, particularly African Americans and Latinos, with them being more likely to drop out.

Research shows that engagement through extracurricular activity decreases dropouts' likelihood (Neely & Vaquera, 2017; Fall & Roberts, 2012; Archambault et al., 2009). Neely & Vaquera (2017) revealed that participation in both athletic and academic/fine arts activities had the highest effect on reducing likelihood of dropping out. In essence, minority students who take part in extracurricular activities are less likely to drop out. I hypothesize that students are using extracurricular activities as a way to mitigate their trauma. My research incorporates aspects of these bodies of work to explore the differential effects of trauma on child outcomes in school based on social class.

Statement of the Problem

Although some research exists on the impact of trauma on students' academic achievement in terms of student engagement, previous work has failed to distinguish between the different types of trauma. There has been significant research conducted on ways for schools to combat trauma effects on students. Most adopted strategies to better support students who faced a traumatic past, hoping that managing the trauma can increase their academic achievements. My research builds upon this foundation by examining how different types of trauma (emotional, physical, and psychological) affect student engagement among high school students using data from the 2018 National Survey of Children's Health (NSCH). The study will assess if the relationship between trauma and student engagement is mediated by socioeconomic status. I use Cumulative Disadvantage Theory, which states that inequality in wealth, status, and availability of opportunities accumulate over the lifespan (Merton, 1988) as a guiding framework.

For this study, trauma will be defined in terms of adverse childhood experiences. Specifically, the NSCH measured ten types of childhood adversity: abuse (physical, sexual, and verbal), neglect (physical and emotional), witnessing abuse, loss of a parent (abandonment or

divorce), incarcerated family member, and a parent who is an alcoholic (or addicted to other drugs). Student engagement will be designated as students' perception of engagement and involvement in school.

Theoretical Perspective/Framework

Cumulative disadvantage theory is used as a guiding framework for this study. It was developed by Robert Merton (1968) and was later expanded by Dale Dannefer (2003) to include age. Cumulative disadvantage theory explains how early advantages or disadvantages impact an individual's wealth, status, and availability to opportunities later in their lifetime. It explores the social, cultural, and structural reasons that create disadvantages or advantages for some individuals later in life, as seen with previous works (Ferraro et al., 2016; McDonough et al., 2015; Wooldredge et al., 2015; Ferraro & Kelly-Moore, 2003; Ferraro & Shippee, 2009).

Cumulative disadvantage theory indicates that structural disparities early in life based on a person's age, race, gender, class, or sexual orientation are intensified as the person grows older because inequalities persist across the life course. Applying cumulative disadvantage theory to my study, I hypothesize that childhood trauma significantly affects student academic success. This relationship is mediated by students' social class and the type of trauma they experience. I hypothesize that students in a high social class experience a protective effect buffering the impacts of trauma because they have greater accessibility to treatment/help to overcome their trauma. Cumulative disadvantage theory is a unique fit for my research because it is not clear in the data whether the childhood trauma occurred previously in earlier childhood or is currently ongoing. My assumption is the trauma experience is chronic, having accumulated over many years. One of the key milestones for effects on young people occurs in high school, thus using my dependent variables.

LITERATURE REVIEW

Prior research shows how students' academic achievement is linked to their socioeconomic status (SES) (Coe et al., 2013; Sirin, 2005; Caldas & Bankston, 1997). Sirin (2005: 438) reveals through their meta-analysis of the literature on socioeconomic status and academic achievement that "parents' location in the socioeconomic structure has a strong impact on student's academic achievement." They list resources at home and potential social capital as two main reasons why that is so. Students with low SES are more likely to do worse in school than their high SES counterparts. There are many reasons for why this is the case, ranging from parental education level (Crede et al., 2015; Hahs-Vaugh, 2004), parental involvement in school (Williams & Sanchez, 2012; Rodger et al., 2009; Falbo et al., 2001), child access to educational resources (Sala et al., 2016), and students' exposure to trauma (Goodman, 2012), among other factors.

