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Preventative Programs Targeting Aggression among College Students

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Introduction

This study researches the association between higher levels of aggression, as measured by an aggression scale, and participation in aggression prevention programs during adolescence. Survey research was conducted on college students that asked questions about these two variables from student experiences during the ages of 10 to 17. Research supports the association between aggression and high risk behaviors and/or violence in youth (American Psychological Association, 2013). Research also supports the use of evidence-based prevention programs for prevention of future violent acts (Feindler & Engel, 2011; CDC 2007; Mytton, DiGuiseppi, Gough, Taylor & Logan, 2002). Although multiple factors affect whether or not a youth will become violent, aggressive behavior is a strong indicator and the one chosen for the focus of this study. Aggression measurement tools are readily available and a convenient method to indicate the need for preventative programs.

Significance of the Topic

This topic is important because of the association between aggression and violence. The American Psychological Association (2013) lists behaviors that over a period of time are indicators of potential violence, including "a history of violent or aggressive behavior, access to or fascination with weapons, especially guns, threatening others regularly, trouble controlling feelings like anger, withdrawal from friends and usual activities, feeling rejected or alone, history of discipline problems or frequent run-ins with authority, and failing to acknowledge the feelings or rights of others." Youth violence is a societal problem with homicide being the second leading cause of death in the age group of 10 to 24 and a leading cause of injury among youth (Centers for Disease Control and Prevention, 2011).

Relevance to Social Work

Young people dealing with issues of aggression and the resulting consequences without the resource of an intervening body is an injustice. Helping people in need and working to right social wrongs such as an inadequate system of intervention in the case of aggressive adolescents is a way social workers can serve. The topic is relevant to social work in the way it may indicate inequalities in the frequency

and/or adequacy of prevention programs received dependent upon the adolescent's socioeconomic position. Aggressive adolescents that go through school without receiving any form of prevention programs are at risk of higher levels of violence as they age, lower levels of career attainability and risky health choices (Garbarino, 2009). These negative factors give aggressive kids an unfavorable stigma in American society. They are viewed as delinquents with personal deficiencies, and amongst recent bursts of violence committed by kids in this age group, the deviant perception has only grown. By working with this population, social workers utilize a key value by treating the kids with the dignity and worth they are denied by society. This topic also presents the multi-dimensional issues affecting adolescent aggressive behavior as well as possible forces that could intervene. It is necessary for social workers to work with the many interconnected dynamics of human relationships both working against and for the adolescents at risk.

Contributions of the Study

The idea for this topic originated from questions about how acts of violence, such as school shootings, can be prevented and how the potential for such violence in youth can be recognized. Many prevention programs already exist for treatment of the underlying causes of violence, but this study seeks to quantify how many youth have potential indicators of violent behavior and how many of those youth actually receive any kind of prevention programs. The results of this study show the rates of aggression in a sample of college students and how many participated in prevention programs during adolescence. The data differs from the existing knowledge base because it focuses on prevalence of a predisposition to violent behaviors and highlights the increased need for preventative programs for these adolescents.

Literature Review

Aggression in Adolescents

Understanding the development and types of aggression is important in the process of prevention. It is also essential for choosing appropriate program techniques and identifying the effects of preliminary displays of variable aggression on subsequent acts of violence. The association between aggression in adolescents and risk behaviors and/or youth violence is an expanding body of research (Hawkins et al., 2000) especially in light of serious acts of violence committed by adolescents over the last 15 years.

A variety of behaviors qualify as 'aggressive' and any subsequent violence is also variable. Traditional research concerning aggression of adolescents has almost solely focused on 'overt aggression', which pertains to physical acts such as hitting, punching, pushing and threats of violence (Prinstein, Boergers & Vernberg, 2001). Conversely, new research has begun focusing on a more undetectable expression of aggression referred to as 'relational aggression'. Relational aggression is defined as causing social harm to a peer through alienation/exclusion, gossiping and other acts of social abuse (Prinstein, Boergers & Vernberg, 2001). Studies have shown causal relationships between the two types of aggression and resulting consequences such as severe emotional distress and social maladjustment which has been shown to be a predictor of youth violence. The focus of aggression is on males but overt and relational aggression is found in both boys and girls with recent trends of increased overt aggression in female adolescents (Valois et al., 2002).

