Spring 2023

Restraining the Disabled: A Program Evaluation Of Nonviolent Crisis Intervention in the Educational Setting

Taner Jarrett
Gardner-Webb University, tjarret1@gardner-webb.edu

RESTRAINING THE DISABLED: A PROGRAM EVALUATION OF NONVIOLENT
CRISIS INTERVENTION IN THE EDUCATIONAL SETTING

By
Taner Jarrett

A Dissertation Submitted to the
Gardner-Webb University College of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2023

Approval Page

This dissertation was submitted by Taner Jarrett under the direction of the persons listed below. It was submitted to the Gardner-Webb University College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

_____   _____
Kristina Benson, EdD   Date
Dissertation Chair

_____   _____
Steve Laws, EdD   Date
Methodologist

_____   _____
Bonnie Bolado, EdD   Date
Content Specialist

_____   _____
 Steve Lawns, EdD   Date
College of Education Representative

_____   _____
Prince Bull, PhD   Date
Dean of the College of Education

Dedication

This dissertation is dedicated to my little brother, Tyler Jarrett, in heaven. Your name will live forever in this work. Thanks for always having my back, this is for you. I love you and miss you!

Acknowledgements

I must recognize the sacrifice my family has made over the years. To my lovely wife Holly Jarrett, thank you for your love and support. I know this was not easy on you, but you handled it with grace; thanks love. I would also like to recognize my beautiful children, Colt, Avis, and Kyler; I hope one day you look at this with pride. Always remember no one controls your path and you never have to be the best; you simply need to work the hardest. To my parents, Donnie and Robyn Jarrett, I did it! Thank you for always being there and for believing in me.

I want to recognize Dr. Toni Oakes; I know you took a chance on me many years ago. I would not have made it this far without you. I hope you can review this work and feel confident that your belief in me was validated. The world needs more people like you.

I would like to acknowledge and thank my committee chair, Dr. Kristina Benson, for her patience and guidance throughout this process. I would also like to thank my other committee members, Dr. Steve Laws and Dr. Bonnie Bolado. I am grateful for everything you have taught me over the past 2 years and for providing guidance to make this dream a reality.

Abstract

RESTRAINING THE DISABLED: A PROGRAM EVALUATION OF NONVIOLENT

CRISIS INTERVENTION IN THE EDUCATIONAL SETTING. Jarrett, Taner, 2023:

Dissertation, Gardner-Webb University.

Students with disabilities are 200% more likely to be restrained by school personnel

compared to nondisabled peers (Katsiyannis et al., 2020). The purpose of this study was

to examine the effectiveness of Nonviolent Crisis Intervention (NVCI) in de-escalating

the risk behavior of children with disabilities from exceptional children (EC) teacher

perspectives. This study was a mixed method program evaluation of the Crisis Prevention

Institute NVCI program using Daniel Stufflebeam's (1968) Context, Input, Process,

Product (CIPP) evaluation framework. The setting for this study was a large suburban

school district in the piedmont region of North Carolina. The sample included 15 NVCI-

certified EC teachers from elementary, middle, and high school settings. Data were

collected through an anonymous survey and structured interviews. The survey consisted

of two multiple-choice questions, one yes/no question, and five Likert scale questions.

All 15 participants completed the survey, and 10 completed the structured interview.

Seven interview questions were asked in the same order with the same wording for each

participant. This study was grounded in the assault cycle theory (Kaplan & Wheeler,

1983) and the information processing theory (ETSU Center for Teaching Excellence,

2022). Data were synthesized and analyzed to identify common themes. Overall, the EC

teachers view NVCI as effective, but improvements could be made during the input

phase. Recommendations included more frequent training, adding additional content

specifically focusing on communication methods for children with cognitive delays, prioritizing the debriefing process, and increasing the number of certified staff.

Keywords: Nonviolent Crisis Intervention, Crisis Prevention Institute, restraint, special education, exceptional children teacher

Table of Contents

Chapter 1: Introduction

Seclusion and physical restraint are the primary reactive methods in education to intervene with violent and dangerous student behavior. In January 2012, an investigative report published by the National Disability Rights Network, *School is Not Supposed to Hurt,* led to legislative discussions surrounding the appropriateness of these techniques. This report suggests that children with disabilities are unjustly victimized by unnecessary and improper use of physical restraint and seclusion in the educational setting.

On July 31, 2009, Secretary of Education Arne Duncan contacted multiple Chief State School Officers expressing his concerns from a recent testimony held before the Education and Labor Committee in the U.S. House of Representatives. Duncan was \concerned about the frequency of use, the potential physiological and physical effects of restraint and seclusion, and the potentially deadly repercussions of these techniques (U.S. Department of Education, 2012). These letters, sent by the Secretary of Education, urged each state to review, revise, and develop, if necessary, policies surrounding the use of restraint and seclusion before the 2009-2010 school year. Duncan highlighted an approach currently being utilized by the state of Illinois that centers its crisis behavioral management around the use of positive behavior interventions and supports (PBIS; Jones & Feder, 2010).

North Carolina was one of the states that had already established policies and guidelines surrounding restraint and seclusion following the signing of the Deborah Greenblatt Act in 2005. Deborah Greenblatt was a lawyer and an advocate for students with exceptional needs (Disability Rights North Carolina, 2022). As a parent of a student with disabilities, Greenblatt wanted to ensure that the rights of this student population

were adhered to and maintained when disciplinary acts were needed. With the help of various agencies and local governments, the Greenblatt Act was implemented, which included policies addressing seclusion and restraint. The Greenblatt Act provides definitions and guidelines for the permissible and impermissible use of physical restraint, seclusion, mechanical restraint, aversive procedures, time-out, and isolation. This bill also provides guidance on the reporting of incidents as well as outlining protections for anyone who reports impressive use of the above-mentioned. Section 4 of the bill outlines the professional development requirements that each educational agency must comply with to ensure that appropriate school personnel are trained in managing dangerous behavior. The training that is required shall include positive behavior management strategies, effective communication techniques for defusing and de-escalating dangerous behavior, and the safe use of seclusion and restraint (A.B. 1032, 2005).

The National Disability Rights Network (2012), *School is Not Supposed to Hurt,* brought scrutiny to the use of physical restraint and seclusion in the school setting. The report cited 50 known cases in 38 states in which students were mistreated, injured, locked in noncompliant seclusion rooms for long periods of time, or even died from the use of restraints by school staff. This report highlighted the lack of similarity in state legislation surrounding the permissible and impermissible use of restraint and seclusion as well as the reporting of these events. Both investigative reports called for a federal reporting system to manage the data surrounding the use of these tools (LeBel et al., 2012). Research examining the discrepancies in reporting policies concluded that general trends can be identified nationwide. Some school districts and states report little to no incidents, whereas other states report relatively high numbers of incidents (Gagnon et al.,

2017). These discrepancies in reporting bring to question the validity of the total number of incidents reported and the proportionality of restraint and seclusion of students with a disability compared to nondisabled peers.

Data

According to a publication by the U.S. Department of Education Office of Civil Rights, there are 50,922,401 kindergarten through Grade 12 students in the United States. Students with disabilities account for 13% of the 50,922,401 (DeVos & Richey, 2020). Figure 1 shows the number of students in the U.S. who are eligible for special education services under the Individuals With Disabilities Education Act (IDEA) as compared to nondisabled students.

Figure 1

Students Eligible Under IDEA Versus Nondisabled Students

Students Eligible Under IDEA vs. Non Disabled Students

6,619,912

44,302,489

■ Amount of Students K-12   ■ Students with disabilities
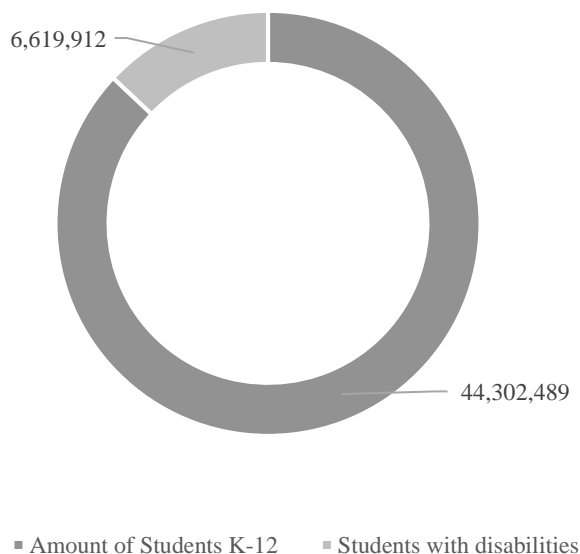
Note. There are 50,922,401 total students K-12 enrolled in the United States of America.

There are 6,619,912 students currently found eligible for special education

services under IDEA. Despite accounting for only 13% of the total enrollment, students with disabilities are subjected to 80% of all restraints, mechanical restraints, or seclusions. Figure 2 compares the number of incidents involving students found eligible under IDEA versus the number of incidents involving students not eligible under IDEA.

Figure 2

Students Not Eligible Under IDEA

Students Not Eligible Under IDEA

14,167

56,666

■ Students without disabilities   ■ Students with disabilities
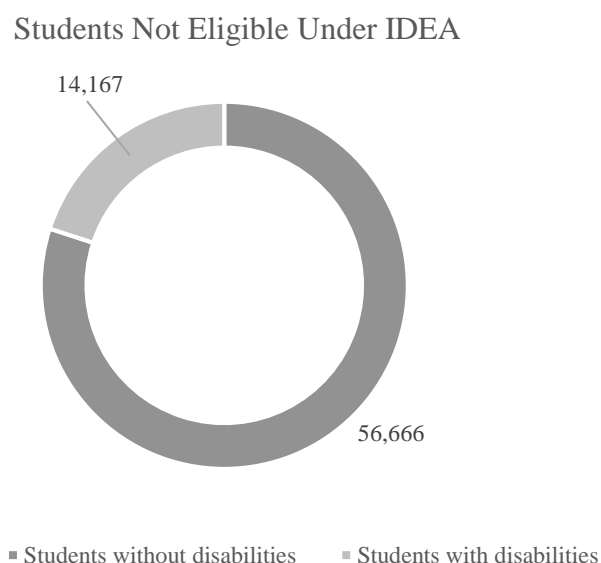
There were 70,833 reported incidents from 2017-2018; of those, 56,666 were students served under IDEA (DeVos & Richey, 2020).

The Office of Civil Rights compiles data that are submitted from each state. Those data are then sorted by type of incident, race, gender, and if the student is being served under IDEA. The most recent data that can be accessed by the public are from 2017-2018. For the purpose of this study, student data from the state of North Carolina will be the focus. The three types of incidents that are tracked and made public are mechanical restraint, physical restraint, and seclusion. Table 1 provides a breakdown of the estimated incidents in North Carolina (Civil Rights Data Collection, n.d.-h, n.d.-i,

n.d.-j).

Table 1

Restraint and Seclusion Data From the State of North Carolina

Estimated incidents 2017-2018	Total number of students involved	Students not served under IDEA	Students served by a 504	Students served under IDEA	Percentage of incidents involving a student with a disability
Physical restraint	379	75	5	304	80.2%
Mechanical restraint	41	22	2	19	46.3%
Seclusion	123	9	2	114	92.7%

Note. Facts are based on incidents reported from 2,661 schools.

There was a total of 2,661 schools that reported incidents of restraint and seclusion to the Office of Civil Rights for the 2017-2018 school year. Of those, there were 543 reportable incidents with the overwhelming majority involving students with disabilities as compared to students without disabilities. Of the incidents that required mechanical restraint, 46.3% of them involved a student with disabilities. Incidents involving the use of physical restraint and seclusion were much more disproportionate with 80.2% of all reported physical restraint and 92.7% of all reported seclusion incidents involving a student found eligible under IDEA. Considering that students with disabilities account for only 13% of the student population, the frequency with which they are mechanically restrained, physically restrained, or secluded is grossly disproportionate (DeVos & Richey, 2020).

Problem Statement

The problem this research study addressed was the victimization of students with disabilities by staff through the use of restraint. Despite mandates to address the victimization of students with disabilities through the use of restraint and seclusion, there continues to be growing concern for this population of students based on the reported

data. Students with disabilities who suffer from this victimization struggle with

informational processing skills as well as executive functioning adaptations; therefore,

when instances occur or strategies are implemented to help with these behaviors, they are

often ineffective at de-escalating the student's behavior.

Setting

The setting for this study is a large suburban school district in the piedmont region

of North Carolina. In 2020-2021, the district had approximately 30,000 registered

students attending prekindergarten through 12th grade. The school district comprises 55

schools: 29 elementary schools, 11 middle schools, 11 high schools, one public separate

school, one alternative school, one intermediate school, and one virtual school. Currently,

there are 4,526 students eligible for special education services based on the criteria

established by IDEA and the state of North Carolina. There are an additional 1,678

students eligible for a 504 plan based on the criteria outlined in Section 504 of the

Rehabilitation Act of 1973. The school district in which the study was completed

encompasses many ethnicities. Table 2 demonstrates the distribution of ethnicity within

the school district.

Table 2

Local School District Student Ethnicity Distribution

African American	Caucasian	Hispanic	Asian	Multi-racial	American Indian	Hawaiian or Pacific Islander
23.2%	53.8%	15.8%	1.5%	5.4%	0.2%	0.1%

Note. Percentages are calculated based on the total number of students enrolled.

The district employs more than 3,800 full-time and part-time employees,

including 1,950 classroom teachers. Of the referenced classroom teachers, 83% are classified as experienced, while 16% are beginning teachers in their first year. There are currently 149 exceptional children (EC) teachers in the district.

Local Restraint and Seclusion Data

The district of study compiles records of every incident of mechanical restraint, physical restraint, and seclusion regardless of whether it meets the minimal mandated reporting requirements outlined in the Deborah Greenblatt Act. This school district started collecting data at the end of the 2017-2018 school year. Table 3 shows the total number of restraints reported in the local school district since data collection began.

Table 3

Restraint and Seclusion Data From the District of Study

	2017-2018	2018-2019	2019-2020 COVID-19 closure, March	2020-2021 A day, B day cohort virtual on Wednesday	2021-2022 as of 11/4/21
Reported incidents involving students with disabilities	18	107	91	64	8
Reported incidents involving students without disabilities	0	5	5	0	2
Number of schools	3	13	13	12	3
Total number of students	6	39	39	34	5

The 2018-2019 school year serves as the best representation of a complete school year. The district did not start collecting data until the last few months of the 2017-2018 school year. The 2019-2020 school year was shortened by the COVID-19 pandemic and the schools closed in March. During the 2020-2021 school year, the school system

operated on an "A-day" or "B-day" cohort model in which half the students in a class attended Monday and Tuesday and the other half of the class attended Thursday and Friday; Wednesday was a virtual learning day for all. This school district also experienced a large influx of enrollment in the virtual academy during the 2020-2021 school year jumping from 140 students to over 9,000.

