

Age as a Significant Factor in School Bullying:
A Behavioral Approach to Antisocial Behavior among Children and Youth

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ABSTRACT

Bullying among today's youth is a growing concern within American society and other countries. Bullying affects the perpetrator, the victim, and those surrounding the incidents, such as school officials and parents. Using data from the National Survey of Children's Health 2011-2012, specifically targeting children six years of age to seventeen years of age (n=65,680), this thesis addresses discrepancies in research pertaining to the prevalence of bullying within different school ages. It is hypothesized that bullying is statistically significant with children aged 6-10 in the elementary school category. Based on the results of odds ratios for binary logistic regression for a comparison of school-age categories analysis, disparities related to demographics, socio-economic status, family characteristics, and characteristics of the child are identified throughout three different school categories (elementary, middle, and high). Children living at the 200% federal poverty level (FPL) are significantly less likely to bully within all school levels. Violence in the home is a significant factor in predicting bullying among all school-ages. Parental involvement in children's lives by attending their child's events and knowing their child's friends are both significant in reducing a child's likelihood of bullying with all school-categories. More importantly, crosstabulation results reveal children in elementary school (ages 6-10) are substantially more likely to bully than their older peers in high school. In light of these findings, I propose bullying prevention efforts continually focus upon younger school-age children in order to reduce the likelihood of persistent antisocial and bullying behaviors throughout the adolescent years. More research is needed to adequately test further variables influencing the prevalence of bullying among adolescents.

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CHAPTER I

INTRODUCTION

Acknowledging the increased prevalence of bullying among today's youth, many studies have been conducted to find the causes of bullying and ways in which to best prevent it (Barboza et al., 2009; Guerra, Williams, & Sadek, 2011; Mizell, 2004; Singh & Ghandour, 2012). Although there is a consensus about how bullying is associated with a variety of demographic, socioeconomic and behavioral factors, there has been much discrepancy regarding the incidence of bullying at various ages among children (Bartusch, Lynam, Moffitt, & Silva, 1997; Forero, McLellan, Rissel, & Bauman, 1999; Guerra et al., 2011; Ilola & Sourander, 2013; Nansel et al., 2001; Patchin & Hinduja, 2011; Smith et al., 2002; Solberg, Olweus, & Endresen, 2007; Wang, Iannotti, & Nansel, 2009). For example, Fitzpatrick, Dulin & Piko (2007) claim younger children in elementary and middle schools are more likely to bully others than older children in high school. Nansel et al. (2001) report bullying to be most prevalent in middle school. Other studies suggest older youth exhibit the highest levels of bullying because they experience more anger and frustration than younger youth and use bullying as a coping mechanism (Patchin & Hinduja, 2011).

The purpose of this research is to identify the ages at which bullying behavior is most prevalent using the *National Study of Children's Health* (NSCH). This thesis hypothesizes bullying to be most prevalent within younger children, while showing a decrease in bullying behavior as children age into their teenage years. I have taken a behavioral approach that sees age working in conjunction with predisposing demographic

and social characteristics, interactions with families, and participation in structured activities with peers. With this information, bullying prevention methods can be tailored to the similar needs of children within age-specific categories and early risk and protective factors can be recognized in determining whether a child may or may not exhibit bullying behavior or become a victim of bullying.

Statement of the Problem

Bullying among adolescents and school-age children is a serious problem. In the past decade headlines reporting the tragic stories of a young person's suicide linked in some way to bullying (physical, verbal, or online) have become regrettably common. For example, on April 14, 2014, *USA Today* reported that an 11-year-old boy just east of Raleigh, North Carolina, was left in a vegetative state after he attempted suicide in response to being bullied at school (Le Coz, 2014). Six months later, on September 10, 2014, in Miami, Florida, a 14-year-old boy took his own life after being physically and emotionally bullied intensely by his classmates. In a statement made by the victim's mother, "They (classmates) pushed him down stairs, knocked him out of his chair in the cafeteria, mocked him due to his size and repeatedly attacked him with an intent to emotionally harm him" (CBS Miami, 2014). More frequently, stories such as this are making national headlines.

Bullying is becoming more and more frequent among today's youth. In 2003 just 7.1 percent of students reported being bullied (DeVoe, Peter, Noonan, Snyder, & Baum, 2005). In 2005 this number grew to 28.1 percent (Dinkes, Cataldi, & Lin-Kelly, 2007) and in 2007 it rose again to 31.7 percent (DeVoe & Bauer, 2010). Showing a continued trend, the U.S. Department of Education's National Center for Education Statistics reports in

2011, about 28 percent of student's ages 12–18 reported being bullied at school during the school year (Robers, Zhang, & Truman, 2012). While traditional school bullying is still of great concern, increased use of social media and technological advancements create a new arena for bullying to occur among adolescents: Approximately 9 percent of students ages 12–18 reported being cyber-bullied anywhere during the 2011-2012 school year (Robers, Kemp, & Truman, 2013). Because of the frequency and serious impact of bullying, the reduction of bullying among adolescents has been incorporated in the priorities of the Healthy People 2020 initiative, a program steered by the U.S. Department of Health and Human Services (Child and Adolescent Health Measurement Initiative, 2012).

Gladden, Vivolo-Kantor, Hamburger, & Lumpkin (2014) provide a working definition of the word bullying: “Bullying is any unwanted aggressive behavior(s) by another youth or group of youths that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated. It may inflict harm or suffering on the targeted youth including physical, psychological, social, or educational harm” (p. 7). This definition excludes other forms of violence such as family violence and violence which occurs in intimate or dating relationships.

The ways in which bullying occurs are all equally serious in nature. However, some tactics may be more obvious than others. *Direct bullying* often occurs in plain sight and is the most frequent. It may incorporate physical assaults like hitting or punching, or verbal abuse, similar to ridiculing or teasing. *Indirect bullying* is more subtle and entails saying mean or untrue things, spreading gossipy tidbits or disregarding somebody. (Gladden et al., 2014, p. 7). *Cyberbullying* is conducted through the use of electronic

technology such as cell phones and computers and includes disseminating false pictures of somebody, acting like another person to spread gossipy tidbits or lies, or sending harassing messages.

Stopbullying.gov, a website built through a collaborative partnership with the Department of Education, Department of Health and Human Services, and Department of Justice gives another typology of bullying behavior. *Physical bullying* attempts to damage a person's belongings or physical well-being. Examples include but are not limited to behaviors such as hitting, kicking, punching, spitting, tripping, pushing, taking or breaking someone's things. *Verbal bullying*, lacking the inherent physical component, is oral or written communication by the perpetrator against the targeted youth that causes mental and emotional harm or distress. Examples include teasing, name-calling, inappropriate sexual comments, taunting, or threatening to cause harm. *Social bullying*, sometimes referred to as relational bullying, involves behaviors by a perpetrator designed to harm the reputation and relationships of the targeted youth. Examples include leaving the target out on purpose, telling other individuals not to be friends with the target, spreading rumors about the target and embarrassing the target in person. Many examples of social bullying are seen throughout the 2004 film *Mean Girls* (Stopbullying.gov, n.d.).

Purpose and Need for the Study

This thesis addresses an inconsistency throughout bullying research: the influence of one's age on participation in bullying behavior. Luxenberg, Limber & Olweus (2014) found that 15 percent of kids from third to twelfth grade are being bullied two to three times per month or more. School bullying statistics illustrate a huge problem with bullying and the American school system. Developmental theories are included to assist

in our understanding of child development and to provide useful guidance for addressing bullying problems within various ages. Developmental theorists propose that age is essential to understanding antisocial behavior.

Developmental criminology has proposed that age in the life cycle is essential to understanding antisocial behavior but different conclusions have emerged about the age at which bullying behavior is more prevalent. According to developmental theorist Terrie Moffitt (1993), patterns of antisocial behavior develop as a child ages. Moffitt distinguishes between “adolescence-limited” and “life-course persistent” forms of misbehavior. On the one hand, adolescence-limited youth become antisocial for the first time during adolescence, between the ages of 12 and 15, but desist by young adulthood. On the other hand, life-course-persistent individuals begin their participation in antisocial behavior during early childhood before the adolescent surge in delinquent activity, and continue their participation through the transition from adolescence into adulthood, persisting in crime long after their adolescent-limited counterparts desist (Bartusch et al., 1997). Under either scenario, the prevalence of bullying should be higher among high-school students than children in lower grades.