A 2018 Child Trends report on *Parental Involvement in Schools* highlights that parents who live at or below the federal poverty line (FPL) are less likely (62%) to attend school functions or class events compared to parents who are above the FPL (93%). Black and Hispanic students are most likely to come from low SES backgrounds, attend public schools, and attend underfunded schools; therefore, they are at a significant disadvantage. Schools situated in areas that produce low property taxes typically lack more resources than their high property tax counterparts. Black and Hispanic students generally reside in areas that produce low property taxes, which is due to a myriad of reasons ranging from single-parent households to lack of businesses and employment opportunities. As a result of these environmental disadvantages, their schools are substantially worse. According to the National Center for Education Statistics (NCES), in 2017, Black and Hispanic students were the most likely to attend high-poverty

schools, both at 45%, followed by American Indian/Alaska Native (41%), Pacific Islander (24%), students of two or more races (18%), Asians (18%), and whites (8%).

Adverse Childhood Experiences

A 2017 report by the US Department of Education (2019) on bullying reveals female students were bullied (23.8%) more than male students (16.7%). Bullying was evenly split between Black (22.9%) and white students (22.8%). The report also showed that students whose household income was less than \$35,000 experienced more bullying (96.2%) than those with household incomes of more than \$35,000 (36.4%). This can further help to explain why students from low SES backgrounds often do worse in school. Finally, bullying was experienced more at the primary and middle school level (25.3% and 26.7%, respectively) than at the high school level (16.8%). Much research shows how bullying can negatively affect students' academic achievement (Al-Raqqad et al., 2017; Oliveria et al., 2018). Bullying can have severe consequences for those affected by it, so much so that bullying serves as a form of adverse childhood experience (ACE), which is shown to negatively impact education (Karatekin & Ahluwalia, 2016; Stempel et al., 2017).

ACEs, as defined by the Centers for Disease Control and Prevention (CDC) (2020), are any potential traumatic events experienced during childhood (0-17 years). The CDC (2020) lists examples of traumatic events that children may experience. These events are as follows: experiencing violence, abuse, or neglect; sees violence in the neighborhood or home; having a family member attempt or die by suicide; or growing up within a household that suffers from substance misuse, mental health problems, and instability due to parental separation or household members being in jail. Sacks and Murphey (2018) report that 45% of children in the United States have experienced at least one ACE during their lifetime. They also found, when

addressing children with two or more ACEs, that Black children (33%) suffer more from ACEs, followed by others (26%) and Hispanics (21%). Non-Hispanics, whites, and Asians were the least likely to suffer from 2 or more adverse childhood experiences (19% and 5%, respectively).

Stempel et al. (2017) explored another dimension of ACEs' effect on children; absentee rates. They revealed that children who suffered from ACEs (witness violence in the neighborhood or home) have higher absentee rates. Their study reaffirms Goodman and Millers' (2012) findings of a positive relationship between traumatic stress and student absence; that is, as trauma-induced stress increased, so did absence from school. Given that racial and ethnic minorities are more likely to come from a low SES background, they are more likely to be exposed to more violence in the community and at home, thereby increasing the likelihood of adverse effects at school. This is supported by Peterson et al. (2010: 6), "Crime rates are higher on average in African American than other neighborhoods, not because this group is more criminally oriented, but because African American communities have the highest average levels of disadvantaged social conditions." These disadvantaged conditions are an essential part of the disparity in school success experienced by many Black and Hispanic children, particularly in comparison to their white and Asian counterparts.

Trauma

Bartlett and Sacks (2019) note that trauma is one possible outcome of exposure to adversity. The Substance Abuse and Mental Health Services Administration ([SAMHSA](#)) defines trauma as "an event, series of events or sets of circumstances that are experienced by an individual as physically or emotionally harmful or life-threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, and physical

wellbeing." Certain types of childhood adversity are more likely to trigger a traumatic response from individuals. Bartlett and Sacks (2019) list the sudden loss of a family member, a natural disaster, a severe car accident, or a school shooting as those most likely to trigger traumatic responses. This is not to say that the other types of childhood adversity do not trigger a traumatic reaction; it is just that children will perceive each event differently, and what might be traumatic to one child may not be traumatic to the next child.

