HISTORICAL PATTERNS AND UNDERLYING CAUSES IN THE RELATIONSHIPS BETWEEN SPECIFIC TYPES OF DISABILITIES AND SUBSTANCE ABUSE OR WEAPON OFFENCES IN PUBLIC SCHOOLS FROM 2001 TO 2011

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ABSTRACT

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HISTORICAL PATTERNS AND UNDERLYING CAUSES IN THE RELATIONSHIPS BETWEEN SPECIFIC TYPES OF DISABILITIES AND SUBSTANCE ABUSE OR WEAPON OFFENCES IN PUBLIC SCHOOLS FROM 2001 TO 2011

The purpose of the study was two-fold: (a) to analyze the historical pattern of substance or weapon abuse incidents by students with different types of disabilities from 2001 to 2011 using the Data Accountability Center data sets (Individuals with Disabilities Education Act (IDEA) Data, 2013) and the information from the National Center for Education Statistics about the number of students with disabilities receiving special education services under IDEA (2013) (http://nces.ed.gov/fastfacts/display.asp?id=64); and (b) to explore underlying causes of substance abuse or weapons offence incidents.

Regarding the historical pattern, the analysis showed that a significant and consistent pattern exists in the relationship between type of disabilities and frequency of substance or weapons offences. Students with emotional disturbance had been more likely to have substance abuse or weapons offences when compared to students who were in the categories of specific learning disabilities, traumatic brain injury or an intellectual disability from 2001 to 2011. Whereas specific learning disability students' incidents ranked second, those with traumatic brain injury or intellectual disabilities showed the minimal number of offenses for substance abuse or weapons offences in the years 2001-2011.

During the interview portion of the research, most interviewees perceived that students with emotional disabilities would be at risk for higher substance or weapons offence referrals compared to students with other types of disabilities. This finding was consistent with the statistical analysis found through Chi-Square tests. When asked about a causal relationship, a range of personal factors including being lonely, being bullied, seeking attention, being disrespectful or being impulsive were the key factors for the student having either substance abuse or weapons offences referral. Most of the interviewees addressed that such personal contexts seem to be more critical factors for students with disabilities to have discipline referrals for substance or weapons abuse rather than the type of disability itself, noting that the issues of substance or weapon abuse are not limited to students with disabilities but applied to students without disabilities. The interviewees' responses supported the historical pattern from 2001 to 2011 that showed that a very small percentage of students with disabilities—less than 1% of students with disabilities with a range from .01% to .39%, had been involved in substance or weapon abuse across the nation.

The results of this study suggest that diverse stakeholders including educators dismiss any beliefs that students with disabilities often have substance or weapon abuse problems. Instead of having the prejudice against students with disabilities, this study urges to ensure all students with disabilities are fully inclusive in their classrooms and community.

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I did not realize the impact this process would have on my life as each step was completed and another requirement checked off the list. It is with an abundance of gratitude that I wish to thank and dedicate this accomplishment to my husband, John, who saw in me more than I ever could imagine. It was his love, which carried, tugged and pushed me to finish-- many times when I was ready to quit. God has blessed me with daughters, son- in- laws, grandbabies, and siblings who were always supportive and ready to give a hand or a hug if needed, along with a host of friends and co- workers who believed in me. To Wynonne and Carolyn, who told me (on more than one occasion) to "put my big girl undies on and just get it finished," I thank you as well.

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INTRODUCTION

Violence in public schools has been a long-standing problem in our nation (Mayer & Furlong, 2010). The first documented case of violence in public schools goes back to 1764 in Greencastle, Pennsylvania, where 11 schoolchildren and their teacher were scalped. One child, despite being scalped, survived and lived in a demented mental state due to the incident he endured (Crump, 1992). Since 1992, there have been 387 public school shootings in the United States. If one breaks the 387 shootings down by age groups of victims, the statistics are very somber. Ages zero through nine years, 31 killed (6%); ten to nineteen years, 300 killed (59%); 20 years or older 179 killed (34%) (Algard, 2013).

In 2007, Seung-Hui Cho shot 32 people at Virginia Tech University and then committed suicide (Geiger, 2012). During the investigation, it was disclosed that Cho had been previously diagnosed as mentally ill. In fact, in 2005, the court system deemed him mentally incompetent and directed him to seek mental treatment due to being a danger to himself (Price & Norris, 2010). Unfortunately for the people he killed, his mental information was not entered into the National Instant Criminal Background system, and thus he was permitted to purchase a gun. Weapon possession by people with mental illness has received intense publicity since the recent gun violence tragedy in Newton, Connecticut, where Adam Lanza, shot 6 adults and 20 children at Sandy Hook Elementary on December 14, 2012 (Crimesider Staff, 2013).

While substance abuse problems in public schools are not as prevalent in the national headlines as weapons related violence, they are still a concern. In the general population of students, 15% have a substance abuse problem; however, those with disabilities are 30% to 60% times more likely to have a substance abuse problem over their peers without disabilities (U.S. Department of Health and Human Services, 2010). According to the U.S. Department of Education (2012), public schools had 75,702 substance abuse cases by students with disabilities from 2001 to 2011. Specifically, the U.S. Department of Health and Human Services states that those with spinal cord injuries, orthopedic disabilities, visually impaired or amputees are more likely to consume alcohol, with 40 to 50% classified as "heavy drinkers" defined as more than 14 drinks per week for males or more than seven drinks per week for female. Persons with traumatic brain injuries, spinal cord injuries or mental illness are 50% more likely to use substance abuse to help them cope with their disability, than their peers do (U.S. Department of Health and Human Services, 2010).

Although there are studies and reports which have addressed the association between specific disabilities and substance abuse or weapons offense (U.S. Department of Health & Human Services, 2010; U.S. Department of Education, 2012), few previous studies have examined the historical pattern between a specific disability type and substance abuse or weapons offenses in public schools from 2001- 2011. The historical pattern will provide useful information that suggests how well our public school systems have made a systematic approach to public school violence prevention over the past decade. In addition, there are few studies exploring the factors affecting high exclusionary discipline rates of students with disabilities (Williams, Pazey, Shelby, & Yates, 2013). A previous study by Williams and colleagues showed public school administrators and special educators have a prejudice that

students with disabilities threaten the safety of public schools and community with disproportionate exclusionary discipline rates for students with disabilities. Concerning the prejudices of public school administrators and special educators, one may raise a question of how public school administrators and special educators perceive the underlying causes of the disproportionate exclusionary discipline rates among students with disabilities. Thus, through interviewing public school administrators and special educators, this study could identify the factors that potentially lead to the relationships between specific types of disabilities and substance abuse and weapon offences.

Statement of the Problem

Students with disabilities in the United States, along with its commonwealths, territories and minor islands, are facing a crisis of public school office referrals for substance abuse or weapons offences. Within the realm of the students with disabilities, the number of public school shootings and the incidents of substance abuse are rising as well. From 2001 to 2011, public schools reported 75,702 substance abuse incidents and during the same period, 36,095 incidents regarding weapons offenses of students with disabilities (Individuals with Disabilities Education Act (IDEA) Data, 2013). The number of incidents should be of concern to all. Understanding which particular disability categories are being referred for substance abuse or weapons offences could be of value to the stakeholders who work with students every day.

Some startling statistics were brought to light in the February 2012 report, *Indicators of School Crime and Safety: 2011.* In the 2009-2010 school year, there were 5,800 incidents of office referrals for weapons usage or possession on school grounds. Twenty-nine percent of public schools took some type of disciplinary action for substance abuse, and 16 % of the

schools reported taking disciplinary actions for weapons referral. The data presented considered all students in the public school population, but no indication was shown as to whether the student had a disability or not (Robers, Zhang, Truman, & Snyder, 2012). One may question if students with disabilities had also been referred for weapons offences or substance abuse within the context of the 5,800 incidents.

Unlike the report by Robers et al. (2012) which gave statistical data on all students, a report by U.S. Department of Health and Human Services (2010) revealed that students with disabilities are 30% to 60% times more likely to have a substance abuse problem compared to peers without disabilities. Students with disabilities tend to be at a higher risk of being abusers of substances like drugs and alcohol. Those with cognitive disabilities who are taking prescribed medications face the chances of the prescribed medication adversely interacting with illegal substances or alcohol (U.S. Department of Education, 2012).

There is a consensus that people with a mental illness show an increased violent risk when compared to those without a disability (Van Dorn, Volavka & Johnson, 2011). When a sample of 22,914 individuals with Traumatic Brain Injury (TBI) was compared to a control population of 229,118, Van Dorn and colleagues found that those categorized as TBI who also displayed substance abuse usage had higher incidents of violence. Moreover, the number of individuals committing a crime after TBI diagnosis was 2,011 of 22,914 in the study population (Wagner et al. 2011). These numbers correspond to a 5.8% increased risk of violence in the study group as conducted by British and Swedish scientist spanning a 35-year period (Fazel, Lichetenstein, Grann, & Langstrom, 2010).

Another study by Tyrer et al. (2006) found that the prevalence for violence is slightly higher among individuals with learning disabilities compared to individual without disabilities. Out of 3,065 adults in the category of learning disabled, roughly 14% (443) were

physically aggressive toward others which suggests a possibility of abusing weapons. The incidents of aggression increased when certain variables were present. For example, younger patients showed more aggression than those who were middle aged. If the patient was placed in an institutional setting or had a more severe disability, it could also contribute to aggressive behaviors. However, this study found no connection of physical aggression with individuals diagnosed with autism or epilepsy.

In 1990, due to concern over the number of violent crimes committed by students who are emotional disturbed, Wagner and Newman (2012) began a study of ED students who had been out of high school for four years. The National Longitudinal Transition Study (NLTS) found that 36% of the 247 students had been arrested in 1990. When revisited in 2005, the percentage changed to 60.7% of 248 students which had a gain of 27.4 % in terms of arrest record. No further explanation was given as to the causative factors for the arrests. The interview and survey asked if they had been arrested for something other than a traffic violation, spent the night in jail, or were on probation. They blamed the rise in arrests on a non-disclosure of the emotional disturbance by the individual. By not disclosing their disabilities, graduates then set themselves up for not getting the assistance needed in the transition from post-school to the work environment. One of the concerns of the study by Wagner and Newman was with the validity of the data that parents reported or students self-reported. The question of validity, as with all self-reported data, may need to be considered for the responses given (Wagner & Newman, 2012).

In *The Post-High School Outcomes of Young Adults with Disabilities up to 8 Years After High School*, students were asked how many times in the past 12 months did they carry a weapon such as a gun, knife or club? Twenty four percent of the emotionally disturbed had carried a

weapon in the last 30 days, and 11% of those had carried a weapon for six or more days (Wagner et al., 2011). This study relied on student self- disclosure of information or the parent's disclosure of information for their child if the child either refused to answer interview questions or was unable to be reached. This type of format could cause one to question how accurate was the reporting due to the perceptional differences, if the child had been able to respond, as opposed to a parent's image of what their child may or may not have done.

Nationwide, in 2011, 5.4% of students admitted to carrying a weapon at least once on public school property one month prior to answering the survey (Eaton et al., 2012). In 1993-2003, the number of those who had carried a weapon on school property decreased by 5.7% (Eaton et al., 2012). In 2003-2011, the number of students who admitted carrying a weapon decreased 0.7% (Eaton et al., 2012). From 2009 to 2011, the drop of 0.2% is not as much of a downward trend as the previous years but heading in the right direction (Eaton et al. 2012). However, the percentage decrease from 2009 to 2011 is not statistically significant.

Significance of the Study

While it has been well documented that there is an association between types of disabilities and substance or weapon offences based on prevalence rates of substance abuse among persons with disabilities, few studies have analyzed the historical pattern on this issue. Studying the historical patterns and underlying causes in the relationship between specific disability types and weapon or substance abuse could suggest ways in which school

environments and resources can prevent students with specific disabilities from abusing substances or weapons.

The study identifying the historical pattern in the relationship between specific types of disabilities and weapon or substance abuse would suggest ways of improving special education programs that can prevent students with disabilities from using substances or weapons. In fact, prevention, intervention, and treatment services tailored to the needs of persons with disabilities are limited (U.S. Department of Health & Human Services, 2010). In addition, it would be informative to explore the factors that lead to the relationship between a disability and substance abuse and/or weapon offence.

The percentage of students with disabilities served under the Individual with Disabilities Education Act (IDEA) has increased from 8.3% in 1976 to 13.1% in 2012 (U.S. Department of Education, 2012). With a growing population of students with disabilities in our school system, historical patterns would imply the extent to which our school system has made practical efforts for students with disabilities to access psychosocial resources (which help them manage their behaviors and prevent them from abusing substances or weapons). With the historical patterns, it would be valuable to identify the potential factors that cause the relationship between types of disabilities and substance abuse or weapon offences.

Purpose of the Study

The purpose of the study is two-fold: (a) to analyze the historical pattern of substance or weapon abuse incidents by students with different types of disabilities from 2001 to 2011, using the Data Accountability Center data sets (Individuals with Disabilities Education Act (IDEA) Data, 2013) and the information the National Center for Education Statistics about the number of students with disabilities receiving special education services

under IDEA provided (2013) (http://nces.ed.gov/fastfacts/display.asp?id=64) and (b) to explore the factors that cause the relationships between types of disabilities and substance or weapons offence incidents. Of note, the year 2001 should be set as the base year of analyzing of historical pattern, given the available information provided by the IDEA data. The following research questions guided the study.

