

The Prevalence of Bullying among Obese or Overweight Adolescents

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Acknowledgements: Dr. Robert Anthony, Department of Sociology, Shepherd University, for his time and assistance with this analysis.

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Abstract

This study examines the relationship between a child or adolescent's body mass index and the amount of bullying they experience. A sample of 1255 children and adolescents from the United States were randomly selected from the World Health Organization 2009/2010 *Healthy Behavior in School-Aged Children Survey* (HBSC). After running a multiple linear regression for a test of significance, the two variables were shown to have a strong positive correlation with each other. Results also showed that age and exercising were negatively correlated with a child or adolescents' bullying experiences. Which implies that as children grow older, their bullying experiences lessen. Moreover, the more a child exercises, the less chance a child has of being a victim of bullying. Both findings lend support to previous studies that have produced similar results. Thus, schools and educators should be proactive in combating negative assessments of obesity, especially in forms of a person's self-worth to bolster their bullying prevention programs.

Keywords: Body Mass Index (BMI), Obesity, Overweight, Bullying, Adolescents, Children.

Introduction

The number of obese children and adolescents worldwide has risen tenfold in the past four decades and is predicted to keep rising (WHO, 2017). Obesity in children has been said to be associated with undesirable social, physical and psychological consequences such as unsuccessful peer relationships, poor self-esteem, hopelessness, depression, and bullying (Falkner, et al, 2001). Bullying in schools has been a prevalent worldwide problem for decades. It can have negative consequences for the general school climate by impacting students' ability to learn in a safe environment (Banks, 1997). More than one out of every five (20.8%) students have reported being bullied (National Center for Educational Statistics, 2016). Throughout the years, bullying has been viewed as being so common in schools that it has been overlooked as a threat to students; it has been reduced to a belief that bullying is a developmental stage that most youth will experience then get over (Bennett, 2009). However, we know from previous research and experiences that not everyone gets over the personal trauma that can come from bullying.

Given these trends, my research question is what is the relationship between obesity and bullying within schools? With the increasing number of obese children and the prevalence of bullying throughout schools, I feel that it is very important to truly look at whether a child's weight has an impact on their experiences throughout school and their adolescent years. If a child's weight does have an impact on their experiences with bullying, I believe that social constructions of the body or body imaging plays an important role in validating bullying among adolescents. Media, friends, family, celebrities, etc. all portray specific images for how men and women are supposed to look. If a child is stepping outside of those images by being overweight or obese (especially females), then they are probably more prone to being body shamed, teased, or bullied.

Bullying is an aggressive, abusive behavior that is repeated among school-aged children to intentionally cause another person pain, injury, or emotional damage. These abusive actions or behaviors can be performed in person or through social media and texting, specifically called physical/verbal bullying or cyber bullying. They can also be called relational bullying which is spreading rumors/lies, withdrawing friendships, etc. and then overt bullying which is name-calling, teasing, hitting, etc. (Janssen, et al, 2004). The social and psychological ramifications induced by the bullying-victimization process may hinder the social development of the overweight or obese youth, because adolescents are extremely reliant on peers for social support, identity, and self-esteem (Janssen, et al, 2004).

The purpose of my research is to find out if there are any underlying social causes that influence being obese or overweight and becoming a target of bullying. That is, does not being “normal” in terms of weight, make someone more likely to be ostracized and thus susceptible to bullying by others? This is important to know because bullying is a social behavior linked to social dynamics (in and out groups) and social constructions (who or what is “normal”) and thus understanding its social causes is as important as understanding its psychological causes (i.e. who bullies) and impacts (i.e. victims of bullying). Bullied youth are more vulnerable to multiple social consequences such as isolation, low academic performances, little to no friendships, social anxiety, and much more. On top of that, there are many psychological consequences such as developing depression, anxiety, poor body imaging, low self-esteem, and suicidal thoughts. If we can take a proactive approach to bullying instead of reactive than I believe that we can stop a lot of sociological and psychological damage for these adolescents.

Literature Review

Obesity

Obesity, for children and adolescents, are defined as a body mass index (BMI) equal to or greater than the age-gender specific 95th percentile. Overweight is defined as a BMI between the 85th and 95th percentile and are at risk for obesity related comorbidities (Raj & Kumar, 2010). Childhood obesity has become an epidemic that affects all socio-economic groups and it is spreading at alarming rates. The percentage of youths who are at risk for becoming overweight continues to increase and by 2010, it is expected to increase significantly worldwide with almost 50% of children in North America and 38% of children in the European Union becoming overweight (Puhl, 2007). In developed countries, children of low socio-economic status are more affected by obesity than their counterparts. The opposite is observed in developing countries, children of the upper socio-economic status are more likely to be obese (Raj & Kumar, 2010). There is considerable reason to be concerned about the increases in obesity because of the many negative social, physical, and psychological consequences that come with being overweight or obese especially as an adolescent or child. Research has suggested that overweight or obese youth are victims of bias and stereotyping by peers, educators, and even parents (Puhl, 2007). During childhood and adolescence, life can be difficult enough but when you add weight bias or discrimination and its consequences, it can hinder the child's social, emotional, and academic development.