Trauma affects individuals through multiple ranges of the developmental process. The National Child Traumatic Stress Network (NCTSN) lists nine ways that trauma can affect children: attachment and relationships, physical health, emotional responses, dissociation, behavior, cognition (thinking and learning), self-concept, long-term health consequences, and economic impact. Porche et al. (2011) find that high school students who experienced some form of trauma are 2.5 times more likely to drop out of school. Moreover, they also found that African Americans and Latinos are more likely to drop out (17.2% and 38.9%, respectively). A possible way to delineate trauma affecting dropout rates would be to increase student engagement. Extracurricular participation as a form of student engagement has been linked to decreased dropout rates (Neely & Vaquera, 2017). Neely & Vaquera (2017) discovered that participation in both athletic and academic/fine arts activities had the highest effect on discovering dropouts' likelihood. Primarily, students involved in a mixture of these activities had a lower chance of dropping out. Moreover, African American students had the lowest chance of dropping out if they participated in a sport, supporting previous literature (Everson and Millsap 2005; Neely & Vaquera, 2017) that expresses how athletic participation is important for minority students, especially for African Americans.

Trauma plays a significant role in child development. It has particularly devastating effects on children's educational prowess if not treated. Much research (Perry & Daniels, 2016; Blitz et al., 2016) has discussed ways schools/teachers can better help those affected by trauma. The general focus primarily has been to inform teachers/schools about the different types of trauma and who is generally affected by it. As we have seen, African Americans and Hispanics are usually at a disadvantage when it comes to trauma and student success. This paper uses different ACE measures to serve as an indicator of trauma. I then see how ACEs affect a student's engagement in terms of involvement in school-related activities.

RESEARCH QUESTION/HYPOTHESES

Research questions addressed in the study are as follows:

1. Is there a relationship between childhood trauma and student engagement, controlling for the effects of race and sex?
2. Does high social status provide a protective effect on the relationship between trauma and academic success in terms of student engagement?
3. Is the relationship different by the type of trauma experienced?

METHODS

Data

This study utilizes data from the 2018 wave of the National Survey of Children Health (NSCH). The 2018 NSCH data were collected as a component of the State and Local Area Integrated Telephone Survey (SLAITS). NSCH follows a cross-sectional survey design, funded and directed by the Health Resources and Services Administration's (HRSA) Maternal and Child Health Bureau (MCHB), which surveyed non-institutionalized children ages 0-17 years living in the United States. The NSCH provides both national and state-level data on the key factors of

children's health and wellbeing. It has been publicly available since 2003. Initially, it followed a quarterly trend (2003, 2007, and 2011), but since 2016, it has been administrated yearly. NSCH (quarterly) gathered participants for data collection through telephone calls. In contrast, NSCH (yearly) utilizes a two-plan approach for data collection. According to Child & Adolescent Health Measurement Initiative (2019) report on Sampling and Survey Administration during 2018, potential participants were mailed invitations to fill out an online survey while others were mailed paper screening questionnaires.

The participants surveyed in the NSCH include non-institutionalized children in the United States (US), ranging in age from 0-17 years. Random sampling was used based on an initial random selection of addresses from households in the US. For the 2018 data, a total of 30,530 children took part in the survey. The survey's overall weighted response rate was 43.1%. The survey completion rate (proportion of households with children and youth who completed a detailed topical questionnaire) was 36.9%. This study focuses on high school students; therefore, survey results from students ages 14-17 will be utilized (Sen & Miller, 2005). Although most high schoolers graduate around the age of 18, the data cuts it off at age 17, a possible study limitation. The NSCH reports 8,988 children as fitting within this age range. Secondary data was utilized for this study, which exempted this study from approval by an institutional review board (IRB).