Sampson & Laub’s (1992) life course perspective looks at how chronological age, relationships, common life transitions, and social change shape people’s lives from childhood to adulthood. Many changes in one’s life are referred to as transitions. Among school-age children, transitions can be found when moving from one school category to the next, and throughout these transitions, roles and statuses of the individual changes. By examining the prevalence of bullying during these pivotal turning points of youth, a decrease in bullying appears from childhood through adolescence (Nansel et al., 2001).

Summary

By recognizing the various ways in which bullying is defined and occurs, research examining bullying and potential risk or protective factors covers a wide spectrum of studies. Still, bullying remains to be one of the most serious issues facing our schools today. Consistent with both developmental theoretical perspectives, age is a highly influential factor among the prevalence of bullying within today's youth. Researchers have attempted to answer questions like "Who bullies more, young kids or older kids? At what age does bullying in schools diminish?" but no conclusive answer has been reached. The purpose of this study is to examine and clarify the importance of age as a consistent factor of bullying. The following section illustrates what is consistently known about bullying within children and adolescence followed by studies illustrating the varying interpretations of bullying among various school-age children.

CHAPTER II

LITERATURE REVIEW

In general, much of what we know about bullying has resulted from three groups of studies: studies asking teachers and parents their views on the nature and incidence of the bullying problems in schools; direct studies of children who bully others and who are bullied, their personalities, background, attitudes, and family influences; and official data gathered through governmental surveys regarding the prevalence of bullying within schools. No single factor is responsible for putting a child at risk of being bullied or bullying others. However, there are points of agreement about the causes of bullying with age standing out as a notable point of disagreement.

Points of Agreement

The literature shows a pattern of common findings about the factors correlated with school bullying. For the sake of discussion, these findings are organized along the lines of predisposing demographic and socioeconomic characteristics, family dynamics, and children's activities.

Predisposing Characteristics

The concept of predisposing factors can be applied to preexisting personal and cultural characteristics that can boost or retard prevalence levels of a health or behavioral problem among specific pockets of individuals (Andersen, 1995; Liu & Graves, 2011). In this study demographic and socioeconomic characteristics are treated as predispositional—they do not cause bullying but they can identify cultural contexts in which bullying occurs.

Generally speaking, boys are overrepresented among bullies (Farrington, 1993; Liu & Graves, 2011; Mitsopoulou & Giovazolias, 2013; Perlus, Brooks-Russell, Wang, & Iannotti, 2014). For example, Kumpulainen et al. (1998) found that boys are approximately 4.5 times more likely than girls to report being bullies. A minority position in the literature is that females engage in more bullying behaviors than males (Joliffe & Farrington, 2011). These competing strands of research have been reconciled by examining the type of bullying—boys are more likely to engage in direct and physical behaviors while girls are more likely to use indirect and verbal forms of bullying (Viljoen, O’Neill, & Sidhu, 2005).

With regards to the influence of race on bullying behavior, the literature identifies bullying with minority groups. African American youth are most likely to be characterized as members of a bullying subgroup (Fleschler-Peskin, Tortolero, & Markham, 2006; Graham & Juvonen, 2002) though others have found that Hispanics are more likely to bully other students than White or African-American students (Nansel et al., 2001). The identification of bullying with minorities is not a matter of their racial or ethnic subcultures *per se* but is due to their disproportionate representation in impoverished, high-crime areas and family circumstances in which they are exposed to violence.

Most research on socioeconomic status (SES) associates bullying with children from low-income and lesser educated households. Tippett & Wolke’s (2014) meta-analysis identified 19 studies that reported an association between SES and bullying. Overall, results indicated that bullying perpetration was negatively associated with SES. Similar results were found by Jansen et al. (2012), in which risk of involvement in

bullying was highly associated with family SES levels, including low educational level of parents. Singh & Gandour (2012) associated behavioral issues with socially impeded neighborhoods and low SES.

Family Dynamics

There is a wealth of research demonstrating the effects of parenting on children's aggression and their peer relations (Gorman, Smith, Tolan, Zelli, & Huesmann, 1996; Stevens, Bourdeaudhuij, & Oost, 2002). In an exploration on family qualities of bullies, psychologist Renae Duncan (2011) found that bullies normally originate from families with low attachment, little warmth, nonattendant fathers, high power needs, acceptance of violent behavior, physical misuse, poor family effectiveness, and strict parenting style.

Violent behaviors are a strong, negative influence in a child's development. Social learning theory (Bandura, 1986) predicts that children adopt violent behaviors through modeling similar behaviors of violent adults within their social and family arena. Similarly, social bond theory (Hirschi, 1969), postulates that delinquency occurs as a result of weak and social bonds. There are four key social bonds influencing one's behavior: (1) attachment, (2) commitment, (3) involvement, and (4) belief.

In light of the above, family structure and family interactions are routinely regarded as influencing antisocial behavior in children and youth. According to social bond theory, attachment views parents, peers, and schools as the important institutions for which a person should maintain strong and positive ties (Hirschi, 1969). Rivers uncovered that bullies were more probable than non-bullies to live in families without both biological parents; e.g., living in single parent families, living with more distant family individuals or with non-permanent parents (Rettner, 2010). Parental involvement,

specifically family structure, in a child's life from early childhood to adolescence is significant in the bonds formed and behaviors learned (Amato & Keith, 1991; Price & Kunz, 2003; Rankin, 1983). Bullies sometimes don't get as much consideration at home which contributes to emotional problems such as dejection, tension and hostility (cited in Rettner, 2010). High hostility was connected with singling out peers in light of the fact that they weren't great at schoolwork, they don't have specific belonging, or they were seen as being gay or lesbian

Parental incarceration has also historically been shown to have a detrimental effect on parent-child attachment causing increased probability of offspring deviance, including potential for bullying behaviors (Miller, 2006; Murray & Farrington, 2005). The challenges that children and families with incarcerated parent(s) face are significant. Not only do they face the trauma of loss, but also a range of economic and social challenges that result from a parent lacking in the daily home life for extensive periods of time (Van De Rakt, Murray, & Nieuwbeerta, 2012; Besemer et al., 2011).

Similar to parental incarceration, violence in the home appears significant in predicting a child's likelihood of bullying. As indicated by Baldry (2003), bullies are 1.8 times as likely as their classmates to encounter abusive behavior at home. Essentially, seeing parental brutality extraordinarily builds the danger that youngsters will create deviant inclinations, specifically bullying. These children are 3.5 times as prone to be involved in physical animosity at school and 2 times as liable to be included in indirect hostility. In general, adolescents brought up in broken families encountering local and parental aggression are more slanted to show externalizing practices and deviance. A couple of longitudinal studies have examined the concept of intergenerational violence as

it pertains to bullying within families. Using the *Cambridge Study in Delinquent Development*, Murray & Farrington (2005) found that bullying was intergenerational with 30% of men who had been recognized as bullies at age 14 reporting that their kids were bullies. Similarly, Bauer et al. (2006) found that juveniles who were exposed to violence in the home, directly or indirectly, exhibited larger amounts of physical bullying than kids who were not witnesses to such conduct. Children portray behaviors based on how they see their essential parental figures act. Parents and guardians are highly influential and youngsters will imitate the conduct of folks. They may accept violence as being normal and they will utilize it amongst peers.