Body imaging (social construction of the body) is one of the reason that weight bias or stigmas exist. Society produces images (often throughout the media) of what a "women" or a "man" is supposed to look like. If a person goes against the norm of those images than they are

ostracized or stigmatized. Voelker, et al, (2015) defined body image as “a multidimensional construct encompassing how we perceive, think, feel, and act toward our bodies and lies on a continuum from healthy body perceptions (i.e., accurate and mostly positive) to unhealthy body perceptions (i.e., inaccurate and mostly negative).” (Voelker, et al, 2015, pg. 149). He also stated that “our appearance-oriented culture often targets teens as potential consumers and has a significant negative impact on their body images.” (Voelker, et al, 2015, pg. 150). Cultural ideals and beliefs on how a person should look are also reinforced by significant others in adolescents’ immediate environments, including family, friends, and romantic partners. Related to family, research has shown that weight-based teasing from parents and siblings is associated with body dissatisfaction among girls and drive for muscularity among boys in the eighth and ninth grade (Voelker, et al, 2015). In the media, there are only negative stereotypes and attributes about overweight or obese people so not only does that make the person have low self-esteem or a bad body image, but it also allows other people to think it is okay to body shame someone that is not within the “normal” image of how we are “supposed” to look.

Bullying

When defining bullying, many researchers use variants of Olweus’s (1993) definition. It states, a student is being bullied or victimized when he or she is exposed repeatedly and over time to negative actions on the part of one or more other students (Ross, 2002, pg. 106). As Ross (2002) points out, “the problem with the repeated occurrence requirement is that the waiting period heightens the negative effects on the victim, allows the bully to feel rewarded, increases fear in onlookers, and makes intervention a more lengthy process.” (Ross, 2002, pg. 106). Which indicates that there needs to be more diligence by staff and students in acknowledging negative behaviors and language within the hallways and classrooms. Maybe, if a teacher or another

student points out the first incidents with bullying a child experiences, it will prevent the situation from repeating itself (Bennett, 2009). Bullying can take many forms especially for adolescents, such as physical, verbal, and relational. Jing Wang, et al (2009) states, “Physical bullying (e.g., hitting, pushing, and kicking) and verbal bullying (e.g., name-calling and teasing in a hurtful way) are usually considered to be a direct form, while relational bullying refers to an indirect form of bullying, such as social exclusion and spreading rumors.” (Wang, et al, 2009, pg 2). Another form of bullying that has become more popular since computers and cell phones is cyber bullying, which is where adolescents use social media, texting, or calling to bully other adolescents. The National Center for Education Statistics (2011) states that in 2010-2011, 27.8% of students reported that they were bullied, 17.6% of those students were bullied by being “made fun of”, called names, or insulted. 18.3% stated that they were subject of rumors, 7.9% said that they were pushed, shoved, tripped, or spit on. Only 9% of students claimed that they were cyber-bullied, 4.4% of those students claimed that it was through texting and 3.6% claimed it was through the internet. According to those statistics, verbal and social bullying is the most frequent and physical and cyber bullying seems to be happening less.

The Youth Risk Behavior Surveillance Survey (2013) stated that the prevalence of having been bullied on school property was higher among females at 23.7% than males at 15.6%. Respectively, they also stated that white students were more often bullied at 21.8% than black students at 12.7% and Hispanic students at 17.8% (YRBS, 2013). However, the prevalence of having been bullied on school property did not change significantly from 2011 at 20.1% to 2013 at 19.6% (YRBS, 2013).

Correlations between bullying and obesity

Physical appearance is one of the main influences that lead to bullying. According to Kukaswadia et al, (2011) individuals' appearance affects how others treat and react to them in social contexts. If an individual internalizes these behaviors, then that could lead to perpetration of bullying. Also, to compare, the 'Obesity Stigma Approach' suggests that weight based stigma places overweight youths at risk of anti-social health outcomes and those findings have been supported by past cross-sectional analyses (Kukaswadia, et al, 2011). Kukaswadia's study helped confirm that obese males and females do experience increases in victimization due to two major forms of bullying, relational and physical. The findings of this study are congruent with previous cross-sectional studies and confirm that obese children are at risk for social consequences which is consistent with Lerner's theory of planned behavior, and the Weight Stigma Approach (Kukaswadia, et al, 2011). This study's finding is important because the relationship between bullying may have long term health and social consequences for children during periods throughout their lives. This research only adds to the growing body of literature that shows that excess weight has consequences for youth beyond just physical health (Kukaswadia, et al, 2011).