Measures

The variables in the study include the following: trauma (independent variables), student engagement (DV), and social status (moderating variable). In the NSCH, student engagement is measured based on answers to the following item: "children care about doing well in school." Likewise, student involvement in school is measured based on answers to the following item:

"whether students participated in clubs or organizations after school or on the weekends." Sex and race/ethnicity are measured using the standard categories of male and female and Hispanic, White, Black, and other/multi-racial, respectively. Sex and race will be used as control variables. The sex of the student will be either male or female due to the NSCH only having these as an option choice currently. As such, females will be the reference group for sex. Race of the child will be categorized using the following categories: 1= Hispanic, 2=White, non-Hispanic, 3=Black, non-Hispanic, and 4=Other/multi-racial, non-Hispanic. Due to there being more white respondents than any other race, within this data set, white non-Hispanics will be used as the reference group for the regression models. When addressing child's age, the NSCH had child's age categories into groups. Children's age was made into 3 (0-5, 6-11, or 12-17) or 5 (0-3, 4-7, 8-11, 12-14, 15-17) categories. For this study's purposes, I went with the group of 15-17 years to represent high schoolers in our study, which cuts the number of respondents from 8,988 to 6938.

Eight items from the NSCH will be used as indicators of trauma, and they include the following adverse childhood experience, which contributes to emotional, physical, and psychological trauma: 1. Parent or guardian divorced or separated; 2. Parent or guardian died; 3. Parent or guardian served time in jail; 4. Saw or heard parents or adults slap, hit, kick, punch one another in the home; 5. Victim/witness of neighborhood violence; 6. Lived with anyone who was mentally ill, suicidal, or severely depressed; 7. Lived with anyone who had a problem with alcohol or drug, and 8. Treated or judged unfairly because of his/her race or ethnic group. These items all have the same dichotomous response choices, where 1= Experienced the adverse childhood experience, and 2= Did not experience the adverse childhood experience, later recoded to 0.

These adverse childhood experiences (ACE) were separated to create the emotional, physical, and psychological trauma variables. Emotional trauma was formed by combining the following ACE variables: parent or guardian divorced or separated; parent or guardian died, and parent or guardian served time in jail. These variables were chosen for emotional trauma because they are more likely to affect a student's emotional state. Students who experience this type of trauma may be more withdrawn from the world because they do not know how to cope with their feelings. In turn, this will decrease their desire to learn and detract them from friends or other family members.

Physical trauma was formed by combining the following ACE variables: saw or heard parents or adults slap, hit, kick, punch one another in the house; victim/witness of neighborhood violence; and lived with anyone who had a problem with alcohol or drugs. Alcohol or drug abuse was grouped into the physical trauma category because those who are abusing the use of either of these substances have a higher chance of committing domestic violence and other crimes of a physical nature. According to a report by the Bureau of Justice Statistics on drugs and crime facts (2021), in 2007, there were 5.2 million violent victimizations of residents aged 12 or older. About 26% of the victims reported that the offender was using drugs or alcohol. The other two ACE variables within physical trauma are included because there are clear signs of physical trauma taking place (i.e., physical altercation or victim/witness of violence).

Psychological trauma was formed through combining the following ACE variables: Treated or judged unfairly because of his/her race or ethnic group and lived with anyone who was mentally ill, suicidal, or severely depressed. These variables were the most likely to cause psychological pain/trauma to individuals. Being with an individual with a mental problem can wear down a person's mental fortitude unless they have a release or place to, metaphorically

speaking, escape (Glynn et al., 2015). Finally, the three trauma types (emotional, physical, and psychological) were combined to make the "all trauma" variable.

Two items from the NSCH are used as indicators of student engagement: 1. Children who care about doing well in school, and 2. Participated in clubs or organizations after school or on weekends. Item 1 is rated on a 4-point scale, where 1=Always, 2=Usually, 3=Sometimes, and 4=Never. Item 1 was recoded into a dichotomous response 1=cares, and 0=does not care. "Cares" were created by combining always, usually, and sometimes. While "never" was recoded into "does not care." Item 2 has a dichotomous response choice, where 1=participated in an activity, and 2=did not participate, later recoded to 0.