Since Bandura's classic Bobo doll experiment (Bandura, Ross, & Ross, 1961) depicting children's imitation of violent videos, observations have provided a relation between viewing violence in the media and high levels of bullying (Zimmerman, Glew, Christakis, & Katon, 2005). Youth who bully others consistently report family conflict and poor parental monitoring (Cook, Williams, Guerra, Kim, & Sadek, 2010). Exposure to violent content on TV may influence children's social behaviors. Data from the *Health Behavior in School Children: WHO Cross-National Survey* suggested that bullying significantly increases among children who watch television frequently. In depth, children with zero hours of television per day have a 1.5% chance of bullying, and this probability increased as television intake increases to the sample average of six hours per day with the probability of bullying exceeding 5% (Barboza et al., 2009). However, a study from The Netherlands found that once maternal and child socio-demographic variables were examined in a combined model with high television viewing time, the association was no longer statistically significant (Verlinden et al., 2014).

Children's Activities

Involvement, the third key social bond, relates to children being involved in school, recreation and family. High levels of involvement protect the child from becoming deviant (Hirschi, 1969). Bullying is less prevalent among children who participate in recreational activities and religious practices. To explore the factors that contribute to bullying behavior within recreation and sport environments that serve youth, C.S. Shannon (2013) described the factors contributing to bullying using four core themes: (1) organizational culture—values, attitudes, and beliefs administrators had and the experiences they had related to bullying, (2) program elements—competitive activities, lack of supervision, and unstructured time, (3) spillover from other social arenas—bullying behaviors that originated other settings, i.e., school, neighborhood and home, and (4) peer group dynamics—individual personalities. The findings indicate that the culture of recreation and sport organization might serve as an important protective factor to bullying.

The final key social bond, belief, refers to morals instilled within children and their relationship to behavior. If beliefs are strong and socially acceptable, children are less likely to participate in antisocial behavior (Hirschi, 1969). Several researchers have pointed to the protective effect of religious and spiritual beliefs, involvement, and practices (Regnerus & Elder, 2003; Benda & Corwyn, 2002; Saunders, 1999). Utilizing the *Social and Health Assessment*, Pearce, Jones, Schwab-Stone, & Ruchkin (2003) examined the unique associates between religiousness, parental involvement, and conduct problems among youths aged 10-14 and found a decrease in conduct problems. Furthermore, several dimensions of religiousness provided a protective factor against

violence exposure and conduct problems. Youth exposed to violence were less likely to have an increase in conduct problems if they showed higher levels of religious practice. In a study examining the influence of delinquent behaviors on religiosity, Benda (1997) found adolescents partaking in delinquent behaviors have diminishing religious practices in an attempt to lessen the negative feelings of their delinquent behaviors.

The Point of Disagreement: Age

The introduction notes how the work of leading developmental criminologists leads to different conclusions about when bullying peaks. As the research literature on the topic of age has subsequently developed, it is clear that this disagreement runs deep in the literature. The following studies have attempted to find age correlations with bullying among differing school-aged children and still no conclusive results are in agreement with the others. This section is divided into studies in which bullying is associated with younger children (e.g., elementary-school age) and older children and youth (e.g., high-school aged).

Younger Children

Whitney and Smith (1993) studied approximately 6,000 children among junior/middle and secondary schools. Reports of bullying were examined in terms of frequencies of being bullied and bullying others. The number of individuals being bullied declined significantly as children aged. Bullying behavior remained steady through the junior/middle school years with a slight decrease in the first two years of secondary school. Around the ages of 13-15, children reported an increase in bullying behavior with a decrease following around 16.

Nansel et al. (2001) analyzed the prevalence of bullying within the World Health Organization's *Health Behaviour in School-Aged Children* survey. Among 15,686 students in grades 6-10, a total of 29.9% of the sample reported bullying involvement. The frequency of bullying was higher among 6th through 8th grade students than older ages. The study also reported males are most likely to use physical and verbal bullying, while females are more common to take part in verbal bullying, specifically rumors.

In a fourteen-country international comparison, Smith et al. (2002) examined age differences by asking primary-school children (8 years of age, n=604) and secondary-school children (14 years of age, n=641) to identify cartoon illustrations as bullying or not. Based on the various cartoons and their presentation of various types of bullying, differences are revealed between the two age groups. Younger children did not differentiate between the illustrations of bullying as often as the older children. At the same time, higher rates of bullying were found in younger children, thereby questioning rates of bullying based on the individuals perception and definition of the term.

Fitzpatrick et al. (2007) conducted a self-report survey in schools to examine the prevalence of bullying among a sample of 1,542 African American adolescents in grades 5-12. The results indicated age, family violence, negative peer relationships, and behavioral risks all contributed to increased odds of students reporting bullying behavior. Specifically, bullying was 60% more likely to be reported in elementary and middle schoolers were 79% more likely to bully than high schoolers.

Wang et al. (2009) are one of the first research teams to study cyberbullying using the 2005/2006 *Health Behavior in School-Aged Children* (HBSC) study, a nationally representative sample of U.S. adolescents (n=7,182). Children were grouped into three

grade categories of 6th (11), 7th (12) and 8th (13), and 9th (14) and 10th (15). For each grade group, four types of bullying are classified as dependent variables. The four forms include physical, verbal, relational, and cyber. Outcomes showed no difference between 6th grades and 7th/8th bullying among any of the bullying definitions. Compared with 6th graders, 9th/10th graders were less involved in all bullying forms. These comparisons reveal diminishing acts of bullying with older ages.

A similar decreasing trend in bullying with age is exhibited in a 16-year population-based time-trend study in Finland by Ilola & Sourander (2013). Children born in 1981 (n=1,038), 1991 (n=1035), and 1997 (n=1,030) were included in the sample. Bullying was measured at three time-points: 1989, 1999, and 2005. Reporting was based on parents, teachers and child surveys. Parental reports of boys bullying showed significant decrease from 1989 to 2005. In teachers' reports, there was a significant decrease from 1989 to 1999, but an insignificant increase from 1999 to 2005. Compared to boys, girls maintained bullying behaviors from 1989 to 2005 according to parent and child reports. However, teachers reported more girls to be bullies in 2005 than in 1989 and the change from 1989 to 2005 was significant.

Older Children

With expectations of bullying among younger children to be more prevalent, a study conducted in the United Kingdom in 1993 by Boulton & Underwood, found differing results. Chi-square analyses showed older children reported bullying more frequently than younger children. Younger children also reported to be bullied by older children more often than by those of similar age.

Also in 1993, Borg surveyed the nature and extent of bullying among 6,282 individuals from 9 to 14-years-old. One in every three individuals in the sample was engaged in serious bullying, either as the bully or the victim. Bullying victimization increased as individuals moved from primary school to secondary school and then declined. The trend of bullying, both occasional and frequently, does not show a similar trend. The prevalence of self-reported bullying remains constant from 9 years-old to 14 years-old.

Forero et al. (1999) examined the prevalence of bullying behaviors in 3,918 6th (31.1%), 8th (35.8%), and 10th (32.4%) graders in Australia. Through multinomial logistic regression analysis, results showed children in grades 8 and 10 were statistically significant more likely to bully than those in grade 6. This study also found bullying behavior to be associated with psychosomatic symptoms, such as headache, bad temper, feeling low, and nervousness.

In 2002, Pelligrini and Long (2002) concluded a longitudinal study of children beginning in the fifth grade through seventh grade. Through use of self-report surveys, teacher surveys, and direct observations during each school year, researchers proposed bullying would increase as the children transitioned from grade 5 to grade 7. Analysis results confirmed this hypothesis. Reports of bullying and aggression increased as children aged.

Pepler et al. (2006) examined the developmental patterns of bullying from 961 children in grades 6-8 and 935 high school students, grades 9-12. Using a self-report survey of questions pertaining to how often individuals have taken part in bullying within the past two months and also the past 5 days, Pepler et al. assessed responses using

MANOVAs. Results among the two groups showed bullying behaviors lower in elementary (grades 6-8) than in the high-school grades (9-12).