Research Questions

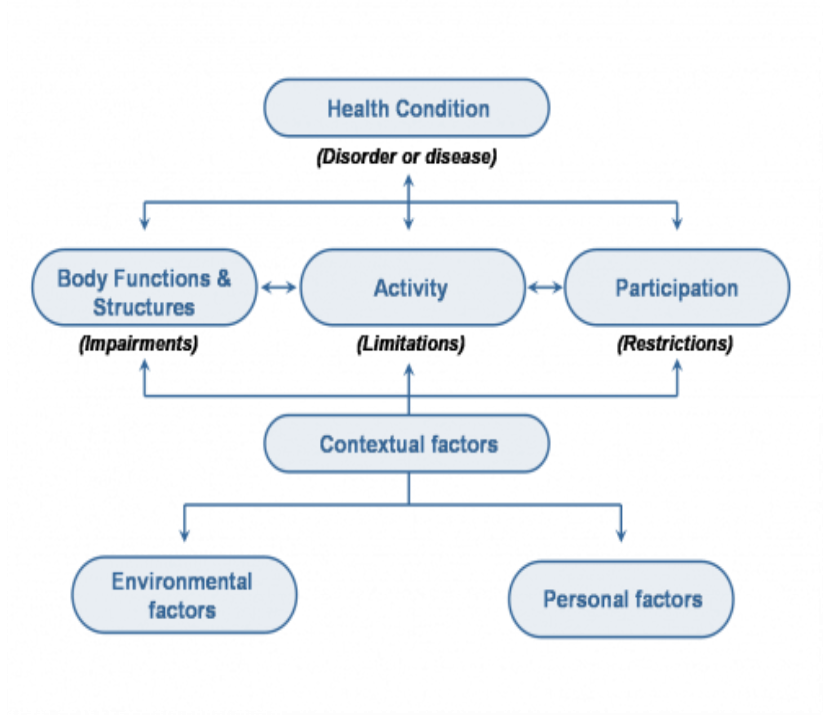
1. To what extent has the relationship between specific disability types and substance abuse changed from the year 2001 to 2011?
2. To what extent has the relationship between specific disability types and weapons offences differed from the years 2001 to 2011?
3. What are the factors that cause the relationship between specific disability types and substance abuse and weapons offences?

Conceptual Framework

The International Classification of Functioning conceptually frames this study for Disability and Health (ICF) (Kostanjeck, 2011). As shown in Figure 1, ICF indicates that limitation in body function of individuals with specific types of disabilities can restrict their cognitive and behavioral activities that can cause irrational behaviors. Guided by the ICF, this study assumes that without the essential and obligatory interventions, persons with a specific type of disability may risk and limit the judgment necessary not to involve themselves in undertaking illegal activities or substance and weapon abuse. Through deciphering the historical patterns of substance abuse or weapons offence pertaining to individuals with a specific disability, this study sought to determine if practical efforts have been made in the area of interventions to suppress the escalation of substance and weapons abuse of students with disabilities in public schools. In addition, through conducting

in-depth interviews with school administrators and special educators, this study identified factors that potentially cause the relationships between types of disabilities and substance abuse and/ or weapons offences. The potential factors mirror "contextual factors" in the ICF.

Figure1.
International Classification of Functioning, Disability, and Health (ICF)



(Kostanjeck, 2011)

Limitations

The limitations of the study are as follows:

The data set was retrieved from the years of 2001-2011 from the Data Accountability Center (DAC) website. The DAC is a public site that provides data on children and youths with disabilities. Using the DAC public dataset, beyond specific types of disabilities that students have, the study cannot consider the effects of many other potential factors (e.g., demographic characteristics, family and community background, etc.) on substance abuse and weapon offences of students with disabilities.

Second, the DAC public dataset did not categorize the types of weapons or substance used by students with disabilities. Thus, in this study, the types of weapons and substances are described based on a dictionary definition, found in the section of Definition of Terms.

Third, this study divides the United States into four quadrants: the Northeast, the South Central, the Midwest, and the West regions. Interviews five school administrators or special educators in public schools from each section were conducted in this study. Their perceptions might be subjective and possibly could not represent the perceptions of every school administrators and special educators across the nation.

Delimitations

The delimitations of the study are as follows:

The parameters are public school office referrals for substance abuse or weapons offences and specific categories of disabilities in the data pool in the United States and outlying areas. Only students in public schools in any of following specific categories of Emotionally Disturbed, Specific Learning Disabilities, Intellectual Disabilities and Traumatic Brain Injury were used in this study. The following four specific categories Emotionally Disturbed, Specific Learning Disabilities, Intellectual Disabilities and Traumatic Brain Injury were limited to look at the historical pattern given the literature that individuals with these four types of disabilities are most likely to be involved in substance abuse or weapons offences among the 13 disability categories recognized by IDEA.

The interviewees are delimited to five school administrators or special educators in public schools from each of the four quadrants of the United States-- the Northeast, the South Central, the Midwest, and the West regions.

Definition of Terms

There is a wide variety of descriptive terminologies specific to the field of Special Education. The following definitions will serve to aid in the understanding of those terms for the purposes of this study.

Emotional Disturbance:

> A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: An inability to learn that cannot be explained by intellectual, sensory, or health factors. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. Inappropriate types of behavior or feelings under normal circumstances. A general pervasive mood of unhappiness or depression. A tendency to develop physical symptoms or fears associated with personal or school problems. Emotional disturbance includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance under paragraph (c)(4)(i) of this section (U.S. Department of Education).

Mental Retardation (Intellectual Disability)

> One with a significantly sub average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance (U.S. Department of Education).

Other Health Impairment:

Having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and adversely affects a child's educational performance (U.S. Department of Education).

Outpatient Facilities

Outpatient facilities are treatment facilities in which an overnight stay is not required and one is able to obtain treatment, diagnosis, or information (Medicine Net, 2012).

Specific Learning Disability

Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Disorders not included. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage (U.S. Department of Education).

Substance Abuse

MedicineNet.com (2012) defines substance abuse as the "excessive use of something," either drugs or alcohol. This premise further states, where it impairs

daily life, (missing school/work), making dangerous judgments (driving under the influence), social problems (verbal or physical fighting), and legal issues (arrests, wrecks, speeding) constitute excessive use. For the purposes of this study, "substance" can be defined as any of the following: illegal drugs, cigarettes, alcohol, or any prescription medication used or abused by persons illegally.

Traumatic Brain Injury

An acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma (U.S. Department of Education).

United States and Outlying Areas

United States, along with its outlying areas of Puerto Rico, Guam, U.S. Virgin Islands, American Samoa, Northern Marianna Islands, Midway Islands, Wake Island, Johnston Atoll, Baker, Howland and Jarvis Islands, Kingman Reef, Navassa Island, Palmyra Atoll, comprise the basis for the research data pool (Pearson Education, 2007).

Weapons

In Federal Code, weapon, is redefined as "dangerous weapon." Dangerous weapon is defined to mean " a weapon, device, instruments, material, or substance, animate

or inanimate, that is used for, or readily capable of, causing death or serious bodily injury," except that such term does not include a pocket knife with a blade less than 2.5 inches in length (NICHCY, n.d.).

CHAPTER 2

REVIEW OF RELATED LITERATURE

This section reviews previous studies that have explored the relationships between specific types of disabilities and substance abuse or weapon offences. The literature review of substance abuse among specific types of disabilities will be addressed first. Subsequently, studies or reports focusing on the relationship between weapon offences and specific types of disabilities will be described. Finally, with the summary of the literature review, the potential contribution of this study to the literature is explained.

Substance Abuse among Individuals with Specific Types of Disabilities

Many studies have often reported individuals with learning, intellectual, and mental health related disabilities were more likely to abuse substances over those in the general population (Chapman & Wu, 2012; McCrystal, Percy & Higgins, 2007; West, 2011). In these studies, mental health-related disabilities were often exemplified by substance abuse among individuals who were emotionally disturbed, had specific learning disabilities and/or cognitive disabilities. It has been well documented that there is an association between substance abuse and learning disabilities. Beitchman, Wilson, Douglas, Young, and Adlaf (2001) found that students with learning disabilities abuse substances at a higher rate than non-disability peers. Also, a study entitled Belfast Youth Development Study (BYDS) considered the occurances of substance abuse among students with moderate learning disabilities in public and those in a special school setting for four years (McCrystal et al.,

2007). The results of the BYDS revealed that the students who attended the specialized school showed lower usages of substance abuse, specifically alcohol or cigarettes, than peers in a public school. The result implies that a special school setting might have more intensive education programs or regulation to prevent students with learning disabilites from substance abuse usage than those of a public school.

Similarly, the National Center on Addiction and Substance Abuse at Columbia University (2000) indicated individuals with disabilities are more likely to abuse substances over the general populations suggesting that 40% to 60% of people who received substance abuse treatment had some type of learning disability. Specifically, this report indicated a student with a learning disability tends to suffer from some or all of the following characteristics: poor self-esteem, peer pressure, a need for acceptance, depression and poor scholastic performance which leads to an inappropriate decision to "self- medicate" through illegal substance abuse. In a sample of 201 adolescents, Yu, Buka, Fitzmarurice, and McCormick (2006) investigated the effects of 6-month substance abuse treatment program at a Massachusetts residential treatment facility between 1992 and 1993. Yu and colleagues found that students with learning disorders were twice as likely to return to substance abuse after treatment in comparison to peers without learning disabilities.

A study by Molina and Pelham followed 109 students with a learning disability and ADHD into their adolescence to determine their substance abuse or usage. They found students with ADHD were more likely to try cigarettes at an earlier age. The students who were more apt to smoke heavily and on a daily basis were those students who had higher verbal comprehension ability. In their adolescence, those students who had higher IQ scores were less likely to drink heavily, and those who were better readers were less likely to have and maintain a substance abuse problem. (Molina & Pelham, 2001).

Using five different studies that conformed to the criteria of providing collaborating evidence between a learning disability and substance abuse and also included a non-disabled peer group for comparison; Cosden (2001) found two conflicting statements,

"A majority of individuals with learning disabilities do not abuse substance, and a greater proportion of individuals with learning disabilities use and abuse certain substances than do individuals without learning disabilities." For example, one of the studies (Karacostas and Fisher, 1993) Cosden cited revealed that thirty students were deemed as chemically dependent based on their survey responses. Twenty four percent of students who were chemical dependent were learning disabled, compared to nine percent of their nondisabled peers (Cosden, 2001). Cosden found, in a study by Rhodes and Jasinski (1990), a disproportionate number (40%) of learning disabled who were alcoholics. The sample size of twenty-five clients used in the study was based on if clients remembered if they had special education services growing up and testing data to confirm a diagnosis of a learning disability (Cosden, 2001).

McNamara and Willoughby's research studied 307 students who did not have a learning disability and 307 students who were diagnosed with a learning disability. For the first round of data collection, the participating students were in the ninth or tenth grade. In the second round of data collection, the same students were given another survey to complete as eleventh or twelfth graders. Based on the answers given, students with learning disabilities used alcohol at the same rate as non-disability peers; no significant increases or decreases in usage emerged over the two survey time frames (McNamara & Willoughby, 2010). Students with learning disabilities increased their smoking habits; where as those without a learning disability decreased smoking habits from the first survey to the second data collection interval.

For marijuana usage and harder type substance abuse such as cocaine, stimulants, depressants, narcotics, ecstasy and hallucinogens, the students with learning disabilities tended to increase their substance abuse usage between the two data collection intervals (McNamara & Willoughby, 2010).

Substance Abuse among Traumatic Brain Injury /Intellectual Disabilities

Chapman and Wu (2012) stated that approximately 7-8 million people with intellectual disabilities suffer from substance abuse problems. When Chapman and Wu surveyed students with Intellectual Disabilities, the researchers reported students with intellectual disabilities were most likely to have used cigarettes at the same rate as their peers without disabilities. Cannabis and cocaine combined usage was 14.5 % for intellectual disabilities, which is lower than peers without disabilities. However, Chapman and Wu noted that although the usage rate was lower, those with intellectual disabilities were at a higher risk for addiction due to the substance abuse. Students with intellectual disabilities were more prone to substance abuse and addiction. Interestingly, an additional finding showed that the lesser the degree of disability, the greater risk of dependence possibly due to greater peer interaction and the ability to be financially more independent (Chapman & Wu, 2012).

A study of 471 bipolar individuals and 1,761 controls by Agrawal, Nurnberger and Lynskey (2011) found that persons with Bipolar disorder were 6.8 times more likely to use marijuana over the course of their lifetime. The results determined that in comparison to 26.8% of the control group, 71.3% of the cases with bipolar disorder would report as a lifetime history of usage.