In Hayden-Wade, et al's, (2005) study appearance-related teasing was found to be pervasive and frequent among overweight or obese children and adolescents. Almost three times more than their average weight peers, overweight children were teased more for weight related aspects of their appearance (Hayden-Wade, et al, 2005). According to Hayden Wade, "increased frequency in chronic teasing among obese children or adolescents makes theoretical sense, because one of the main reinforcers for peer teasing is getting a visible reaction from the victim, and teasing about a sensitive area such as weight status is likely to get an especially strong reaction." (Hayden-Wade, et al, 2005, pg. 1387). Depending on the degree of teasing a child

experiences they could also develop low self-esteem, higher weight concerns, higher preference for isolated activities, and lower preference for active activities which in return can make them a bigger target for bullying (Hayden-Wade, et al, 2005).

In 2004, Janssen, et al, found that overweight and obese children are more likely to be the victims and the perpetrators of bullying behavior than average weight peers. In their conclusion, they stated that these tendencies may hinder short and long term social and psychological development of overweight and obese adolescents (Janssen, 2004). The prevalence of social problems that obese adolescents must face is quite high and unfortunately a lot of those problems cause long term consequences. Janssen, et al, (2004) stated “For example, overweight adolescents are less likely to marry as adults, compared with their average weight adolescents, and obese girls complete less schooling and have lower household incomes as adults than nonobese girls.” (Janssen, et al, 2004, pg 1187). This could have a lot to do with the self-esteem of the adolescents, if they have encountered bullying or negative stereotypes throughout their whole lives about their weight, that is going to make it hard to feel confident. If you do not have any confidence within yourself then that will start to show when you are trying to create relationships or friendships with people. Also, if they have always had negative experiences associated with schooling then that may hinder their interest in wanting to continue their education after High School. Janssen, et al, also stated that “being overweight during adolescence has an effect on high school performance and college acceptance.” (Janssen, et al, 2004, pg. 1192). If a child is avoiding school or not paying attention in class because of bullying, weight stigmas, depression, etc., then they are probably missing work in their classes. If they are missing work or failing, that in turn will hinder them getting accepted into colleges.

Obese or overweight individuals have been known to be frequent targets of weight discrimination and stigmatization. It occurs from the media, educators, health-care professionals, employers, peers, and sometimes even family members. Puhl, et al, (2008), found that the prevalence of weight/height discrimination in US adults was relatively high. On average, women reported daily or lifetime discrimination due to weight/height while men reported that they were half as likely to experience the same discrimination. They also found that there were large gender differences in weight/height discrimination across education groups, “For example, men with low educational achievement had few occurrences of weight/height discrimination, while women in this group showed the highest prevalence of this discrimination, 3.5% and 12.6% respectively.” (Puhl, et al, 2008, pg. 995). In their discussion of their research, Puhl, et al, stated that weight/height discrimination is prevalent in American society and is close to reported rates of racial discrimination, especially among women. In some cases, weight discrimination was more prevalent than discrimination due to gender and race.

Figure 1: Rates of perceived discrimination U.S. aged 25-74 years. (Puhl, et al, 2008)

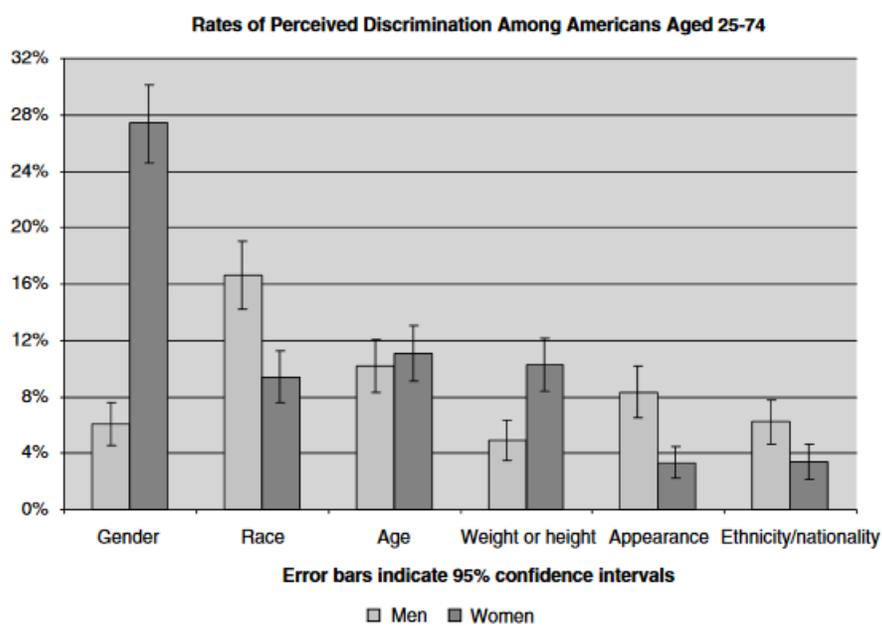


Figure 1 Rates of perceived discrimination among Americans aged 25–74 years.