Presenting risk factors are used to better understand the scope of reasons behind aggressive behavior in adolescents and to identify measures of prevention in the early stages of recognized aggression for the purpose of violence prevention. A review of the literature on this topic has proven that a comprehensive approach to predictive factors of youth aggression is most accurate in accounting for all possible contributing factors. This multi-dimensional approach examines five factors of influence: personal, family, school, peer, and community (Hawkins et al., 2000; Logan-Greene et al., 2011).

Personal factors of aggression encompass psychological, physiological and emotional issues. Highly predictive behaviors include stress, restlessness, anxiety, attention deficit and impulsivity. A study focusing on restlessness and poor concentration of boys in early adolescence found in a longitudinal study that 15% would be arrested as a result of violent behaviors within ten years (Klinteberg et al., 1993).

Family factors are also indicative of the development of oppositional/aggressive risk factors among youth. The basis for familial contributing factors is the structure of the family unit. Families with divorce, separation, single-parent households, children of teen mothers, families of more than four children, families experiencing poverty, and lack of education constitute the risk factors of family structure. Outside of the structure, parents that have experienced incarceration and child-maltreatment (child abuse) also increase the child's risk of developing aggressive behavior (Farrington, 1989).

School-based risk factors have proven to be the most easily identified predictors of youth aggression. While gathering information at schools is easier than collecting qualitative data from family members or in-depth evaluations of each child, schools often monitor effects of the indicators of future aggression (attention deficit, hyperactivity, impulsivity, lack of concentration, anxiety etc.) on low academic achievement, truancy, suspensions and expulsion. Because many prevention techniques occur in schools, this has been touted as the most accessible and easily navigable arena for aggression prevention (Valois et al., 2002).

Peer factors indicating a potential for aggressive behavior have been attributed to social learning theory, suggesting that aggressive and subsequent violent actions are learned through social interaction and experiences in influential environments. This is especially true for adolescents as most of the social learning of this period of development occurs in the context of peers and desiring acceptance in social situations. Involvement in deviant circumstances and peers with delinquency provides a system of modeling and positive reinforcement that propagate acceptance of similar behavior (Akers, 1998).

Lastly, community factors in many ways are similar to peer risk factors and the structure of social learning leading to aggressive behavior. Larger community/neighborhood factors include: poverty, criminality, disorganization, prolific nature of weapons and exposure to violence. Often the perpetuated feelings of frustration, hopelessness, injustice, inequality, and devaluation of positive outcomes as unattainable can negatively impact even the youngest members of the community and increase the chances of manifesting aggression (Prinstein et al., 2001).

Evidence-Based Violence Prevention Programs

Prevention programs for reducing aggression to ultimately prevent violence in at risk youth are readily available and many are evidence-based. Prevention programs vary in focus on population, needs, and problems. Prevention programs can target specific risk factors in adolescent individuals. Prevention programs can also be universal programs used in schools that treat an entire population of adolescents or children, regardless of risk factors. The three main areas of focus for prevention programs are schools, families, and communities or peers.

A review of the literature shows support for school-based preventative programs. Systematic reviews and meta-analysis studies have yielded similar results in support of school-based prevention programs. Comparisons of control groups receiving no prevention programs to groups that did receive prevention programs with pre and post assessments showed significant results for a reduction in aggressive and violent behavior for those receiving the prevention programs (Mytton et al., 2002). A study published by the Centers for Disease Control and Prevention (2007) found universal school-based programs to be effective and to show improvement in other areas as well, including attendance, school achievement, reduction in drug use and other risky and inappropriate behaviors.

The importance of including families in prevention programs is based on an ecological perspective of the person. Individuals are affected by their environments and to only address one aspect will not result in as great or as long-term effects compared to programs that may consider family environments. Some prevention programs suggested for addressing the role of parents and/or other caretakers in a child's life include home visitations by nurses, Functional Family Therapy, Multisystemic Therapy, and behavioral parent training (Reese, Vera, Simon, Ikeda, 2000). Prevention programs involving families may be more expensive, may be more difficult to implement than universal school-based programs, and may not be able to reach as many individuals compared to school-based programs.

Community and peer influence also contribute to increased aggression, and prevention programs focused on this aspect of violence prevention look to Social Learning Theory and pro-social skills to reduce levels of aggression. Aggression is learned from observing others and experiencing the same behaviors. Research supports the use of Cognitive Behavior Anger Management Training, Aggression Replacement Therapy, prosocial skills training, and emotional and impulse regulation (Feindler & Engel, 2011).