Individuals with traumatic brain injury (TBI) were highly inclined to use alcohol and illicit drugs (Taylor, Kreutzer, Demm, & Meade, 2003). West (2011) indicated that one-third to one-half of those with TBI already displayed a substance abuse problem before their accident. The West study predicted that once diagnosed with TBI, 50% to 60% would begin or continue abusing substances after diagnosis, which showed the similar result pattern with McCombs and Moore's (2002) findings. West also, found that approximately one-half of the 50-60 % with TBI was deemed under the influence of substance or alcohol when their brain injury accident occurred. Actually, when treating milder TBI patients with a substance abuse problem, it is very difficult to determine which actions, moods, or behaviors are due to substance abuse or a result of the injury (DeLambo , Krananur, Chadras, & Chandras, 2009). Moreover, from the National Epidemiologic Survey on Alcohol and Related Conditions, persons with mental illness and a substance abuse problem showed an increase risk of being violent (Price &Norris, 2010). The survey was given to over 34,000 individuals. Price and Norris indicated that mental illness by itself was not a causative for being violent, but mental illness combined with several factors including substance abuse, past history of violence, suicidal thoughts, prior parental imprisonment, availability to weapons, or physical abuse could lead to the likelihood of being violent.

Weapons Abuse among Emotionally Disturbed

David Hemenway, professor at Harvard School of Public Health, stated in a recent interview for the Harvard Gazette, children in America, who are between the ages of 5-14 years old, are 13 times more likely to be murdered by guns when compared to other children in other industrialized countries (Koch, 2012). Associated with his statement were well

known incidents about weapon abuse among individuals with emotional disturbance in the United States as follows.

- In 1976, a custodian bought a rifle and killed seven people in the library at California State University at Fullerton. After being found not guilty by reason of insanity, he was committed to a state mental hospital (Geiger, 2012).
- After pulling the fire alarm, Mitchell Johnson, 13, and Andrew Golden, 11, killed four students and one teacher and injured nine students, in Jonesboro, Arkansas (Geiger, 2012).
- Five Amish girls died execution style in their schoolhouse; five others were critically wounded before Charles Carl Roberts killed himself in 2006, at Nickel Mines, Pennsylvania (Geiger, 2012).
- Jared Lounghner had a history of making death threats posting disturbed messages on YouTube and his website; these troubling behaviors caused him to be expelled from college (Cramer, 2012). Therefore, it is hard to understand how the signs of his mental illness were in essence overlooked until after he was responsible for the shooting deaths of five people and the wounding of 14 others in Arizona (Faria, 2013). One of those he wounded was U.S. Representative Gabrielle Giffords. Later during an evaluation, he was deemed schizophrenic and incompetent to stand trial for his actions (Cramer, 2012).

With these tragic incidents, several studies have investigated the association between mental illness and violent behaviors. For example, a recent paper entitled, "How should the Psychiatric Profession Respond to the Recent Mass Killings" by Freidman and Michels

(2013) found those with a mental illness cause approximately 4 % of violent incidents. Further findings from this study revealed that, over a lifetime, those with mental illness are 16% more likely to respond with a violent act compared to only 7% of their peers without a mental illness diagnosis.

Kaplan and Cornell's study, *Threats of Violence by Students in Special Education,* found that students who were emotionally disturbed represented ten percent of the school special education population, yet they accounted for fifty percent of the violence threats (Kaplan & Cornell, 2005). A total school population of 13,612 with a sub population of 2,788 students with disabilities would have an approximate rate of 1/1000 for general education as substantive threats, whereas among emotionally disturbed students the rate jumps to 74/1,000 (Kaplan & Cornell, 2005). The term substantive includes threats to kill, use a weapon, severely injure or rape someone. The study further went on to determine that if students later carried out any threats, the propensity of using a weapon for the students with disabilities was 1.37 whereas it was .73 for the students without disabilities (Kaplan & Cornell, 2005)

McHale, Obrzut, and Sabers (2003) used a sample of 322 students with disabilities within an urban school district in the Southwestern United States, of which 168 were emotionally disturbed. Among a total of 322 students with disabilities, 93 students displayed aggressive characteristics defined as threatening, physical fights, weapons usage, or cruelty to animals, while 75 students were considered non aggressive.

Weapons Abuse among Individuals with Specific Types of Disabilities

In Waycross South Georgia, two students were arrested and a third was expected to be arrested in regards to a threat on their teacher. The students in her third grade special

education class contrived a plot in which each student had a specific role in knocking out the teacher, tying her up with duct tape, and then stabbing her using a knife. Some students were to cover the windows and another's job was to clean up the mess when they were finished. This was the class reaction over her scolding one student for standing in a chair. Someone told the staff that a child had brought a weapon (knife, paperweight and duct tape) to school the next day and the plan was uncovered. At the time of the incident, nine children had been disciplined or were on long term suspensions. Her class was comprised of learning disabilities, attention deficit disorder/hyperactivity, and delayed development individuals (Russ, 2008). In an alignment with this case, research has been conducted to investigate whether there is an association between specific types of disabilities and weapon offences as reviewed below.

McNamara, Vervaeke, and Willoughby (2008) surveyed a total of 644 students who were subdivided into three categories learning disabilities (230 students), learning disabilities with ADHD (92 students) and those who had no learning disability (322 students) for their study. When the research was completed, they found the following three groups were comparable for carrying a knife, or gun: learning disability (2.41%), learning disability with ADHD (2.42%) and those with no disability (2.27%). The results of this study suggested the student groups with either learning disabilities or ADHD (4.83%) were more likely to have a higher risk on carrying some types of weapons compared to students without disabilities (2.27%). Within the same study by McNamara et al., (2008), 11.5 % of students with the Specific Learning Disability (SLD) were non-aggressive and 39 % were aggressive.

McNamara and colleagues also revealed that students with specific learning disabilities tended to engage in more acts of major delinquency such as carrying a weapon or gang affiliation. When compared to their peers who did not have a learning disability, in the

twenty-one month time span between the first and second study, there was an increase of incidents for students with learning disabilities (McNamara & Willoughby, 2010).

The U.S. Department of Education Office of Disability Programs (2010) reported there were 36,095 weapons offense cases by students with disabilities in public schools from 1999 to 2010. The desire to limit a person's right to own a gun dates back to 1837 when Georgia passed a law to ban handguns; the law was later determined to be unconstitutional and thus was thrown out (Longely, 1999).

Due to the rising number of related tragedies caused by people with a history of mental illness and as part of an effort to reduce the tragic incidents by weapons offenses- particularly fire arms accidents- a new firearm law has been enacted, in the hopes it will effectively prevent such weapon-related crimes.

According to Federal Law: 18 United Supreme Court §922-(d) s:

> "It is unlawful for any person to sell or otherwise dispose of any firearm or ammunition to any person knowing or having reasonable cause to believe that such person has been adjudicated as a mental defective or has been committed to any mental institution"(National Conference of State Legislators, 2012).

While each state also has a law paralleling the federal law that has somewhat different wording, the message is the same. A person owning or in possession of a firearm must not be mentally deficient, incompetent or have been deemed such (National Conference of State Legislators, 2012). The key word in the law is "adjudicated," suggesting that someone who has a diagnosis of mental illness or voluntarily committed to an institution cannot be prevented from firearm purchase unless deemed mentally incompetent by a court of law. However, there are no records for private sales between individuals where a background check is not mandated. Therefore, anyone, regardless of their mental status, could purchase

a weapon which suggests that the firearm laws do not effectively work to prevent all weapon abuse incidents (O'Connell, 2011).

The literature review suggests that an association between students with disabilities and the incidents of substance abuse and weapons exist. With the well-documented findings about the associations, there is a growing concern that stakeholders including school administration and special educators have a prejudice that students with disabilities threaten the safety of school and community (Williams et al., 2013). Administration is cognizant of how they are perceived in their own buildings by staff as well as the community's perception of them. They are cautious against teachers not following the mandated special education protocols and procedures when dealing with special education students regarding either a perceived threat of what the student could do to themselves or others or a parental threat of litigation. Another cause of concern is the cost for additional staffing needs, training, and materials needed for successful implementation of a special education program (Williams et al., 2013).

One principal commented:

> You have a 16-year old, who is emotionally handicapped, and we've nursed him thorough all these years, he's in his third year of high school. He's probably going to get an IEP diploma and he's tearing up the place. I'm not going to ask the district to spend $40,000 to send him to a therapeutic intervention school. You know it's a waste (McCarthy & Soodak, 2007, p. 466)

These perceived ideas could, in turn, cause administration to be more indulgent toward keeping the student with special needs in school when dealing with disciplinary actions. Despite a possible prejudice of school administrators and special educators against

students with disabilities, few studies have focused on investigation of the factors that potentially cause the relationships between exclusionary disciplines and students with disabilities (Williams et al., 2013).

Many previous studies have explored the relationships between substance or weapons offenses and specific types of disabilities. A large body of literature suggests that specific types of disabilities, intellectual disability, emotional disability, specific learning disability, and traumatic brain injury are most likely to be associated with weapon or substance abuse. Unlike the previous studies on the association between the specific disabilities types and weapon or substance abuse in a specific year, this study investigated the historical pattern spanning several years in the linkage between, types (i.e., emotional, learning and intellectual disabilities) and the propensity for substance abuse or weapons incidents. In addition to the historical pattern, this study explored the potential factors that cause substance abuse and weapon offenses of students with disabilities through in-depth interviews with school administration and special educators.

CHAPTER 3

METHOD

This study investigated the historical pattern in the relationship between specific disability types and substance or weapon abuse in public schools from 2001 to 2011, using the Individuals Disabilities Education Act (IDEA) data provided by the Data Accountability Center (see details: [https://www.ideadata.org/default.asp]) and the information from the National Center for Education Statistics (NCES)(about the number of students with disabilities receiving special education services under the IDEA (2013) (see details: http://nces.ed.gov/fastfacts/display.asp?=64). The IDEA data contains information describing frequencies of substance abuse and weapon offences by specific types of disabilities in public schools within the United States from the years 2001 through 2011. Note that the Data Accountability Center is a government-reporting storehouse for state records on special education students.

The NCES informed the number of students with disabilities aged 3 to 21 who were served under IDEA from 2001 to 2011. The two data sources were used to collect the proportion of students with specific types of disabilities who had substance or weapon abuse over all students with disabilities receiving special education services under IDEA, which is necessary information for conducting chi-square test as well as identifying the historical pattern. Using the two data sources, the researcher was able to use Chi-Square test to conduct comparison analysis between two different types of disabilities under the selected four types of disabilities-- Emotionally Disturbed, Intellectual Disabilities, Specific Learning

Disability and Traumatic Brain Injury and analyze the percentages of students with substance abuse or weapons offences in the years 2001 through 2011. This study focused exclusively on intellectual disabilities; emotional disability, specific learning disability, and traumatic brain injury; based on the literature, individuals with these types of disabilities are more likely to be involved in substance or weapons abuse as opposed to their counterparts with other types of disabilities. In addition to the historical pattern, this study explored the factors that potentially cause the relationship between specific disabilities types and substance abuse and weapon offenses. The following questions guided the study:

1) To what extent has the relationship between specific disability types and substance abuse changed from the year 2001 to 2011?
2) To what extent has the relationship between specific disability types and weapons offences differed from the years 2001 to 2011?
3) What are the factors that cause the relationship between specific disability types and substance abuse or weapons offences?

Participants in the Study

Regarding research questions 1 and 2, the participants are students with disabilities who have attended public schools in the United States and had an office referral concerning either substance abuse or weapons. This study extracted the following variables labeled in the IDEA DATA provided by the Data Accountability Center: (a) Unilaterally Removed for Drugs; and (b) Students Unilaterally Removed for Weapons; and (c) Student Disability. The variables labeled "Students Unilaterally Removed for Drugs" and "Students Unilaterally Removed for Weapons" contains the frequencies of substance or weapons offences by students with disabilities in each state within the United States. The variable labeled

"Student Disability" described the eleven specific types of disabilities as follows: Mentally Retarded- now known as Intellectual Disability, Hearing Impaired, Speech/Language Impaired, Visual Impairment, Emotional, Orthopedic, Other Health Impaired, Specific Learning Disability, Deaf/Blind, Multiple Disabilities, Autism, Traumatic Brain Injury, and Developmental Delay. However, for the purposes of this research, the categories of Intellectual Disability (ID), Emotional Disability (ED), Specific Learning Disability (SLD) and Traumatic Brain Injury (TBI) were extracted from the eleven specific types of disabilities and all other categories were eliminated for this study. The data from the website contained no personally identifiable information.

To respond to research question 3, this study interviewed a total of 20 school administrators and special educators in public schools in the United States. The interviewees were chosen through making contact on the school's district website posted on the internet. Five people from each of the four regions of the United States: Northeast, South Central, Midwest, and West were then chosen at random.

Data Collection

Regarding research questions 1 and 2, information from the years 2001 through 2011 was disseminated through electronic transfer, into Statistical Package for the Social Sciences (SPSS) to ascertain the extent to which the frequencies of substance abuse or weapon offense by the specific types of disabilities and its significant statistical associations have been changed from 2001 to 2011. A SPSS file then was created from all the individual years to disaggregate the information into two categories-- weapons offenses and substance abuse. The selected four types of specific disability categories listed were used in further grouping the data.