Figure 1 shows that the rate of gender discrimination is still the most prevalent type of discrimination especially among women followed by age and then weight or height. Gender discrimination was reported by 27% of women, the prevalence of age was around the same for both genders (10-11%), and weight discrimination being reported by 5% of men and 10% of women (Puhl, et al, 2008). This study documents the prevalence and patterns of perceived weight/height discrimination in a national sample of adults in comparison to the more widely known gender and race discrimination. "It is important to recognize the heightened risk for weight discrimination in certain subgroups of obese individuals, such as youth, who are in need of effective coping strategies to help combat negative emotional and physical effects of this discrimination." (Puhl, et al, 2008, pg. 998). Unfortunately, it doesn't seem that weight discrimination and bullying stops after high school, so it would be important to make sure that the children know how to deal with it confidently and independently after they step out into the "real" world.

I believe from reviewing these previous studies on weight discrimination, bullying, and stigmas that we will see a positive correlation between a child's weight and the rate of bullying that they encounter because of all the negative stigmas society has against the overweight or obese population. This study will be rooted in Social Cognitive Theory (SCT) because I will be looking at whether observational learning plays a role into why children have such a negative stigma towards their peers who are overweight or obese. Children observe social interactions of other adults and peers around them and based on those behaviors observed, children determine their interactional partners and how those interactions should look (Green, 2015).

Theory and Hypothesis

Albert Bandura's Social Cognitive Theory (SCT) is an expanded version of social learning theory that was developed by Miller and Dollard (Swearer, 2014). SCT states that an individual's behaviors are shaped and learned by observing a model such as parents, peers, or other adults (Green, 2015). For the learning to occur, the child must pay attention to the observed behavior, remember the observed behavior, have the skills to reproduce the behavior, and be motivated to imitate the behavior. The motivational component is tied with the consequences of the behavior, if the behavior is reinforced or rewarding, the child is more likely to engage in that behavior (Swearer, 2014). SCT favors a model of causation involving triadic reciprocal determinism which proposes that there is a continuous interaction between a persons' social environment, cognitions and feelings, and their behaviors (Swearer, 2014). Bandura (1989) states, "In this model of reciprocal causation, behavior, cognition, and other personal factors, and environmental influences all operate as interacting determinants that influence each bidirectionally." (Bandura, 1989, pg 2).

Figure 2: Bandura's model of reciprocal determinism (also known as triadic reciprocal determinism) (Wood and Bandura, 1989)

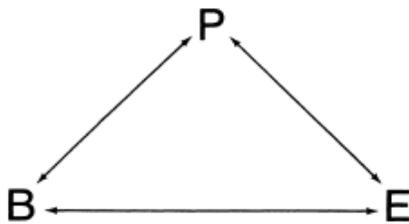


Figure 1. Schematization of the relations among behavior (B), cognitive and other personal factors (P), and the external environment (E).

"The P ↔ B of reciprocal causation reflects the interaction between thought, affect, and action. Expectations, beliefs, self-perceptions, goals and intentions give shape and direction to behavior." (Bandura, 1989, pg. 3) The E ↔ P of reciprocal causation is concerned with the interaction between personal characteristics and environmental influences. "Human expectations, beliefs, emotional bents and cognitive competencies are developed and modified by social influences that convey information and activate emotional reactions through modeling, instruction and social persuasion" (Bandura, 1989, pg. 3). Individuals' also evoke different social reactions from their social environment depending on their roles, status, age, race, physical attractiveness, and size. The B ↔ E of reciprocal causation reflects the interaction between behavior and the environment. Bandura (1989) states, "In the transactions of everyday life, behavior alters environmental conditions and is, in turn, altered by the very conditions it creates. The environment is not a fixed entity that inevitably impinges upon individuals." (Bandura, 1989, pg. 4). People are both products and producers of their own environment, they affect the nature of their experiences through selection and creation of situations (Bandura, 1989).