Each school year since 2017 there has been clear disproportionality reported within this school district with only 12 incidents occurring with students not being served under IDEA. During the same duration of time, there have been over 361 incidents involving 111 different students with a disability. Incidents that include mechanical restraint, physical restraint, and seclusion in this school district are nine times more likely to involve a student with a disability. The United States Government Accountability Office (GAO), upon investigation, found hundreds of alleged cases of abuse or death due to restraint or seclusion (Kutz, 2009). This investigation determined that almost all these cases involved students with disabilities (Nidhimura, 2011).

Introduction to Crisis Prevention Institute

Nonviolent Crisis Intervention (NVCI) was created by the Crisis Prevention Institute (CPI). This program focuses on four pillars: prevention and verbal de-escalation skills, disengagement safety techniques, continuing education credits, and trauma-informed training (CPI, 2021). NVCI training consists of 12 hours of content. Two of the modules are self-paced online training that specifically addresses de-escalation and trauma-informed sessions. The remaining portion of the training curriculum is conducted in person and focuses on disengagement techniques and physical restraints. Upon completion of NVCI training, staff members must pass a written exam. Additionally,

trainees are required to participate in a physical demonstration exam. During the demonstration portion of the exam, the employees must safely demonstrate various disengagement techniques as well as multiple different restraint techniques. Once certified, employees are required to complete a refresher course every school year to maintain certification. Table 4 provides a summary of the eight training modules that are covered in NVCI training.

Table 4

NVCI Training Modules

Module	Description
Module 1: The CPI crisis development model	By using the crisis development model trainees can identify behavior and apply the approach that is most effective to prevent further escalation.
Module 2: Integrated experience	Understanding how one person's behavior influences another person's behavior. This module explores possible underlying causes of behavior and how to respond.
Module 3: communication skills	Practice and observe various different communication techniques to analyze how those techniques may positively or negatively impact a crisis situation.
Module 4: Responding to defensive behaviors	Identifying and responding appropriately to verbal responses based on the verbal escalation continuum.
Module 5: Safety intervention	Using a coordinated and collaborative approach, practice skills needed to keep oneself safe when risk behavior is occurring.
Disengagement skills	Practice responding safely and effectively to an individual acting out risky behavior. This module will teach staff disengagement skills.
Module 6: Introduction to restrictive interventions	Identifying restraints and exploring the professional and legal considerations related to using physical restraint.
Module 7: Decision-making	This module aims to teach the trainee to organize thinking regarding the risks associated with acting out behavior and the use of restraints.
Restraint skills	Learn how to respond appropriately and safely to acting out behavior that has been deemed unsafe.
Module 8: Post-crisis	Introduction of the post-crisis framework COPING model and guides staff in reestablishing therapeutic rapport with the acting-out individual.

Note. Adapted from "CPI *Nonviolent Crisis* ® *Intervention* Agenda" by CPI, 2020, *CPI*

Nonviolent Crisis Intervention Training Instructor Guide, pp. 14-15. Copyright 2020 by Crisis Prevention Institute.

The goal of the eight-module training is to provide the participant with strategies to prevent and respond to students who may be experiencing a behavioral crisis. The core philosophy and values of the NVCI training curriculum are "Care, Welfare, Safety, and Security" (CPI, 2021, p. 4). To achieve these goals, the intervention techniques in NVCI were designed to address possible behaviors that an employee may encounter in their workplace. According to the program literature, determining which response is necessary for the best possible care and welfare of a student while considering safety and security is a fluid process (CPI, 2020).

Statement of the Purpose

As required by North Carolina state law, the district of study provides professional development on verbal de-escalation techniques and the safe management of students who pose harm to themselves or others. The school district in this study utilizes NVCI as the primary professional learning program to teach de-escalation techniques and restraint techniques. Local data align with state and federal data showing that students with disabilities are restrained or secluded at a disproportionate rate. This disproportionately raises questions about the effectiveness of commercial programs that promote safe de-escalation of acting out or risky behaviors. The purpose of this study was to examine the effectiveness of NVCI in de-escalating the risk behavior of children with disabilities from the EC teacher's perspective. This research study reviewed how the staff is educated and trained in appropriate techniques for the de-escalation of students with disabilities before the need for restraint and seclusion.

Research Questions

1. What behavioral situations require NVCI to be implemented?

2. How do EC teachers perceive the professional development of NVCI strategies for de-escalation without using restraints?

3. How are the behavioral interventions implemented during the NVCI cyclic process monitored and evaluated?

4. How effective do EC teachers perceive NVCI techniques as an intervention?

Significance of the Study

Even though NVCI was initially created for a variety of settings, the majority of research determining the effectiveness of the program has been conducted in the healthcare setting (CPI, 2006, as cited in Howe, 2020). This study is significant as it took place in an educational setting and not in healthcare. Within the educational setting, this study specifically focused on the perspective of EC teachers, which is significant as another study focused on the use of NVCI training to reduce the volume of office referrals (Howe, 2020).

The school district in this study uses the NVCI program as the primary professional learning program to educate staff on the de-escalation and prevention of aggressive behavior. This study helped me gain an understanding of the effectiveness of NVCI when used with students with disabilities. By studying EC teacher perspectives, information was gained to improve professional development that will reduce the use of restraints.

Introduction to Program Evaluation

A program evaluation was conducted to examine the effectiveness of CPI's NVCI

program using the context, input, process, and product (CIPP) framework. The NVCI program model was analyzed by utilizing those four components and assessing the effectiveness or lack of effectiveness of the program on students with disabilities.

The context was conducted to analyze the experience level and background information of those using the program. Data were collected related to the setting in which the NVCI program was utilized. The experience level of NVCI-certified EC teachers was also analyzed. The setting in which they work and the experience level of the certified EC teachers are relevant factors in the perceived effectiveness of the strategies or techniques used.

For the input process, the program was reviewed for resources that contributed to the implementation of the program. The input process evaluation determined what resources were needed to ensure the program was implemented with fidelity and validity. The resources that could be collected and reviewed included personnel, money, time, materials, and other critical information that would determine the flow and implementation of the program. For the NVCI program, human capital for training, financial need, materials, and location are the needed resources to ensure the program would occur with success while meeting the goal of the training.

During the process evaluation, the program was evaluated for purposes regarding planning, implementation, completeness, and dissemination of information. This phase also examined if the appropriate target population was being served so current and relevant data could be gathered and examined. For the NVCI program, a distinct population of staff was identified to determine if the program was effective in decreasing risk-taking behavior.

For the product component of the program evaluation, data were examined to determine the effectiveness of the outcomes related to the goals of the program. This part of the program evaluation measured techniques identified and learned during the training as well as how the data were collected and analyzed. For the NVCI program, participants learned various methods and strategies for how to de-escalate aggressive or violent behavior. After a technique or strategy was utilized, documentation followed the procedure to review the effectiveness of implementation as well as additional recommendations for future use.

Introduction to the Theoretical Framework

The information processing theory was utilized to help establish correlations between how students process information that results in actions or behaviors. Information processing theory is a type of human learning that works by using schemas to develop an understanding of the information presented. This theory focuses on four steps for processing information (ETSU Center for Teaching Excellence, 2022). The first step involves how information is sensed and registered. This relates to how students sense or perceive information while making the decision to listen or attend.

The second step in the information processing theory involves momentarily holding information in short-term or working memory. Research shows that approximately seven "chunks" (Cowan, 2015, p. 1) of information can be held at one time in the working memory. If the information is not used in a repetitive manner, it is easily lost; therefore, students who have cognitive delays or processing issues struggle with this step (International Journal of Research, 2019).

The third step in this theory includes encoding the information into long-term

memory. Students pair this information with other existing prior knowledge or existing schemas. When the information is easier to encode, it will then be placed into a findable location in the working memory (ETSU Center for Teaching Excellence, 2022).

The last step in the theory is the retrieval of information. This retrieval will depend on how well the working memory accepts the information and stores it correctly. Many times, cues will be provided to help students recall the information (International Journal of Research, 2019).

The information processing theory focuses on a student's executive function; however, students who experience various disabilities in the areas of cognition, learning, and behavior struggle greatly with these steps and executive functioning as a whole (ETSU Center for Teaching Excellence, 2022). Students with disabilities struggle with paying attention, planning for future events, organizing thoughts or tasks, adapting to new situations, and regulating their emotions. Students with disabilities who have difficulty controlling their emotions often end up in situations where restraint or seclusion may occur due to their inability to process information as well as regulate their executive functioning (ETSU Center for Teaching Excellence, 2022).

Definition of Terms

Students with Disabilities

A student aged 3 to 22 years who has the eligibility criteria for the EC program as defined by the state of North Carolina.

De-escalation

"Preventive interventions that help lessen potential conflict" (CPI, 2020, p. 283).

NVCI Program

"The Nonviolent Crisis Intervention program is a safe, nonharmful behavior management system designed to help human service professionals provide for the best possible Care, Welfare, Safety, and Security of the disruptive, assaultive, and out-of-control individuals" (CPI, 2006, p. ii).

Physical Restraint

"Means the use of physical force to restrict the free movement of all or a portion of a student's body" (A.B. 1032, 2005, p. 2).

Risk Behavior

"Behavior that presents an imminent or immediate risk to self or others. It is the third level in Crisis Development where a person impulsively or deliberately presents a physical attack" (CPI, 2020, p. 284).

Seclusion

"Means the confinement of a student alone in an enclosed space from which the student is: a. Physically prevented from leaving but locking hardware or other means. b. Not capable of leaving due to physical or intellectual incapacity" (A.B. 1032, 2005, pp. 2-3).

Summary

Chapter 1 involved a detailed, comprehensive introduction to a research study aimed at the victimization of students who have disabilities due to behavioral needs in regard to restraint practices and even seclusion. A review of data including the number of restraints and seclusions conducted was included, thereby showing a need for a specific program or strategy to help decrease these numbers and provide support for both students

and teachers who are working with these high-need students.

Collected data were analyzed to determine the perceived effectiveness of CPI's NVCI program. The evaluation reviewed four key components of the program evaluation framework, which assisted in gathering data that resulted in the effectiveness of the NVCI program as well as the impact of reducing or decreasing the number of students who are involved in restraints. Lastly, concepts and terminology were provided to help further explain the various components of the research study in relation to the program as well as the participants who were involved in the study.

Chapter 2: Literature Review

Introduction

The use of physical restraints is a controversial topic in many sectors; however, these concerns are more prevalent in the fields of medicine, psychiatry, rehabilitation, and education. The federal government provides oversight in all settings that receive federal funding except in the educational setting (Suarez, 2017). Since there is no federal oversight in education, the policies governing restraints in the educational setting occur at the state level. The state of North Carolina passed the Deborah Greenblatt Act in 2005, which outlined the permissible use of restraints in the school setting. Additionally, this act outlined the professional development requirements for "appropriate personnel," which may include teachers, teacher assistants, guidance counselors, school psychologists, or those most likely to intervene with students demonstrating disruptive or dangerous behavior (A.B.1032, 2005, p. 8). Each local board of education shall include in this component of its safe school plan procedures to evaluate the effectiveness of this training in preventing or addressing disruptive or dangerous student behavior. Therefore, this chapter establishes a foundation of restraint in education by reviewing a program utilized in teaching restraints as well as de-escalating strategies to help students decrease at-risk behavior.

Deborah Greenblatt, an advocate for children with disabilities, worked collaboratively with a coalition of attorneys to pass legislation aimed to protect this subgroup of students from the disproportionate use of restraints and seclusion (Disability Rights North Carolina, 2022). A section outlining the professional development requirement for staff was included in this law as well as an outline of the permissible use

of restraints (A.B. 1032, 2005). Many districts choose to purchase commercially available de-escalation programs to meet the professional development requirements outlined in the Greenblatt Act. Despite some evidence that supports the effectiveness of some commercially available de-escalation programs in the school setting, students with disabilities continue to be restrained at a disproportionate rate compared to nondisabled peers (Hawkinson, 2012; Howe, 2020; Walsh, 2010).

This literature review examines the historical use of restraints as well as the complications that have been experienced within the educational setting. Research surrounding various laws, policies, programs, and procedures that focus on working with students who show risk or escalated behavior are also reviewed. The section includes research on the theoretical framework of a program evaluation as well as a detailed explanation of the NVCI program. A review of the literature helped establish a foundation for physical restraint in education to conduct this study and explore the following research questions:

Research Questions

1. What behavioral situations require NVCI to be implemented?

2. How do EC teachers perceive the professional development of NVCI strategies for de-escalation without using restraints

3. How are the behavioral interventions implemented during the NVCI cyclic process monitored and evaluated?

4. How effective do EC teachers perceive NVCI techniques as an intervention?

Physical Restraint

The use of physical restraints dates back more than 300 years (Masters, 2017).

The legal precedent for the use of restraints was established with vagrancy laws in

English towns during the 1740s. During this time, many individuals were unemployed

and would wander around the streets stealing, causing disruptions, and even resorting to

violence. These individuals were not being governed by any laws, nor were there any

repercussions for their behaviors. As a result, in 1824, the Vagrancy Act was enacted.

Vagrancy laws afforded authority figures the right to restrain citizens who were behaving

unruly, primarily intoxicated citizens. Citizens under the influence of alcohol were not

the only individuals who demonstrated behaviors that were perceived to be a nuisance to

society. The Enlightenment period established awareness of the term mental illness and

acknowledged the need for psychiatric or medical care over the previous belief of

supernatural intervention (Colaizzi, 2005). This well-intended awareness led to the

creation and eventually the overpopulation of mental asylums in the 1840s. As society

struggled to control the perceived social nuisance of the mentally ill, restraint and

seclusion became the physical methods of response to aggressive and sometimes

dangerous behavior that occurred within these asylums.

Although widely accepted as effective techniques to control unruly behavior, the

ethical principles associated with restraint and seclusion have been a topic of debate since

the very beginning of psychiatric medicine (Colaizzi, 2005; Rochefort et al., 2011). Over

the next 200 years, psychiatrists such as Phillippe Pinel and John Conolly led reform

movements to limit the use of restraints in psychiatric hospitals. Both Conolly and Pinel

noted that hospital staff had a tendency to restrain or abuse patients when threatened

verbally or if the patient was defiant (Masters, 2017). According to Masters (2017),

evidence of this abuse led to the creation of the Lunacy Commission in the 1840s by the

British Parliament. The Lunacy Commission was established during a time when those

classified as mentally ill or sick needed more support due to individuals not being treated

appropriately and, many times, too aggressively based on the situation. Therefore, the

purpose of this commission was to pressure the leadership of mental health asylums to

abolish the use of restraints (Masters, 2017).

According to Eugene Grissom, the superintendent for the insane asylum in

Raleigh, North Carolina during the 1870s, the use of restraints was considered to be

beneficial and necessary in America given the culture of "violence" (Masters, 2017, p.