A study by Terzian, Hamilton, and Ling (2011) looked at 123 different prevention programs that address externalizing behaviors, which include aggressive behaviors, and found strategies common to many that demonstrated positive results. The treatments found to work include teaching emotion regulation to at-risk youth, using family therapy, using culturally adapted programs, having parent training programs, teaching social skills to at-risk youth, and delivering a minimum of 30 sessions (Terzian et al., 2011). Teaching pro-social skills and emotion regulation are prevalent in the literature regarding aggression reduction. Prevention programs that include more than one strategy and multiple areas of an individual's life may result in more positive outcomes, however, the literature reviewed focused only on single impact studies (Terzian et al., 2011).

Theory and Research Questions

Evidence based prevention programs targeting aggression can help individuals to reduce aggressive behavior and attitudes. This study looks at the association between students who have participated in some type of aggression prevention program, how many and what types of programs, and the level of aggression the student indicated based upon an aggression scale that is reliability and validity tested. Causes of aggression vary among individuals, with biological, psychological, social, and environmental factors as critical systems in preventing the escalation of aggression. Evidence based prevention programs exist for all of these factors, and programs can involve the individual, the family, the social environment, the school, and the community. The association between aggression and prevention programs can be viewed with ecological systems theory (Brofenbrenner, 1994).

Ecological systems theory views individuals as biopsychosocial beings that interact within their environments. Environments exist on levels of interaction. The microsystem is comprised of the individual's most proximal and frequent interactive systems, like family, peers, and

school. The mesosystem is how the microsystems connect (Bronfenbrenner, 1994.) The more frequent and enduring interactions between the person and the microsystems are called proximal processes and affect the development of the person (Bronfenbrenner, 1994).

From the ecological systems theory, differing levels of aggression in individuals must be understood in looking at the biopsychosocial environment. Aggression is experienced by individuals in their environments. The more frequent and enduring interactions will impact the individual the most. To prevent aggression in individuals to escalating into aggressive or violent behaviors, preventative programs must target the mesosystems, or links between the microsystems, in order to impact the level of aggression. The ecological systems theory allows us to thoroughly analyze the environment of the aggressive individual and the most appropriate types of preventative programs.

The variables measured in this survey are levels of aggression and experiences of prevention programs that aim to reduce acts of aggression. For this survey, aggression is defined as a set of behaviors or thoughts, including threats or actions that may result in physical, verbal, or psychological harm to oneself or to others. Prevention programs are defined as actions taken to prevent or lower aggression and may address needs on a school, family, or community level. Intervention programs to lower aggression are actions taken to address maladaptive behaviors and coping skills, emotional or impulsivity regulation, prosocial skills, and anger management.

Research Questions:

1. What is the prevalence of aggression in a sample of college students?
2. What is the association between gender (IV) and aggression (DV)?
3. What is the association between behavioral disorders (IV) and aggression (DV)?
4. What is the association between experience of aggression prevention programs (IV) and aggression (DV)?
5. What is the association between experience of aggression intervention programs (IV) and aggression (DV)?

Behavioral disorders are incorporated in the research hypothesis as a potential link to aggression due to a magnitude of research findings concerning the predictive nature of the disorders on future aggression (Klinteberg et al., 1993). The behavioral disorders considered factors in creating a potential association with aggression are: ADD (Attention Deficit Disorder), ADHD (Attention Deficit Hyperactivity Disorder), Oppositional Defiant Disorder, and Hyperactivity/Impulsivity.

The association between gender and aggression is also examined. This association is observed in two ways. First, through basic demographics and the rates of reported aggression (through an aggression scale), a male-female aggression ratio was ascertained. Secondly, the aggression scale accounts for new research and the findings on 'relational aggression', defined as causing social harm to a peer through alienation/exclusion, gossiping and other forms of social abuse (Prinstein, Boergers & Vernberg, 2001). This form of aggression is more commonly identified in female adolescents than males. Through these means, two ways of identifying an association between gender and aggression in adolescents was researched.

Finally, the association between prevention programs and level of aggression is examined. Individuals' levels of aggression are compared with their reports of experiences of preventative programs. The speculative hypothesis is a negative correlation between the two variables. Individuals who indicate higher levels of aggression should report less or no occurrences of preventative programs.