By utilizing the triadic reciprocal model, SCT seeks to provide a foundation for why children engage in certain peer interactions (Green, 2015). Learners, such as children, learn by observing the behaviors of the model and the consequences of their behavior. If a model praises and rewards certain behaviors but ignores or criticizes others, that feedback reinforces behaviors which will shape the children's social interactions (Green, 2015). Children or any "learner" will learn and observe from these models whom to engage in interactions with and how the interactions should look. If a parent or model acts rude to a person of a certain size all the time, it can be assumed that the observing child will mimic those same actions in a similar situation. SCT believes that as children observe the modeled behavior of others in their community, they

begin to learn the cultural values important within their communities and society (Green, 2015). If their communities are positively reinforcing negative stigmas surrounding people of a certain race, gender, weight, or religion then the children or learners are going to reinforce those same stigmas. SCT helps explain why children who are overweight could be more likely targets of bullying than children of a healthy weight. This is because it is possible that Observational learning could play a role in why obese children are targeted since those who fit society's idea of "normal" weight learn that being overweight is "ugly", "unlikeable", and/or "disgusting", etc. Thus, giving children justification for acting negatively towards those who are obese.

SCT can be used to help explain why children treat obese or overweight children differently than others. If a child's model or community is positively reinforcing negative social stigmas that surround obesity such as laziness, ugly, unlikeable, lack of self-control, etc. then that child is going to go to school and reinforce those same behaviors because that is what they have learned to do. If a child observes their parent always saying crude and hateful things about an obese person, then they are going to repeat that same behavior because they are internalizing what they learn from their models. Also, if a child's model is always exhibiting angry, violent behaviors then the child will believe that is the only normal way of expressing their emotions which in return labels them as a "bully". Swearer (2014) states, "youth who are exposed to domestic violence within their homes are significantly more likely to bully others than those who are not exposed to domestic violence." (Swearer, et al, 2014, pg. 272). Social Cognitive Theory has been used to explain aggressive behaviors and can help me look at the root causes of bullying and why bullies could specifically be picking out children that are overweight or underweight.

Given the literature review and the theory discussed above, the following hypothesis will be tested.

H₁: there will be a positive correlation between a child's weight and the amount of bullying they receive.

In order to test the above H₁, a multiple linear regression analysis was used by using secondary data. The independent variable of interest is the child's BMI and the dependent variable is the amount of bullying a child experiences. H₁ will be tested against the null hypothesis which states that on average, weight has no impact on the amount of bullying a child will receive. If the data conducted from this study shows that being overweight or obese increases a child's chance of being a target of bullying, then my hypothesis will be supported. Table 2 shows a bivariate correlation table which shows the relationship between BMI and bullying. The correlation between bullying rates and a child or adolescents' BMI (Table 2) is positive but weakly correlated ($r=.063$). Still, it lends support to my hypothesis.

		Body Mass Index	Bullied past 2 months
Body Mass Index	Pearson Correlation	1	.063*
	Sig. (2-tailed)		.044
	N	1059	1039
Bullied past 2 months	Pearson Correlation	.063*	1
	Sig. (2-tailed)	.044	
	N	1039	1218

*. Correlation is significant at the 0.05 level (2-tailed).

Methodology

In order to determine how strong the relationship between bullying and obesity is, I decided to use regression analysis by analyzing secondary data from the World Health Organization 2009/2010 *Healthy Behavior in School-Aged Children Survey* (HBSC). Secondary data analysis is defined by Dixon, et al (2016) as an analysis of survey or other data originally collected by another researcher, ordinarily for a different purpose. HBSC is a cross-national survey that surveys 11, 13, and 15-year-old students on their health, well-being, social environments, and health behaviors. The dataset includes 47 countries and regions across Europe and North America, however, for my research the sampling frame was limited to participants in the United States. HBSC has been used for many different purposes, to look at nutrition, substance use, bullying and fighting, life satisfaction, obesity, etc. For this study, we will be using the survey to look at obesity and the rate of bullying among a random sample of participants from the United States. To properly test my hypothesis, observations were limited to participants from the United States from which a twenty-percent random sample was drawn resulting in a sample of 1255 respondents. To analyze bullying behavior, children were asked two questions: First, they were asked “How often have you been bullied at school in the past couple of months?” Second, they were asked “How often have you taken part in bullying another student(s) at school in the past couple of months?” Both categories included responses that ranged from “never” (coded as 1) to “greater than once a week” (coded as 5, see Appendix for complete details). To analyze BMI and obesity, height and weight were provided by self-reports from the children and it was calculated as $\text{body mass/height}^2$ (kg/m²).