53). In the 1870s, John Charles Bucknill published an editorial column in the *Lancet*

about the use of restraints in America. He concluded that the use of restraints was a

barrier that interfered with the appropriate treatment of the patients. Reform in the

healthcare sector of the United States took place in the 20th century during the consumer

movement (Masters, 2017).

The 20th century brought an increase in public awareness of the potential serious

risk associated with the use of restraint and seclusion in the medical setting. In 1998, a

five-part investigative series was published by the Hartford Courant newspaper (Weiss,

1998a). The publication presented the findings from the team of reporters who

investigated the use of deadly restraint in hospitals, group homes, and other facilities that

worked with troubled youth. The 5-month investigation was a compilation of research.

The reporters created the series titled "Deadly restraint: A nationwide pattern of death,"

which uncovered 142 deaths that occurred from 1988 to 1998 directly related to restraint

or seclusion (Weiss 1998a). This investigation was done through a survey that was

disseminated to group homes and mental health facilities throughout all 50 states. It was

discovered that of the 142 deaths, 125 were proven to be directly related to the incident; 33% of the patients died from asphyxia, and 26% died from cardiac-related distress (Weiss, 1998b). This investigation also identified disproportionality when comparing death totals involving children who have been exposed to restraint and seclusion compared to adults. Thirty-six percent of the 142 deaths were children, which is twice the proportion of enrollment when compared to adults. Recently, a review of data from the last 26 years reinforced Weiss's (1998a) original publication that restraint-related deaths are still occurring (Nunno et al., 2021). This study reviewed available data from the United States in multiple different settings including correction facilities, mental health services, and school systems. Nunno et al. (2021) found that 79 fatalities were found to be directly correlated with restraints.

Therapists in similar facilities such as the ones referenced in the *Hartford Courant* have historically used restraints with children as a treatment for disorders such as reactive attachment or emotional distress (Blum, 2004; Masters, 2017). The use of restraint and seclusion with children diagnosed with emotional disorders can be confirmed as far back as the 1950s. Redl and Wineman (1965) listed physical restraint on their list of "techniques for the antiseptic manipulation of surface behavior" (Peterson & Skiba, 2003, p. 1). It was thought that the use of restraint would correct the maladaptive behavior of children suffering from reactive attachment disorder or other mental illnesses. This treatment theory was believed to have been linked to Harry Harlow's research on monkeys and their attachment to their mother. According to Blum (2004), the therapists working under this theory used restraint as a crucial component in forcing children to experience bonding or attachment through a process known as rebirth. A child died

during this attachment process, which brought the use of restraints into the public

spotlight again (Masters, 2017). Nunno et al. (2021) discussed that in most cases,

restraint-related deaths like the one described in rebirthing are a result of a convergence

of factors including medical, psychological, or organizational factors. This convergence

of factors placed that child at a greater risk. Most facilities such as psychiatric centers that

receive Medicaid funding for services now have federal policies that govern the use of

restraint and seclusion (Suarez, 2017). This is true except in the educational setting in

which there are currently no federal laws that govern the use of restraint and seclusion.

Restraint-Related Complications

While the most serious consequence of restraint and seclusion is death, that is not

the only risk. CPI has identified and ranked the risk associated with using restraint and

seclusion as an intervention. Table 5 lists the potential risks in order based on the

likelihood that injury will occur.

Table 5

Restraint-Related Injury or Death

Types of injury	Description of injury
Psychosocial injury	Including post-traumatic stress disorder and damage to therapeutic relationships.
Soft-tissue injury	Including injury to skin, muscles, ligaments, and tendons.
Articular or bony injury	Including Injury to joints and bones.
Respiratory restriction	Including compromise to the airway bellows gaseous exchange, which results in respiratory crisis or failure.
Cardiovascular compromise	Including compromise to the heart and the peripheral vascular system.

Note. Adapted from "Figure 1: Restraint- Related Injury or Harm" by CPI, 2020, *CPI*

Nonviolent Crisis Intervention Training Instructor Guide, pp. 278. Copyright 2020 by Crisis Prevention Institute.

Psychological damage or trauma associated with being restrained has reportedly caused intrusive thoughts and sleep disturbances. Children who have been subjected to restraint and seclusion have reported feeling as if they were assaulted, dehumanized, and overall traumatized (Amos, 2004, as cited in Stewert, 2010; Martinez et al., 1999; Mayers et al., 2010; Nunno et al., 2021; Steckley & Kendrick, 2008). It is also theorized that restraint and seclusion incidents can be especially traumatic for individuals who have previously suffered from a traumatic event. The act of being physically restrained can trigger episodes of post-traumatic stress disorder (Nunno et al., 2021; Stewart, 2010).

Respiratory and cardiovascular injuries are considered to be the most serious and typically life-threatening situations related to improper restraint or seclusion. Catecholamine rush, which results in a massive release of adrenaline, is common in patients and staff members who are agitated or are currently physically struggling with staff (Mohr et al., 2003; Rakhmatullina et al., 2013). A rush of adrenaline can induce malignant cardiac rhythm disturbances. A systematic literature review of 26 articles conducted by Barnett et al. (2012) from the years 1980 through 2011 concluded that restraint could negatively affect ventilatory function as well as other potentially life-sustaining functions. The most common cause of restraint-related death is asphyxiation (Mohr et al., 2003; Nunno et al., 2021). This type of restraint-related death has historically been caused by common factors such as staff members placing excessive weight on the individual's shoulders, back, or hips while the individual is in a face-down prone position. Referred to as positional asphyxia, the person being restrained is placed in

a position that interferes with their body's ability for the diaphragm to expand and contract. The individual who is being restrained will pass out and eventually suffocate to death.

The Independent Advisory Panel on Deaths in Custody (2012) began to conduct annual audits of data to determine if there was disproportionality noted in the deaths of minorities and women in the correctional system. In addition to the data audit, the panel commissioned two outside organizations, Caring Solutions Ltd and the University of Lancashire, to review literature, medical theories, and research to gain a better understanding of the physiological causes of restraint-related death. The findings of this investigation were published in 2011 and provided evidence that certain groups of demographics were more vulnerable to the risk associated with restraint including injury and death. The identified subgroups at higher risk are those with learning disabilities, minority populations, those with higher body mass index, men between the ages of 30 and 40, and younger people under the age of 20. The published report also identified medical explanations that provided the panel with a possible understanding of the specific risks of the identified subgroups. Positional asphyxia, excited delirium, drug influence, and acute behavioral disturbances were all identified as possible factors.

Restraint in Education

According to Redl and Winerman (1965), evidence of restraint and seclusion with children diagnosed with emotional disturbances can be traced back to the 1950s in psychiatric and hospital settings (Peterson & Skiba, 2003). Data and literature on the use of restraints and seclusion in educational settings are scarce (French & Wojcicki, 2017; Macias-Smith, 2012; Ryan & Peterson, 2004; Scheuermann et al., 2016; Villani et al.,

2011). With few expectations, the lack of data on the prevalence, student demographics, frequency, duration, type of restraint used, and reporting of incidents has been a topic of controversy. Awareness of the lack of data and speculations of abuse of children by restraint and seclusion resulted in the GAO testifying before the Committee on Education and Labor regarding the allegations of six cases of abuse and four restraint-related deaths (Kutz, 2009; Strunk & Houlihan, 2017). During the presentation of the specific examples of abuse and death reported by parents and media sources, the GAO "was unable to find any federal laws restricting or monitoring the use of these interventions in schools" (Strunk & Houlihan, 2017, p. 14). After reviewing individual state laws and media publications from the last 20 years, the GAO testified on the death and abuse at residential programs, private education centers, and public schools. Examples included students being handcuffed and pinned to the floor for long periods, tied to chairs with bungee cords and Duct tape, and locked in closets for hours. Another notable concern that was presented in the testimony was accounts of staff members maintaining the restraint or not letting the student out of the seclusion room upon cessation of the behavior. One incident of reported abuse involved a student who was secluded in a time-out room 75 times in 6 months. The student had blisters and injuries from trying to escape the room. To address the concerns of the general public, the GAO made three recommendations to the Committee on Education and Labor. The first recommendation was to overview the laws related to the use of restraint and seclusion in the public and private education sectors. The second recommendation was to examine if the suspected allegations of abuse and death were widespread. The third recommendation called for an examination of specific facts surrounding allegations of death and abuse that were believed to be directly

related to restraint and seclusion.

A direct result of the GAO testimony was a letter from Secretary of Education Arne Duncan that was sent to all Chief State School Officers (U.S. Department of Education, 2012). Duncan called for each state to review its laws and policies governing the use of restraint and seclusion in the educational setting. In addition to reviewing the state laws and policies, Duncan asked for them to be published so teachers, administrators, and parents could understand the circumstances in which they may be used. Duncan also encouraged the adoption of PBIS as a resource for knowledge building and prevention.

Following Duncan's letter, the U.S. Department of Education (2012) required all regional comprehensive centers to publish each state's regulations, policies, and relevant guidance on the department's website. In addition, the Office of Civil Rights amended the Civil Rights Data Collection report for the 2009-2010 school year to require the total number of restraint and seclusion incidents broken down by race, sex, disability, and limited English proficiency. Table 6 shows the National Restraint and Seclusion data of students served under IDEA and 504.

Table 6

National Restraint and Seclusion Data

School year	Type of incident	Total number of incidents	Students served under IDEA	Percentage	Students served under 504	Percentage
2011-2012	• Physical restraint	53,485	40,193	75%	332	6%
	• Mechanical restraint	9,243	2,836	30%	82	.9%
	• Seclusion	31,225	17,409	59%	273	.9%
2013-2014	• Physical restraint	47,270	35,597	98%	382	1%
	• Mechanical restraint	5,983	1,799	94%	122	6%
	• Seclusion	28,967	16,272	98%	343	2%
2015-2016	• Physical restraint	59,217	44,958	76%	593	1%
	• Mechanical restraint	8,042	2,783	35%	230	3%
	• Seclusion	31,224	20,729	66%	312	1%
2017-2018	• Physical restraint	71,204	57,090	80%	919	1%
	• Mechanical restraint	3,609	1,489	41%	152	4%
	• Seclusion	27,499	21,253	77%	331	1%

Note. The data for 2011-2012 physical restraint, mechanical restraint, and seclusion are

from *2011-2012 State and national estimations*, by Civil Rights Data Collection, n.d.-a

(https://ocrdata.ed.gov/assets/downloads/2011-

2012/Restraint%20and%20Seclusion/by%20state/NC-Restraint-and-Seclusion.xlsx).

Copyright Civil Rights Data Collection. The data for 2013-2014 mechanical restraint are

from *2013-2014 State and national estimations mechanical restraints*, by Civil Rights

Data Collection, n.d.-b (https://ocrdata.ed.gov/assets/downloads/2013-2014/Mechanical-

Restraint.xlsx). Copyright Civil Rights Data Collection. The data for 2013-2014 physical

restraint are from *2013-2014 State and national estimations physical restraints,* by Civil

Rights Data Collection, n.d.-c (https://ocrdata.ed.gov/assets/downloads/2013-

2014/Physical-Restraint.xlsx). Copyright Civil Rights Data Collection. The data for

2013-2014 seclusion are from *2013-2014 State and national estimations seclusion,* by

Civil Rights Data Collection, n.d.-d (https://ocrdata.ed.gov/assets/downloads/2013-

2014/Seclusion.xlsx). Copyright Civil Rights Data Collection. The data for 2015-2016

mechanical restraint are from *2015-2016 State and national estimations mechanical*

restraints, by Civil Rights Data Collection, n.d.-e

(https://ocrdata.ed.gov/assets/downloads/2015-2016/Mechanical-Restraint.xlsx).

Copyright Civil Rights Data Collection. The data for 2015-2016 physical restraint are

from *2015-2016 State and national estimations physical restraints,* by Civil Rights Data

Collection, n.d.-f (https://ocrdata.ed.gov/assets/downloads/2015-2016/Physical-

Restraint.xlsx). Copyright Civil Rights Data Collection. The data for 2015-2016

seclusion are from *2015-2016 State and national estimations seclusion*, by Civil Rights

Data Collection, n.d.-g (https://ocrdata.ed.gov/assets/downloads/2015-

2016/Seclusion.xlsx). Copyright Civil Rights Data Collection. The data for 2017-2018

mechanical restraint are from *2017-2018 State and national estimations mechanical*

restraints, by Civil Rights Data Collection, n.d.-h

(https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-

and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_mech.xlsx).

Copyright Civil Rights Data Collection. The data for 2017-2018 physical restraint are

from *2017-2018 State and national estimations physical restraints*, by Civil Rights Data

Collection, n.d.-i (https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_phys.xlsx). Copyright Civil Rights Data Collection. The data for 2017-2018 seclusion are from *2017-2018 State and national estimations seclusion,* by Civil Rights Data Collection, n.d.-j (https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_secl.xlsx). Copyright Civil Rights Data Collection.

Sections of data from that report were suppressed by the Office of Civil Rights and therefore totals for that report were not available. Despite the relatively low number of students subjected to restraint or seclusion compared to the total number of students in the United States, only 85% of school districts reported to the Office of Civil Rights (Harkin, 2014). Tim Harkin (2014), who served as the chairman of the Health, Education, Labor, and Pension Committee for the United States Senate, published a staff meeting report reiterating the concerns and recommendations brought forth by the GAO hearing. Harkin's staff report highlighted 10 recent case studies from various areas of the country where restraint and seclusion were found to be misused or abusive in nature. An analysis conducted by Katsiyannis et al. (2020) of the 2015-2016 data concluded that on average, each school reported 3.8 incidents of restraint and seclusion. Schools that reported more than 10 incidents averaged 57.4 incidents a year. Data indicate significant disproportion when comparing restraint and seclusion incidents of students being served under IDEA compared to general education students. A meta-regression analysis using the 2015-2016 data showed that students with disabilities were 200% more likely to be restrained than nondisabled peers (Katsiyannis et al., 2020). More alarming is an analysis conducted by

Gage et al. (2020), which found students with disabilities are seven times more likely to

be restrained and four times more likely to be secluded. Furthermore, the

disproportionality of the self-reported data has also led to the Office of Civil Rights

releasing guidance to state and local educational leaders regarding the use of restraint and

seclusion of students with disabilities on multiple occasions (Scheuermann et al., 2016).

The 2016 *Dear Colleague letter: Restraint and Seclusion of students with disabilities*

communication went as far as to cite sources and resources that state leaders can access

to reduce or eliminate the use (U.S. Department of Education Office of Civil Rights,

2016).