Patchin & Hinduja (2011) conducted a study on the difference between the factors associated with both traditional and nontraditional bullying. The data for this study came from a survey distributed in the spring of 2007 to approximately 2,000 students enrolled in a district-wide peer conflict class among 30 middle schools. The primary question examined in the study was “Are youth who experience strain more likely to engage in bullying?” (p. 728). It is noted that not all youth who experience strain commit crime—only those who become angry or frustrated as a result of the strain. Therefore, those who bully use such behavior as a coping mechanism to adapt to negative emotions such as anger or frustration. Controlling for gender, age, and race, strain was positively and significantly related to anger. However, it was found that boys experienced significantly less anger/frustration than girls and older youth experienced more anger and frustration than younger youth, thereby acknowledging, the relationship between age and strain as a significant influence on traditional and nontraditional bullying, i.e., age is positively related to bullying.

Guerra et al. (2011) published an anomalous study that found that bullying peaked in middle school. Grade levels of elementary, middle, and high school are similarly addressed in a 3-year bullying prevention initiative in the state of Colorado (n=2,678). In the first year, surveys were conducted with the older age groups at each school level, Grade 5 (elementary school), Grade 8 (middle school), and Grade 11 (high school). Pre- and post-test surveys included scales to measure bullying perpetration, victimization, self-esteem, normative beliefs about bullying, and perceptions of school climate. A

hierarchical linear model was utilized for post-test results, showing a negative relationship among bullying and high school, but it was not significant compared to the other school classifications. Similarly with those in middle school, there was a positive relationship with bullying, but it was not significant for grade level.

Hypothesis

While there is a great deal of consensus about factors associated with bullying, the research literature lacks consistency when it comes to prevalence of bullying across different age groups of children. This study attempts to fill this gap. If the influence of age on bullying prevalence can be supported through the use of the NSCH, the results can add to the literature on the prevalence of bullying among school-age children and adolescents. This thesis also examines risk and protective factors studied above within each age group, clarifying the degree of influence for each variable within the different school-age categories.

This study uses NSCH to investigate the relationship of age and bullying in two different ways. First, it tests a specific hypothesis about age: *Bullying is higher among younger school-aged children than high-school age children.* In addition, this study includes an exploratory analysis in which children and youth are split into three categories by age (elementary-school ages, middle-school aged, and high-school aged) to determine if there are differences in the behavioral factors associated with bullying.

CHAPTER III

METHODOLOGY

This research is a secondary analysis of the 2011-2012 *National Survey of Children's Health*, a national telephone survey conducted from February 2011 through June 2012 by the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. It is supported by the U.S. Branch of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. The *National Survey of Children's Health* (NSCH) touches on numerous, converging parts of kids' lives. The study incorporates physical and psychological wellness status, access to quality health awareness, and in addition, data on the kid's family, neighborhood and social connection.

The NSCH is emerging as an important source of information on bullying. The survey results provide data used to gauge progress toward the Healthy People 2020 objective to improve quality of life standards among children and teenagers and reduce bullying among adolescents (Child and Adolescent Health Measurement Initiative, 2012). Additionally, academic researchers have found it useful in their own analysis of the causes of bullying (Cleave & Davis, 2006; Youngblade et al, 2007; Montes & Halterman, 2007; Blackman & Gurka, 2007; Taylor, Saylor, Twyman, & Macias, 2010; Sisson, Broyles, Newton, Baker, & Chernausek, 2010).

For the 2011-2012 survey, a total of 95,677 NSCH surveys were completed by guardians of youngsters and youth. Individuals aged 5 or younger have been removed from the data set because the focus of this research is bullying among school-aged children (ages 6-17). Table 1 lists demographic characteristics of the study sample.

Study Variables

Dependent Variable

The dependent variable, bullying perpetration, was quantified with the question, “How often was this true for [child] during the past month: [He/she] bullies or is cruel or mean to others.” In 2011, respondents chose one of the following options: “never,” “rarely,” “sometimes,” “usually,” “always,” “don’t know,” or “refused.” The child was classified as a bully if the respondent chose “sometimes,” “usually,” or “always.” This parent-reported measure of bullying perpetration and categorization of bullying as a frequency of “sometimes” or greater is consistent with the definition of bullying as a repeated act (www.childhealthdata.org). The dependent variable has been transformed combining responses of “never” and “rarely” coded to 0 and “sometimes,” “usually,” and “always” coded as 1.

Independent Variable

Age is the independent variable in this analysis. For convenience, the age of the child was collapsed into three categories that represent approximate grade levels for children and youth who pass through the system normally. Elementary school refers to children ages 6 to 10. Middle school includes children ages 11 to 13. High school refers to youth ages 14 to 17.

Control Variables

The control variables in this analysis are predispositional and behavioral characteristics around which consensus exist when identifying associations with bullying. The demographic control variables are gender (male, female), and race/ethnicity (white, black, Hispanic, other races). Selected variables influencing socio-economic status are

federal poverty level, FPL, (<100% FPL, 100-199% FPL, >200% FPL) and parental education (less than high school, high school graduate, more than high school).

Family/parental attachment variables are family structure (nuclear, blended, single mother, and other), whether a parent was incarcerated, whether the child witnessed violence in the home, whether the parents limit and monitor media, and the extent to which the parent attends their children's events, the parents know their children's friends, and the family eats together. Structured activities measure involvement in sports, clubs, other activities, and attendance at religious services. A complete list of questions and responses are given in Appendix A.

Statistical Analyses

All analyses for this research were conducted using IBM SPSS Statistics system software, version 22. All analyses are unweighted. Descriptive statistics, as previously discussed were conducted in SPSS by running frequency distributions with percentages (Table 1).

Table 2 reports a bivariate test of the hypothesis of this thesis. By constructing a crosstab analysis between bullying and school categories, results show the relationship of bullying as age increases.

Table 3 shows binary logistic models for bivariate relationships with bullying of all other variables and the construction of variable blocks of variable according to their classification as demographic, socioeconomic, family dynamics, and structured activities. The unadjusted model is each variable run independently of all other variables against the dependent variable. Along with the unadjusted model, distinct models classifying protective and risk factors of bullying are reported. Four variable-block models have been

created to examine most influential factors of bullying within all ages (6-17).

Nagelkerke's R^2 is used to make relative comparisons of variable blocks. This pseudo R^2 value will indicate the strength of the relationship between independent and dependent variables.

In Table 4, the adjusted or full model represents the multivariate statistics including the influence of all variables as they relate to bullying for this study. Also reported here are models for each school-age category (elementary, middle, and high) by itself. Binary logistic regression was also used here.

CHAPTER IV

RESULTS

This chapter summarizes the results of the data analysis. The first section summarizes the bivariate results for study variables with bullying. The second section discusses the results of variable-block models predicting bullying. The final section describes the results of multivariate analysis for all study variables.

Bivariate Analyses

The crosstabulation of school categories (elementary, middle, and high school) with bullying reveals that bullying decreases as schooling increases (Table 2). The likelihood a child bullies falls from 12.1% in elementary grades to 11.5% in middle school to 9.6% in high school. Although the decline in bullying is statistically significant, the result is weak ($\gamma=-.092$, $p<.001$).

The first column of Table 3 below shows the unadjusted model for study variables as they predict bullying. All variables are statistically significant ($p<.05$) in the likelihood of a child partaking in bullying behavior or not. The unadjusted model for school-age children confirms the relationship seen in Table 2. Elementary children are 30.3% ($OR=1.303$, $p<.001$) more likely perpetrate bullying than high-school adolescents, and middle-school children are 22.2% ($OR=1.222$, $p<.001$).

There is considerable variation among the demographic variables. Females are 11.6% ($OR=.884$, $p<.001$) less likely than males to bully. Whites are 31% ($OR=.684$) less likely to bully relative to Other Races. However, the rates of bullying are higher in the principal minority: Blacks are 45% ($OR=1.459$, $p<.001$) more likely and Hispanics are 17% ($OR=1.171$, $p<.001$) more likely than other races to bully.

Bullying is associated with children whose families are the low end of the socioeconomic spectrum. Individuals living at 200% FPL or higher (OR=.307, $p<.001$) and between 100%-199% FPL (OR=.658, $p<.001$) are both less likely than those living below 100% FPL to bully. Children with parents whose education is less than high school (OR=2.003, $p<.001$) or only a high school graduate (OR=1.123, $p<.001$) are more likely to bully than those whose parents have education beyond high school.