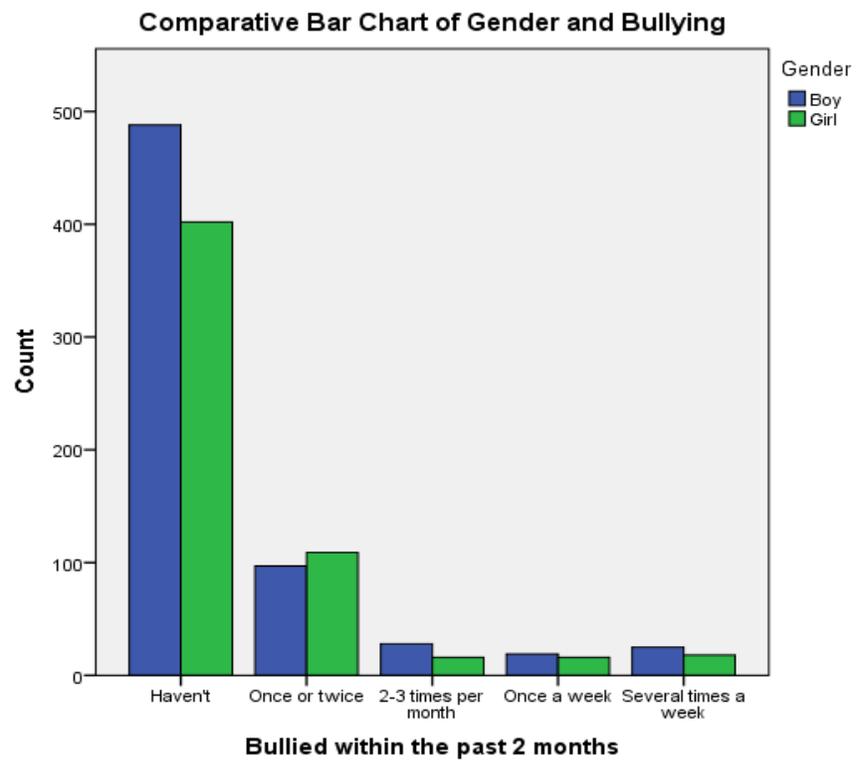
For statistical analyses, a multiple linear regression model was used to measure the associations between obesity and bullying. A multiple regression is defined by Dixon, et al

(2016) as a statistical method for determining the simultaneous effects of several independent variables on a dependent variable. The independent variable of interest in this study will be the child's *body mass index* (BMI) which is used to determine whether a child or adult is overweight or obese. It is calculated by dividing weight in kilograms by the square of height in meters. The dependent variable will be the *amount of bullying* a child has experienced. Bullying is an aggressive, abusive behavior that is repeated among school-aged children to intentionally cause another person pain, injury, or emotional damage. Again, in the survey, bullying was measured by asking two questions: First, they were asked "How often have you been bullied at school in the past couple of months?" Second, they were asked "How often have you taken part in bullying another student(s) at school in the past couple of months?". These abusive actions or behaviors can be performed in person or on the internet, specifically called physical/verbal bullying or cyber bullying. The control variables will be the child's *gender, age, personal body image, and number of hours spent exercising a week*. I controlled for number of hours spent exercising a week because *BMI* is not the strongest way to determine whether someone is overweight or obese. Someone can be considered overweight or obese according to the BMI index scale, but they could just be very muscular or toned which is why they weigh more. I controlled for *gender* to be able to see whether it played a significant role in terms of how much bullying a child receives. I wanted to look at whether females were more prone to becoming a victim of weight discrimination than males. *Age* was controlled to see whether a child's bullying experiences lessen as they grow older and *body image* was controlled to see if a child's self-esteem played a role in whether they were a victim of bullying or not.

Results

The dependent variable bullying (Bullied past 2 months) was regressed on two independent variables of interest and two control variables. The two independent variables of interest are Body Mass Index and Exercise (hours per week) and the two control variables are Age and Gender. As shown in Table 1, two of the variables (Age and Exercise) are negatively associated with bullying and two (BMI and Gender) are positively associated. The effect of the coefficient for *age* shows that as children become older, there is a modest negative effect on the intensity of reported bullying experiences. However, that does not mean that the children or adolescents are truly bullied less, there are just less self-reports of being bullied. Similarly, *hours of exercise* a week was negatively associated with reports of bullying. If an child spends a

Figure 3: Comparative Bar Chart of Gender and Bullying



greater amount of time exercising throughout the week, they are less likely to be a victim of bullying. This makes sense because not only is exercise a way to control weight but someone who is fit or strong is less likely to be a viable target of bullying as they pose a greater physical threat to the would be bully. Conversely, gender is not statistically significant, it does not appear to play any role in whether someone experienced bullying or not. This is further supported in in Figure 3; there is little difference amongst the amount of bullying one gender receives.