Regarding research question 3, the researcher followed a multi- step formula. First, the researcher contacted approximately 20 individuals by phone in the North East, South Central, Midwest, and West Coastal regions of the United States to discuss the interview process. During this time, any questions were answered and information was given to the perspective interviewee about the research being conducted. All interviewees were given the choice to opt out of the process at any time they deem necessary. In the second step, the interview questions were sent to the individuals via email to allow them some time to consider their answers. Step three, consisted of the interviewee signing a consent form. Researcher answered any additional questions about the research before the interview. The interview was digitally recorded with additional hand written notes as support for the expression, tone, and other information conveyed by the interviewee. Due to the constraints of gathering data from separate regions across the United States, the majority of interviews were held through phone calls.

Research Design

This study had a mixed-method research design that combined both quantitative and qualitative data (Krathwohl, 2009). Regarding research questions 1 and 2, this study analyzed the IDEA data; it is quantitative data. To address the research question 3, the researcher interviewed school administration and special education teachers, which generated a qualitative data set. In this case, the data was used to reinforce the quantitative data by adding additional information as to which students with a specific disability are historically more prone to substance or weapons usage shown through the interviews of administration and special education teachers. To investigate the proposed research questions 1 and 2, Chi- Square test was used to analyze historical patterns in the relationships

between a specific disability and weapons or substance abuse from 2001 to 2011. Chi-Square test is an appropriate statistical tool because the two selected variables in this study (i.e. frequency of weapons or substance abuse and a specific type of disability) are categorical variables. Chi-Square analyses can reveal the association between two categorical variables—the frequencies of weapons or substance abuse and a specific disability types for each year. A statistical significance at the .05 level was used to determine statistical significance. The researcher conducted several different Chi-Square tests to look at whether each year from 2001 to 2011 had a significant association between the frequencies of weapon or substance abuse and a specific disability type. A total of 88 Chi-Square tests were conducted based on the data (4 different types of disabilities x 2 different types of behaviors [substance and weapon abuse] x 11 years [from 2001 to 2011]). Additionally, using graphs, the historical data pattern was displayed using graphs.

All relevant data from each state within the United States in the IDEA DATA website was electronically transferred into the Statistical Package for the Social Sciences (SPSS) for data analysis by the researcher. All information was checked to assure it has been transferred correctly; any mistakes were corrected and reviewed again for 100% accuracy. Information was screened to ensure no duplicate entries were found.

To investigate research question 3, the researcher conducted in-depth interviews with school administrators and special education teachers in public schools across the United States. Details of the interview protocol can be found in Appendix A. All interviews were coded with a number used throughout the research by the researcher to identify the interviewee. No information which could identify the person giving the interview was revealed. The digitally recorded interviews, along with the hand written notes, were then transcribed into Word documents. These documents were reviewed to identify similarities

among the interviews. The researcher was looking for information among the different interviewee transcripts to substantiate a pattern of a specific handicapping condition that lends itself to either substance abuse or weapons offences. Transcripts were coded and then charted by the number of incidents referring to a specific disability. The findings were reported and compared to the literature review and the data from the Data Accountability Center and NCES. After five years records will be destroyed along with the data key to ensure no identifiable information would be revealed.

Regarding research questions 1 and 2, due to all relevant data being drawn and complied from an electronic media source website, there were no social, financial or reputational risks to any human subjects during this study. Therefore, the Institutional Review Board for the Protection of Human Subjects in Research (IRB) was asked for an exempt status for this research. However, regarding research question 3, IRB approval was necessary because the researcher conducted interviews with human participants. After completion of the mandatory training as designated by the IRB procedures, the researcher completed the necessary paperwork to request a review of the proposal, interview questions, and consent form. Only after all forms were complied with Arkansas State University guidelines designated by IRB as well as all state and federal regulations was any research conducted. There was minimal risk to the interviewees because the identification of interviewees and data obtained from the interviewees was kept confidential. Specifically, their names were coded, the building of employment was not used during the interview, and other specific identifiable details about the interviewees was not asked or used in the scope of the proposal or dissertation. No questions were asked which could possibly endanger the interviewees job or standing in the community. Questions one through four were for the researcher's background and allowed the interviewee time to be comfortable with the

process. Written consent from the interviewee was requested after an explanation was given regarding the purpose of the interview and research. The interviewee could rescind their permission for the interview at any point in time and all digitally recorded records will be destroyed once the research was completed, after the mandatory five year time had passed.

CHAPTER 4

DATA ANALYSIS

Using a mixed method of both quantitative and qualitative data analyses, the following research questions were investigated:

(a) to what extent has the relationship between specific disability types and substance abuse changed from the year 2001 to 2011?

(b) to what extent has the relationship between specific disability types and weapons offences differ from the years 2001 to 2011?

(c) What are the factors that cause the relationship between specific disability types and substance abuse or weapons offences?

To respond to research questions 1 and 2, the researcher conducted Chi-Squares tests to show the patterns and relationships between incidents of either substance abuse or weapons offenses and specific disabilities.

Using qualitative data from interviews, research question 3 was investigated to determine the probable causality on the patterns and a relationship between incidents of either substance abuse or weapons offences and specific disabilities.

This chapter was structured as follows: First, the quantitative research section presents the results from the research questions 1 and 2. Second, the qualitative research section reports the findings from the data analysis of interviews for the research question 3.

Quantitative Research

Research Question 1

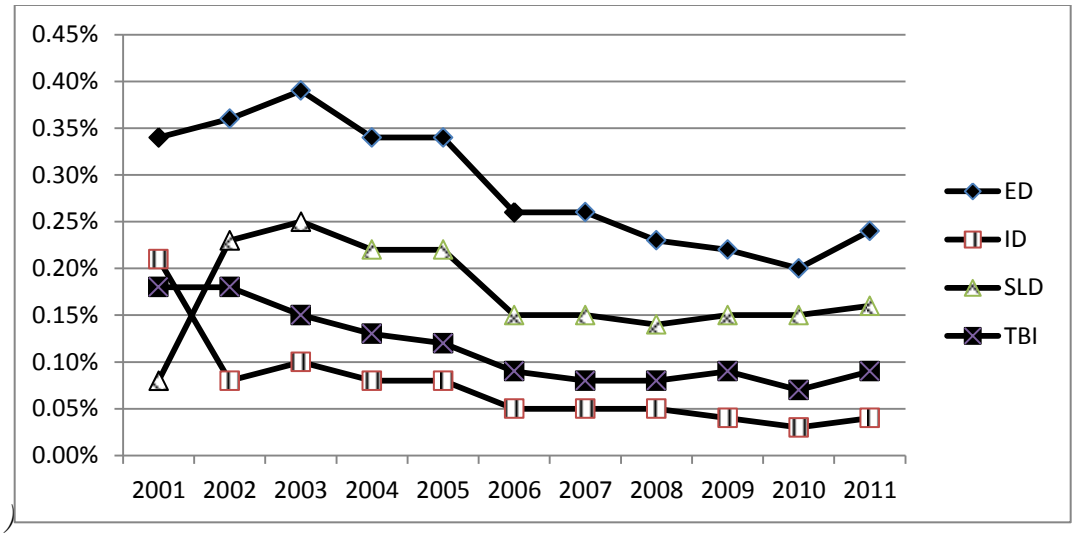
The first research question was investigated to show a relationship between substance abuse and a specific disability type and the historical pattern on the relationship. Specifically, using Chi- Square, the researcher conducted comparison analyses between incidents of substance abuse and two different types of disabilities in the years 2001 through 2011.

Followed by the descriptive statistics (see Table 1) and line graph (see Figure 1) showing the historical pattern for substance abuse percentage by each of the four disability types (ED, ID, SLD, TBI), this section reports the results from the Chi-square tests that show differences in the incidents of substance abuse between the selected two types of disabilities.

Table 1 *Percentage in the Substance Abuse by Type of Disability from 2001 to 2011*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
ED	0.34%	0.36%	0.39%	0.34%	0.34%	0.26%	0.26%	0.23%	0.22%	0.20%	0.24%
ID	0.21%	0.08%	0.10%	0.08%	0.08%	0.05%	0.05%	0.05%	0.04%	0.03%	0.04%
SLD	0.08%	0.23%	0.25%	0.22%	0.22%	0.15%	0.15%	0.14%	0.15%	0.15%	0.16%
TBI	0.18%	0.18%	0.15%	0.13%	0.12%	0.09%	0.08%	0.08%	0.09%	0.07%	0.09%

Figure 2. *Historical Pattern in the Percentage of Substance Abuse by Type of Disability from 2001 to 2011*



Note. Emotional Disability (ED), Intellectual Disability (ID), Specific Learning Disability (SLD) and Traumatic Brain Injury (TBI)

As shown in Figure 2, when the percentage totals for each specific disability were graphed, one can discern the various changes in substance abuse per year and gain a better idea of the patterning for each disability type as shown through 2001-2011. The changes from the years 2001 through 2011 indicate the fluctuations of reported incidents of substance abuse for all four-disability categories (emotionally disturbed, intellectual disabilities, specific learning disability and traumatic brain injury). As shown in Figure 2, there was a rise in offenses in the early years with a peak around 2003. The rates of substance usage among individuals with intellectual disabilities first dropped in 2002, and then its number of incidents began to rise, peaking also in 2003. The data itself does not indicate causality for the drop after that point for individuals with intellectual disabilities; however, a study indicated the number of hallucinogens incidents decreased during this timeframe as well (NIDA, 2004).

After the peak in 2003, all categories--emotional disturbed, intellectual disabilities, specific learning disabilities and traumatic brain injury-- reveal a fluctuating decline, seeing their lowest peaks around 2010. Although graphically it appears to indicate a rise for 2011, the data seems to show a non-significant change between 2010 and 2011in this timeframe.

Table 2.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2001

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2001	SLD	6084	286196	0.21%
	ED	1659	479341	0.34%
X2 (1, n=3349000) = 314.802, *p* <.*0001*				
2001	SLD	6084	2861916	0.21%
	ID	529	632471	0.08%
X2 (1, n=3492021) = 415.569, *p*<.*0001*				
2001	SLD	6084	2861916	0.21%
	TBI	28	15972	0.18%
X2 (1, n= 2884000) = 1.037, *p* <.*0001*				
2001	ED	1659	479341	0.34%
	ID	529	632471	0.08%
X2 (1, n= 1105000) = 930.094, *p* <.*0001*				
2001	ED	1659	479341	0.34%
	TBI	28	15972	0.18%
X2 (1, n= 497000) = 13.214, *p* <.*0001*				
2001	ID	529	632471	0.08%
	TBI	28	15972	0.18%
X2 (1, n= 640000) =14.604, *p* <.*0001*				

Table 2, in 2001, showed significant differences in the incidents of substance abuse among the selected four types of disabilities in 2001 when comparing two disability types (i.e. SLD, ED, ID and TBI). Specifically, students with an emotional disturbance (ED) were significantly more likely to abuse substance compared to students with specific learning

disabilities (SLD) (0.34% VS 0.21%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) group, SLD student groups were more likely to have substance abuse compared to those in the ID category (0.21% VS 0.08%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.21% VS 0.18%, $p < .0001$) although close, SLD still exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.34% VS 0.08%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.34% VS 0.18%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.18% VS 0.08%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2001, which is consistent with Figure 2. As depicted in Figure 2, in 2001, ED showed the highest percentage among the selected four disability types.

Table 3.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2002

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2002	SLD	6665	2841335	0.23%
	ID	506	601494	0.08%
X^2 (1, n= 3450043) = 487.118, p <.0001				
2002	SLD	6665	2841335	0.23%
	TBI	40	21960	0.18%
X^2 (1, n= 2870000) = 2.553, p <.0001				
2002	SLD	6665	2841335	0.23%
	ED	1757	483243	0.36%
X^2 (1, n= 3333000) = 270.421, p <.0001				
2002	ED	1757	483243	0.36%
	ID	506	601494	0.08%
X^2 (1, n= 1087000) = 1000.736, p <.0001				
2002	ED	1757	483243	0.36%
	TBI	40	21960	0.18%
X^2 (1, n=507000) = 19.403, p <.0001				
2002	ID	506	601494	0.08%
	TBI	40	21960	0.18%
X^2 (1, n= 642000) = 23.205, p <.0001				

As shown in Table 3, significant differences among the four types of disabilities in the incidents of substance abuse emerged in 2002 when comparing two disability types (i.e. SLD, ED, ID and TBI). Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD) (0.36% VS 0.23%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 23%VS 0.08%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.23% VS 0.18%, p< .0001) SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely

to abuse substances (0.36% VS 0.08%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over TBI (0.36% VS 0.18%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.18% VS 0.08%, $p < .0001$) for ID. The results of the comparison among the four different types of disabilities show that ED had the highest frequency of substance abuse in 2002. Similar to the year 2001, this chi-square result was well demonstrated in Figure 2. As shown in Figure 2, ED showed the highest frequency of substance abuse among the selected four disability types.

Table 4.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2003

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2003	SLD	7193	2840807	0.25%
	ED	1913	483087	0.39%
X^2 (1, n=3333000) = 306.141, $p < .0001$				
2003	SLD	7193	2840807	0.25%
	ID	626	611374	0.10%
X^2 (1, n=3460000) = 504.545, $p < .0001$				
2003	SLD	7193	2840807	0.25%
	TBI	33	21967	0.15%
X^2 (1, n= 2870000) =9.144, $p < .0001$				
2003	ED	1913	483087	0.39%
	ID	626	611374	0.10%
X^2 (1, n= 1097333) = 1000.080, $p < .0001$				
2003	ED	1913	483087	0.39%
	TBI	33	21967	0.15%
X^2 (1, n=506997) = 32.876, $p < .0001$				
2003	ID	626	611374	0.10%
	TBI	33	21967	0.15%
X^2 (1, n=634000) = 4.656, $p < .0001$				

As shown in Table 4, in 2003, a comparison analysis in the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI) revealed significant

differences among the four disability types. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD) (0.39% VS 0.25%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 25%VS 0.10%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.25% VS 0.15%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.39% VS 0.10%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.39% VS 0.15%, $p < .0001$). Lastly a comparison of ID and TBI results in (0.10% VS 0.15%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2003.