Finally, one item from the NSCH will be used as an indicator for social status: poverty level of household-based on DHHS guidelines-imputed. This item has the following response choices: 1= 0-199% FPL, 2= 200-299% FPL, 3= 300-399% FPL, and 4= 400% FPL or greater. The 2020 Health & Human Services Poverty Guidelines/Federal Poverty levels ([HHS.gov](https://www.hhs.gov)) reveal the following when looking at the average annual household income of the average family size of 4; in item 1, it accounts for income between \$26,200-\$48,470. Item 2 accounts for income between \$ 52,400-\$65,500. Item 3 accounts for an income of roughly \$78,600, item 4 accounts for \$104,800 and upwards. Later on, poverty will be referred to as Socioeconomic Status(SES) background. As for the missing variables, there was only a small percentage of them.

Analytic Approach

Descriptive statistics were utilized to show the response rate for each variable used in the study. Binary logistic regression was utilized to analyze the data. Two separate regression tables were created for the two dependent variables: children who cared about doing well in school and participated in clubs or organizations after school or on weekends. SPSS, Version 26 software

was used for all statistical analysis. A total of nine models were created to test whether trauma had any significant impact on student engagement. The first model in the tables looks at the baseline levels of how high-school students (age 15-17) engage in school with the absence of trauma. Model 1 looks at poverty, race, sex, and age. Whites were used as the reference group for the race variable, while for the sex variable, females were used as the reference group. The second model, through the last model (model 9), integrates trauma into the system. For models 2-4, the three types of trauma (emotional, psychological, and physical) were included, while model 5 included combined total trauma. Models 6-9 include the interaction terms for the three types of trauma and total trauma with race and poverty (i.e., trauma*race and trauma*poverty).

RESULTS

As reflected in Table 1, students within the age range of 15-17 were primarily white, non-Hispanic, with 71.1% of the students being white, which was why whites were used as the reference group. Males account for 52.60% of the student sampled in this study, though females were used as a reference group. In terms of trauma, out of the individual types, students experienced emotional trauma the most at 35.90%, but combined total trauma was the highest experienced by students at 45.50%. Individual students are less likely to experience physical and psychological trauma, but this may be indicative of how we grouped those variables.

Furthermore, there appears to be a good mixture of students within the 0-199% of the poverty line (26.80%) and those who are 400% and greater away from the federal poverty line (44.00%). It is also revealed that most students (98.3%) care about doing work, and more than half of students (62.60%) participated in after school activities, be it clubs or organizations. The sample size of 6,607 reflects the number of students who experienced combined total trauma.

Table 1. Descriptive Statistics	n=6,607
Race/ ethnicity	
Hispanic	10.90%
White, non- Hispanic	71.10%
Black, non-Hispanic	6.80%
Asian, non- Hispanic	4.90%
Other/ Multi-racial, non-Hispanic	6.30%
Sex	
Male	52.60%
Female	47.40%
Trauma	
Emotional	35.90%
Psychological	15.60%
Physical	17.90%
Combined Total Trauma	45.40%
SES background	
0-199% FPL	26.80%
200-299% FPL	15.20%
300-399% FPL	14.00%
400% FPL or greater	44.00%
Children who care about doing well in school	
Does not care	1.70%
Cares	98.30%
Participation in clubs or organizations	
Did not participate	37.40%
Participated in clubs	62.60%

Table 2, model 1 suggests that sex plays a significant role in determining if students care about doing well in school. Males have a positive association (.977) regarding caring about schoolwork in relation to females. Though their SES background and race were not significant in this model, as we will later see, SES background becomes significant for the rest of the models. When the various types of trauma are added to the base model, males began to negatively associate with their engagement levels, which means that trauma has a negative impact on males caring about doing well in school.

Models 2-5 introduce the four categorizations of trauma into the model. In order, they are emotional (model 2), psychological (model 3), physical (model 4), and total trauma (model 5). Table 2 reveals a significantly negative association for emotional, psychological, combined total trauma and student engagement. Unlike the other types of trauma, physical trauma had a positive significance (.811), while the other types expressed a negative significance. Results are as follows: emotional (-.883), psychological (-1.327), and combined total trauma (-.875). Controlling for race, sex, and SES background, as exposure to all forms of trauma increases, student engagement decreases compared to baseline results. Males' attitudes towards schoolwork beings to decline in these models (-1.044, -1.040, -1.028, and -1.065 in order of the models).