Positive parental attachment lessens the likelihood of bullying. Children from homes with nuclear families (OR=.449, $p<.001$), blended families (OR=.824, $p<.001$), or a single mother (OR=.851, $p<.001$) are less likely to bully than children from other types of families. Children whose parents attend their events are 29.5% (OR=.705, $p<.001$) less likely to bully. Parents who know their children's friends reduce the probability of their child bullying by 40% (OR=.605, $p<.001$). Similarly, parents who eat together with their children reduce bullying in their child by 4.5% (OR=.965, $p<.001$). A child's time spent with media, if monitored, is 21% (OR=.791, $p<.001$) less likely to bully. The one exception is the limiting of media, which increases a child's bullying behavior by 7.5% (OR=1.075, $p<.05$). In line with the cycle of violence, negative parental attachments increase the probability of bullying. Children of parents who have served time in jail/prison are 2.6 (OR=2.688, $p<.001$) times more likely to bully than those whose parents have not served time in jail or prison. Similarly, children who have witnessed violence in the home are 2.851 (OR=2.851, $p<.001$) times more likely to bully.

Participation in activities outside the home are consistently associated with lower likelihoods of bullying. The extracurricular activities a child participates in, such as sports, clubs, and activities during their school years are all significant in reducing the

child's probability of not bullying by 42% (OR=.589, $p<.001$), 45% (OR=.553, $p<.001$) and 38% (OR=.628, $p<.001$) respectively. Similarly, children who practice religion once a week (OR=.860, $p<.001$), once a month (OR=.912, $p<.05$) or once a year (OR=.808, $p<.001$) are 10% to 20% significantly less likely to bully.

Variable-Block Models

Table 3 also reports the results of the five variable-block models have been constructed as follows. The demographics model consists of gender and race variables. Results show females are significantly less likely than males to bully by 12% (OR=.883, $p<.001$). Whites are 32% (OR=.683, $p<.001$) less likely than other races to bully. Whereas blacks and Hispanics are both significantly more likely to bully than other races by 45% (OR=1.458, $p<.01$) and 17% (OR=1.169, $p<.001$).

The socioeconomic block reveals statistically significant influences among bullying in relation to poverty level and parental education. Children among the 200% FPL are substantially less likely to bully by 75% (OR=.345, $p<.001$), along with children between 100-199% FPL are 30% less likely to bully than children below 100% FPL (OR=.693, $p<.001$). Parental education level reveals children with parents who have no education beyond high school are significantly more likely to bully. Specifically by 36% (OR=1.365, $p<.001$) if the parents did not graduate high school or by 10% (OR=1.102, $p<.01$) if parents graduated high school only.

Family structure model variables include parental attachments pertaining to protecting the child from bullying behaviors. Within this combined model, the only family structure statistically significant in reducing a child partaking in bullying is a nuclear family by 29% (OR=.714, $p<.001$). Children having a parent within the family

structure who has served time in jail or prison are 61% (OR=1.616, $p<.001$) more likely to bully. Similarly, children who have witnessed violence in the home are 91% (OR=1.908, $p<.001$) more likely to bully than those who have not witnessed violence in their home. Parents who attend their child's events (20%; OR=.797), knows their child's friends (32%; OR=.678), and eat with their child (2%; OR=.984) are all statistically significant ($p<.05$) parental attachments in reducing bullying behaviors in their child. Children who have parents who limit their child's media intake are significantly 31% (OR=1.312) more likely to bully.

The child activities model examines participations within a child's life that may or may not influence him or her to bully. Much like the unadjusted model a child remaining active in sports (31%; OR=.692), clubs (32%; OR=.683), and activities (25%; OR=.752) are significantly ($p<.05$) less likely to exhibit bullying behaviors. However, the influences of religion have changed from the unadjusted model. Those who practice religion once a year are statistically significant by 11% less likely to bully (OR=.890, $p<.05$).

For each of these models, a pseudo R^2 value is reported to establish reliable comparisons among the variable-block models. The socioeconomic model ($R^2=.045$) and family structure model ($R^2=.059$) have more explanatory power compared to the demographics ($R^2=.017$), child activities ($R^2=.029$) and school-category model ($R^2=.003$). This means that variables within the socioeconomic and family structure models are better predictors of bullying than those variables within the other models.

Multivariate Analysis

Multivariate analyses are displayed in Table 4. The first column, the full model, combines all study variables to predict bullying within the complete study sample. Children aged 6-10 in elementary school are 53% more likely to bully than high schoolers. The analysis shows a slight decline in bullying as children age into middle school, ages 11-13, they are only 33% more likely than high-school students, aged 14-17, to bully.

The full model shows no statistical difference between males and females and whites, blacks, Hispanics and other races in bullying. Within the socio-economic block, children living above 100% FPL (100-199%: OR=.477, $p<.001$; and above 200%: OR=.812, $p<.001$) still remain statistically significant in reducing a child's probably of bullying. Children whose parents have less than high-school education is statistically significant by being 20% (OR=1.199, $p<.001$) more likely to bully than those whose parents have more than a high school education.

Similar to the family structure model, children of a nuclear family are statistically 15% less likely (OR=.853, $p<.01$) to bully than children from other types of families. With no surprise, parents who have served time in jail or prison are still consistently likely to influence bullying in their child by 42% (OR=1.421, $p<.001$). However, a child who witnesses violence in the home is statistically more likely to participate in bullying by 87% (OR=1.873, $p<.001$). Against all ages, parental attachments (attending child's events: OR=.840, $p<.001$, knowing child's friends: .723, $p<.001$, and eating together: .969, $p<.001$) help reduce the likelihood of a child participating in bullying behavior except for parents who limit their media intake (OR=1.125, $p<.001$). Children whose parents limit their media intake are 12.5% (OR=1.125, $p<.05$) more likely to bully.

Finally, no matter the age, children who play sports (OR=.908), are in clubs (OR=.889) or other activities (OR=.876) are still significantly less likely to bully. There is no significant effect of religious attendance within the full model.

The remaining columns of Table 4 report the results of multivariate binary logistic regression within each school category (elementary, middle and high school). Within the elementary-aged group, girls are 15% less likely (OR=.843, $p<.001$) to bully than boys. Blacks are 30% (OR=1.300, $p<.05$) more likely to bully than other races. Children within this age group are less likely to bully than those below 100% FPL by 56% (OR=.446, $p<.001$) and 24% (OR=.764, $p<.01$). Parents of bullies within elementary school are 21% (OR=1.211, $p<.05$) more likely to have less than a high school diploma. There is no statistical significance among family categories. Parents who have served time in jail or prison (OR=1.787) or expose their young child to violence in the home (OR=1.750) are significantly ($p<.001$) influential in their child's probability of bullying relatively by 75-78%. The only significant parental protectors of child bullying are seen in parents who attend their child's event with a .859 odds ratio and also children whose parents know their friends with a .760 odds ratio. Furthermore, children who are involved in various activities are 15% less likely to bully (OR=.853, $p<.001$). Religion is not a statistically significant factor in reducing the probability of a child aged 6-10 becoming a bully.

As children age, the middle-school model shows some similarities and some differences from children aged 6-10 to children aged 11-13 in regards to the probability of bullying. Unlike the elementary model, there is no statistical significance between gender and race differences for a child to be a bully in this age. Children from above

200% FPL are 50% (OR=.514, $p<.001$) less likely to bully compared to other classes. In regards to the family style, there is no statistical significance for reducing the probability of bullying. A child is 33% more likely to perpetrate bullying if the parents have not completed high school (OR=1.338, $p<.01$). There is no statistical significance for children who bully to have parents who served time in jail or prison. However, children who witness violence in the home are statistically 85% (OR=1.850, $p<.001$) more likely to bully. Parental attachments, attending child's events (18%; OR=.823), knowing friends (23%; OR=.775), and eating together (4%; OR=.964) are all statistically significant ($p<.05$) in reducing a child's bullying behavior, whereas limiting and monitoring the child's media are not statistically significant. Unlike children in elementary school, middle school children's involvement in sports, clubs or activities is not a significant factor. However, children aged 11-13 who practice religion 1 time a week are 24% (OR=1.248, $p<.05$) more likely to bully compared to those who do not participate in religion.