Table 1: Multiple linear regression model

Model		Coefficients ^a				Sig.
		Unstandardized Coefficients		Standardized Coefficients	t	
		B	Std. Error	Beta		
1	(Constant)	2.091	.299		6.982	.000
	Body Mass Index	.018	.007	.086	2.653	.008
	Age	-.066	.019	-.110	-3.416	.001
	Gender	.002	.059	.001	.031	.976
	Exercise - hours a week	-.036	.021	-.056	-1.759	.079

a. Dependent Variable: Bullied past 2 months

As you can see in Table 1, Body Mass Index is positively and significantly associated with bullying at $b = .086$, which is significant at the $p < .01$ level. This finding supports the hypothesis that children or adolescents who have higher BMI's are more likely to experience bullying. It also is congruent with research cited above which all found that victimization is higher among children or adolescents who are overweight or obese. For example, in Hayden-Wade's study, she

stated “Among the OV children, appearance-related teasing was more prevalent, frequent, and upsetting, involved disparaging nicknames focusing more on weight rather than less stigmatized aspects of appearance, and more often perpetrated by peers in general rather than a specific peer.” (Hayden-Wade, et al, 2005)

Conclusion and Discussion

The purpose of my research for this study was to answer the question; what is the relationship between obesity and bullying within schools? My hypothesis was that there would be a positive correlation between a child’s weight and the amount of bullying they receive. The main methodology I used for my research was secondary data analysis from the World Health Organization 2009/2010 *Healthy Behavior in School-Aged Children Survey* (HBSC). I randomly selected 1255 United States students from the sample and ran a multiple linear regression for the test of significance. My findings showed a strong positive and significant association between bullying experiences and BMI which supported my hypothesis and indicated that overweight and obese children or adolescents are more likely to be victims of bullying compared to their normal-weight peers.

One methodological limitation in my research was that the measures of bullying were derived from self-report questionnaires and even though self-reports have been validated as reliable over time, there is still a chance of self-report bias which could pose an issue. A second limitation could be that my sample was relatively small of only 1255 students which limited the bullying experiences that occurred.

The findings from my research are important because they help support previous studies in that childhood or adolescent obesity is related with problems in social interactions and

relationships that could affect their lives later. Also, my findings indicate that children and adolescents may be internalizing societies' negative stereotypes and beliefs about obese and overweight people which supports my theory that children learn negative/bad behavior by observing and internalizing it from their peers and society. These learned behaviors can have a significant impact on how children treat their peers according to their differences.

Further research needs to be done to examine bullying behaviors and obesity among adolescents and children as a social (rather than individual) process to help explain the relationship between the two. If we can start to understand the relationship, then we can start working on effective intervention programs to help combat bullying behaviors among all youth.

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Appendix A

Figures

Figure 4: Descriptive Summary of Statistics

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
Gender	1255	1	1	2	1.46	.498
Age	1255	5.17	10.92	16.08	13.4969	1.58596
Personal thoughts of body	1244	4	1	5	3.18	.699
Body Mass Index	1059	31.74	11.33	43.07	21.1382	4.45332
How many hours a week of exercise	1231	5	1	6	3.39	1.443
Bullied within the past 2 months	1218	4	1	5	1.47	.958
Bullied others within the past 2 months	1212	4	1	5	1.39	.759
Valid N (listwise)	1012					