Methods

Research Design

The survey conducted is a non-experimental, cross-sectional, quantitative design. The purpose of this survey is to provide a descriptive study of a sample of college students about the prevalence of aggression and the association between the measurement variables used in this survey. The data collected are deductive because the hypothesis formulated from the literature review led to the selection of measurement variables. The strength of the design is that it is a correlational study that may contribute to the existing knowledge base. The weakness of the design is that it is not generalizable beyond people who take surveys online, and the data are mostly categorical variables and therefore weaker data.

Participants and Data Collection

Data were collected in an online survey with a final total of 364 participants and 358 survey completions over a consecutive seven day period that the survey was activated. This method was chosen due to time and accessibility restraints. Lacking the means to conduct random sampling, we chose a method that allowed us relatively easy access to potential survey participants through the prolific nature of the internet among college students. Specific demographics were self-reported by the participants and as a result, a limit of this research is the inability to establish certainty of responses due to the anonymity of responders. Of the participants, 171 (48%) were male and 189 (53%) were female. The responders were all reportedly college students of varying ages with the majority belonging to the 18-23 year-old categories and outliers including over 26 years and under 18 years. The vast majority of research participants reported Caucasian race,

ethnic or national background (89%). Other demographics considered in the survey were college GPA, history of arrest, diagnosed disorders and education history. Of this, over half of participants achieve a GPA over 3.1, most have no history of arrests, education backgrounds varied but were largely public and responders with some diagnosable disorder such as ADD, Learning Disabilities, Oppositional Defiant Disorder etc. were approximately 29% of the total results.

Sampling

Participants for this survey came from a wide array of online sources. The link for the survey along with a description of the research and a statement firmly designating the survey to be taken only by those presently in college was established repeatedly in several websites. These websites included Tumblr (a blog hosting forum) with content geared specifically for college students, Twitter to a predominantly college-based audience and Reddit in subreddits including: Sample Size, Psychology, Mizzou, College, College Surveys and College Research.

This research was conducted through non-probability sampling, thus there is a lack of generalizability and representativeness. The specific sampling method used most was Purposive (judgmental) Sampling. Purposive was used most because the study was looking specifically for college students, therefore excluding potential respondents not currently enrolled in college. Our large sample size is a way in which we gained a representative sample of our intended population; college students that currently experience aggressive behavior and/or those that participated in preventative methods for treatment of aggression as adolescents.

Measurement

Demographic measures. Nominal variables were used to measure demographic factors, including gender, age, race/ethnicity, Hispanic origin, and current grade point average. Respondents were also asked if they had ever been arrested, if they had ever been diagnosed from a list of disorders in which they could check all that apply (Attention Deficit Disorder, Attention Deficit Disorder, Oppositional Defiant Disorder, Learning Disability, Hyperactivity/Impulsivity, Conduct Disorder), and what type of school they attended from ages 10-17, selecting all that apply (public, private, homeschool, charter or independent school). Respondents were given the option to write in other answers for the questions of race/ethnicity, diagnoses, and type of school attended.

Aggression Measures. An existing scale from the Multisite Violence Prevention Program was used to measure beliefs about aggression and alternatives to aggression. The scale is a twelve item Likert scale. The internal consistency of the scale is rated as .72 (Multisite Violence Prevention Program, 2004). An existing scale measuring relational aggression was also used because of the differences in gender and types of aggression in the review of the literature. The relational aggression scale is also a Likert scale, with 7 items and an internal consistency rating of .69 (Loudin et al, 2003). The Likert scale responses are ordinal variables, and the responses were totaled and converted into two composite variables for each respondent in order to analyze the data.

Prevention Program Measures. Respondents were asked to answer a set of four questions about violence prevention, as a nominal variable, when they were between the ages of 10 to 17. The options for answers were "yes," "no," "not offered," and "I do not know." These questions were about violence prevention programs offered in school and whether the respondent had participated in activities that taught about anger management, bullying, anti-aggression, and social skills. Another set of questions included two prevention program questions that asked how many times, between the ages of 10 to 17, the respondent participated in anti-aggression programs in their community and in their religious organizations. The responses were "never," "one time," "two times," "three of four times," "five or more times," and "I do not know."

Intervention Measures. Three items were included to ask about occurrences of anti-aggression interventions, as a nominal variable, that respondents may have received between the ages of 10 to 17. The items asked how many times the respondents were sent to the guidance counselor for behavior problems, went to a therapist outside of school, and went with family to a therapist outside of school. The possible responses were "never," "one time," "two times," "three of four times," "five or more times," and "I do not know."