The final age group studied is adolescents aged 14-17 associated with high-school grade levels. Within this school category, gender and race are not significant factors. However, compared to the lack of influence of poverty level between 100%-199% in middle school, both socioeconomic statuses of 200% FPL (OR=.484, $p<.001$) and 100-199% (OR=.752, $p<.05$) are statistically significant in reducing the likelihood of a child bullying by 52% within the first level and 25% in the following compared to those below 100% FPL. While parental education has remained statistically significant in a child bullying throughout elementary and middle schools, this influence disappears for children in high school. High-school adolescents from various family makeups are not

significantly related to bullying. Parental incarceration and violence in the home reveals a statistical significance increase in a child's probability of bullying from middle school to high school. Students in high school who have a parent who has served time in jail or prison are 29% (OR=1.289, $p<.05$) more likely to bully. Similar to bullies in middle school, those in high school are 2 times more likely to witness violence in the home (OR=2.047, $p<.001$) compared to others who have not. Parental attachments including parents attending child's events (17%; OR=.835), knowing friends (39%; OR=.619), and eating together (6%; OR=.948), are all statistically significant ($p<.05$) in reducing a child's bullying behavior, whereas limiting a child's use of media is 27% (OR=1.268) more likely to influence the child in bullying and is statistically significant ($p<.05$). Adolescents in high school who participate in clubs are 25% less likely to bully (OR=.753, $p<.001$). Compared to the influence of religion among middle school students, the opposite trend is viewed in high school students. Those who participate in religion once a year are statistically 29.3% (OR=1.293, $p<.05$) more likely to bully.

Summary

The research hypothesis is accepted. The highest level of bullying is among elementary children. Children age 6-10 are 30% more likely to bully others than older children. As children age into middle school (ages 11-13), bullying is still statistically significant compared to their older peers.

Among the control variables, there are consistent findings throughout each school age category analysis. Poverty levels of 100-199% FPL and >200% FPL are negatively related to the odds of bullying within the unadjusted model, and school age comparisons. This means as poverty level decreases, bullying is likely to increase. Parents who have

served time in jail or prison are more likely to have a child bully within all school categories. Children who have witnessed violence within the home are significantly more likely to engage in bullying throughout elementary, middle, and high school. Parents who attend their child's events and know their child's friends significantly reduce the likelihood of their child being a bully. With these factors being of most significance, parental influences on child bullying behavior are recognized as the most influential and protective factors. An understanding of the importance of age within the prevalence of bullying and the associated risk and protective factors influencing bullying perpetration among children creates a baseline for future research and prevention methods.

CHAPTER V

DISCUSSION

This chapter clarifies the connections between some of the results and the literature, revisits the developmental and sociological theories and their usefulness in understanding bullying, addresses limitations of this study, and proposes recommendations for schools and further research into this timely and important topic. In order to address these topics, this chapter is divided into three sections. The first section discusses the conclusions of this study and how they helped answer the research question. In addition, the conclusion of this study provides a glimpse into bullying in elementary, middle and high schools. The second section addresses possible limitations of this study. The third section discusses the implications for future research that may address bullying in more detail, and suggestions for schools in order to prepare for and respond to incidents of bullying.

Major Findings

The results of this study provided insights into various aspects of bullying and they confirmed some of what is already known. This thesis contributes to the literature related to bullying among children and adolescents by providing an in-depth clarification of the importance of age in predicting bullying prevalence within different school-age categories. The results also show a significance of bullying behavior within the elementary school category, but reveal a decline in bullying as children age. Within each of the school age categories a description of variables influencing bullying perpetration reveal consistent and desisting variables among the age groups. This study sheds light on to variables and their relation to bullying across three different school group ages:

elementary (6-10), middle (11-13) and high (14-17). By conducting this study, we are able to clarify the importance of age as a factor in predicting bullying and the significance or lack thereof pertaining to demographics, socio-economic, family and child variables within the differing school categories. By acknowledging the variables differing influences within different age groups, bullying prevention methods are able to be formed specifically dependent on the target population.

Limitations & Future Research

This study examined the perceptions of 65,680 parents/guardians across the United States through a self-report survey. Based on the quantity of questionnaires reported in the sample, the results are believed to be a reasonable representation of bullying behavior and its influences nationally. In fact many of the variable findings pertaining to bullying are similar to those discussed within previous literature. While this number of in-depth interviews provides a generous data source, the NSCH questionnaire fails to contain details vital to the comprehensiveness of this research.

First, the dependent variable “bullies” does not distinguish between the different types of bullying, i.e., direct, indirect, relational, and cyber. It only addressed bullying as being cruel to others but did not specify the context in which the bullying occurred. To clarify this drawback, future questionnaires should contain a detailed definition of bullying along with examples for respondents to choose from. While the results show bullying to be statistically significant in the elementary years and declining as children age, bullying still occurs within the other school categories. Having respondents clarify specific types of bullying would allow for researchers to see if there are differences in the types of bullying within the different schools. Also, to gain a better understanding of

bullying, it is suggested the length of bullying behavior, and location of prevalence of bullying within today's children, it lacks the possibility of recognizing if more children are bullied than actually bully. Questions pertaining to bullying victimization should be included to compare characteristics of the bully with those of the victim.

In reviewing the dominating effect of parental influences, specifically those who served time in jail or prison in connection with child bullying behaviors, future research should examine whether effects of parental imprisonment on children differ according to whether mothers or fathers are imprisoned. Also relative to the family influences on a child bullying, questions should be asked pertaining to the parenting style in relation to family structure. Parenting style, such as authoritarian, may reveal more of an understanding of a child who bullies and how they internalize or externalize the ways in which they are treated at home.

In addition, a constant limitation of self-report surveys, even though the NSCH is anonymous, is the possibility the participants may have wanted to project their children in particular ways to the interviewer or they may have wanted to protect themselves, therefore avoided answering honestly to questions pertaining to bullying behaviors of their child. Therefore, is very possible that some participants may have bullied more, or have been more engaged in the role of the bully, than they led the researcher to believe.

While this study confirms previous research outcomes, imperative information pertaining to the study variables and their influence on bullying among different school-age groups still requires future research. With much focus of this research pertaining to developmental and life-course theories, bullying should not be viewed as an isolated behavior, but as a persisting antisocial behavior. This thesis has shown bullying to have

multiple effects across different school age categories. Therefore to form more successful bullying prevention measures, longitudinal studies of bullying behaviors and continued delinquent behaviors should help manifest prevention efforts. Longitudinal studies allow for a comprehensive understanding of what causes, maintains and possibly corrects particular behaviors. With bullying being a behavior throughout all school ages, future studies utilizing longitudinal techniques will be able to recognize direct causes of bullying and the true prevalence maintained as subjects age into adolescence.

Conclusion

Bullying has remained a constant issue in today's scholarly research, for both researchers and school officials. Developmental and life-course perspectives have provided a useful framework for this thesis in questioning bullying across people, ages, and school settings. Similar to findings from Nansel et al. (2001) and Patchin & Hinduja (2011), the significant prevalence of bullying among younger children suggests the importance of implementing preventive interventions at younger ages but continued on within the older school ages.

Recognizing the interactions of demographics, social, and environmental amongst bullying within this study requires bullying prevention plans to be multi-dimensional. Within the social constructs, interventions ought to concentrate on changes inside the classroom atmosphere to expand students understanding of the influences and harms of bullying others. Within the school, prevention plans should not be gender or racially biased according to the comparison of school categories results of this study. Bullying interventions should also encompass parental involvement. Parental incarceration and witnessing violence in the home were consistent factors in the probability of a child

bullying among all ages. Targeting prevention methods to youth experiencing difficult home environments would lessen the likelihood of a child continuing the cycle of violence as they grow older. The results from this thesis show that bullying is a major issue facing a large number of our nation's school age children and adolescents and that further commitment is needed from society as a whole to work together to systematically counteract bullying and make schools a safe place for all students to learn and grow positively.