When the GAO report was published in 2009, there were no federal laws

governing the use of restraint and seclusion in the educational setting (Kutz, 2009). There

were also no federal reporting policies regarding data collection and documentation of

incidents. The lack of oversight has called into question the exact number of incidents

that are reported by school districts, including those that may be classified as abuse

(Scheuermann et al., 2016). Katsiyannis et al. (2020) discovered that, based on the 2015-

2016 Office of Civil Rights Data Collection report, only 21% of districts reported the use

of restraint and seclusion one time but 6% of the districts reported at least 10 times. Over

a decade later, there are currently no federal laws governing the use of restraint and

seclusion or the reporting of these incidents. Butler (2019) discovered that 30 states have

passed legislation providing some level of protection, and 21 states have limited

seclusion to only emergency situations.

IDEA

In 1975, the Education for All Handicapped Children Act ensured free

educational opportunities for handicapped students (Villani et al., 2011). This landmark

federal law changed how special education students were educated. Prior to the passage

of the Education for All Handicapped Children Act, only one in five children with

disabilities was educated and many states had laws that purposefully excluded children

with certain disabilities such as blindness, deafness, and emotional disorders (IDEA,

2020). In 1990, the Education for All Handicapped Children Act was renamed IDEA.

One of the many purposes of IDEA is to ensure free and appropriate public education for

children from birth to age 22, in the least restrictive environment (Villani et al., 2011).

The federal government has amended or issued new regulations that fall under IDEA

numerous times. The 1997 amendment added a concentration on the school environment

and discipline procedures for students with a disability (Katsiyannis & Smith, 2003;

Villani et al., 2011). According to Katsiyannis and Smith (2003), this concentration

consisted of four elements. First, it required school personnel to focus on providing a safe

and orderly educational environment. Second, revisions empowered school staff to

proactively prevent and address disruptive behavior. Third, it focused on the need for

safety while ensuring the rights of students with disabilities are upheld. Lastly, the

amendment established that students with disabilities are entitled to an appropriate

education that includes the supplementation of effective behavior intervention plans

(BIPs) when necessary. In addition to the four key elements, IDEA also required schools

to plan and respond appropriately to self-injurious or aggressive behaviors that are

directly related to the student's disability (Villani et al., 2011). The 1997 amendment

made it illegal for schools to deny students access to their education due to behavior.

IDEA established a provision that prevented students from being suspended repeatedly or

expelled for the same behavior if that behavior was directly related to their disability. The 2004 IDEA amendment required that students who have disabilities be provided free and appropriate public education in the least restrictive environment (LeBel et al., 2012). This amendment led to the mainstreaming of more children with emotional disorders or those with significant behavioral concerns. By further extending the protections that students with disabilities have, a conundrum was created for school staff. School leaders must now find the equilibrium between ensuring that there is a safe and orderly learning environment while not violating the right to free and appropriate education for students who exhibit maladaptive behaviors (Farmer et al., 2012). IDEA does not mention the appropriateness of restraint and seclusion practices, leaving the regulations to come from state lawmakers.

North Carolina Restraint Law

Individual states have the leniency to make interpretations and to create their own procedures to address disruptive behavior (Wolfel, 2018). In 2005, the General Assembly of North Carolina passed General Assembly Bill 1032, also known as the Deborah Greenblatt Act (A.B. 1032, 2005). Deborah, who was the parent of a child with severe disabilities, spent a large portion of her career leading the Carolina Legal Assistance, later to be renamed Disability Rights North Carolina, an organization that fights for the rights of people with disabilities (Disability Rights North Carolina, 2022). Her work gathering and leading a coalition of attorneys and advocates led to the creation and passing of the Greenblatt Act, which clarified the permissible use of restraint and seclusion in the educational setting. The Greenblatt Act established specific criteria for the permissible use of restraint, seclusion, mechanical restraint, and aversive procedures

(A.B. 1032, 2005). It also specifically outlined mandated reporting requirements for incidents, provided protection for those who reported impermissible use, and established training requirements for staff. The Greenblatt Act also required two primary components of professional development. As found in General Assembly Bill 1032 (2005) Greenblatt Act (2005),

> This professional development shall include a component to train appropriate school personnel may include but not be limited to, teachers, teacher assistants, school administrators, bus drivers, school resource officers, school psychologists, and school counselors. The training shall include instruction in positive management of student behavior, effective communication for defusing and de-escalating disruptive or dangerous behavior, and safe and appropriate use of seclusion and restraint. The appropriate personnel with priority for the training shall include those staff members who are most likely to be called upon to prevent or address disruptive or dangerous student behavior. (p. 8)

To address student behavior within the district of study, staff receive professional development on multi-tiered systems of support (MTSS) and PBIS. Additionally, this district utilizes CPI's NVCI program to instruct staff on de-escalation and the safe and appropriate use of restraints.

MTSS

Two of the amended components to IDEA that occurred in 2004 placed a focus on interventions for behavior as well as academics. The most significant academic change was the ability of school districts to abandon the Intelligence Quotient (IQ) discrepancy model that was used to determine a learning disability (Marlowe, 2021).The discrepancy

model, as it was referred to, was in use since 1977. Under this process, school-based teams would look for large point differences between a student's IQ and their achievement. This point difference would be used to determine if the student had a learning disability. The discrepancy model could potentially take years for the student to start receiving relevant educational services, often after the student had already failed (Marlowe, 2021). The amendment in 2004 allowed school districts to switch to an intervention-based system that would assist all students.

The North Carolina Department of Public Instruction (n.d.) recommended the use of an MTSS to serve as a framework to support students academically and behaviorally. MTSS is an integrated system that focuses on three pillars: attendance, behavior, and academics (North Carolina Department of Public Instruction, n.d.). This is accomplished through an MTSS that is based on research-based academic, behavioral, and social-emotional interventions. The three tiers of support are core, supplemental, and intensive (see Figure 3).

Figure 3

Multi-Tiered Support System Layers

Layering of Support
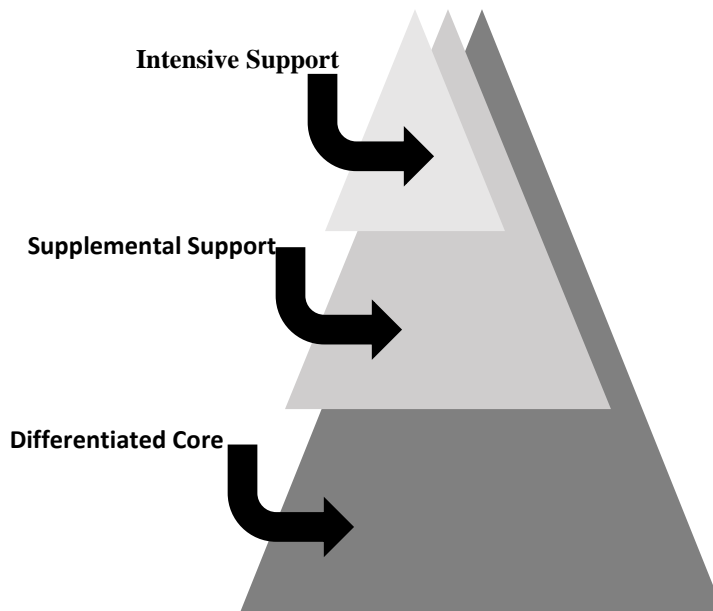
Note. Adapted from "Layering of Support" by North Carolina Department of Public Instruction, 2017, *Multi-Tiered System of Support: Tiers of Support*. (https://content.govdelivery.com/accounts/NCSBE/bulletins/183de9d) Copyright 2017 by North Carolina Department of Public Instruction.

Utilizing tiered support means that all students will receive the individualized instruction they need to make progress. The support that is provided through the three tiers is layering as shown in Figure 3. Therefore, a student who requires Tier 3 intensive support will also continue to receive Tier 1 core support and Tier 2 supplemental support. Tier 1, which is referred to as core or universal instruction, is delivered to the entire class of students and addresses the majority of academic and behavioral issues. Approximately 80% to 90% of students will respond to Tier 1 intervention, 15% will respond to Tier 2 intervention, and 1% to 5% of students will require Tier 3 intervention (Howe, 2020). If

necessary, as students progress through the tiers, instruction will become increasingly rigorous and individualized through the continued use of evidence-based interventions. Consisting of ongoing monitoring, evaluations, and data analysis of all student performance, MTSS is ultimately a comprehensive framework for continuous school improvement (Hayes & Lillenstein, 2015). MTSS is made up of two substantial major components: response to intervention, which serves as the academic intervention framework; and PBIS, which serves as the behavioral intervention framework (Aslan, 2018). As students work through tired plans related to behavioral, emotional, and social needs, the interventions are critical as well as monitoring the progress essential for continued growth and development. Many schools throughout the state of North Carolina utilize PBIS as a core support model for behavior and continue to integrate these strategies and methods into tiered plans and interventions; therefore, for the purpose of this study, PBIS is the component of focus.

PBIS

IDEA and the Greenblatt Act of North Carolina both contain policies that require the use of positive management of student behavior and the assurance of a safe learning environment. The 1997 amendment to IDEA included a component requiring behavior interventions and positive behavior support for students as a corrective tool for distributive behaviors (Turnbull et al., 2001; U.S. Department of Education, 2022). As evidence of the benefit of positive behavior support was gathered, the initiative was expanded to include preventive measures, effectively renaming the initiative PBIS (Howe, 2020). PBIS utilizes an effective comprehensive approach focused on prevention by teaching desired positive behaviors (Bradshaw et al., 2008; Howe, 2020). Used in over

26,000 schools, PBIS is a framework that is centered around teaching, modeling, and practicing desired or preferred behaviors (Petrasek et al., 2021). The foundation of PBIS was established based on research conducted in the 1980s and 1990s that focused on applying behavior modification through positive intervention strategies for individual students (Homer, 2016, as cited in Petrasek et al., 2021). After success at the student level, PBIS was then expanded to be school-wide. This expansion included school-wide behavior support, individual intervention, and preventive strategies. This is accomplished through the similar tiered approach referenced in the MTSS section.

PBIS has been proven to be highly effective at reducing school-wide discipline referrals as well as suspensions. This is especially true in situations where the program is followed with fidelity. The success of PBIS depends on adult involvement in the PBIS process. According to Petrasek (2021), staff should be involved in the creation of three to five core values that guide expectations for student behavior. A longitudinal study conducted on PBIS outcomes found that schools that implemented PBIS with fidelity over 3 years reported lower rates of problem behaviors (Kim et al., 2018). Additionally, another longitudinal study looking at PBIS outcomes over a 4-year period found that schools with higher levels of implementation had fewer exclusionary discipline practices (Childs et al., 2015). A randomized controlled trial over 4 years and across 12,344 elementary students found significant positive effects of PBIS in the reduction of disruptive behaviors as evidenced by teacher rating scales (Bradshaw et al., 2015). According to Simonsen et al. (2012), a decrease in suspensions was directly related to higher fidelity of implementation rates. A study focusing on implementation at the middle school and high school levels found that even with lower levels of

implementation, school office referrals decreased over time (Simonsen et al., 2012).

An example of core behavioral instructional practices or universal instruction would be reviewing the behavioral expectations prior to a classroom transition. According to Petrasek et al. (2021), core instruction is for all students and provides systematic instruction on the behavior expectations in every school setting. Not all students learn at the same rate, and approximately 15% of students will require additional support beyond core instruction (Petrasek et al., 2021). Data should be used to determine which students require Tier 2 interventions. This behavioral data could include office referrals, suspensions, or data collected by the teacher on redirections.

According to Aslan (2018), progress is monitored more frequently for students who are receiving Tier 2 evidence-based interventions. Tier 2 interventions through PBIS could include activities such as small group social-emotional learning instruction or check-in and check-out systems (Crone et al., 2010, as cited in Petrasek et al., 2021). Check-in and check-out systems set a common goal with the student based on baseline data and use incentives as motivation to encourage that student to meet that goal. The student checks in with a preferred staff member every morning to discuss the daily goal and checks outs with the same staff member to discuss if that goal was met or not. Students who do not respond to core instruction or supplemental instruction will receive Tier 3 or intensive interventions. One of the more common Tier 3 interventions is the creation of an individualized BIP.

Functional Behavior Analysis (FBA) and BIP

There should only be a few students, 5% or less, who require Tier 3 interventions. According to Petrasek et al. (2021), if data indicate that the student is not successful

despite the frequent and consistent use of Tier 2 interventions, more intensive

intervention is warranted. Tier 3 interventions require more individualized assessment

and data collection. The creation and planning of Tier 3 interventions should involve the

student or the student's guardian. The student is a vital team member in determining the

underlying causes of the behavior, as well as potential motivating factors to use as

positive interventions. A BIP teaches alternative behaviors that serve the same function

as the current behavior that is of concern (Michigan Department of Education Office of

Special Education, 2022b). According to IDEA, a school team must consider the creation

of a BIP if a student's disability-related behavior is preventing the student or others from

learning. Figure 4 demonstrates the tiered behavioral intervention support that aligns with

the MTSS support model.

Figure 4

PBIS Intervention Examples
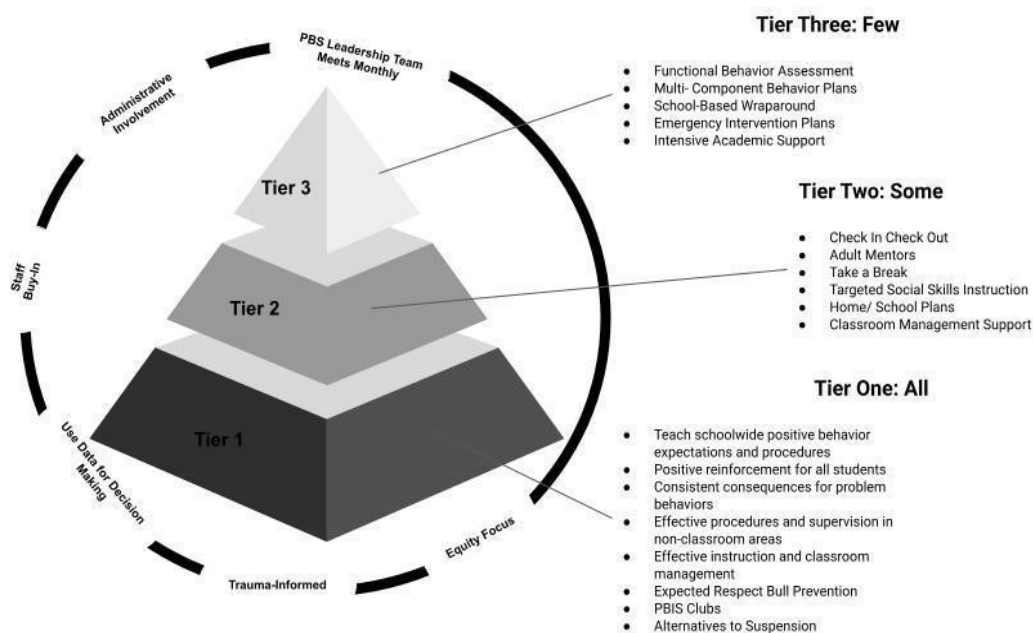
Note. Adapted from "Three-Tiered Model of Positive Behavioral Interventions and

Support" by Wayne RESA, 2022, *Three-Tiered Model of Positive Behavioral Interventions and Support*. (https://www.resa.net/teaching-learning/pbis) Copyright 2022 by Wayne RESA.