Table 5.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2004

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2004	SLD	6036	2791964	0.22%
	ED	1659	487341	0.34%
X^2 (1, n=3287000) =272.000, *p* <.0001				
2004	SLD	6036	2791964	0.22%
	ID	485	577515	0.08%
X^2 (1, n=3376000) = 431.752, *p* <.0001				
2004	SLD	6036	2791964	0.22%
	TBI	31	23969	0.13%
X^2 (1, n=2822000) = 8.311, *p* <.0001				
2004	ED	1659	487341	0.34%
	ID	485	577515	0.08%
X^2 (1, n= 1067000) =861.331, *p* <.0001				
2004	ED	1659	487341	0.34%
	TBI	31	23969	0.13%
X^2 (1, n=513000) = 30.754, *p* <.0001				
2004	ID	485	577515	0.08%
	TBI	31	23969	0.13%
X^2 (1, n=602000) = 5.511, *p* <.0001				

As shown in Table 5, in 2004, when comparing the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI), significant differences are noted. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substance compared to students with specific learning disabilities (SLD) (0.34% VS 0.22%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 22%VS 0.08%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.22% VS 0.13%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.34% VS 0.08%, $p <$

.0001). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.34% VS 0.13%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.08% VS 0.13%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2004.

Table 6.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2005

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2005	SLD	6205	2791795	0.22%
	ED	1671	48329	0.34%
X^2 (1, n= 3287000) =250.559, *p <.0001*				
2005	SLD	6205	2791795	0.22%
	ID	487	577513	0.08%
X^2 (1, n=3376000) =457.875, *p <.0001*				
2005	SLD	6205	2791795	0.22%
	TBI	29	23971	0.12%
X^2 (1, n= 2822000) = 10.998, *p <.0001*				
2005	ED	1671	48329	0.34%
	ID	487	577513	0.08%
X^2 (1, n= 1067000) =869.941, *p <.0001*				
2005	ED	1671	48329	0.34%
	TBI	29	23971	0.12%
X^2 (1, n=513000) = 33.794, *p <.0001*				
2005	ID	487	577513	0.08%
	TBI	29	23971	0.12%
X^2 (1, n=602000) =3.600, *p <.0001*				

Table 6 shows the substantial difference in the incidents of substance abuse among the four types of disabilities in 2005 based on a comparison analysis in the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI). Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances

compared to students with specific learning disabilities (SLD) (0.34% VS 0.22%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 22%VS 0.08%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.22% VS 0.12%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.34% VS 0.08%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.34% VS 0.12%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.08% VS 0.12%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2005.

Table 7.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2006

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2006	SLD	4151	2730849	0.15%
	ED	1255	475745	0.26%
X^2 (1, n=3212002) =298.852, p <.0001				
2006	SLD	4151	2730849	0.15%
	ID	304	555696	0.05%
X^2 (1, n=3291002) =322.755, p <.0001				
2006	SLD	4151	2730849	0.15%
	TBI	23	24977	0.09%
X^2 (1, n=2760002) =5.879, p <.0001				
2006	ED	1255	475745	0.26%
	ID	304	555696	0.05%
X^2 (1, N=1033000) =740.131, p <.0001				
2006	ED	1255	475745	0.26%
	TBI	23	24977	0.09%
X^2 (1, n=502000) =27.387, p <.0001				
2006	ID	304	555696	0.05%
	TBI	23	24977	0.09%
X^2 (1, n=581000) =5.925, p <.0001				

As shown in Table 7 in 2006 a comparison analysis in then incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI) yielded substantial differences of the incidents among the four types of disabilities. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD), (0.26% VS 0.15%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0.15%VS 0.05%, p< .0001), SLD and Traumatic Brain Injury (TBI) as compared together (0.15% VS 0.09%, p< .0001) SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED

highly more likely to abuse substances (0.26% VS 0.05%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.26% VS 0.09%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.05% VS 0.09%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2006.

Table 8.
Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2007

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2007	SLD	3961	2661039	0.15%
	ED	1216	462784	0.26%
X^2 (1, n=3129000) =307.877, $p < .0001$				
2007	SLD	3961	2661039	0.15%
	ID	253	477747	0.05%
X^2 (1, n=2712000) =347.515, $p < .0001$				
2007	SLD	3961	2661039	0.15%
	TBI	19	24981	0.08%
X^2 (1, n=2690000) =8.844, $p < .0001$				
2007	ED	1216	462784	0.26%
	ID	253	477747	0.05%
X^2 (1, n=942000) =661.419, $p < .0001$				
2007	ED	1216	462784	0.26%
	TBI	19	24981	0.08%
X^2 (1, n=489000) =32.601, $p < .0001$				
2007	ID	253	477747	0.05%
	TBI	19	24981	0.08%
X^2 (1, n=503000) =2.340, $p < .0001$				

As shown in Table 8 in 2007 when comparing the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI), significant differences among the four types of disabilities were revealed. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substance compared to students with specific

learning disabilities (SLD) (0.26% VS 0.15%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0.15%VS 0.05%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.15% VS 0.08%, $p < .0001$) SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.26% VS 0.05%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.26% VS 0.08%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.05% VS 0.08%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2007.

Table 9.
Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2008

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2008	SLD	2590	2569410	0.14%
	ED	1013	440987	0.23%
X^2 (1, n=3015000) =198.920, $p < .0001$				
2008	SLD	2590	2569410	0.14%
	ID	230	462770	0.05%
X^2 (1, n=3036000) =252.080, $p < .0001$				
2008	SLD	2590	2569410	0.14%
	TBI	21	25979	0.08%
X^2 (1, n=2599000) =6.405, $p < .0001$				
2008	ED	1013	440987	0.23%
	ID	230	462770	0.05%
X^2 (1, n=905000) =531.256, $p < .0001$				
2008	ED	1013	440987	0.23%
	TBI	21	25979	0.08%
X^2 (1, n=468000) =24.536, $p < .0001$				
2008	ID	230	462770	0.05%
	TBI	21	25979	0.08%
X^2 (1, n=489000) =4.639, $p < .0001$				

As shown in Table 9 in 2008 a comparison analysis in the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI) revealed substantial differences among the four types of disabilities. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD) (0.23% VS 0.14%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 14%VS 0.05%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.14% VS 0.08%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.23% VS 0.05%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.23% VS 0.08%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.05% VS 0.08%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2008.

Table10.

Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2009

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2009	SLD	3829	2472171	0.15%
	ED	937	419063	0.22%
X^2 (1, n=2896000) =102.404, p <.0001				
2009	SLD	3829	2472171	0.15%
	ID	183	462817	0.04%
X^2 (1, n=2939000) =379.196, p <.0001				
2009	SLD	3829	2472171	0.15%
	TBI	23	24977	0.09%
X^2 (1, n=2501000) =6.316, p <.0001				
2009	ED	937	419063	0.22%
	ID	183	462817	0.04%
X^2 (1, n=883000) =585.826, p <.0001				
2009	ED	937	419063	0.22%
	TBI	23	24977	0.09%
X^2 (1, n=445000) =18.838, p <.0001				
2009	ID	183	462817	0.04%
	TBI	23	24977	0.09%
X^2 (1, n=713000) =51.686, p <.0001				

Table 10 shows substantial differences in the incidents of substance abuse among the four types of disabilities (i.e. SLD, ED, ID and TBI), based on a comparison analysis in the incidents of substance abuse between two disability types in 2009. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD) (0.22% VS 0.15%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0.15%VS 0.04%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.15% VS 0.09%, p< .0001), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED

highly more likely to abuse substances (0.22% VS 0.04%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.22% VS 0.09%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.14% VS 0.09%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2009.

Table 11.
Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2010

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2010	SLD	3490	2353510	0.15%
	ED	817	406183	0.20%
X^2 (1, n=2764000) =61.879, $p < .0001$				
2010	SLD	3490	2353510	0.15%
	ID	156	446844	0.03%
X^2 (1, n=2804000) =370.578, $p < .0001$				
2010	SLD	3490	2353510	0.15%
	TBI	19	25981	0.07%
X^2 (1, n=2383000) =9.836, $p < .0001$				
2010	ED	817	406183	0.20%
	ID	156	446844	0.03%
X^2 (1, n=870000) = 490.310, $p < .0001$				
2010	ED	817	406183	0.20%
	TBI	19	25981	0.07%
X^2 (1, n=433000) = 20.669, $p < .0001$				
2010	ID	156	446844	0.03%
	TBI	19	25981	0.07%
X^2 (1, n=473000) =9.683, $p < .0001$				

As shown in Table 11, in 2010 a comparison analysis in the incidents of substance abuse between two disability types (i.e. SLD, ED, ID and TBI) revealed significant differences the four types of disabilities. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substance compared to students with specific

learning disabilities (SLD) (0.20% VS 0.15%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0. 15%VS 0.03%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.15% VS 0.07%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.20% VS 0.03%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.20% VS 0.07%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.03% VS 0.07%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2010.

Table 12.
Comparison Analyses in the Substance Abuse between Two Different Types of Disabilities in 2011

Year	Disability	SA	No SA	Percentage of SA
		Frequency		
2011	SLD	3766	2656254	0.16%
	ED	942	398942	0.24%
X^2 (*1*, n=2756884) =115.189, $p < .0001$				
2011	SLD	3766	2656254	0.16%
	ID	197	446803	0.04%
X^2 (1, n=2804000) =356.437, $p < .0001$				
2011	SLD	3766	2656254	0.16%
	TBI	23	25977	0.09%
X^2 (1, n=2383000) =8.239, $p < .0001$				
2011	ED	942	398942	0.24%
	ID	197	446803	0.04%
X^2 (1, n=846884) =576.269, $p < .0001$				
2011	ED	942	398942	0.24%
TBI	23	25977	0.09%	
X^2 (1, n=42588) = 23.368, $p < .0001$				
2011	ID	197	446803	0.04%
	TBI	23	25977	0.09%
X^2 (1, n=473100) = 10.414, $p < .0001$				

Table 12 presented the results of a comparison analysis in the incidents of substance abuse between two disability types in 2011 which suggests substantial differences in the incidents among the four types of disabilities. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse substances compared to students with specific learning disabilities (SLD) (0.24% VS 0.16%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have substance abuse compared to those in the ID category (0.16%VS 0.04%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.16% VS 0.09%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse substances (0.24% VS 0.04%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.24% VS 0.09%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.04% VS 0.09%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of substance abuse in 2011.

Research Question 2

Historical patterns in the relationship between specific disability types and weapons offences from the years 2001 to 2011 was determined using Chi-Square analysis. Similar to the Chi-Square analyses of the research question 1, the researcher compared the frequency of weapons offences between two different types of disabilities from 2001 to 2011.

Table 13.

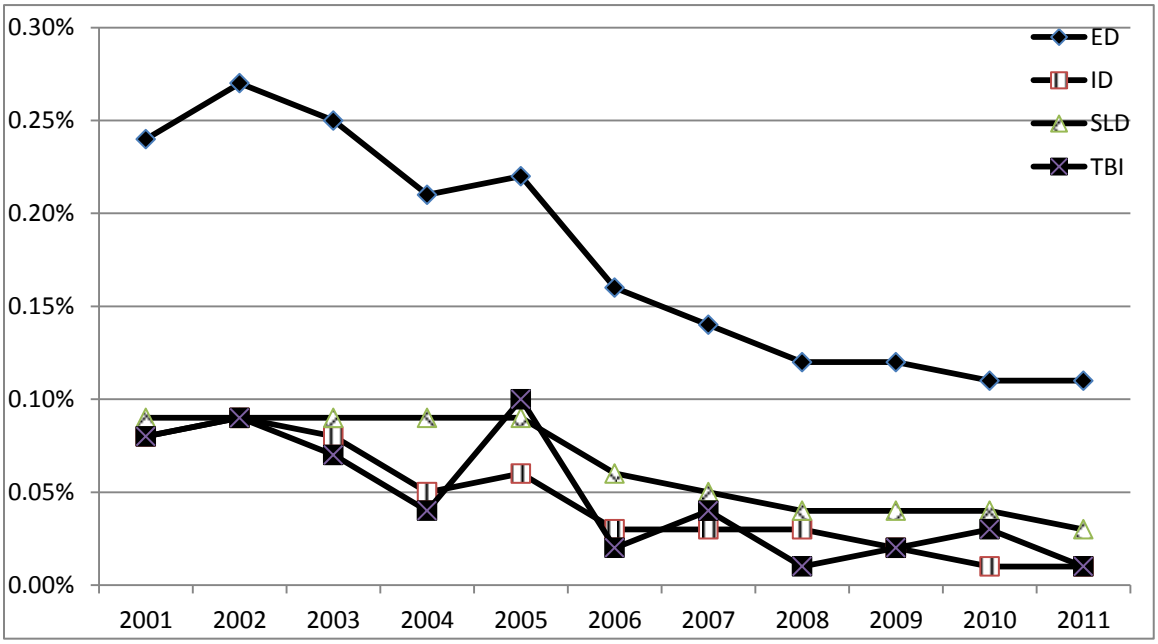
Percentage in the Weapons Abuse by Type of Disability from 2001 to 2011

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
ED	0.24%	0.27%	0.25%	0.21%	0.22%	0.16%	0.14%	0.12%	0.12%	0.11%	0.11%
ID	0.08%	0.09%	0.08%	0.05%	0.06%	0.03%	0.03%	0.03%	0.02%	0.01%	0.01%
SLD	0.09%	0.09%	0.09%	0.09%	0.09%	0.06%	0.05%	0.04%	004%	0.04%	0.03%
TBI	0.08%	0.09%	0.07%	0.04%	0.10%	0.02%	0.04%	0.01%	0.02%	0.03%	0.01%

Students with emotional disabilities in Table 13 show the highest percentage of incidents with weapons abuse, followed by those who are specific learning disability, those with intellectual disabilities, and finally traumatic brain injury respectively.