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Table 1.

Frequency Distributions for Study Variables Predicting Bullying

	School Category by Age							
	Total Sample		Elementary (6-10)		Middle (11-13)		High (14-17)	
	N	%	N	%	N	%	N	%
<i>Gender</i>								
Male	33,986	51.7%	13,151	51.0%	8,301	51.6%	12,534	52.6%
Female	31,607	48.1%	12,576	48.8%	7,779	48.3%	11,252	47.3%
Missing	87	0.1%	41	0.2%	20	0.1%	26	0.1%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Race</i>								
White	43,206	65.8%	16,076	62.4%	10,531	65.4%	16,599	69.7%
Black	6,204	9.4%	2,494	9.7%	1,538	9.6%	2,172	9.1%
Hispanic	8,073	12.3%	3,603	14.0%	2,017	12.5%	2,543	10.3%
Other	6,749	10.3%	2,945	11.4%	1,649	10.2%	2,155	9.1%
Missing	1,448	2.2%	650	2.5%	365	2.3%	433	1.8%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Poverty Status</i>								
200% FPL	41,211	62.7%	15,832	61.4%	10,019	62.2%	15,360	64.5%
100-199% FPL	10,369	15.8%	4,288	16.6%	2,557	15.9%	3,524	14.8%
<=100% FPL	7,960	12.1%	3,462	13.4%	2,004	12.4%	2,494	10.5%
Missing	6,140	9.3%	2,186	8.5%	1,520	9.4%	2,434	10.2%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Parental Education</i>								
< HS Grad	9,411	14.3%	3,438	13.3%	2,381	14.8%	3,592	15.1%
HS Grad	22,065	33.6%	8,195	31.8%	5,422	33.7%	8,448	35.5%
College	30,472	46.4%	12,632	49.0%	7,316	45.4%	10,524	44.2%
Missing	3,732	5.7%	1,503	5.8%	981	6.1%	1,248	5.2%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Family Structure</i>								
Nuclear	43,573	66.3%	17,782	69.0%	10,456	64.9%	15,335	64.4%
Blended	5,874	8.9%	1,804	7.0%	1,590	9.9%	2,480	10.4%
Single Mother	10,374	15.8%	3,948	15.3%	2,596	16.1%	3,830	16.1%
Other	5,061	7.7%	1,866	7.2%	1,273	7.9%	1,922	8.1%

Table 1 (con't).

Frequency Distributions for Study Variables Predicting Bullying

	School Category by Age							
	Total Sample		Elementary (6-10)		Middle (11-13)		High (14-17)	
	N	%	N	%	N	%	N	%
<i>Family Structure</i>								
Missing	798	1.2%	367	1.4%	185	1.1%	245	1.0%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Parent Incarcerated</i>								
Yes	4,335	6.6%	1,690	6.6%	1,138	7.1%	1,527	6.4%
No	60,204	91.7%	23,588	91.5%	14,675	91.1%	21,941	92.1%
Missing	1,121	1.7%	490	1.9%	287	1.8%	344	1.4%
Total	65,680	100%	25,768	100%	25,768	100%	23,812	100%
<i>Violence in the home</i>								
Yes	4,800	7.3%	1,633	6.3%	1,174	7.3%	1,993	8.4%
No	59,391	90.4%	23,505	91.2%	14,549	90.4%	21,337	89.6%
Missing	1,489	2.3%	630	2.4%	377	2.3%	482	2.0%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Limits media</i>								
Yes	52,298	79.6%	23,594	91.6%	13,777	85.6%	14,927	62.7%
No	13,244	20.2%	2,118	8.2%	2,294	14.2%	8,832	37.1%
Missing	138	.2%	56	.2%	29	.2%	53	.2%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Monitors Media</i>								
Yes	60,993	92.9%	25,309	98.2%	15,532	96.5%	3,597	84.6%
No	4,565	7.0%	424	1.6%	544	3.4%	20,152	15.1%
Missing	122	.2%	35	.1%	24	.1%	53	.3%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Attends events</i>								
Never	1,051	1.6%	232	.9%	217	1.3%	602	2.5%
Sometimes	5,485	8.4%	1,853	7.2%	1,261	7.8%	2,371	10.0%
Usually	14,253	21.7%	4,947	19.2%	3,414	21.2%	5,892	24.7%
Always	35,218	53.6%	14,443	56.1%	9,357	58.1%	11,418	48.0%

Table 1 (con't).

Frequency Distributions for Study Variables Predicting Bullying

	School Category by Age							
	Total Sample		Elementary (6-10)		Middle (11-13)		High (14-17)	
	N	%	N	%	N	%	N	%
<i>Attends Events</i>								
Missing	9,673	14.7%	4,293	16.7%	1,851	11.5%	3,529	14.8%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Knows Friends</i>								
Has no friends	197	.3%	84	.3%	50	.3%	63	.3%
None	786	1.2%	359	1.4%	191	1.2%	236	1.0%
Some	11,144	17.0%	4,244	16.5%	2,500	15.5%	4,400	18.5%
Most	33,332	50.7%	11,338	44.0%	8,196	50.9%	13,798	57.9%
All	20,164	30.7%	9,717	37.7%	5,154	32.0%	5,293	22.2%
Missing	57	.1%	26	.1%	9	.1%	22	.1%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Eat together</i>								
0 days	2,423	3.7%	634	2.5%	524	3.3%	1,265	5.3%
1 day	2,332	3.6%	660	2.6%	493	3.1%	1,179	5.0%
2 days	4,496	6.8%	1,415	5.5%	1,058	6.6%	2,023	8.5%
3 days	6,529	9.9%	2,047	7.9%	1,549	9.6%	2,933	12.3%
4 days	8,130	12.4%	2,711	10.5%	1,938	12.0%	3,481	14.6%
5 days	11,201	17.1%	4,150	16.1%	2,718	16.9%	4,333	18.2%
6 days	5,026	7.7%	2,086	8.1%	1,335	8.3%	1,605	6.7%
7 days	25,361	38.6%	11,996	46.6%	6,439	40.0%	6,926	29.1%
Missing	182	.3%	69	.3%	46	.3%	67	.3%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Sports</i>								
Yes	41,510	63.2%	16,276	63.2%	10,723	66.6%	14,511	60.9%
No	24,154	36.8%	9,479	36.8%	5,374	33.4%	9,301	39.1%
Missing	16	0%	13	.1%	3	0%	0	0%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Clubs</i>								
Yes	41,412	63.1%	15,009	58.2%	10,599	65.8%	15,804	66.4%

Table 1 (con't).

Frequency Distributions for Study Variables Predicting Bullying

	School Category by Age							
	Total Sample		Elementary (6-10)		Middle (11-13)		High (14-17)	
	N	%	N	%	N	%	N	%
<i>Clubs</i>								
No	24,254	36.9%	10,748	41.7%	5,498	34.1%	8,008	33.6%
Missing	14	0%	11	0%	3	0%	0	0%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Activities</i>								
Yes	24,897	37.9%	9,605	37.3%	6,914	42.9%	8,378	35.2%
No	24,598	37.5%	10,029	38.9%	5,180	32.2%	9,389	39.4%
Missing	16,185	24.6%	6,134	23.8%	4,006	24.9%	6,045	25.4%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>Religious Attendance</i>								
1x/year	7,908	19.9	2,744	10.6%	1,853	11.5%	3,311	13.9%
1x/month	11,487	12.0	4,409	17.1%	2,802	17.4%	4,276	18.0%
1x/week	33,212	17.5	13,491	52.4%	8,461	52.6%	11,260	47.3%
None	13,073	50.6	5,124	19.9%	2,984	18.5%	4,965	20.9%
Missing	0	0	0	0%	0	0%	0	0%
Total	65,680	100	24,768	100%	16,100	100%	23,812	100%
<i>Bullies</i>								
Yes	7,241	88.80%	3,122	12.10%	1,843	11.40%	2,276	9.60%
No	58,339	11.00%	22,613	87.80%	14,240	88.40%	21,486	90.20%
Missing	100	0.20%	33	0.10%	17	0.10%	50	0.20%
Total	65,680	100%	25,768	100%	16,100	100%	23,812	100%
<i>School-Age Category</i>								
Elementary	25,768	39.2%						
Middle	16,100	24.5%						
High	23,812	36.3%						
Missing	0	0%						
Total	65,680	100%						

Table 2.