Each tier denotes the specific intervention and supports that should align with each area so student needs can be addressed. Tier 3 is the most intensive and direct intervention that will then employ the use of a BIP.

A BIP can be the next step to help minimize student behaviors once a student has cycled through the tiers, data have been gathered and analyzed, and more intensive needs have been targeted. A BIP should be created and modified based on the analysis of data and broad factors that might have influenced the student's behavior (Petrasek et al., 2021). Typically, school teams choose to conduct a functional behavior analysis (FBA) to assist in the development of a BIP. FBAs are based on the science of behavior and consist of a process that was developed to understand the function of a behavior (Michigan Department of Education Office of Special Education, 2022a). According to the Michigan Department of Education Office of Special Education (2022), common functions of behavior include attention, tangibles, escape, and sensory. Determining the function of the behavior requires intense data collection primarily based on observation of the student in various settings. While the student is being observed, appointed staff will be collecting data on the antecedent, behavior of concern, and consequence (Michigan Department of Education Office of Special Education, 2022a). The data collected through observations will be analyzed and used to assist team members in creating the BIP. Figure 5 shows the specific steps that are required to conduct an FBA.

Figure 5

Steps for Completing an FBA

| 1. Define behavior (who, what, where, when). | → | 2. Observe and collect A-B-C data. | → | 3. Determine possible function of the behavior. | → | 4. Create Behavior Intervention Plan (BIP) to reduce or replace behavior. |
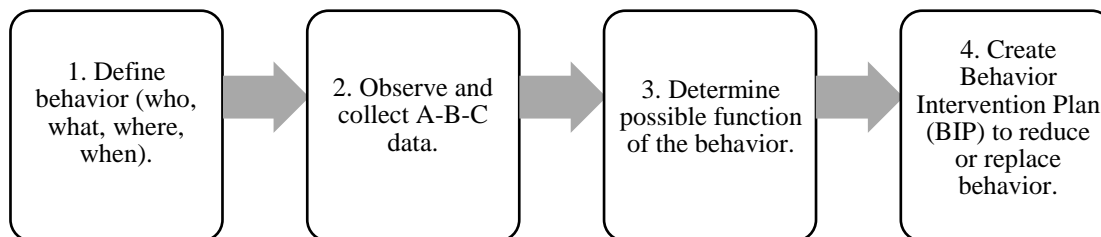
Note. Adapted from "Steps for Completing an FBA" by Michigan Department of Education Office of Special Education, 2022, *Functional behavior assessment (FBAs)*, p. 2. (https://www.michigan.gov/-/media/Project/Websites/mde/specialeducation/ familymatters/FM1/FBA_FactSheet.pdf?rev=a0d160212fdb4cd0ba4046c15e73a834). Copyright 2018 by Michigan Department of Education Office of Special Education.

Step 1 is clearly defining the behavior. In Step 2, the observers conduct observations to identify what occurs before the behavior (antecedent), what behavior occurs, and then what happens after the behavior (consequence). Step 3 includes data analysis that includes data from the observations to determine the function of the behavior. Consideration should be given to other sources of data not included in the results of the FBA; other sources include a student's history of behavior at school, successes, and teacher relationships. In Step 4, the school-based MTSS problem-solving team or IEP team should work with relevant stakeholders to determine appropriate measurable goals based on the behavior of concern and all relevant data sources that will aid in the creation of the student's BIP. The BIP will also need to include the specific strategies the student will utilize to correct undesirable behavior. Specific interventions on a BIP can also include specific de-escalation techniques from commercial programs

like NVCI. In some cases, for students who have an established pattern of dangerous behaviors, the utilization of restraint and seclusion is specifically listed on BIPs when the student is a danger to themselves or others (Disability Rights North Carolina, 2021). Petrasek et al. (2021) recommended that the BIP also include methods of progress monitoring and how frequently the plan will be monitored to ensure revisions are being made when appropriate.

A major component of PBIS is the fundamental belief that it is a program for all students, including those with disabilities (Townshend, 2021). PBIS is intended to be inclusive of all students, but unfortunately, not all students are always included. Students with severe disabilities typically are not exposed to Tier 1 universal behavioral instructions primarily due to their separate locations within the school (Snell, 2006, as cited in Townshend, 2021); therefore, students with special needs are not exposed to the interventions and strategies provided to maintain appropriate behavior in all academic settings. Even though, research compiled by the United States Office of Civil Rights concluded that students with disabilities are twice as likely than nondisabled peers to be suspended at all school levels (elementary, middle, and high; U.S. Commission on Civil Rights, 2019).

Theoretical Framework

Research states that a theoretical framework is a structure that can support or hold a theory related to a research study. The purpose of the framework is to introduce and describe the theory that explains why the problem under research exists (National University Library, n.d.). For this research study, the information processing theory was utilized to correlate how students process information in regard to the effectiveness of a

program focusing on helping students regulate and de-escalate behaviors. Research shows that students with disabilities who have behavioral needs often struggle with executive functioning deficits. These students are not able to process information, store this information in their memory, or recall information from their memory to apply to a situation (Patrick, 2022). The students who exhibit disabilities and maladaptive behaviors are less likely to retain de-escalation strategies or coping mechanisms that can be utilized in stressful or tense situations.

Colomer et al. (2016) conducted a research study with 72 students ages 7 to 11. Approximately 35 students were clinically diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), while the other 37 students were considered typically developing students. The focus of the study was to identify how these students' executive functioning and informational processing skills impacted their academic and behavioral success in school (Colomer et al., 2016).

The results of this study demonstrated that the students who were diagnosed with the disability of ADHD typically had lower executive functioning skills, which led to a decline in academic performance and an increase in inappropriate behaviors. When staff and educators attempted to talk or reason with these students due to academic or behavioral concerns, many times the behavior would increase in students. Typically developing students demonstrated higher levels of critical thinking as well as executive functioning skills, leading to an increase in academic performance and a decrease in behavioral problems. However, if these students needed redirection, it was met with a different mindset, and in a timely manner, the behavior changed (Colomer et al., 2016). Therefore, this study shows that students who have difficulty with information processing

or executive functioning skills have more problematic behavior as well as a more difficult time managing or controlling the behavior.

Students use informational processing strategies and methods when dealing with social situations within the context of the school setting. As students experience different situations, they follow the cycle of trying to understand the situation, decide what type of appropriate behavior should be utilized, and store that behavior in working memory (Crick & Dodge, 1996; Healy et al., 2013); however, when students with disabilities are trying to process a situation as well as access the information they have internalized to decide what behavior to utilize, many times the student gets overwhelmed and reacts in an aggressive manner. This is due to being overstimulated and overwhelmed, resulting in the quickest behavior to get control of the situation (Crick & Dodge, 1996; Ziv 2013). Children who have a tendency to demonstrate aggression have also been linked to an increased likelihood of hostility toward others (Healy et al., 2013); however, students who are supplied with strategies to improve their executive-functioning and information-processing skills are more equipped to handle situations in a proactive manner instead of a reactive approach (Crick & Dodge, 1996; Diamond, 2014).

This was demonstrated in Malti et al. (2011), a study that showed that students with ADHD receiving universal behavioral interventions demonstrated less impulsivity compared to those receiving no intervention. Strategies that support proactive informational processing skills and executive functioning methods include teaching and modeling routines, working on self-regulation of behavior and emotions, and establishing positive reinforcement opportunities (Magalhaes, 2013). The repetition of working with these strategies will not only improve how students process information but will also

strengthen their executive functioning capabilities.

Additional research shows that student behavior affects the learning of a student or a group of students. Students come to school to learn and grow, but many times, the behaviors of other students negatively impact this process (Kirkpatrick, 2019). Students tend to emulate one another, and depending on the age, situation, or environment, inappropriate behaviors will start to occur. Many times, these behaviors begin to manifest in small ways but then tend to grow into more immediate behaviors that require direct attention or substantial support as time progresses or certain situations continue to occur (Kirkpatrick, 2019). Students of varying ages, cognitive levels, and socioeconomic statuses are not always able to handle their emotions or process situations, and they may require more assistance (Kirkpatrick, 2019).

As students began demonstrating behaviors that warranted more assistance with de-escalation and coping strategies, educators and professionals needed methods to help students manage these situations. Kaplan and Wheeler (1983) created a theory known as the assault cycle (Nielson, 2021). Kaplan and Wheeler concluded that aggressive incidents typically consist of five phases: the triggering event, escalation phase, crisis phase, recovery phase, and post-crisis phase (Hallett & Dickens, 2017). Figure 6 provides a visual illustration of the phases of the assault cycle.

Figure 6

Assault Cycle
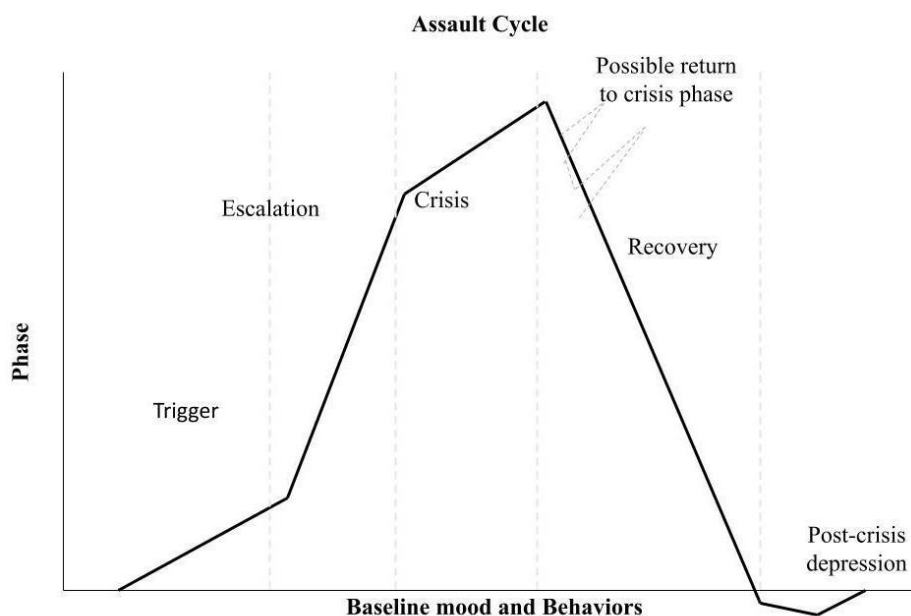
Assault Cycle

Note. Adapted from "Assault Cycle" by Hallet, 2018, *Preventing and managing challenging behaviour*, p. 55. (https://journals.rcni.com/nursing-standard/preventing-and-managing-challenging-behaviour-aop-ns.2018.e10969) Copyright 2018 by Nursing Standard.

Kaplan and Wheeler (1983) described the triggering phase as stimulation that has caused an individual to no longer be at the baseline behavioral level. If staff members do not respond appropriately while the individual is in the triggered phase, they may continue to escalate to the escalation phase (Kaplan & Wheeler, 1983; Nielson, 2021). During this phase, this individual moves further away from the baseline. The individual's behavior becomes more irrational, and the ability to reason decreases. According to Kaplan and Wheeler, staff must take immediate action at the first notable signs of agitation. These actions may include removal from the environment, an alternative task,

or counseling. The third phase of the assault cycle is the crisis phase. This phase is characterized by the individual becoming increasingly aroused both physically and emotionally (Kaplan & Wheeler, 1983; Nielson, 2021). According to Kaplan and Wheeler, the individual is less capable of controlling their aggression and may physically assault someone while in the crisis phase. During the crisis phase, appropriate staff response is centered around maximizing the safety of all parties in close vicinity (Hallett, 2018; Kaplan & Wheeler, 1983). The fourth phase of the assault cycle is the recovery phase. During this phase, the individual starts to return to their baseline level. According to Kaplan and Wheeler, it is vital that staff understand that it is during this phase that most re-escalations occur. The appropriate staff response would be to allow for the individual to lead the pace of the recovery and for staff to ensure the individual's safety (Kaplan & Wheeler, 1983). The final step of the assault cycle is the post-crisis phase. During this phase, the individual regresses below their baseline of emotion. They may become tearful and show remorse and shame for their actions. According to Kaplan and Wheeler, the individual will be physically and emotionally exhausted. The appropriate staff response is to provide intervention effort to amend the relationship with the victim and return to the environment (Hallett & Dickens, 2017; Kaplan & Wheeler, 1983; Nielson, 2021). According to Hallett and Dickens (2017), the concept of de-escalation appeared in the assault model as it was suggested that purposeful action by staff at the earliest stage could prevent further escalation.

 According to Hallett and Dickens (2017), two additional studies expanded on the assault cycle theory with a specific focus on de-escalation. Paterson and Leadbetter (1995) and Maier (1996) highlighted the natural response of intervening staff is to show

empathy towards the agitated individual (Hallett & Dickens, 2017). Despite the desire to demonstrate empathy, Maier stated that the appropriate response is to ensure the safety of everyone in the vicinity by seeking team support, removing bystanders, and containing the incident. To accomplish this, Maier suggested that the intervening staff should maintain communication, set limits, and avoid a power struggle (Hallett & Dickens, 2017). Maier's research reinforced earlier theories from Paterson and Leadbetter (1995) that concluded de-escalation could occur during the first two phases of the assault cycle if the appropriate staff responses are utilized (Hallett & Dickens, 2017).

Hallett and Dickens (2017) identified two additional research reports, Turnbull et al. (1990) and Dix and Page (2008), that further expanded on de-escalation as it relates to the assault cycle. Their research indicated that de-escalation could be considered a cyclical model and not a linear progression model (Hallett & Dickens, 2017). Based on their research, the staff member intervening with the agitated individual should constantly be evaluating the individual's behavior and respond based on that evaluation. A key component of their de-escalation theory is the emphasis placed on verbal and nonverbal communication (Shulman, 2020). Shulman (2020) and Dix and Page stressed the importance of maintaining a safe distance between the staff and the agitated individual as well as utilizing a nonthreatening posture while intervening.

Bowers (2014) conducted a literature review of established theories of de-escalation and combined that information in the development of a linear model to aid in de-escalation (Hallett & Dickens, 2017). This model starts by delimiting the situation or, in other words, making the situation as safe as possible for the individual and others. This can be accomplished through a team approach or clearing the area (Bowers, 2014). The

next step in Bowers's de-escalation model is to clarify what the individual is agitated about through empathic listening. The final stage of Bowers's model is resolved. To accomplish this, the staff member should negotiate ways to satisfy the individual (Bowers, 2014).