Once trauma and race interactions were incorporated (Model 6-9), we found that there was still no significance when it came to trauma and race interactions. However, these models did show identical findings to the previous models in terms of the direction and magnitude of the control variables, as well as the trauma types, being significant negative predictors. Unlike Model 2-5, Model 8 (physical trauma interaction), physical trauma was not significant. Even though the trauma type of Model 8 was not significant, it shows that males of a high SES background are less likely (-1.020) to care about doing well in school. Interestingly, when looking at model 9, SES background was not significant though total trauma was at -1.611. Those male students who experience combined total trauma are -1.064 more likely than female students to not care about schoolwork.

Table 2: Logistic regression models of Trauma effects on students' attitude towards work

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Sex									
Female	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Male	.977***	-1.044***	-1.040***	-1.028***	-1.065***	-1.042***	-1.038***	-1.020***	-1.064***
Poverty	0.581	.494***	.520***	.512***	.499***	.398*	.379**	.524***	0.239
Race									
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Asian	0.949	0.717	0.851	0.701	0.716	0.88	1.014	0.488	0.621
Hispanic	0.128	0.091	0.118	-0.002	0.055	0.897	-0.245	-0.301	1.237
Black	0.05	0.368	0.59	0.365	0.464	-0.572	0.646	0.206	-0.328
Others	-0.509	-0.3	-0.248	-0.43	-0.33	-0.286	-0.565	-0.267	-0.646
Trauma Type									
Emotional		-.883***				-1.177*			
Psychological			-1.327***				-2.116***		
Physical				.811***				0.848	
Total					-.875***				-1.611**
Trauma * Race									
Asian						-0.371	-0.463	17.063	0.146
Hispanic						-1.076	0.918	1.191	-1.406
Black						1.544	-0.04	0.427	1.039
Other						-0.014	0.614	-0.277	0.42
Trauma*Poverty						0.188	0.412	-0.057	0.435
R²	0.055	0.076	0.092	0.068	0.074	0.082	0.097	0.072	0.081
Trauma		Emotional	Psychological	Physical	Total	Emotional	Psychological	Physical	Total

Source: 2018 NCSH Data

*p<0.05; **p<.01; ***p<.000

Looking at Table 3, there are many more significant values than table one, which gives a more detailed look into how trauma affects student engagement. A reason for this may be that high school students turn to clubs or afterschool activities to deal with their trauma which is supported by this literature (Neely & Vaquera, 2017; Fall & Roberts, 2012; Archambault et al., 2009), among many others. As we will see with the interaction models when race and trauma interact, it positively affects students in whether they participate in sports or afterschool activities. So, one could say that students, specifically high school males, turn to clubs or afterschool activities to deal with their trauma.

Table 3 shows that race alongside sex and poverty levels plays a vital role when determining if students will participate in any club or afterschool activity. Out of the four-race groups (Asian, Hispanic, Black, and Others), Asian's were the only ones that were not significant in reference to whites. In contrast, the other three races show a negative association (-.444, -.339, -.290, respectively), meaning they are less engaged than white students.

As mentioned above, looking at model 1, the baseline model, shows a significant negative association for race, particularly for Hispanics (-.444), Blacks (-.339), and Others (-.290) in reference to whites. Model 1 also has a positive association for SES background (.398), meaning that as students move further away from the federal poverty line, their involvement levels increase. There is a negative association for males (-.451), suggesting that males are less involved in afterschool activities than female students. This associational trend will carry on for the remainder of the models with the same direction and similar magnitude throughout. When looking at the individual trauma types in models 2-5, emotional, psychological, and physical trauma are significant; emotional and psychological trauma having a negative effect on students' participation in sports or after school activities (-.442 and -.191, respectively). In contrast,

physical trauma reveals a positive relation (.382). Combined total trauma also negatively impacts students' participation in afterschool activities (-.331).