Data Analysis

Reliability for this surveyconsists of two types: inter-rater and internal consistency. The survey was reviewed by the professor and peers for inter-rater reliability. The scales chosen for aggression measurement were developed by other researchers and found to have internal consistency ratings as discussed in the Methods section describing the variables. The survey also consists of two types of validity: face and construct. The survey measures contain each of the variables included in the research questions (face validity). The variables are based upon a review of the literature and linked to a theory (construct validity).

Frequency tables were used to analyze the percentages of responses and the distribution of each variable. Bivariate analysis was used to analyze the data in order to answer the research questions. Independent t-tests were used to find the association between gender and aggression, diagnosis of a behavioral disorder and aggression, participation in prevention programs and aggression, and experience of

interventions and aggression. The responses for the two aggression scales were collapsed into two aggression ratings for each respondent. These ratings were analyzed as continuous variables and used for analysis in an independent t-test for association with gender and behavioral disorders.

Results

Research Question 1: Prevalence of Aggression

Two scales were used to measure aggressive beliefs and attitudes with both scales indicating more aggression with lower scores. The first scale, which we refer to as the aggression scale, measured more traditional aggression based on violent acts, and the second scale, which we refer to as the relational aggression scale, measured covert aggression. Response scores on the aggression scale could range from 12 to 60; and the results were a total of 28 different response scores that ranged from 28 to 59. A lower number indicates higher aggression and a higher number indicates lower aggression. The mean score was 48.19, the median score was 49.0, and the mode score was 48. The distribution was skewed to the right, with more scores in the higher range. 9.4% of respondents scored 40 or lower, indicating higher aggression. 25% scored 45 or lower, and 74.9%, or almost 3/4ths of the respondents scored 46 or higher, indicating lower aggression.

		AGGSUM	RELAGGSUM
N	Valid	350	356
	Missing	8	2
Mean		48.19	32.24
Std. Error of Mean		.299	.324
Median		49.00	33.00
Mode		48	33
Std. Deviation		5.593	6.119
Variance		31.277	37.446
Range		31	35
Minimum		28	7
Maximum		59	42
Sum		16866	11478

For the relational aggression scale, possible response scores ranged from 7 to 42. The results included responses in the entire range with the minimum score of 7 and the maximum score of 42. A lower number indicates higher aggression and a higher number indicates lower aggression. The mean score was 32.24, the median score was 33.0, and the mode score was 33. This distribution was also skewed to the right, with more scores in the higher range. 9.0% scored 23 or lower, indicating higher relational aggression. 23.3% scored 28 or lower, and very similarly to the aggression scale, almost 3/4ths of the respondents, or 76.7%, scored 29 or higher, which indicated lower relational aggression.

Research Question 2: Gender (IV) and Aggression (DV)

Of the respondents, 47.2% indicated male for their gender and 52.5% indicated female gender. An independent t-test was used for the categorical variable for gender and the continuous variable composite scores for aggression. For the aggression composite score, the male mean score was 46.52 and the female mean score was 49.65. The differences were found to be statistically significant (p value = .000). Male

scores were lower, or more aggressive, than female scores by a mean difference of 3.129. However, for the relational aggression composite score, the male mean score was 32.41 and the female mean score was 32.05, only slightly higher, or more aggressive, and not found to be statistically significant (p value =.582).

Aggression and Gender

Research Question 3: Diagnosis of Behavioral Disorder (IV) and Aggression (DV)

For the behavioral diagnosis variables, 73.5% of respondents did not check any disorders, indicating "no" behavioral disorder diagnosis, and 26.5% checked one or more behavioral diagnoses, indicating a "yes" response to having been diagnosed with a behavioral disorder including the "other" response category option. An independent t-test was used for the categorical variable of "yes" or "no" for diagnoses of a behavioral disorder and the continuous variable composite scores for aggression. For the aggression composite score, the "no" diagnosis mean score was 48.21 and the "yes" diagnosis mean score was 48.13. This was a mean difference of .077 and was not statistically significant (p value =.911). For the relational aggression composite score, the "no" diagnosis mean score was 32.19 and the "yes" diagnosis mean score was 32.37. The mean difference .178 and was not statistically significant (p value =.910).