Crosstabulation of School Category and Bullying

	School Category		
	Elementary	Middle	High
Bullies			
Yes	12.1%	11.5%	9.6%
No	87.9%	88.5%	90.4%
Total	100%	100%	100%
(N)	(25,735)	(16,083)	(23,762)
Gamma	-.092***		

Note: *p<.05 **p<.01 ***p<.001

Table 3.

Binary Logistic Regression Results for Bullying

	<i>Unadjusted</i> OR	<i>Demographics</i> OR	<i>SES</i> OR	<i>Family</i> OR	<i>Child</i> OR	<i>School Category</i> OR
<i>Demographics</i>						
Female	.884***	.883***				
Race/Ethnicity (ref=Other)						
White	.684***	.683***				
Black	1.459***	1.458**				
Hispanic	1.171***	1.169***				
<i>SES</i>						
Poverty Status (ref=<= 100% FPL)						
200% FPL	.307***		.345***			
100 to 199% FPL	.658***		.693***			
Highest Parental Education (ref=College)						
<HS Grad	2.003***		1.365***			
HS Grad	1.235***		1.102**			
<i>Family Dynamics</i>						
Family Structure (ref=Other)						
Nuclear	.449***			.714***		
Blended	.824***			.941		
Single Mother	.851***			1.015		
Parent incarcerated	2.688***			1.616***		
Violence in the home	2.851***			1.908***		

Table 3 (con't).

Binary Logistic Regression Results for Bullying

	<i>Unadjusted OR</i>	<i>Demographics OR</i>	<i>SES OR</i>	<i>Family OR</i>	<i>Child OR</i>	<i>School Category OR</i>
<i>Family</i>						
Limit media	1.075*			1.312***		
Monitormedia	.791***			.924		
Attends events	.705***			.797***		
Know friends	.605***			.678***		
Eat together	.965***			.984*		
<i>Child</i>						
Sports	.589***				.692***	
Clubs	.553***				.683***	
Activities	.628***				.752***	
Religious Attendance (ref=None)						
1x/year	.808***				.890*	
1x/month	.912*				1.020	
1x/week	.860***				.951	
<i>School (ref=High)</i>						
Elementary	1.303***					1.303***
Middle	1.222***					1.222***
Pseudo R ²		.017	.045	.059	.029	.003
N		64,081	57,333	54,269	49,418	65,580

Note: p<.05 *, p<.01 **, p<.001***

Table 4.

Odds Ratios for Binary Logistic Regression

	<i>Full</i> OR	<i>Elementary</i> OR	<i>Middle</i> OR	<i>High</i> OR
<i>Demographics</i>				
Female	.926	.843**	.879	1.110
Race/Ethnicity (ref=Other)				
White	.912	.946	.903	.870
Black	1.139	1.300*	.919	1.150
Hispanic	.956	.818	1.014	1.105
<i>SES</i>				
Poverty Status (ref=<= 100% FPL)				
200% FPL	.477***	.446***	.514***	.484***
100-199% FPL	.812***	.764**	.958	.752*
Highest Parental Education (ref=College)				
< HS grad	1.199***	1.211*	1.338**	1.087
HS grad	1.075	1.009	1.178	1.088
<i>Family</i>				
Family Structure (ref= Other)				
Nuclear	.853**	.918	.793	.862
Blended	1.011	.953	.968	1.098
Single Mother	.915	1.029	.784	.911
Parent incarcerated	1.421***	1.787***	1.180	1.289*
Violence in the home	1.873***	1.750***	1.850***	2.047***
Limit media	1.125*	.966	1.060	1.268**
Monitor media	.863	.758	.812	.904

Table 4 (con't).

Odds Ratios for Binary Logistic Regression

	<i>Full</i> OR	<i>Elementary</i> OR	<i>Middle</i> OR	<i>High</i> OR
<i>Family</i>				
Attends events	.840***	.859***	.823***	.835***
Knows friends	.723***	.760***	.775***	.619***
Eat together	.969***	.990	.964*	.948***
<i>Child</i>				
Sports	.908*	.933	.903	.871
Clubs	.889**	1.006	.865	.753***
Activities	.876***	.853**	.892	.911
Religious Attendance (ref=None)				
1x/year	1.043	.860	1.034	1.293*
1x/month	1.077	.985	1.232	1.105
1x/week	1.032	.919	1.248*	1.023
<i>School</i>				
Elementary	1.471***			
Middle	1.333***			
Pseudo R ²	.085	.080	.078	.101
N	34,533	13,450	8,816	12,200

Note: p<.05 *, p<.01 **, p<.001***

APPENDIX A

Study Variables & Coding

Independent Variables:

Parental Education: 1 = Less than high school

2 = High school graduate

3 = Beyond high school

Parent jail/prison: 0 = No

1 = Yes

Violence in the home (Child witness or victim of violence):

0 = No

1 = Yes

Limit media: Do you limit the amount of time [he/she] spends watching TV, playing on the computer, or using electronic devices?

0 = No

1 = Yes

Monitor media: Do you monitor the content of what [he/she] watches on TV, plays on the computer, or does on electronic devices?

0 = No

1 = Yes

Attends: During the past 12 months, how often did you attend events or activities that [S.C.] participated in? Would you say never, sometimes, usually or always?

1 = Never

2 = Sometimes

3 = Usually

4 = Always

Knows friends: Regarding [S.C.]’s friends, would you say that you have met all of [his/her] friends, most of [his/her] friends, some of [his/her] friends, or none of [his/her] friends?

1 = has no friends

2 = none

3 = some

4 = most

5 = all

Eat together: 0 = No

1 = Yes

Sports: During the past 12 months, was [S.C.] on a sports team or did [he/she] take sports lessons after school or on weekends?

0 = No

1 = Yes

Clubs: During the past 12 months, did [he/she] participate in any clubs or organizations after school or on weekends?

0 = No

1 = Yes

Activities: During the past 12 months, did [he/she] participate in any other organized activities or lessons, such as music, dance, language, or other arts?

0 = No

1 = Yes

Religion: About how often does [S.C.] attend a religious service?

0 = None

1 = 1x per year

2 = 1x per month

3 = 1x per week

Control Variables:

Gender: 0 = Male

1 = Female

Race/Ethnicity: 1 = White

2 = Black

3 = Hispanic

4 = Other

Poverty: 1 = 200% FPL

2 = 100-199% FPL

3 = <=100% FPL

Family Structure: 1 = Nuclear

2 = Blended

3 = Single Mother

4 = Other

APPENDIX B

Institutional Review Board of Youngstown State University Approval E-Mail

January 16, 2015

Dear Investigators,

Thank you for speaking with me today about your project “Factors Correlating to Juvenile Delinquency”. The IRB now understands that you will not be combining the data from the ‘National Survey of Children’s Health’ (NSCH) with actual juvenile delinquency data (which could make the data identifying). You will be using data about bullying contained within the NSCH as a surrogate for delinquency.

Per YSU IRB regulations, this project does not require IRB oversight because existing data contained in a Public Use Data Set has previously been de-identified and reviewed by an IRB before making public. You can complete this project at your convenience. The IRB does appreciate your alerting us to your project.

The principal investigator will receive a signed letter stating this project does not require IRB oversight. If the co-investigator needs the signed letter for her records, she should contact the principal investigator for a copy. Please reference protocol #072-15 on all future communications about this project.

Best wishes for the successful completion of your research.

Cathy Bieber Parrott
Chair, YSU IRB
IRB Office: 330 941 2377