Unlike the interaction models for Table 2, the interaction models for Table 3 show significance for race, trauma types, and some interactions alongside SES background and sex. There are two unique findings. First, the interaction of trauma with Asians and Hispanics shows a positive association. Particularly with Asians, the positive association is expressed with psychological (1.366), physical (1.683), and combined total trauma (.874). On the other hand, Hispanics show positive associations for only psychological (.498) and combined total trauma (.473). Without the interaction, Asians remain insignificant throughout the models. This is a different story from Hispanics since they are shown to have a negative association without the interactions throughout the table.

Furthermore, for Table 3, only model 6 (emotional) and model 9 (combined total trauma) reveal a negative association (-.164 and -.450, respectively) with trauma and student engagement in terms of afterschool activities. In contrast, physical trauma shows a positive association (.375). This suggests that students who have a high SES background and trauma are less likely to engage in afterschool activities than students who do not experience the combination of these factors. In general, the results support Neely & Vaquera's (2017) study showing how extracurricular activities are essential for minority students, especially Hispanic students, as is further discussed below.

Table 3: Logistic regression models of Trauma effects on student's club activities

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Sex									
Female	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Male	-0.451***	-.446***	-0.458***	-.448***	-.464***	-.444***	-.459***	-.444***	-.463***
Poverty									
	.398***	.340***	.391***	.372***	.361***	.330***	.403***	.381***	.353***
Race									
White	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Asian	0.231	0.214	0.233	0.202	0.217	0.067	0.06	0.078	-0.081
Hispanic	-.444***	-.426***	-.411***	-.424***	-.398***	-.543***	-.499***	-.501***	-.637***
Black	-.339**	-.268**	-.322**	-.347**	-.298**	-.385*	-.375**	-.398**	-.393*
Others	-.290**	-.220*	-.254*	-.241*	-.223*	-0.136	-.305*	-0.228	-0.225
Trauma Type									
Emotional		-.442***				-.535***			
Psychological			-.191**				-0.164		
Physical				.382***				.375*	
Total					-.331***				-.450**
Trauma * Race									
Asian						0.607	1.366**	1.683**	.874**
Hispanic						0.288	.498*	0.397	.473**
Black						0.223	0.273	0.242	0.171
Other						-0.16	0.256	-0.023	0.027
Trauma*Poverty									
						0.017	-0.109	-0.054	0.007
R²									
	0.072	0.081	0.072	0.075	0.077	0.083	0.075	0.078	0.08
Trauma		Emotional	Psychological	Physical	Total	Emotional	Psychological	Physical	Total

Source: 2018 NCSH Data

*p< 0.05; **p<.01; ***p<.000

DISCUSSION

There is a clear relationship between childhood trauma and student engagement when controlling for race and sex. When looking at student engagement in terms of students caring about doing work, I found that trauma, be it emotional, psychological, or physical, impacts male students. However, there was no significant relationship found for race. However, when viewing student engagement in terms of participation in afterschool activities, race plays a vital role alongside the different trauma types. Student engagement in terms of participation in afterschool activities expressed a negative association for race (Hispanic, black, and others) in reference to whites alongside a negative association for males in reference to females.

Sirin (2005) reveals how important parents' location in socioeconomic status is, with having low SES dramatically impacting students' performance in school. When looking at students' SES background, we found that as students move further away from the federal poverty line, they began to be more engaged in schoolwork, particularly clubs and afterschool activities. This is not to say that those students with a low SES background are less involved in school. As shown through our results, Hispanics, who are usually grouped into those coming from a low SES background, experienced a positive relationship to their engagement levels when interacting with trauma.

It is important to note that those students who come from a low SES background often attend an underfunded school, which may lack the proper support system to deal with trauma (see 2018 Child Trend report in the literature review). As expressed in the literature review, students with a low SES background experience more ACEs (see Sacks & Murphey, 2018; Stempel et al., 2017). You have all these things compounding on the students, which led to them not performing well in school or dropping out of school. If they do drop out, then it is doubtful

that they will move out of the situation they are in, and the cycle will just be passed on to their children, which can only truly be stopped with having a higher education. More research would have to be done to address this matter further.