Aggression and Behavioral disorder diagnosis

Research Question 4: Prevention Programs (IV) and Aggression (DV)

For each of the variables that measured participation in prevention programs, we used univariate frequency analysis. 11.5% indicated participation in school programs that taught about anger management. 47.9% indicated participation in school programs teaching about bullying. 22.1% indicated participation in school programs teaching anti-aggression exercises. 28.8% participated in school programs teaching pro-social skills. 2.8% participated in a community anti-aggression program. And 2.0% participated in a church or religious group anti-aggression program.

Respondents who indicated that they had participated in one or more aggression prevention programs were compared with those who indicated no participation in aggression prevention programs. 55.3% of respondents indicated participation in one or more program categories and 43.9% of respondents had no participation in any of the aggression prevention programs. An independent t-test was used to compare the mean difference of the composite score variables for aggression for these two groups.

For the aggression score, the group with prevention program participation had a mean score of 47.87 and the group with no participation had a mean score of 48.64. This was not found to be statistically significant (p value =.205). For the relational aggression score, the group with prevention program participation had a mean score of 31.77 and the group with no participation had a mean score of 32.91. This was also not statistically significant (p value =.080). However, when we looked at each different type of aggression prevention program, we did find some statistical significance.

For school programs teaching about anti-aggression, we found statistical significance for relational aggression (30.78 mean score for participation, 32.66 mean score for no participation, and p value =0.016). Statistical significance was not found for the aggression score for the anti-aggression variable. We also found statistical significance for community anti-aggression programs for the relational aggression mean scores (no participation mean score of 32.42 and participation mean score of 26.20, and p value =.001). There was no statistical significance for the aggression mean scores. For these two variables, school anti-aggression programs and community anti-aggression programs, the groups who participated in the programs had mean scores that indicated higher levels of aggression than the groups who did not participate.

Aggression and Prevention Programs

Aggression and School anti-aggression program

Aggression and Community anti-aggression program

Research Question 5: Intervention Programs (IV) and Aggression (DV)

Of our sample, 64% indicated that they had never been sent to see the school guidance counselor for behavior problems and 35.7% indicated that they had been sent to the guidance counselor for behavior problems. Of those who were sent to the guidance counselor, 16.2% went one time, 6.4% went two times, 4.7% went three or four times, and 8.4% went five or more times. For the variable of seeing a therapist or counselor outside of school for help, 60.6% said that they had never gone and 38.3% had gone.

Of those who did see a therapist or counselor, 7.0% went once, 3.1% went twice, 4.8% went three or four times, and 22.5% went five or more times. For the variable of going to see a family therapist outside of school for help, 75% said that they had never gone and 23.8% had

gone one or more times. Of those who had gone, 7.0% went once, 2.2% went twice, 3.4 % went three or four times, and 11.2% went five or more times.

Respondents who indicated that they had received an intervention were compared with those who indicated that they had never received an intervention. For all three intervention variables combined, 40.8% received no interventions and 59.2% received one or more interventions. We found no statistical significance for therapist or family therapist or for guidance counselor and the relational aggression score. However, we did find statistical significance for the guidance counselor for the aggression score (48.79 mean score for those who had not been sent, 47.10 mean score for those who had been sent, and p value =.011). The group that had been sent to the guidance counselor indicated higher aggression than those who had not gone.

Aggression and Guidance Counselor

Discussion and Conclusion

Overall, the composite scores for aggression were toward lower aggression, or agreement with the less aggressive response choices. The results were the same for both traditional aggression and relational aggression, with lower prevalence of aggression in the respondents. Male respondents were found to be more traditionally aggressive than female respondents, and this result was statistically significant. Female scores were only very slightly more aggressive than male scores for relational aggression, however, this result was not statistically significant. One quarter (26.5%) of our respondents indicated a diagnosis of a behavioral disorder, however, we found no significant differences in aggression between respondents with a diagnosis and those without a diagnosis.

We found that 55.3% of our respondents had participated in one or more types of the prevention programs we listed. This finding contributes to the knowledge base because our literature review suggests a gap in the data on how many adolescents are participating in prevention programs. We found that almost half of the respondents (47.9%) had participated in school anti-bullying programs. Schools provided almost all of the prevention programs for our respondents while only very few respondents participated in community prevention programs.