Kaplan and Wheeler's (1983) development of the assault cycle established the need for conducting research and developing programs that focused specifically on how to assist educators, administrators, or support personnel who worked with students who demonstrated at-risk or problematic behavior (Lavelle et al., 2016). With this knowledge of knowing educators need to work with students on teaching coping skills, de-escalation strategies, and recovery techniques, it was apparent that a research-based approach or intervention program would be beneficial in working with students who display these intense needs and behaviors.

CPI's NVCI

"Teachers need to have conflict resolution and crisis prevention and de-escalation skills to prevent classroom crisis and implement individualized plans for children in the care" (LeBel et al., 2012, p. 81). To provide training in crisis de-escalation and the safe management of aggressive behavior, many school districts in the state of North Carolina turn to evidence-based commercial programs that provide a professional development component as required by the Greenblatt Act.

CPI is the company that designed the NVCI program. Launched in 1980, it is currently the world's leader in de-escalation and crisis prevention training (CPI, 2022). Gene Wyka and AlGene Caraulia Sr. developed the program originally for the psychiatric setting, but it has now expanded to various other settings respectively (CPI, 2006; Howe,

2020). According to CPI, their company has trained over 15 million service-orientated employees in a variety of workplace settings including healthcare, education, correctional, security, social care, and retail. CPI has supported over 17,000 organizations and certified over 38,000 trainers over a 40-year period (CPI, 2022). The purpose of CPI is to educate professionals with the skills necessary to identify, prevent, and de-escalate crisis behaviors in the workplace. The core philosophy of CPI is to focus on the care, welfare, safety, and security of all (CPI, 2022).

CPI utilizes a train-the-trainer model in which designated employees from individual organizations attend training to become CPI NVCI trainers. Included in the CPI trainers manual are standards that address a trainer's proficiency. Once certified, after attending a 13-hour course, the trainer is considered to be prepared to deliver program components and facilitation methods based on the science of adult learning (CPI, 2020). Trainers are required to conduct training in their place of employment a minimum of two times a year. The trainers are not permitted to teach CPI content outside of their established base of employment. According to CPI, to maintain certification as a certified trainer, you must return every 2 years for a recertification course hosted by CPI.

CPI currently offers the following training: CPI Safety Interventions Foundation, CPI Verbal Interventions, and CPI Safety Intervention Advanced/Advanced & Emergency. The specific program of focus for this study is the CPI Safety Interventions Foundation, which is the purchased program by the district of study. This specific training program covers prevention and verbal de-escalation strategies, safety interventions for disengagements, tools to aid in the decision-making process, and safety interventions for holding skills (CPI, 2020). The specific program objectives of the CPI

Safety Interventions course as found in the CPI Trainers Manual (2020) include the

following:

- Identify and know how to respond to various levels of crisis behaviors.

- Recognize how to manage your own consistent, calm behavior in order to

   influence a positive outcome in a crisis situation.

- Learn strategies to strengthen nonverbal communication.

- Develop limit-setting strategies when verbally intervention strategies to

   maximize safety and minimize harm.

- Explore the Physical Skills Review Framework and key legal and professional

   considerations when using restrictive interventions that are consistent with a

   set of physiological principles.

- Explore a framework to help guide staff and the individuals in distress through

   a process of re-establishing the relationship. (CPI, 2020, p. 13)

The program objectives are taught within the eight modules referenced in Chapter 1.

Module 1, the Crisis Development Model, consists of four specific levels of

escalation and corresponding staff responses (see Figure 7). The content from the Crisis

Development Model serves as the foundational knowledge for the subsequent modules.

Module 1 introduces the participant to various examples that describe how behavior

manifests as well as the typical sequence of escalation. The CPI Crisis Development

Model defines behaviors that an individual may experience during a crisis episode and

the appropriate staff response. The Crisis Development Model is based on the belief that

staff behavior can influence student behavior, referred to as the integrated experience

(CPI, 2020). CPI outlines typical behavior escalation as a series of levels, anxiety,

defensive, risk behavior, and tension reduction. Although CPI lists the levels in a specific

order of typical escalation, it is possible for behavior to cycle through various levels at

different times during an episode. According to CPI, based on the concept of integrated

experience, the appropriate staff response could de-escalate behavior outbursts.

Figure 7

Integrated Experience

Integrated Experience

CRISIS DEVELOPMENT/ BEHAVIOR LEVELS	STAFF ATTITUDES/ APPROACHES
1. Anxiety	1. Supportive
2. Defensive	2. Directive
3. Risk Behavior	3. Safety Intervention
4. Tension Reduction	4. Therapeutic Rapport

Note. The image was created from "The CPI *Crisis Development Model*" by CPI, 2020,

CPI Nonviolent Crisis Intervention Training Instructor Guide, p. 25. Copyright 2020 by

Crisis Prevention Institute.

Module 2, Integrated Experience, provides training related to the factors that

influence behavior. A large portion of this module is educating the participant on the

importance of understanding that their behavior as staff members will impact the

behavior of the acting-out individual. Specifically, CPI suggests that awareness of your

own attitude and responses can directly improve the likelihood of an argument resolving

without the need for physical interventions. CPI also instructs the participant on the

importance of considering factors that may influence a person's behavior (CPI, 2020).

Referred to as precipitating factors, there are internal and external variables that are not within the control of staff members. Examples of precipitating factors can include things such as the individual not taking their daily medication, as this is something the responding staff has no control over but it is a factor that can directly affect the individual's behavior. Rational detachment is defined as the ability of staff members to maintain professional boundaries and a calm demeanor in situations where they may be challenged by the acting out individual (CPI, 2020). Figure 7 provides an illustration of the CPI Crisis Development Model, which includes the standard order of escalating behavior, the appropriate staff response, and the overarching concept of the integrated experience, adapted from the CPI (2020) trainers manual.

The first identified level of crisis development is anxiety, which CPI (2020) described as a change in behavior. Some examples of anxiety can include pacing, fidgeting, rocking back and forth, or clenched fists. According to CPI, the appropriate staff response to prevent the individual from further escalation would be to take a supportive approach. CPI states that individuals' behaviors can escalate very quickly if they believe their needs are not being addressed.

The defensive level is the next behavior level and can be described as the individual starting to lose rationality, which can demonstrate behaviors such as defensiveness that are challenging responses, refusal, shouting, using profanity, or gesturing physical aggression (CPI, 2020). The appropriate staff response, according to CPI, is to provide directives, also known as setting limits; in order to accomplish this, staff members need to provide clear directions to the individual. The effective limit setting contains three variables: "be respectful, keep it simple, and be responsible" (CPI,

2020, p.89). Being respectful can be accomplished by not only telling the individual what they should do instead of what not to do but also keeping it simple, such as providing a limited number of words when given directions. To be responsible, CPI (2020) suggested making sure the options provided to the individual are realistic and attainable.

Risk behavior is the third level of the Crisis Development Model. This type of behavior is when a person presents a risk to themselves or others and includes behaviors such as striking, biting, hitting, and throwing objects (CPI, 2020). The appropriate staff response to these behaviors, according to CPI, is Safety Intervention which is covered in Module 5 of the course.

Module 3, Communication Skills, focuses on educating the participant on the basic forms of communication: verbal, paraverbal, and nonverbal (CPI, 2020). One of the major focuses of CPI is to de-escalate behavior as safely as possible. The majority of the training focuses on how to effectively communicate with the individual who is acting out in an attempt to de-escalate the situation prior to the need for restrictive interventions. Verbal communication focuses on the words that are used in communicating with an individual. CPI recommends that the intervening staff member be cautious of the words that are used in the interaction. Specifically, CPI recommends that you phrase your words positively and ensure you are communicating respectfully.

Paraverbal communication is defined by CPI as the tone, rhythm, and volume in which you communicate. CPI provides an example of the expression, "Do you know who I am?" (CPI, 2020. P. 59). Depending on the tone, rhythm, and volume in which this statement is made, the interpretation of the meaning can vary. This example demonstrates why CPI emphasizes the importance of paraverbal communication. Additionally, this

module focuses on the importance of nonverbal communication or body language as a de-escalation strategy. According to CPI, nonverbal communication includes personal space, communication through touch, body language, and listening with empathy (CPI, 2020). CPI (2020) suggests that when interacting with someone who is acting out, the staff member should maintain personal space to ensure the safety of not only themselves but the individual as well.

Communication through touch, described by CPI, is a form of physical contact that is used to communicate. For example, hugging someone is a way to communicate happiness or care for an individual, but it can be interpreted as unwanted and can cause an individual to escalate. Body language is a form of nonverbal communication that CPI suggests the participants should be aware of. For example, noticing that an individual is clinching their firsts can help prevent an individual from acting out. Listening with empathy is described by CPI as listening in a way that communicates trust and understanding; this is accomplished through listening in a way that is nonjudgmental and non-distracted, being attentive to the facts and feelings, paraphrasing what the individual states, and allowing silence for reflection (CPI, 2020). If done effectively, CPI states that listening with empathy can strengthen the relationship between the staff member and the individual.

The CPI supportive stance is also introduced in Module 3. This is a critical component of the program because it specifically instructs staff members on how to maintain safety, communicate respect, and appear nonthreatening when interacting with an agitated individual. The CPI supportive stance focuses on the "position, posture, and proximity" (CPI, 2020, p. 67) of the staff member to the acting-out individual. CPI

stresses the importance of your position in relation to the acting-out individual; it is recommended that you do not stand directly in front of the individual but off to the side to communicate respect and maintain safety. Posture, which includes body language (i.e., biting your lip, clinching your fist, or staring into the eyes of the individual), can be viewed as threatening and can unintentionally escalate a situation. CPI discusses proximity as ensuring and managing a safe distance apart from the acting-out individual which not only shows respect towards the individual, but it keeps the staff member a safe distance from what could be a potential strike.

Module 4, Responding to Defensive Behavior, focuses specifically on the second level of the Crisis Development Model defensiveness, and the appropriate staff response is directive. The Verbal Escalation Continuum is a model of verbal defensive behaviors such as questioning, refusal, release, intimidation, and tension reduction that occurs when an individual becomes agitated or enters into a defensive state (CPI, 2020). CPI describes this model as a progression of identifiable defensive behaviors that is observable during a crisis moment. Figure 8 provides a visual illustration of the separate components that compose the Verbal Escalation Continuum.

Figure 8

Verbal Escalation Continuum

The Verbal Escalation Continuum

Release

Intimidation

Refusal

Defensive

Tension Reduction

Questioning
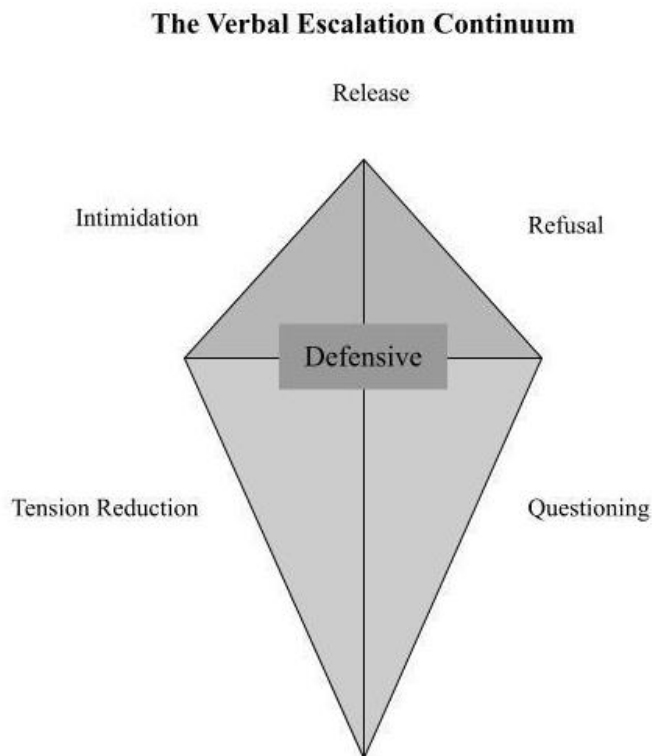
Note. The image was created from "The Verbal Escalation Continuum" by CPI, 2020, *CPI Nonviolent Crisis Intervention Training Instructor Guide*, p. 79. Copyright 2020 by Crisis Prevention Institute.

The first level in the Verbal Escalation Continuum is questioning (CPI, 2020). The CPI model identifies two types of questioning. The first type is information-seeking questions, questions in which the individual seeks information. For example, "What page are we on?" The second type of question CPI describes is a challenging question. For example, "What page number are we on, wasn't listening to this boring lecture?" The recommended staff response to informational seeking and challenging questions is to provide the information and ignore the challenge. According to CPI, the next defensive

behavior that is typically demonstrated after questioning is refusal. At this stage, the

individual may no longer be willing to cooperate and may say "no" when given a

directive. The appropriate staff response according to CPI would be to set limits, which

was discussed in detail under the Crisis Development Model. The release is defined by

CPI (2020) as a "verbal and emotional outburst" (p. 83), which is next on the continuum

after questioning. The appropriate staff response to an individual in an active outburst is

to move the audience or the individual to a safe location. According to CPI, intimidation

follows the release of the Verbal Escalation Continuum. Described as threatening

behavior either verbally or through gestures, the appropriate staff response is to consider

all threats credible (CPI, 2020). CPI suggests that the staff member calls for additional

support. According to CPI, tension reduction is the typical next behavior demonstrated on

the Verbal Escalation Continuum. Tension reduction and the appropriate staff response of

reestablishing therapeutic rapport are also a part of the Crisis Development Model.

According to CPI (2020), tension reduction is the "decrease in physical and emotional

energy" (p. 85). Reestablishing communication is how CPI recommends mending

therapeutic rapport.

   The Crisis Development Model and the Verbal Escalation Continuum both

describe an appropriate staff response to de-escalate an individual's behavior (CPI, 2020).

Despite this, some individuals in crisis continue to escalate to a point in which safety

interventions or restrictive interventions are needed (CPI, 2020).