Figure 3

Historical Pattern in the Percentage of Weapon Abuse by Type of Disability from 2001 to 2011



Overall, Traumatic Brain Injury appears to have the fewest reported incidents except the years 2002, 2005, 2007, and 2010, while it shows the highest fluctuation with several peaks for the years of 2002, 2005, 2007, and 2010 before the decline seen after 2010. As seen in Figure 3, the number of incidents of weapons abuse is declining for this population. Those who are emotionally disturbed have a greater percentage of incidents when compared to the other types of disabilities.

Table 14.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2001

Year	Disability	WA Frequency	No WA Frequency	Percentage of WA
2001	SLD	2621	285379	0.09%
	ED	1182	479819	0.24%
X^2 (1, n=3349001) =865.176, p <.0001				
2001	SLD	2621	285379	0.09%
	ID	550	623450	0.08%
X^2 (1, n=3492000) =.595, p <.0001				
2001	SLD	2621	285379	0.09%
	TBI	14	15926	0.08%
X^2 (1, n=2884000) =.026, p <.0001				
2001	ED	1182	479819	0.24%
	ID	550	623450	0.08%
X^2 (1, n=1105001) =431.079, p <.0001				
2001	ED	1182	479819	0.24%
	TBI	14	15926	0.08%
X^2 (1, n=497001) =16.151, p <.0001				
2001	ID	550	623450	0.08%
	TBI	14	15926	0.08%
X^2 (1, n=640000) =.001, p <.0001				

As shown in Table 14, in 2001, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED)

were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.24% VS 0.09%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons offence compared to those in the ID category (0. 09%VS 0.08%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.09% VS 0.08%, $p < .0001$) although close, SLD still exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.24% VS 0.08%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.24% VS 0.08%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.08% VS 0.08%, $p < .0001$), and their percentages are the same. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2001.

Table 15.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2002

Year	Disability	WA	No WA	Percentage of WA
			Frequency	
2002	SLD	2707	2845293	0.09%
	ED	1327	483673	0.275%
X^2 (1, n=3333000) =1093.039, p <.0001				
2002	SLD	2707	2845293	0.09%
	ID	548	601452	0.09%
X^2 (1, n=3540000) =.852, p <.0001				
2002	SLD	2707	2845293	0.09%
	TBI	21	21979	0.09%
X^2 (1, n=2870000) =.0000, p <.0001				
2002	ED	1327	483673	0.275%
	ID	548	601452	0.09%
X^2 (1, n=1085805) =174.156, p <.0001				
2002	ED	1327	483673	0.275%
	TBI	21	21979	0.09%
X^2 (1, n=505805) =32.339, p <.0001				
2002	ID	548	601452	0.09%
	TBI	21	21979	0.09%
X^2 (1, n=624000) =.046, p <.0001				

As shown in Table 15, in 2002, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.27% VS 0.09%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were equally as likely to have weapons abuse compared to those in the ID category (0. 09%VS 0.09%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0. 09%VS 0.09%, p< .0001). SLD percentages are equal to TBI. A comparison of ED and ID also results in ED highly more

likely to abuse weapons (0.27% VS 0.09%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.27% VS 0.09%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.09% VS 0.09%, $p < .0001$) as equally likely percentages. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2002.

Table 16.

Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2003

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2003	SLD	2826	2845174	0.09%
	ED	1235	483765	0.25%
X^2 (1, n=3333000) =822.518, $p < .0001$				
2003	SLD	2826	2845174	0.09%
	ID	548	601452	0.09%
X^2 (1, n=3450000) =10.831, $p < .0001$				
2003	SLD	2826	2845174	0.09%
	TBI	21	21979	0.09%
X^2 (1, n=2869996) =1.062, $p < .0001$				
2003	ED	1235	483765	0.25%
	ID	548	601452	0.09%
X^2 (1, n=787000) = 61.878, $p < .0001$				
2003	ED	1235	483765	0.25%
	TBI	21	21979	0.09%
X^2 (1, n=507000) =26.877, $p < .0001$				
2003	ID	548	601452	0.09%
	TBI	21	21979	0.09%
X^2 (1, n=624000) =.139, $p < .0001$				

As shown in Table 16, in 2003, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning

disabilities (SLD) (0.25% VS 0.09%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0.09%VS 0.08%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.09% VS 0.07%, $p < .0001$) although close, SLD still exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.25% VS 0.08%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.25% VS 0.07%, $p < .0001$). Lastly a comparison of ID and TBI results in (0.08% VS 0.07%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2003.

Table 17.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2004

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2004	SLD	2541	2795459	0.09%
	ED	1055	487945	0.21%
X^2 (1, n=3287000) =594.506, p <.0001				
2004	SLD	2541	2795459	0.09%
	ID	382	577618	0.05%
X^2 (1, n=3376000) =33.853, p <.0001				
2004	SLD	2541	2795459	0.09%
	TBI	10	23990	0.04%
X^2 (1, n=2822000) =6.364, p <.0001				
2004	ED	1055	487945	0.21%
	ID	382	577618	0.05%
X^2 (1, n=1067000) =441.119, p <.0001				
2004	ED	1055	487945	0.21%
	TBI	10	23990	0.04%
X^2 (1, n=513000) = 33.463, p <.0001				
2004	ID	382	577618	0.05%
	TBI	10	23990	0.04%
X^2 (1, n=602000) =2.112, p <.0001				

As shown in Table 17, in 2004, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.21% VS 0.09%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 09%VS 0.05%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.09% VS 0.04%, p< .0001) SLD

exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.21% VS 0.05%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.21% VS 0.04%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.05% VS 0.04%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2004.

Table 18.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2005

Year	Disability	WA Frequency	No WA Frequency	Percentage of WA
2005	SLD	2558	279442	0.09%
	ED	1081	487329	0.22%
X^2 (1, n=3287000) =632.616, $p < .0001$				
2005	SLD	2558	279442	0.09%
	ID	374	577626	0.06%
X^2 (1, n=3376000) =39.405, $p < .0001$				
2005	SLD	2558	279442	0.09%
	TBI	24	23976	0.10%
X^2 (1, n=2822000) =.192, $p < .0001$				
2005	ED	1081	487329	0.22%
	ID	374	577626	0.06%
X^2 (1, n=1067000) = 475.558, $p < .0001$				
2005	ED	1081	487329	0.22%
	TBI	24	23976	0.10%
X^2 (1, n=513000) =15.600, $p < .0001$				
2005	ID	374	577626	0.06%
	TBI	24	23976	0.10%
X^2 (1, n=602000) =4.345, $p < .0001$				

As shown in Table 18, in 2005, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI) substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED)

were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.22% VS 0.09%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 09%VS 0.06%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.09% VS 0.10%, $p < .0001$) although close, TBI exceeds SLD in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.22% VS 0.06%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.22% VS 0.10%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.06% VS 0.10%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2005.

Table 19.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2006

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2006	SLD	1688	2733312	0.06%
	ED	788	47612	0.016%
X^2 (1, n=3212000) =564.649, p <.0001				
2006	SLD	1688	2733312	0.06%
	ID	214	555786	0.03%
X^2 (1, n=3291000) =43.166, p <.0001				
2006	SLD	1688	2733312	0.06%
	TBI	7	24993	0.02%
X^2 (1, n=2760000) =4.589, p <.0001				
2006	ED	788	47612	0.016%
	ID	214	555786	0.03%
X^2 (1, n=1033000) = 425.371, p <.0001				
2006	ED	788	47612	0.016%
	TBI	7	24993	0.02%
X^2 (1, n=502000) =28.280, p <.0001				
2006	ID	214	555786	0.03%
	TBI	7	24993	0.02%
X^2 (1, n=581000) =.692, p <.0001				

As shown in Table 19, in 2006, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.16% VS 0.06%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 06%VS 0.03%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.06% VS 0.02%, p< .0001), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely

to abuse weapons (0.16% VS 0.03%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.16% VS 0.02%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.03% VS 0.02%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2006.

Table 20.

Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2007

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2007	SLD	1454	2663546	0.05%
	ED	684	463316	0.14%
X^2 (1, n=3129000) =499.013, $p < .0001$				
2007	SLD	1454	2663546	0.05%
	ID	146	477854	0.03%
X^2 (1, n=3143000) =45.941, $p < .0001$				
2007	SLD	1454	2663546	0.05%
	TBI	12	24988	0.04%
X^2 (1, n=2690000) =.196, $p < .0001$				
2007	ED	684	463316	0.14%
	ID	146	477854	0.03%
X^2 (1, n=942000) =365.305, $p < .0001$				
2007	ED	684	463316	0.14%
	TBI	12	24988	0.04%
X^2 (1, n=489000) =16.495, $p < .0001$				
2007	ID	146	477854	0.03%
	TBI	12	24988	0.04%
X^2 (1, n=503000) =2.305, $p < .0001$				

As shown in Table 20, in 2007, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning

disabilities (SLD) (0.14% VS 0.05%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 05%VS 0.03%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.05% VS 0.04%, $p < .0001$) although close, SLD still exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.14% VS 0.03%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.14% VS 0.04%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.03% VS 0.04%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2007.

Table 21.

Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2008

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2008	SLD	1118	2571882	0.04%
	ED	538	441462	0.12%
X^2 (1, n=3015000) =420.931, p <.0001				
2008	SLD	1118	2571882	0.04%
	ID	150	462850	0.03%
X^2 (1, n=3036000) = 11.484, p <.0001				
2008	SLD	1118	2571882	0.04%
	TBI	4	25996	0.01%
X^2 (1, n=2599000) =4.699, p <.0001				
2008	ED	538	441462	0.12%
	ID	150	462850	0.03%
X^2 (1, n=905000) =237.499, p <.0001				
2008	ED	538	441462	0.12%
	TBI	4	25996	0.01%
X^2 (1, n=468000) =24.002, p <.0001				
2008	ID	150	462850	0.03%
	TBI	4	25996	0.01%
X^2 (1, n=489000) =2.263, p <.0001				

As shown in Table 21, in 2008, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.12% VS 0.04%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 04%VS 0.03%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.04% VS 0.01%, p< .0001), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely

to abuse weapons (0.12% VS 0.03%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.12% VS 0.01%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.03% VS 0.01%, $p < .0001$) for ID. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2008.

Table 22.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2009

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2009	SLD	995	2475005	0.04%
	ED	512	419479	0.12%
X^2 (1, n=2896000) =482.677, p <.0001				
2009	SLD	995	2475005	0.04%
	ID	108	462892	0.02%
X^2 (1, n=2939000) = 29.554, p <.0001				
2009	SLD	995	2475005	0.04%
	TBI	6	24994	0.02%
X^2 (1, n=2501000) =1.621, p <.0001				
2009	ED	512	419479	0.12%
	ID	108	462892	0.02%
X^2 (1, n=882958) =313.816, p <.0001				
2009	ED	512	419479	0.12%
	TBI	6	24994	0.02%
X^2 (1, n=445000) =19.967, p <.0001				
2009	ID	108	462892	0.02%
	TBI	6	24994	0.02%
X^2 (1, n=488000) =.005, p <.0001				

As shown in Table 22, in 2009, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning

disabilities (SLD) (0.12% VS 0.04%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) group, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 04%VS 0.02%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.04% VS 0.02%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.12% VS 0.02%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.12% VS 0.02%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.02% VS 0.02%, $p < .0001$) the percentages are the same. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2009.