Although we found little statistical significance in our results, the interesting find was that respondents who participated in prevention programs overall, had higher mean scores than those who did not. This finding could be important for future research in looking at which schools are providing these programs and to which demographics. Pre-test and post-test aggression scores in schools that provide prevention programs could be compared to aggression scores in schools that do not. Perhaps the schools providing programs are in areas with higher risk factors for aggression. If so, this could explain the higher aggression in respondents who participated.

We also found a fairly high number of respondents who received interventions with 35.7% having gone to the school counselor for behavior problems, 38.3% seeing a therapist, and 23.8% seeing a family therapist. The group who saw the school counselor was more aggressive than the group who did not, and this result was statistically significant. However, the mean score difference was only 1.69. Future research could explore pre-test and post-test aggression scores on students sent to guidance counselors for behavior problems.

Research of aggressive behavior in adolescents and the prevention programs they received is a field of research that has not yet been fully explored. In the wake of recent acts of violence perpetrated by young people, new research is being conducted to examine what leads to these events and what steps can be taken to avoid future incidences. A previous study found that young people that display aggressive tendencies and do not participate in any preventative measures are shown to develop higher levels of aggression as they grow older. The study also found that these young people would not attain as high professionally and make considerably 'riskier' health choices than their non-aggressive counterparts (Gambarino, 2009).

Another study used control groups and assessments to find statistical significance of reduced aggression in adolescents receiving preventative programs (Mytton et al., 2202). Lastly, a study we researched and used to guide much of our conceptualization of our implication interpretation, was conducted by the Centers for Disease Control and Prevention (2007). The study discovered that school-based approaches to prevention programs based on a uniform method of application and assessment were successful for targeting aggression as well as improving attendance, school achievement and decreasing a wide range of other risk behaviors from the adolescents involved.

As these studies correlate to our own, we did not find statistical significance between those that participated in programs and subsequent levels of aggression. Furthermore, much of our research concerning previous studies touting the benefits of aggression prevention programs and the lowering levels of aggression among the adolescent participants does not resemble our findings of the effect of prevention or intervention techniques on aggressive behavior.

Additionally, a study pertaining to the concentration habits as well as diagnosable disorders such as ADD, ADHD in adolescent boys and more found that within ten years 15% would be arrested on the charge of violent act (Klinteberg et al., 1993). Our research did not find significance between the concentration habits/diagnosable disorders and aggression or arrests.

We also researched studies addressing the range of different aggressive behaviors. Many of the studies we encountered supported the notion that relational aggression (social harm to a peer through alienation/exclusion, gossiping and other acts of social abuse) is more prevalent in females than in males. These studies also supported the idea that overt, or more physical aggression, is encountered more significantly in males than females. From our own research, we found that there was not a considerable difference between relational aggression in males and females. However, our research did concur with previous studies that overt aggression is more prevalent among males.

A specific example of how social workers can implement this and further studies into their practice is the evaluation and selection of the most effective prevention programs and subsequently standardizing prevention programs among schools. The specific programs that could be implemented may include anti-bullying, anti-aggression and pro-social skills.

The theory we utilized to shape our approach to this research was Ecological Systems theory as it places importance on the influences such as biology, the social sphere and the psyche of every individual. Our results concerning different traits such as possible disorders, experiences with programs in schools, personal history as it relates to an arrest record and the individual's approach to different types of aggression is a way in which we incorporated the importance of every individual's experiences and environment. Research that utilizes interviews as a data collection method could further fulfill this theory and provide greater insight into the struggles of aggressive adolescents in our society.

A major limitation to this research was the non-random, convenience approach to sampling. As a result, we did not achieve a representative sample and we are therefore unable to claim generalizability. Further research should take care to use random sampling in order to find the most significant sample possible. In addition, because we discovered ineffectiveness of the programs our participants had participated in, further research may examine the programs themselves. Through this, the research can examine pre and post assessments of aggressive behavior to target outcomes of participants while still somewhat a part of the programs. Research of this kind that is studying the programs themselves can also examine different approaches such as school or community based as well as the effectiveness for participants of different backgrounds and those that fit at-risk criterion.

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Appendix

Survey Questions:

1. What is your sex?

Male

Female

2. What is your age?

Less than 18 years

18 years to 20 years

21 years to 23 years

24 years to 26 years

26 years or older

3. What is your cultural, racial or ethnic background? (check all that apply)

Caucasian/White (includes French, German, Irish, etc.)