   Module 5, Safety Interventions, takes the participant into a deep understanding of

how to respond when verbal de-escalation strategies do not work. Safety Interventions is

the appropriate staff response to the third level of the Crisis Development Model, risk

behavior. The Safety Interventions module consists of education and demonstration on nonrestrictive interventions and restrictive interventions (CPI, 2020). Nonrestrictive interventions are ways used to modify the environment or change the intervention approach to ensure safe interaction with the acting-out individual to potentially avoid injury or escalated conflict. Examples of nonrestrictive interventions include removing potential weapons from the environment, removing other nearby individuals, using a team approach, or calling for help (CPI, 2020). The second type of intervention that is used as a last resort is restrictive intervention. CPI (2020) defines restrictive interventions as "any physical, chemical, environmental, or mechanical intervention used to restrict a person's liberty of movement" (p. 31). The disengagement skills or restrictive interventions portion of Module 5 provides the participant with education on the concepts necessary for safe disengagement. The first concept of hold and stabilize is applied when someone grabs a hold of you. Holding and stabilizing allows the staff member to limit the individual's movement and prevent harm by placing their hands on top of the acting-out individual's hands. The second concept is referred to as pull/push (CPI, 2020). CPI describes this concept as pulling the held body part in the opposite direction. For example, if an individual grabs the top of your arm you would apply the pull/push concept by pulling your arm in the opposite direction. The third key concept that is taught in the disengagement portion of Module 5 focuses on creating a lever. CPI describes creating a lever as using momentum and movement to generate the energy necessary to disengage from the grab (CPI, 2020). The participant is shown how to apply all three concepts and then has to demonstrate the concepts in each of the following grabs: wrist, clothing, hair, neck, body, and bite.

Module 6, Introduction to Restrictive Interventions, provides the participants with education on the appropriateness of restraints as well as a focus on the need to avoid their use if at all possible. Risk behavior as referenced in the Crisis Development Model may require the use of restraints or, as referred to by CPI, restrictive interventions. To ensure the care, welfare, safety, and security of all, physical restraints should only be used as a last resort when the individual is a danger to themselves and/or others (CPI, 2020). According to CPI, physical restraints should only be used with a team approach. Utilizing a team approach is more effective and it also protects vulnerable people who are more likely to be held from potential abuse or misuse (CPI, 2020). Module 6 educates the participant on the risk associated with restraints and the importance of ensuring that they are "reasonable, proportionate, and least restrictive" (CPI, 2020, p. 138) when necessary. CPI also references the importance of ensuring that the participants attending the course are aware of their organization's policies in regard to the use of restraints. To assist teams in the decision-making process of whether or not a restraint is necessary, CPI created the Decision-Making Matrix.

Module 7, Decision-Making, provides the participants with education on the Decision-Making Matrix. This matrix is used to provide the participant with a visual diagram to help them weigh the risk of intervening in a situation versus not intervening. CPI's Decision-Making Matrix is described as a tool to assess risk-taking behavior (CPI, 2020). According to CPI, the matrix tool is used to ensure staff respond in the least restrictive manner and that the force used is proportionate to the risk. To accomplish this, CPI (2020) defined risk as "the chance of a bad consequence" (p. 148). CPI also categorized risk into three levels: low, medium, and high. To determine which level, CPI

advises the staff member to consider the factors of likelihood and severity (CPI, 2020). According to CPI, likelihood is described as the chance an injury or behavior may occur. Severity should be considered when assessing the level of harm that may occur. As the likelihood and severity increase, so does the overall risk (CPI, 2020). Teams must assess the likelihood and severity to determine if the overall risk of doing nothing is greater than intervening with a safety intervention.

Module 8, Post-Crisis, educates the participant on the importance of debriefing and reestablishing a relationship with the acting-out individual. The final level of the Crisis Development Model describes tension reduction and the appropriate staff response as reestablishing therapeutic rapport. Tension reduction is described by CPI as a decrease in "physical and emotional energy" (CPI, 2020, p. 85). This occurs once an individual starts to regain composure, and observable behaviors include the individual crying (CPI, 2020). According to CPI, the individual at the tension reduction level may withdraw, apologize for their actions, or feel embarrassed. When the acting-out individual has entered the tension reduction level, staff should respond by reestablishing therapeutic rapport. CPI (2020) recommends that staff members work to address the needs of the individual which may be physical or emotional and to reestablish the relationship.

After a crisis situation has been resolved and the individual has returned to the tension reduction level, CPI utilizes the COPING Model. COPING is an acronym for control, orient, patterns, investigate, negotiate, and give (CPI, 2020). According to CPI, the COPING Model is a structured framework to help the involved parties in reestablishing therapeutic rapport. The model is utilized twice for each crisis situation. First, the COPING process is reviewed with the individual who demonstrated the risk

behavior and then with the responding staff members.

Control, which is the first step in the COPING Model, is the same for both the individual and the staff members who responded to the crisis situation. Both parties should ensure that they have regained control of themselves both emotionally and physically before proceeding (CPI, 2020). Orient, which is the second step in the model, is also the same for the individual and the responding staff. Both parties should talk about the facts of the incident. Pattern, which is the third step of the framework, has the individual reflect on the incident to recall patterns in the behavior or recent trends (CPI, 2020). Staff will examine any patterns in response to determine if any improvements can be made. For the fourth step in the process, CPI suggests that the individual investigate alternatives to the behavior exhibited. From the staff's perspective, the response team should investigate ways to improve their response to aid in similar future crisis situations. Negotiating is the fifth step in the process, and it calls for an interactive discussion to determine ways staff may help or respond differently to avoid future crisis situations (CPI, 2020). According to CPI, during the negotiating step, staff should agree on any improvements that were discussed and determined to be improvements based on the investigation step in the process. The final step in the COPING process is to give back responsibility to the individual. According to CPI, the COPING Model was designed to allow organizations to utilize a restorative approach. This approach allows the individual to self-reflect on their actions and how they may have impacted others (CPI, 2020). According to CPI, it is important for the organization to give the staff members support and encouragement, reassuring their self-confidence in their ability to respond to crisis situations.

CPI was originally designed for the psychiatric setting and has since spread to other settings, including the educational sector (CPI, 2006; Howe, 2020). There is limited research on the implementation and effectiveness of CPI's NVCI training in the educational setting (Howe, 2020).

A case study conducted by Walsh (2010) reviewed the perceptions of the effectiveness of crisis response teams in responding to violent behavior in a prekindergarten through sixth-grade elementary school. The study subjects consisted of 10 educators who were designated as the crisis response team and 18 additional educators. All 28 staff members received CPI's NCVI to educate staff on ways to de-escalate agitation among aggressive students. Walsh identified the main themes about how effective the crisis team believed they were after completing NVCI training. According to Walsh, staff believed they were effective in responding to behavior, consistent in their response, able to maintain their composure, and proactive with nonrestrictive interventions, as well as improved their confidence in responding to defiant student behavior or violence.

A study conducted by Hawkinson (2012) focused on studying six students who received special education services in the upper Midwest. Hawkinson studied the effectiveness of CPI's NCVI in de-escalating students with emotional behavioral disorders. When students were referred to the emotional behavioral disorders class, the special education teacher would determine what level of the Crisis Development Model the student was currently exhibiting and respond according to the recommended staff approach (Hawkinson, 2012). According to Hawkinson, the special education teacher would collect data on the encounter by collecting the time it took for the student to de-

escalate as well as the level the student reached. The results of the study indicated that there is a strong correlation between the implementation of CPI's designated staff response and a decreased time spent in the emotional behavioral disorders classroom for behavior de-escalation (Hawkinson, 2012). Furthermore, Hawkinson concluded a decrease in overall time students spent at a crisis level when staff responded with the appropriate responses according to CPI.

Howe (2020) also looked at the effectiveness of CPI's NCVI training on prekindergarten to 12th-grade students in a small school district in rural southwest Missouri. Howe examined the overall impact NVCI had on office referrals as well as staff perceptions of the program. The results of the mixed methods study indicated a statistically significant reduction in office referrals after the implementation of the program. The qualitative results portion of the mixed methods study demonstrated an overwhelmingly positive perception of the program (Howe, 2020). According to Howe, staff reported an increase in self-efficacy concerning program implementation as well as an increase in crisis development understanding.

Summary

The literature reviewed within this chapter provided an overview of the historical use of restraint in society and the educational setting. Federal and state policies influence the permissible use of restraint in the educational setting. Universal preventions such as MTSS and PBIS were discussed. Intensive interventions such as FBAs and BIPs were explained. A theoretical framework was established and a thorough review of NVCI was conducted.

Despite public attention and government data collection through the Office of

Civil Rights, the use of restraints in the educational setting is disproportionate, with students with disabilities being affected at a significantly higher rate than those without. The state of North Carolina has legislation known as the Deborah Greenblatt Act that outlines the permissible use of restraints and the required professional development that staff must receive annually. Most school districts choose to purchase a commercially available program to meet the minimum educational requirement focused on de-escalation strategies and physical restraints. CPI's NVCI is one of the more popular programs purchased to meet this requirement. There is limited research on the effectiveness of NVCI in the educational setting (Hawkinson, 2012; Howe, 2020; Walsh, 2010). Only one study, which was conducted by Hawkinson (2012), focuses on the use of NVCI de-escalation strategies with students with disabilities.

Chapter 3: Methodology

Purpose

The purpose of this study was to assess the effectiveness of NVCI, which instructs participants on de-escalation techniques and restraints when students with disabilities are acting in a violent or aggressive manner. This study reviewed the outcomes of competency based on the educational training of the program as well as the perceptions and perspectives of the stakeholders applying the information learned in the training. This mixed methods program evaluation determined that the program that helps de-escalate student behaviors is effective and useful for those who employ the techniques. I utilized Stufflebeam's (1968) CIPP framework for program evaluation to analyze the CIPP. Correlations between research questions and survey questions were identified. Each stage of the CIPP framework was analyzed in regard to the process being evaluated and researched. This analysis was used to determine the effectiveness of CPI's NCVI program from EC teacher perspectives. Recommendations and suggestions were provided to ensure the program and training are beneficial to working with students who need de-escalating. Research shows that students with disabilities are restrained at a significantly higher rate than their nondisabled peers (DeVos & Richey, 2020). This research provided data on the effectiveness of the learned strategies of decreasing escalated behaviors as well as helping to eliminate risk behaviors that lead to restraints.

Setting

The setting for this study was a large suburban school district in the piedmont region of North Carolina. In the 2020-2021 school year, the district had approximately 30,000 registered students attending prekindergarten through 12th grades. Currently, there

are 4,526 students eligible for special education services based on the eligibility criteria established by IDEA and the state of North Carolina. There are an additional 1,678 students eligible for a 504 plan based on the criteria outlined in Section 504 of the Rehabilitation Act of 1973.

Participants

A comprehensive mixed methods design was utilized for this study. The program that was evaluated is CPI's NCVI. I conducted a review of teachers who have completed this program and training modules. All the teachers who are certified through this process are highly qualified EC teachers. Some of these teachers have a specialization in working with students who have severe behaviors. The sampling contained teachers from the elementary setting (kindergarten through fifth grades), middle setting (sixth through eighth grades), and high setting (ninth through 12th grades), as the perceptions of the teachers varied due to the age of the student and the environment in which the behaviors may occur. This information is stored in a database housed by the certified trainers of the program working in the district of study. All 36 NVCI-certified EC teachers were notified via email letter asking them to participate in my research study.

Research Questions

For a program evaluation, specific research questions have been generated to guide this research study as the program is analyzed. Research questions in conjunction with the goals aligned with the NVCI program training are reviewed during the interpretation of the data.

1. What behavioral situations require NVCI to be implemented?

2. How do EC teachers perceive the professional development of NVCI strategies

for de-escalation without using restraints?

3. How are the behavioral interventions implemented during the NVCI cyclic

process monitored and evaluated?

4. How effective do EC teachers perceive NVCI techniques as an intervention?

Research Design

The research design used in this study was a mixed methods program evaluation

using Stufflebeam's (1968) CIPP framework. Both quantitative and qualitative data were

collected through a survey and interview. Data collected allowed for the analysis of the

context in which the program was being implemented, the professional development

provided by the program, the application of the program components, and the perceptions

of the program as a product. Initially, a comprehensive review of participants who have

taken the NVCI course was analyzed using posttest outcomes. From these posttests, all

certified EC teachers who have passed the NVCI posttest were identified, and an email

was sent providing informed consent and asking if they would like to participate in the

study.

The survey link was embedded in the email. If the participants chose to

participate, they could click on the link to begin the survey in the Qualtrics platform. If

they did not wish to participate in the study, they could ignore the email. The survey

consisted of questions related to the education, training, and application of NVCI

techniques. The answers to these questions were anonymous and analyzed. Trends were

looked for to develop a comparison among the module training, application of concepts,

and outcomes. The survey portion of the study provided quantitative data. Table 7

provides a complete list of the survey questions. The participants were provided 2 weeks

to complete the survey. An email was sent after the first week providing a reminder of how much time remains to complete the survey.

Table 7

Survey Questions

Survey questions
1. At what education level/setting do you currently teach?
2. How many years have you been certified in Nonviolent Crisis Intervention (NVCI)?
3. Have you used any de-escalation techniques learned from NVCI?
4. Which category best describes the frequency that you submit the Incident Reporting form following the use of restraint?
5. Which category best describes the frequency that you debrief with the team members after a technique has been implemented?
6. Which category best describes the frequency that you debrief with the student who exhibited the behaviors after a technique has been implemented?
7. How effective is the training for Nonviolent Crisis Intervention?
8. How effective are the Nonviolent Crisis Intervention verbal de-escalation techniques when used with an agitated EC student?

The type of questions chosen for the survey varied. Survey Question 1 was a multiple-choice question that asked participants to select which level of educational setting they worked in during the time of this study. The participant chose either elementary, middle, high, public separate, or alternative settings. Question 1 provided contextual information that was analyzed. Survey Question 2 was also a multiple-choice question that provided additional contextual information about how long the EC teacher has been certified with NVCI training. The answer choices the participant chose from were 0 to 1 year, 1 to 3 years, 3 to 5 years, or 5+ years of experience. Survey Question 3

was a yes/no question and was also a contextual question developed to gain an understanding of the participant's experience utilizing the de-escalation techniques taught within the NVCI program. Survey Question 4 examined the frequency with which participants completed the appropriate documentation following the use of an NVCI-approved restraint. The multiple-choice answers the participants could select were 100% of the time, 75% of the time, 50% of the time, 25% of the time, or 0% of the time. Survey Question 5 was a multiple-choice question that provided me with data related to the debriefing process that occurs with members following the implementation of an NVCI technique and the frequency with which the debriefing occurs. The answer choices the participant could have selected were 100% of the time, 75% of the time, 50% of the time, 25% of the time, or 0% of the time. Survey Question 6 was a multiple-choice question that provided data related to the frequency with which the debriefing process occurring with the students following the implementation of an NVCI technique. The answer choices the participant could have selected were 100% of the time, 75% of the time, 50% of the time, 25% of the time, and 0% of the time. Question 7 of the survey examined the input or the perceived effectiveness of NVCI as a training. The answer choices for this question were presented in Likert scale format, and the participant rated the training as not effective, somewhat effective, effective, or very effective. Survey Question 8 provided quantitative data related to the participant's overall perception of the verbal de-escalation techniques taught in NVCI. The answer choices were formatted as a Likert scale, and the participants rated the techniques as ineffective, somewhat effective, or very effective.