Figure 5: Histogram detailing the Independent Variable, Body Mass Index

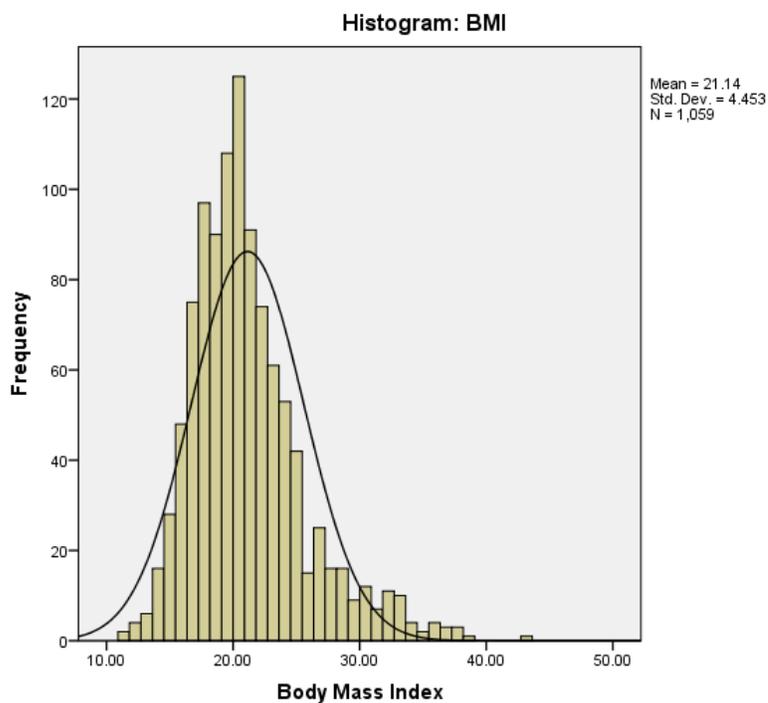
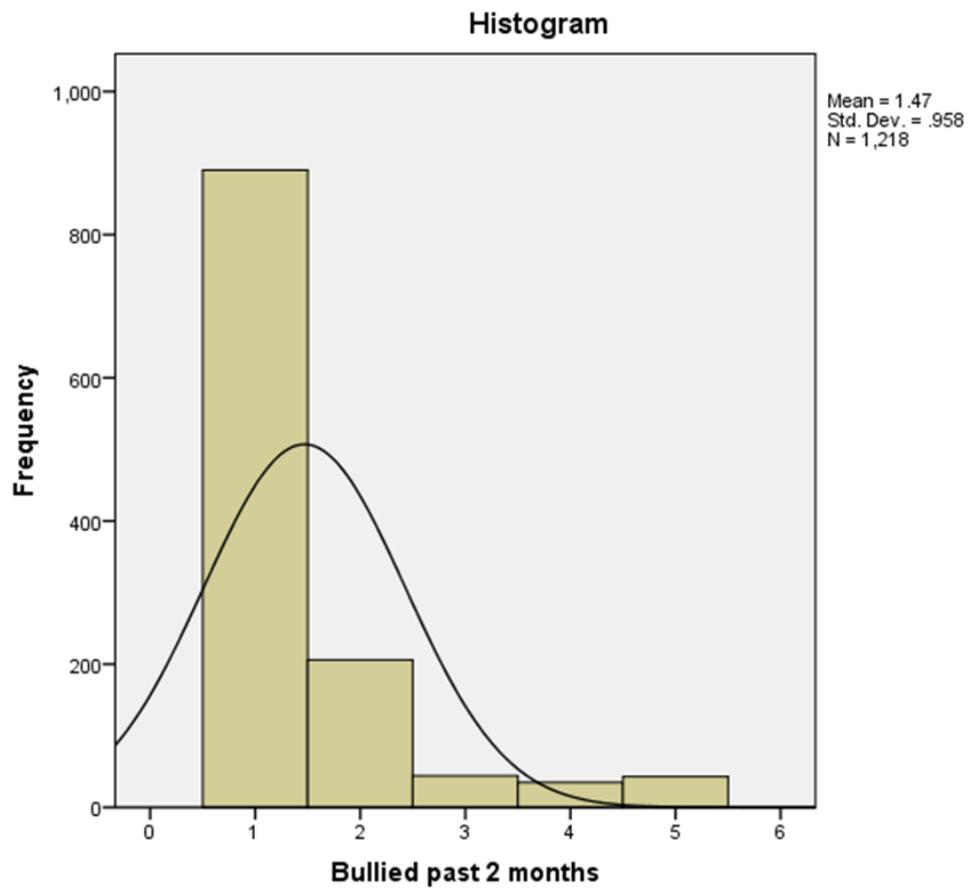


Figure 6: Histogram detailing the Dependent Variable, Bullying



Appendix

Codebook

Question	Variable Name	Description	Values
Are you a boy or a girl?	Gender	Participant's Gender	1= Boy 2= Girl
What month were you born? What year were you born?	Age	Participant's Age	
Do you think your body is...?	Bodyimage	The participant's perceived body size used to identify those who are dissatisfied with their body weight.	1= Much too thin 2= A bit too thin 3= About the right size 4= A bit too fat 5= Much too fat
How tall are you without shoes? How much do you weigh without clothes?	MBMI	Those two questions were used to calculate Body Mass Index (BMI) for each participant to determine those who are overweight or obese.	
How many HOURS a week do you usually exercise in your free time so much that you get out of breath or sweat?	Hoursexercise	Amount of time a participant spends a week in exercising.	1= None 2= About ½ hour 3= About 1 hour 4= About 2-3 hours 5= About 4-6 hours 6= About 7 hours or more
How often have you been bullied at school in the past couple of months?	Beenbullied	Frequency of personal experiences with being bullied within the past two months.	1= Haven't 2= Once or Twice 3= 2-3 times per month 4= Once a week 5= Several times a week
How often have you taken part in bullying another student(s) at school in the past couple of months?	Bulliedothers	Frequency of personal experiences of bullying another student or students within the past two months.	1= Haven't 2= Once or Twice 3= 2-3 times per month 4= Once a week 5= Several times a week

Label	Variable Name	Description	Measure
Survey Year/Round	surveyyear	The year that the survey was conducted.	The measure for this variable is Scale
Country Number	countryno	The number assigned to the Country where the survey was conducted, in this case, United States is labeled as 840,000	The measure for this variable is Scale
Unique Identification	uniqueid	Each candidate that participated in the survey received their own unique	The measure for this variable is Scale