In looking at the interaction's models, Asians who face psychological, physical, and combined total trauma are more likely to participate in clubs or after school activities. Hispanics who face psychological and combined total trauma are more likely to participate in clubs or after school activities. This is in comparison to either same race students without trauma or white students with or without trauma. Asians, who are generally afforded a high SES background, utilizes clubs or afterschool activity to their advantage. Neely & Vaquera's (2017) article shows that high SES students participate in more afterschool activities than their low SES counterparts. They note that participating in afterschool activities dramatically increases the likelihood of minority students succeeding (i.e., not dropping out).

Since Hispanics are grouped into those coming from a low-SES background, taking part in an extracurricular activity helps them to mitigate the effects trauma has on them. Also, being together with like-minded individuals serves as a way for them to form strong bonds and a "support group" to turn to when times are tough. Asians are a bit more complex since they are only truly affected, per the results, from the interaction with psychological, physical, and combined total trauma. This may have to do with cultural beliefs, or it is more so that when their trauma reaches a boiling point, they seek an outlet for it, in this case, student activities. However, this may also be due to the low population size of Asians within the study.

Social status was measured in terms of the federal poverty level for this study though many other social status measures exist. I found that distance from the federal poverty level does appear to restrict students from being engaged in after school activities. As students move further

away from the federal poverty line, they are more likely to participate in extracurricular activities. Interestingly, Marsh and Kleitman (2002) show that low SES individuals benefit more from participation in extracurricular activities, so there is certainly value in these activities for the lower income students. Covay and Carbonaro (2010), however, found that education level, income, and occupational prestige are related to higher participation levels in extracurricular activities. Specifically, those with high SES participate more in extracurricular activities, but those low SES students who participated in extracurricular activities found that it improved their overall academic achievement. One thing to note, with extracurricular activities, there is usually a GPA requirement attached to it; this varies by activities. Those coaches/leaders who are in charge of the activities ensure that their students are doing well enough to stay within said activity. This sense of "family" may also come into play when explaining why extracurricular activities increase student engagement.

As shown in the Sacks and Murphey (2018) article, Blacks and Hispanics, typically those with low SES background, experienced the most trauma. Given that fact, I would like to interpret my results in light of the research questions introduced earlier in the thesis. First, is there a relationship between childhood trauma and student engagement, controlling for the effects of race and sex? Yes, particularly for Asian students and to varying degrees for Hispanic students. Second, does social status provide a protective effect on the relationship between trauma and academic success in terms of student engagement? Yes, when using distance from FPL as a measure of SES, it remains a significant predictor of school involvement. Third, is the relationship different by the type of trauma experienced? Absolutely, it is. Physical and psychological trauma appears to be more significantly related to school involvement than emotional trauma. This, of course, varies by race but is certainly an interesting finding.

Limitations

There were several limitations of this study. The National Survey of Children Health (NSCH) only accounts for students up to 17. Those students within the age of 18 and still in high school were left out of the data. Future research can add these students to their study to better picture the high school student experience. Furthermore, the NSCH does not account for students who have dropped out of high school. These students would have been the most affected by trauma which may have led, among other factors, to them dropping out of school. Future research can go more in-depth on how trauma influenced these students to drop out of school while exploring which type of trauma (emotional, psychological, or physical) impacted their decision to do so.

Conclusion

Trauma plays a significant role in high school students' engagement towards both works and after school activities. This is especially salient for Asian and Hispanic males, who use after school activities as a way to mitigate the effects of trauma that they experience. Although one's SES background also contributes to this, those coming from a high SES background are more engaged with extracurricular activities than those coming from a low SES background. This is not to say that those from low SES backgrounds do not benefit from taking part in extracurricular activities because being a part of extracurricular activity helps mitigate the effects of trauma. With school being more trauma-informed more activities can be established to help those with trauma to find a way to cope with it.

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