African American/Black

American Indian or Alaska Native

Asian

Native Hawaiian or Other Pacific Islander

Other: Specify ________________________________

4. Do you consider yourself to be of Hispanic, Latino, or Spanish origin?

Yes

No

5. What is your approximate GPA currently:

0-1.5	2.6-3.0
1.6-2.0	3.1-3.5
2.1-2.5	3.6-4.0

6. Have you ever been arrested?

Yes

No

7. Have you ever been diagnosed with any of the following (check all that apply):

Attention Deficit Disorder (ADD)

Attention Deficit Hyperactivity Disorder (ADHD)

Oppositional Defiant Disorder

Learning Disability

Hyperactivity/Impulsivity

Conduct Disorder

Other: Specify ______________________________

None

8. What type of school(s) did you attend aged 10 to 17 (please select all that apply):

Public Charter/Independent School

Private Other ______________________________

Homeschool

For the next set of questions, please answer if you Agree strongly, Agree somewhat, Disagree somewhat, or Disagree strongly with each of the statements.

	Agree strongly	**Agree somewhat**	**Disagree somewhat**	**Disagree strongly**
9. If I'm mad at someone, I just ignore them.	1	2	3	4
10. Even if other people would think I'm weird, I would try to stop a fight.	1	2	3	4
11. Sometimes a person doesn't have any choice but to fight.	1	2	3	4
12. It's O.K. for me to hit someone to get them to do what I want.	1	2	3	4
13. When my friends fight, I try to get them to stop.	1	2	3	4
14. If I back down from a fight, everyone will think I'm a coward.	1	2	3	4
15. There are better ways to solve problems than fighting.	1	2	3	4
16. I try to talk out a problem instead of fighting.	1	2	3	4
17. I feel big and tough when I push someone around.	1	2	3	4

18. If people do something to make me really mad, they deserve to be beaten up.	1	2	3	4
19. Sometimes I have only two choices: get punched or punch the other person first.	1	2	3	4
20. If I get crazy with anger, it's O.K. to hit someone.	1	2	3	4

Please answer the next set of questions how each best describes you.

	Very likely	Somewhat likely	A little likely	A little unlikely	Not very likely	Not at all likely
21. When angry or mad at a peer how likely are you to give him/her the "silent treatment?"	1	2	3	4	5	6
22. When angry or mad at a peer how likely are you to try to damage his/her reputation by passing on negative information?	1	2	3	4	5	6
23. When angry or mad at a peer how likely are you to try to retaliate by excluding him/her from group activities?	1	2	3	4	5	6
24. How likely are you to intentionally ignore a peer, until s/he agrees to do something you want them to do?	1	2	3	4	5	6
25. How likely are you to make it clear to a peer that you will think less of him/her unless they do what you want them to do?	1	2	3	4	5	6
26. How likely are you to threaten to share private information with others in order to get a peer to comply with your wishes?	1	2	3	4	5	6
27. When angry or mad at a same-sex peer, how likely are you to try and steal that person's dating partner to get back at them?	1	2	3	4	5	6

The next sets of questions pertains to your experiences with violence prevention. Please think back to when you were aged 10 to 17, and answer the following questions as they best apply to you then.
When you were in school (include any experiences in middle, junior, or high schools), did you partake in any of the following activities or programs? If your school did not offer these programs, please select "Not Offered."

	Yes	No	Not Offered	I do not know
28. Activities or exercises that taught about anger management (other ways to express or control anger)?	1	2	3	4
29. Activities or exercises that taught about bullying (preventing bullying or how to deal with bullies)?	1	2	3	4
30. Activities or exercises that taught about anti-aggression (finding ways other than violence to deal with problems)?	1	2	3	4
31. Activities or exercises that taught about social skills (how to get along better with other people)?	1	2	3	4

For each of the following set of questions, please answer how many times any of these things happened to you between the ages of 10 to 17.

	Never	One time	Two times	Three or four times	Five or more times	I do not know
32. You were sent to the school guidance counselor for behavior problems.	0	1	2	3	4	5
33. You went to a therapist or counselor for help outside of school.	0	1	2	3	4	5
34. Your family and you went to a therapist or counselor for help outside of school.	0	1	2	3	4	5
35. You participated in an anti-aggression program offered in your community.	0	1	2	3	4	5
36. You participated in an anti-aggression program offered in your church or religious organization.	0	1	2	3	4	5

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