Table 23.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2010

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2010	SLD	995	2356005	0.04%
	ED	450	406550	0.11%
X^2 (1, n=1764000) =310.310, p <.0001				
2010	SLD	995	2356005	0.04%
	ID	82	446918	0.01%
X^2 (1, n=2804000) =55.761, p <.0001				
2010	SLD	995	2356005	0.04%
	TBI	10	25990	.0.03%
X^2 (1, n=2383000) =.086, p <.0001				
2010	ED	450	406550	0.11%
	ID	82	446918	0.01%
X^2 (1, n=854000) =291.016, p <.0001				
2010	ED	450	406550	0.11%
	TBI	10	25990	.0.03%
X^2 (1, n=433000) =11.973, p <.0001				
2010	ID	82	446918	0.01%
	TBI	10	25990	.0.03%
X^2 (1, n=473000) =5.113, p <.0001				

As shown in Table 23, in 2010, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI), substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning disabilities (SLD) (0.11% VS 0.04%, p< .0001). However, when comparing SLD and Intellectual Disability (ID) groups, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 04%VS 0.01%, p< .0001). SLD and Traumatic Brain Injury (TBI) as compared together (0.04% VS 0.03%, p< .0001) although close, SLD still exceeds TBI in incidents. A comparison of ED and ID also results in ED

highly more likely to abuse weapons (0.11% VS 0.01%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.11% VS 0.03%, $p < .0001$). Lastly, a comparison of ID and TBI results in (0.01% VS 0.03%, $p < .0001$) for TBI. The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2010.

Table 24.
Comparison Analyses in the Weapons Abuse between Two Different Types of Disabilities in 2011

Year	Disability	WA	No WA	Percentage of WA
		Frequency		
2011	SLD	893	2356107	0.03%
	ED	451	388549	0.11%
X^2 (1, n=2746000) =415.797, $p < .0001$				
2011	SLD	893	2356107	0.03%
	ID	74	446926	0.01%
X^2 (1, n=2804000) =49.598, $p < .0001$				
2011	SLD	893	2356107	0.03%
	TBI	5	25995	0.01%
X^2 (1, n=2383000) =2.376, $p < .0001$				
2011	ED	451	388549	0.11%
	ID	74	446926	0.01%
X^2 (1, n=836000) =327.340, $p < .0001$				
2011	ED	451	388549	0.11%
	TBI	5	25995	0.01%
X^2 (1, n=415000) =20.766, $p < .0001$				
2011	ID	74	446926	0.01%
	TBI	5	25995	0.01%
X^2 (1, n=473000) =.105, 1 cell (25%) have expected count less than 5. The minimum expected count is 4.34. $p \geq .05$				

As shown in Table 24, in 2011, when comparing the incidents of weapon abuse between two disability types (i.e. SLD, ED, ID and TBI) substantial differences among the four types of disabilities emerged. Specifically, students with emotional disturbance (ED) were significantly more likely to abuse weapons compared to students with specific learning

disabilities (SLD) (0.11% VS 0.03%, $p < .0001$). However, when comparing SLD and Intellectual Disability (ID) group, SLD student groups were more likely to have weapons abuse compared to those in the ID category (0. 03%VS 0.01%, $p < .0001$). SLD and Traumatic Brain Injury (TBI) as compared together (0.23% VS 0.18%, $p < .0001$), SLD exceeds TBI in incidents. A comparison of ED and ID also results in ED highly more likely to abuse weapons (0.11% VS 0.01%, $p < .0001$). ED and a comparison with the data of TBI also shows a noticeable margin over the TBI (0.11% VS 0.01%, $p < .0001$). Lastly, a comparison of ID and TBI due to one or more of the cells having an expected frequency of 5 or less, a Fisher's exact test was conducted, and the results showed that there was no significant difference in the number of incidents between students with ID and TBI in 2011 ($p = .624$). The results of the comparison between the four different types of disabilities show that ED had the highest frequency of weapons abuse in 2011.

Qualitative Research

Research Question 3

Research question 3 was investigated based on a series of interviews from either a special education teacher or an administrator in public schools in the United States. These interview questions inquired about perspectives or experience of the interviewees (see Appendix A). Five interviewees from each of the four geographic regions, North East, South Central, Midwest, and West Coastal- in the United States were randomly chosen. A total of 20 interviewees participated in this study. As shown in Appendix A, interview questions 1 through 5 were general questions to collect the demographic information of the interviewee. Interview questions 6 through 9 formed the answers for the research question 3. All interview answers were coded to conclude if any parallels between the questions could

be found. The responses from the interviewees were reviewed multiple times to identify common themes in terms of phrases, ideas or concepts among the interviewees. These broad topics narrowed into two distinct categories: personal and environmental factors using the International Classification of Functioning for Disability and Health (ICF) as a guide (Kostanjeck, 2011). Personal contexts used phrases such as *attention seeking, felt bullied, addictive behaviors, awkward, loner, impulsivity, lack of respect*. Environmental factors included *parents in jail, parents who held multiple jobs or busy parents, drugs or weapons in the home, and single parent*. Occasionally a phrase would seem to fit into more than one category.

Interview Response: Perception of Disability Type and Substance Abuse

Teachers and administrators varied on the question as to which disability type stood out in their mind as having the most discipline referrals for substance abuse. Among the participants, 53% (8 of 15; 3 could not determine which category, 1 stated they did not document disability categories, 1 was a first year teacher with no experience) responded emotional disturbance. The next category was Other Health Impaired, followed by Intellectual Disabilities and lastly Specific Learning Disabilities. Most agreed it was not just the special education students alone who choose to abuse substances but, it could apply to the general education students as well. This response reflects the historical pattern from 2001 to 2011 that less than 1% of students with all of the selected four types of disabilities were referred for substance or weapons abuse, as shown in the results from research question 1 and 2. One respondent felt substance abuse was a choice as an easy "out", where students could escape or make their life better by helping forget their problems. Those who responded with Other Health Impaired tended to believe the substance abuse was more of an impulse or self-regulation issue or due to a history of trauma in the home, so they then choose to use a substance to help them cope. If a teacher did not have adequate

paraprofessional support for their classroom, they tended to send a student to the office, because they are unable to control the student. This then provides a negative perception of school, hence the student more likely to drop out and participate in those illegal behaviors. One interviewee believes the choice to use an illegal substance for those with Intellectual Disabilities could be a response to peer pressure and cognitively not being able to understand the consequences of their decision or actions.

Interview Response: Perception of Disability Type and Weapons Abuse

For the second question, Emotionally Disturbed was the one most chosen as to having the most discipline notices for weapons (8/12; 1 first time teacher with no experience, 7 have not had experience with weapons abuse and could not make a determination). When first asked, some administrators and teachers were hesitant as to choosing one particular disability. For example, one stated, "Other health impaired or intellectual disability," and then went on to say, "I can also add specific learning disability in there, too." Seven of them stated that without having first-hand knowledge of weapons offence, they were hesitant to pick just one category of disability; two opted to list disabilities they believed true based on their perceptions. Some of the comments to justify their decision were, as follows:

- Students who are Other Health Impaired may have a history of trauma, lack self-regulation skills, anxiety. OHI is not limited to such as small, select group of kids. This large category is inclusive of students with medical or attention deficits that hinder their progress in the classroom.
- When talking about kids who are Intellectually Disabled, they sometimes make choices based on what a peer has led them to believe is true. "I did this

because; so-and-so said it was alright to do it." The choice to bring a weapon all goes back to the decision making process. Do students know about the school policy on weapons and do they have the ability to understand what the policy is saying about weapons on school property.

- Students who have behavior problems tend to may make poor judgments without any regard of the consequences of their actions.
- The students who are standoffish, not a lot of friends and may have social issues are the ones who threaten to bring a weapon or may actually have brought a weapon to school. These students do not build relationships with others very well.

Interview Response: Explain the Cause of the Relationship between Disability Types and Weapons Offences.

During the interview portion of the research and going back to the conceptual model, as a guide, interviewee answers for the question three were coded into two categories of probable causes for the relationship between substance or weapon abuse. These categories were classified based on either Environmental or Personal factors, guided by the conceptual framework of ICF. Environment factors encompasses, "missing" or "busy" parents, siblings or friends who use substances, and a student's access to weapons or substances. The terms *missing or busy parents*, can further be defined as single parent, incarcerated parent(s), or parents(s) working extra hours or multiple jobs to provide for their family needs. Additionally, those of personal factors used more terms in a social context, such as *loner, bullied, attention seeking, disrespectful or impulsive*.

There were no differences between the different regions in the United States for determination of what Special Education Teachers or Administrators believed the causative

relationship between a specific disability type and weapons abuse. Again, the interviewees were quick to state their answers were based on their feelings and not specifically on first-hand knowledge. Sixty percent of those interviewed believed the underlying causes were likely related to personal issues. They reported the following:

- Students with disabilities are often frustrated at their peers:
    - Students may have difficulties in understanding an appropriate way to respond to their frustrations.
    - Students may show a lack of skills to deal with conflict between their peers.
    - They may be reacting in the same patterns they learned from family members within their home.
    - Frustration may stem from the family structure and what they see modeled by their parents.
- Students may be bullied, or feel awkward/insecure when talking with other students. Perceived as different or awkward by their peers, these students may be the target of being bullied, teased, or rejected by peers. Also, they could be a victim of abuse at home and use anti-social behavioral skills as a coping mechanism.
- Some students show an inability to handle the day to day frustrations of life:
    - Students with Traumatic Brain Injury can be aware of their lacking academic skills. Some TBI students remember the way they were before their injury and what they were able to do. This

competition between the past and present abilities may cause an immense frustration shown through lashing out at others.

    - Students naturally compare themselves with their peers. This type of comparison of abilities or grades, to their classmates' abilities or grades could potentially cause additional stress by drawing attention to their academic deficits.
    - Those who are loners: Students who choose to isolate themselves from others or their social inadequacies cause them to be isolated by their peer group; may have difficulties in handling the pressures of being different.

- Attention seeking behaviors- vs- Protection: Some students might bring a weapon to school for the attention they may receive from peers or staff by having a weapon in their possession. Sometimes a weapon is brought to gain attention and make the point, "I am different and people treat me differently." On the other hand, brought for protection, one interviewee reported a student was in possession of a weapon on campus and the teacher believed the student had a valid concern for their personal safety.
- Students who are impulsive or show patterns of impulsivity often lack self-control of their bodies, words or decisions: Students with ADD/ADHD, or TBI, ID, ED and others, might make poor judgments without a thought of the consequences or repercussions of their actions or words.

The most compelling quote came from a teacher who stated, "They {students} feel like they don't have a voice," and they went on to say, "I {student} am powerless, unless I've got something that will even the odds between me and this group or bigger person, or

whatever." One person ventured to say students often do not understand the chemical component of having a disability, for example, oppositional defiance and the importance of the medication to control those issues. Students may deny the usefulness of the benefits for the medication and this denial puts them at a disadvantage with their peers.

The interviewees who stated the underlying cause was most likely to be associated with environmental contexts explained that the students often have incarcerated parents, who work more than one job so another family member raises the students. For example, grandparents have taken over the roles as the mom and dad in that child's life due to parents not being available to take care of the child for a wide range of reasons. Students have a lack of appropriate role models for them to emulate. One interviewee cited that students who live in one of the inter cities were predominately African American or Bi-Racial and believes it is the culture of the neighborhood as well as neglect that hinders the students academically. Another interviewee commented that environmental factors influence our children's behavior and their decision processes.

Overwhelmingly, a range of personal factors are most likely to drive the impulse of substance or weapon abuse; The factors represent the lack of a connection with others who are following the basic need of belonging to a group. Based on interviews, there seems to be two sub-groups of students: one set has a goal to be "invisible" a loner, no friends or participation kept to a minimum and the second group consists of "attention seeking," a type of "in your face" "look at me, I am here," mentality. These groups are polar opposite in mannerism, however both belong to a group of those deemed outside of the normality of what society believes is appropriate behaviors. One teacher stated, " the ones who are loners; create a sense of nervousness since they are so silent the staff does not know what is going on in their minds."

Interview Response: Assumptions of Special Education or Administration of Disability Type Predisposed to Substance Abuse.

Not all of the Special Education Teachers and Administrators agreed that they have colleagues who have prejudice that student's with a specific type of disability may have substance abuse; however, all of the interviewees stated they, don't presume the association between some types of disabilities and substance abuse. Some students have addictive type behaviors, whether it is for studying, drugs or even a relationship, but to say substance abuse is predisposed to one certain disability, they did not see that connection. Some students who have low self-esteem may look to substances to help them fit in with peers, but most educators agreed they give every child a chance and not make assumptions about them. When special education teachers or administrators enter a classroom, they start the students on a level field.. "If I were going to give an assumption, I think the ones who are Oppositional Defiant would be one." "Just because they think they can do something because they were told they could not." One interviewee said in all of the {few} cases where she has had a student who has been in trouble, the disability characteristics had nothing to do with the behavior incident. Another stated, "Young people just make bad decisions, and they're so impulsive; they do things without thinking." It was also the teacher's contention it did not necessarily matter if one had a disability or not; general education kids also make those same poor choices.

Interview Response: Assumptions of Special Education or Administration of Disability type Predisposed to Weapons Abuse

Interviewees agreed there are assumptions by some administration and general educators but no one mentioned special educators as being ones who had assumptions of a relationship between specific disability types and weapons. One interviewee stated they believed that all disabilities were predisposed, and they did not feel their administration team

was naive enough to think it depended on a student's disability. They believe it is a constellation of factors: poor social skills, poor self-regulation/coping strategies, poor impulse control issues tend to abuse substances and these factors makes up particular disabilities categories. One of the interviewees relayed they could see how people might presume kids labeled as emotionally disturbed would be more prone to weapons based on the behaviors associated with that particular disability. However, assumptions are not always true. Another interviewee felt it is not whether the kid has a disability--; the personality of the student determines if they will bring a weapon to school. While someone else, felt the labeling of students with disabilities also diminishes students' self-esteem and devalues them from society's perspective thus adding to the stigma or pre-conceived ideas of student's disabilities. Sometimes the general education teacher may read a special education students file without full knowledge of the particular disability and believe what they have heard without checking the facts and understanding the holistic aspects of each student. There are variances of degrees and ability levels within a disability category itself. Thus, those who do not have a working knowledge of fact, or do not have a sense of viewing the holistic aspects of each student may find themselves shocked or surprised at a student's ability when they come to their class. These teachers often will not give a student a second chance to improve his or her behavior. Moreover, without an administrator or special education teacher as an advocate, the student falls to those biases and more problems.

Interviewees agreed there is an enormous amount of pressure on kids today to grow up faster, and if they were not taught those coping mechanisms, then they may not know constructively how to handle the stress they perceive. One interviewee believes technology might be a cause that has eroded the simple art of conversation. Those face-to-face connections found among students, family members and within communities as a

whole, were once taught and valued as a part of society's norms. These types of personal interactions are being replaced by texting. Furthermore, the degradation of those personal interactions in contemporary society negatively influences our children's ability to converse and it changes their behavior decisions.

One interviewee believed the HIPAA laws (Health Insurance Portability and Accountability Act, of 1996) which provide protection to those students with respect to privacy, are the largest hurdle to staff. HIPAA law ensures if one is terminated from employment their insurance goes with them, and their new coverage plan will not exclude them due to any previous existing health conditions. This policy further states that it is designed to protect the privacy of a person's medical records. The interviewee believes before HIPAA, as a teacher, they would have been privy to information about the students they teach. The teachers went on to explain, "I had a student in my room for over a year that I did not know was going through the court system, not for drug, or weapons offence, but another charge." Years prior, teachers would have been able to speak his counselor, court personal or others in order to help them understand what he was going through. Furthermore, they added, "Some of the things happening, especially with weapons, could be prevented if we did not have the HIPAA laws; various groups could share valuable information about students with the school staff."

CHAPTER 5

RESULTS

The percentage of students with disabilities served under the Individual with Disabilities Education Act (IDEA) has increased from 8.3% in 1976 to 13.1% in 2012 (U.S. Department of Education, 2012). Public schools reported 75,702 substance abuse incidents and 36,095 incidents regarding weapons offenses of students with disabilities from 2001 to 2011 (Individuals with Disabilities Education Act (IDEA) Data, 2013). Since 1992, there have been 387 public school shootings in the United States alone. Understanding the historical pattern and underlying reasons that particular disability categories are being referred for substance abuse or weapons offenses provides insights into the ways in which a range of stakeholders improve educational programs for students with specific types of disabilities.

The teachers and administrators that agreed to participate in this study are presently working in public schools, and their insight into this study seemed to accurately reflect the literature and the statistical analysis data used in this study. However, this study could not foresee any of the personal biases and prejudices that the participants may have held.

Beginning with the summary of the findings, this chapter provides implications for practical and future research.

Summary

The analyses shows that a significant historical pattern exists for students who are emotionally disturbed to have a higher rate of substance abuse and weapon offenses when compared to students who were in the categories of specific learning disability, traumatic brain injury or had an intellectual disability. Students who are emotionally disturbed showed the highest number of the incidents, for substance abuse or weapons offences, followed by specific learning disabilities, traumatic brain injury, and intellectual disability numbers. Statistically, as found with Chi Square test, emotionally disturbed solidly maintained the highest percentage of incidents for substance or weapons abuse. Of note, the historical pattern from 2001 to 2011 showed that the percentage of substance or weapon abuse by students with the selected four types of disabilities had been less than 1%, ranging from .01% to .39%.

As second components to the research, special education teachers or administrators were interviewed to gain insight as to whether their opinions matched the statistical analysis found through Chi Square tests. The interview questions sought to explore special education teachers' or administrators' perspectives and experiences on students with specific disabilities, which were referred for substance or weapon abuse. When interviewed, a commonality between the interviewees was a belief the students with emotional disturbance would be most likely to show a relationship for either substance abuse or weapons offences. This finding, therefore, matched the findings of the Chi Square analyses, which showed the emotionally disturbed as the highest percentage of incidents.

Recommendations

Most administration and special education teachers would agree that personal factors (i.e. descriptors of a social context such as loner, bullied, attention seeking, disrespectful or impulsive,) contribute to the decision of students to involve themselves in illegal activities.

- It would be helpful, as teachers or administrators, to understand the motivation behind the actions of using illegal substances by a student. Are they using illegal substances as a means to become a part of the crowd and a find a sense of "normalcy" with peers? Do the behaviors of substance abuse reflect an escape mechanism to compensate for their deficit areas of their disability? If in a state of euphoria, then you would be oblivious to any difficulties within your disability. Another possible scenario or reason for using illegal substances could be due to a desire to experiment with what they have heard or seen from others. Therefore, as one interviewee said, "What is a student gaining by this type of behavior: is it to fit in, escape their problems or just a kid being a kid?"
- Future research should determine the antecedent; factors that may cause the personal issues (e.g. loneliness, being bullied, etc.) linked with substance or weapons abuse by the selected disability types (i.e. emotional disturbance, intellectual disability, specific learning disability, and traumatic brain injury). For this subsequent study, a range of environmental factors should be considered including social economic status, childhood and family backgrounds given the evidence that environmental factors affect student's behaviors (Zirpoli, 2014). The use of in depth interviewing with parents of students with disabilities could identify possible factors such as poverty, persistent parental unemployment,

single parent families, premature births, fetal alcohol syndrome, lead poisoning, and/or child maltreatment--all possible pieces of a child's environment.

- The reasoning behind why students are loners or lack the need to bond with others could be valuable knowledge as to why these groups of students choose to use weapons against others in public schools. Additionally researching the question of, "Is this 'loner' mentality," a conscious choice or a pattern which has become habit or could there be an innate lack of the norms of a societal skill sets missing, could be helpful. People often make choices, which eventually can lead to a particular habit or patterns of behaviors. Perhaps a choice was made early in a student's life to become a loner, and it just seemed easier to continue the pattern of behavior as they aged, whether it was for self- preservation so they would not have to explain abuse marks, poverty, speech impediment or perhaps a lack of self -esteem hindering their confidence to talk to others.
- Another research question would be "To what extent does an underlying physiological cause explain why a student socially may not be able to bond with their peers?" During infancy, there could have been Reactive Attachment Disorder (RADS) that can lead to social maladjustment tendencies. Malekpour (2007) in his paper, *Effects of Attachment on Early and Later Development*, states, "The environment provided by the child's primary caregivers has tremendous impact on all aspects of child's early development as well as his or her later in life". He then goes on to discuss how these early encounters with caregivers mold a child's ability to connect with others later in life. He noted that it is vital for parents to build a firm bond foundation with their child.

- Based on a medical approach, it could be valuable to study why the historical pattern consistently showed students with emotional disturbance had the highest frequency in substance abuse or weapons offences among the four selected disabilities.
- Future research should investigate the ways in which students who have disabilities can overcome a range of personal issues, including loneliness. Moreover, this subsequent study needs to identify which programs would be effective to prevent students with disabilities from feeling marginalized-- either intrinsically by their peers or from society in general, given the findings of the current study showed a range of the personal issues of students with disabilities are linked with substance or weapons abuse.
- Based on the response from an interviewee who felt the school community was partially responsible for the violent behavior of students with disabilities, an appropriate educational program should be provided to all students and teachers /staff, aiming to promote the importance of inclusion and tolerance of diversity. Research could be valuable if this study were to be extended to include students with Other Health Impaired who have a psychological trauma or mental issue. Throughout the interview process, as addressed in Chapter 4, students with Other Health Impaired who may have a psychological trauma or mental issue often came up as a category of concern with regard to substance or weapons abuse.

Students with Other Health Impaired comprises students who usually need a minimum of special educational support and are often placed due to impulsivity of ADD/ADHD or other medical reasoning (Grice, 2002).

Conclusions

Since humans tend to judge or make decisions based on their biases or preconceived ideas (Pronin, 2007), a researcher or practitioner not using a holistic approach would face barriers in exploring the fundamental factors that are linked with why someone may choose to use substances or weapons. There are several reports which exclusively address a higher tendency of students with specific types of disabilities to use weapon or abuse substances; this study explored the underlying causes behind the historical pattern in the relationship between the specific types of disabilities and weapon or substance abuse. The results of this study are not to be a catalyst for stakeholders to treat students with disabilities with bias or prejudice, because they are often reported to have substance or weapon abuses. As shown in the historical patterns from 2001 to 2011, less than 1% of all students with the selected four types of disabilities, ranging from .01% to .39% across the nation, have the incidents. Consistent with the historical patterns showing a very small percentage of the incidents by students with the four types of disabilities across the nation, the interview findings suggest that the concerns about the incidents apply to all students, not specifically focusing on students with disabilities. Moreover, the underlying causes of the historical pattern signify the importance of understanding the personal and environmental contexts of students with specific types of disabilities, especially students with emotional disturbance, to prevent them from having substance or weapon incidents and to ensure the full inclusion of students with disabilities in their classroom and community. When educators make every effort to interact

with students who tend to be attention seeking or habitually alone, a difference might occur in the decisions that a particular child makes later today, or tomorrow or several tomorrows from now.

APPENDIX A

Interview Questions

This research focused on investigating the historical patterns and underlying causes in the relationships between specific types of disabilities and substance abuse or weapons offences from 2001 to 2011. I am interviewing you today in regards to your experiences and personal beliefs about students with specific types of disabilities and substance abuse or weapons offenses. You may choose to end our interview at any time during this process or request your information not be used. All information will be coded for anonymity and all digital recordings and handwritten notes will be destroyed at the conclusion of the research.

1. What is your job title?

2. Which range best fits the number of years you have been in your present position?

   0-5 years, 6-11 years, 12 -18 years, 19 or more years

3. Which grade(s)/levels are you presently teaching or working with on a daily basis?

4. What types of settings have you been in during your career? (General education, inclusion, resource, administration, curriculum …)

5. When you consider students with specific types of disabilities, which type of disability stands out in your mind as having more discipline referrals for substance abuse?

   Can you explain why?

6. When you consider students with specific types of disabilities, which type of disability stands out in your mind as having more discipline referrals for weapon offenses?

   Can you explain why?

7. Would you explain what factors you believe are causes of the relationship between disability types and weapons offences

    Why do you feel these factors exist?

8. Some studies suggest there is an automatic assumption by [administration/special education teachers] that certain types of disabilities are more predisposed to substance abuse. What are your experiences with this assumption?

    Why do you feel this assumption exists?

9. Some studies suggest there is an automatic assumption by [administration/special education teachers] that certain types of disabilities are more predisposed to weapons offenses. What are your experiences with this assumption?

    Why do you feel this assumption exists?

APPENDIX B

Script for Informed Consent

Consent to Participate in Historical Patterns and Underlying Causes in the Relationship Between Specific Types of Disabilities and Substance Abuse or Weapons Offenses

The information below provides the interviewee with a brief summary of the rationale and interview procedures of the research project conducted by Rebecca Foster under the supervision of Dr. Ahlam Lee. You were selected to participate in this study because of being a public school administrator or special education teacher in the United States.

1. This study will be conducted by Rebecca Foster, a doctoral student at the Center for Excellence at Arkansas State University, in order to better understand factors that influence the relationship between specific types of disabilities and substance abuse or weapons offenses. This research will help our public school to better understand how our school system and community can improve learning environments that can prevent students with specific type of disabilities from involving in illegal behaviors. Your responses to the interview questions are confidential and only available to interviewer and my advisor.

2. Personal information will be coded using the following safeguards: All personally identifiable information will be coded and the code and raw data will be kept in two different secure locations. In addition, if any breach in security occurs, the interviewer will notify you immediately.

3. Participants in the research will participate in an interview, which aims to explore factors that affect the relationship between specific types of disabilities and substance abuse or weapon offenses. This interview will last approximately 40 to 60 minutes in length and your responses will be combined with approximately 19 other participants.

4. The potential risks are minimal; interviewees are giving their opinion as an administrator or special education teacher on questions pertaining to special education. At any time, interviewee may rescind permission and all of your data collected will be destroyed immediately and removed from the data pool.

5.

A. The potential benefits to you from participating in the study are a greater understanding of why specific types of special education students tend to be referred to the office for substance abuse or weapons offenses. The study may be helpful to increase your understanding of how to develop learning environments for specific disability types who may be at risk on engaging in illegal activities such as weapon or substance abuse.

B. The potential benefits to science and humanity that may result from this study are the ability for better programs and interventions for specific disability types

before there is a substance abuse or weapons offense. This study will provide information to educators to assist them in making programming decisions for students with disabilities.

6. There are no alternative procedures to participation in the interview.
7. If you have any questions about this study, you can contact the person(s) below:

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I _____hereby give my consent to the interviewer to participate in the Historical Patterns and Underlying Causes in the Relationship Between Specific Types of Disabilities and Substance Abuse or Weapons Offenses interview. I understand I may revoke my consent at any time and the interviewer will destroy any data collected from me.

Signature_____ Date: _____

Witnessed by: _____

Date: _____

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