Structured interviews were conducted to gather qualitative data. A structured

interview consists of a scripted list of questions that are asked in the same order and in the same wording for each participant (Tracy, 2020). The interviews occurred virtually. I utilized the interview questions included in Table 8. The interviews were recorded and transcribed using the Sonix transcription service. Participants were assigned a number that was used to identify the interviewee. The roster that had the name of the participant and their assigned number is stored on a password-protected document on my computer until the successful defense of this study; at that time, the document will be deleted. The participant-assigned number was written beside each interview question. After labeling each interview's transcription, as well as each question with the participant's assigned number, the document was cut separating each interview question and answer allowing me the ability to compile data by instrument item number. After sorting each response by item number, I started the primary coding cycle to identify common themes (Tracy, 2020). Commonalities were identified and sorted into general categories. The secondary coding phase consisted of the research focusing on identifying analytic or narrower themes that are more specific in the general themes identified in the primary coding phase (Tracy, 2020). Primary and secondary themes were analyzed and synthesized so I could identify patterns, common themes, and trends aligned with survey data. Themes were displayed in table format.

Table 8

Interview Questions

Interview questions
1. Based upon NCVI training, what behavioral situations require NCVI techniques to be implemented?
2. How can the Nonviolent Crisis Intervention training be improved for the educational setting?
3. How can Nonviolent Crisis training be improved to de-escalate agitated EC students?
4. How can Nonviolent Crisis training be improved to de-escalate EC students' exhibiting risk-taking behavior?
5. What are the reasons you do or do not complete the incident reporting form after the use of restraint?
6. If you have used NVCI de-escalation techniques, please describe the techniques used.
7. What are the benefits of Nonviolent Crisis Intervention Training?

Interview Question 1 allowed me to examine common contextual information-related situations that may require the use of NVCI techniques. Interview Questions 2, 3, and 4 provided the participants with the opportunity to provide input into how to improve the NVCI program as a professional development program. Interview Questions 5 and 6 focused on the implementation of the instructed techniques and the process following the use of the approved techniques. Interview Question 7 provided the participant the opportunity to provide feedback on the NVCI program as a product.

I utilized the Qualtrics survey program to analyze data and establish themes and correlations of the quantitative data. Common themes and patterns were identified through the transcribed interviews, which served as the qualitative data of this mixed methods study. The data collected were used to provide a comprehensive analysis of the

effectiveness of the NVCI program when used with EC students as well as

recommendations for the implementation and application of the program as a whole. The

survey questions were developed to align with Stufflebeam's (1968) CIPP framework for

program evaluations and validated through the Lawshe (1975) content validation process.

Survey and Interview Question Validation Process

To validate the survey and interview questions, the Lawshe (1975) content

validation method was used. "To produce valid and reliable assessment data, the

instruments used to gather the data must be empirically grounded" (Gilbert & Prion,

2016, p. 530). The Lawshe method was first presented in a seminal paper in 1975

(Lawshe, 1975); since then, it has been widely used in healthcare, education, psychology,

and market research to establish and quantify content validity (Ayre & Scally, 2014). The

validation of content is of significant value to ensure the questions on the instrument are

appropriate to measure the subject (Anuar & Sadek, 2018). The steps to utilize the

Lawshe method are outlined below:

1. Identify a diverse group of experts.

2. Provide instrument questions to the expert panel.

3. The panel will rate the instrument questions based on Lawshe's method.

4. Responses from the expert panel will be pooled.

5. Calculate the Content Validity Ratio (CVR).

6. Analyze CVR to determine which instrument questions are essential.

Step 1 of the Lawshe method requires the identification and recruitment of subject

matter experts to serve on the review panel (Ayre & Scally, 2014). The experts who

agreed to participate on this diverse panel were a public separate school administrator, the

executive director of the EC department, two certified trainers in CPI's NVCI, and one adjunct professor associated with Gardner-Webb University. Collectively, this panel consisted of five experts, which is the minimum number of experts recommended by Gilbert and Prion (2016).

Step 2 of the Lawshe (1975) method consisted of providing the expert panel members with the proposed questions for the survey and interview for rating. Upon agreeing to participate in the validation process, each panel member was emailed a google survey that contained 16 questions. The third step in the process is for the panel to rate the instrument items. To accomplish this, the panel members were asked to rate each item into one of three categories: essential, useful but not essential, or not necessary (Ayre & Scally, 2014). The Google survey collected the panel's email addresses to serve as verification of completion as well as the ratings for each question.

The fourth step in the validation process is to calculate the CVR of each instrument item. To compute the CVR, each response from the five-member expert panel was pooled for comparison and computation. According to Lawshe (1975), a rating of essential by a minimum of 50% of panel members gives the item some sort of content validity (Ayre & Scally, 2014). The greater the number of panel members rating the item as essential, the greater the content validity. To calculate the CVR, Lawshe (1975) provided a formula (see Figure 9).

Figure 9

CVR Formula

$$CVR = \frac{n_e - \frac{N}{2}}{\frac{N}{2}}$$

Note. n_e is the number of panelists identifying an item as "essential." N is the total number of panelists ($\frac{N}{2}$ is half the total number of panelists).

The results of the CVR formula provide a CVR score for each item ranging from .0 to 1 (Gilbert & Prion, 2016). If none of the expert panel members rate an item as essential, the score is .0. If all panel members agree that the item is essential, the ratio is .99. Polit et al. (2007) suggested that instrument items need to have a minimum CVR of .78 to or higher to constitute a good validity. The CVR is provided for each item rated by the panel in Table 9. Item 1 was eliminated from the instrument due to the CVR following below the .78 validity threshold suggested by Polit et al.

Table 9

Item CVR

Item number	n$_e$	N	CVR
1	4	5	0.60
2	5	5	1.00
3	5	5	1.00
4	5	5	1.00
5	5	5	1.00
6	5	5	1.00
7	5	5	1.00
8	5	5	1.00
9	5	5	1.00
10	5	5	1.00
11	5	5	1.00
12	5	5	1.00
13	5	5	1.00
14	5	5	1.00
15	5	5	1.00

Note. n$_e$ is the number of panelists identifying an item as "essential." N is the total number of panelists. CVR is the result of computing using the formula in Table 9.

The CVR formula is used to validate individual items. To determine the validity of the entire instrument, I calculated the average of all CVR ratings for the remaining instrument items. The average rating for the remaining 14 items was 1, well above the content validity index threshold of .70 (Gilbert & Prion, 2016). The content validity index of 1 results in the instrument having validity.

CIPP Program Evaluation

Program evaluations are necessary for the educational environment to inform stakeholders, such as central office personnel, school site administrators, teachers, and parents, of potential areas of current performance as well as areas for improvement. Through the program evaluation process, stakeholders will be guided in the decision-

making process.

This dissertation utilized Stufflebeam's (1968) comprehensive evaluation model known as CIPP. This evaluation framework was created in the late 1960s to improve and ensure achievement for public schools in the United States that received federal funding (Stufflebeam & Coryn, 2014). Stufflebeam described the CIPP model as a "commonsense approach to ensure cost-effectiveness in starting, planning, carrying out and completing needed improvement efforts" (Stufflebeam & Coryn, 2014, p. 311). Traditional evaluation methods such as experimental design, site visits, objectives-based evaluations, or standardized achievement testing data largely proved to be ineffective, as they often provided unworkable data when considering the dynamic social context of a public educational setting (Stufflebeam & Coryn, 2014).The CIPP model provides formative and summative evaluation feedback to the stakeholders, allowing the evaluators to assess a program through a learning-by-doing process. The CIPP model allows for evaluators to identify and problem solve to ensure effective practices.

This study used the CIPP model as a tool for evaluating CPI's NVCI program. This study presents a CIPP evaluation to inform stakeholders of the effectiveness and possible improvements necessary for safe de-escalation techniques for students with significant cognitive delays to improve best practices.

Context

The context phase focuses on the intended goals of the program. Context evaluation in the CIPP model assesses the needs, materials, problems, and opportunities within the defined environment (Stufflebeam & Coryn, 2014). Needs are identified as objects or services that are necessary or useful in achieving the identified purpose. Assets

include expertise or services that are accessible to meet the needs of the program purpose. Problems are described as obstacles that must be overcome in order to achieve the goals of the program. Opportunities are typically centered around funding and other resources that may be available to assist in problem-solving. All four areas that are assessed under context are necessary for designing solid programs, processes, or services. A context evaluation may also be conducted at any time in the program implementation process (Stufflebeam & Coryn, 2014).

Context data to answer Research Question 1 were collected through Survey Questions 1, 2, and 3, and Interview Question 1. Survey Questions 1 and 2 provided me with quantitative contextual data related to the work setting and experience level of the EC teacher with the NVCI program. Survey Question 3 and Interview Question 1 provided me with quantitative and qualitative data related to the context in which NVCI techniques are used.

Input

The next phase of the CIPP evaluation process is input. According to Stufflebeam (1968), it is during this stage that the evaluator focuses on the programming. During this phase of the evaluation, an analysis should occur of current practices and other relevant approaches (Stufflebeam & Coryn, 2014). The overall goal of the input evaluation is to assist evaluators in examining alternative program strategies to address the needs identified. This is accomplished first by developing a plan for implementation and related appropriate budget, and secondly, by developing a record for accountability and defending the program's procedural and resource plan (Stufflebeam & Coryn, 2014).

Survey and interview questions were used to acquire information for Research

Question 2, which addresses the effectiveness of NVCI training to defuse situations involving students with disabilities. Survey Question 7 provided quantitative data related, and Interview Questions 2, 3, and 4 provided qualitative data that were gathered through an interview.

Process

The process evaluation is the third step in the CIPP model. During this phase of the evaluation, the focus is on program design and plan execution. The process evaluation includes an ongoing check of processes and how well they are being implemented. To accomplish this, the CIPP model suggests providing feedback to the stakeholders and comparing the performance to the initial plan. Additionally, during this stage of the evaluation, implementation problems and how they were resolved should be analyzed (Stufflebeam & Coryn, 2014). Finally, the Stufflebeam and Coryn (2014) CIPP model advises stakeholders to report how the program users evaluated the program's implementation quality and how effectively it served the context and input.

Data were collected related to the process implementation of NVCI to answer Research Question 3. Survey Questions 5 and 6 for quantitative data and Interview Question 6 for qualitative data was used to gather data related to the debriefing process following an incident. Data related to the completion of documentation following the use of NVCI techniques in accordance with the process were gathered by Survey Question 4 and Interview Question 5.

Product

The final phase of the CIPP model is product evaluation. According to Stufflebeam and Coryn (2014), "The purpose of product evaluation is to measure,

interpret, and judge an enterprise's outcomes" (p. 329). This phase of the evaluation

determines to what extent the evaluated program met the intended objectives. This is

accomplished through analysis of all outcomes, intended and unintended, which may be

positive or negative (Stufflebeam & Coryn, 2014). Product evaluation is a key component

in determining the effectiveness of the program. Additionally, this phase focuses on

trends and how the program can be improved based on the inputs. According to

Stufflebeam and Coryn, this information can be gathered in a number of ways, which

include surveys, case studies, and interviews.

Survey Question 8 and Interview Question 7 were designed to answer Research

Question 4. Data were gathered related to EC teacher perceptions of the effectiveness of

NVCI as a product. Survey Question 8 provided me with quantitative data on the

perception of the effectiveness of the verbal de-escalation techniques. Interview Question

7 provided me with qualitative data related to the perceived benefits of NVCI training.

Research Alignment

The survey and interview questions were designed to align with the research

questions of this study and the CIPP program evaluation framework. Table 10 provides a

visual illustration of this alignment. This alignment will guide the discussion in Chapters

4 and 5.

Table 10

Study Participant Survey and Interview Questions

	CIPP framework	Research question
Survey Questions		
1. What education level/setting do you currently teach?	Context	1
2. How many years have you been certified in Nonviolent Crisis Intervention?		
3. Have you used any de-escalation techniques learned from NVCI?		
7. How effective is the training for Nonviolent Crisis Intervention?	Input	2
4. Which category best describes the frequency that you submit the Incident Reporting form following the use of restraint?	Process	3
5. Which category best describes the frequency that you debrief with the team members after a technique has been implemented?		
6. Which category best describes the frequency that you debrief with the student who exhibited the behaviors after a technique has been implemented?		
8. How effective are the Nonviolent Crisis Intervention verbal de-escalation techniques when used with an agitated EC student?	Product	4
Interview Questions		
1. Based upon NCVI training, what behavioral situations require NVCI techniques to be implemented?	Context	1
2. How can the Nonviolent Crisis Intervention training be improved for the educational setting?	Input	2
3. How can Nonviolent Crisis training be improved to de-escalate agitated EC students?		
4. How can Nonviolent Crisis training be improved to de-escalate EC students' exhibiting risk-taking behavior?		
5. What are the reasons you do or do not complete the incident reporting form after the use of restraint?	Process	3
6. If you have used NVCI de-escalation techniques, please describe the techniques used?		
7. What are the benefits of Nonviolent Crisis Intervention Training?	Product	4

Summary

Chapter 3 outlined the purpose of the study, methodology, participant selection method, instrumentation validation process, and data collection method. The mixed methods program evaluation determined if NVCI was useful in de-escalating the risk behavior of agitated EC students from the perception of EC teachers. I used Stufflebeam's (1968) CIPP framework for program evaluations to determine the effectiveness of NVCI de-escalation techniques. The data collected from EC teachers were gathered through a survey and interview. Quantitative and qualitative data were gathered to evaluate the CIPP of the NVCI program's perceived ability to de-escalate EC students. The results of this study were provided to the district of study with data and recommendations to prevent the use of restraints with the EC student population.

Chapter 4: Results

Introduction

The purpose of this study was to examine the effectiveness of an NVCI program in de-escalating the risk behavior of children with disabilities from EC teacher perspectives. Stufflebeam's (1968) CIPP framework served as the framework to guide the program evaluation. Participants of the study were NVCI-certified EC teachers from elementary, middle, and high school settings. The effectiveness, implementation, and training of the program were analyzed from EC teacher perceptions. The following questions guided the study:

1. What behavioral situations require NVCI to be implemented?

2. How do EC teachers perceive the professional development of NVCI strategies for de-escalation without using restraints?

3. How are the behavioral interventions implemented during the NVCI cyclic process monitored and evaluated?

4. How effective do EC teachers perceive NVCI techniques as an intervention?

Quantitative and qualitative data were collected through a survey and structured interviews. The survey and interview questions address components of the CIPP framework and align with the research questions.

Data Collection

There were 36 eligible participants representing 26 different schools within the district of study. The 26 schools consist of 11 elementary schools with eligible participants, nine middle schools, and six high schools. An initial email was sent to all 36 eligible participants requesting their participation. This email provided participants with

informed consent. If the individual chose to participate in the study, they would click on the link embedded in the email. The link would route the participant to the survey.

The Qualtrics survey program was used to create and distribute the survey. Data collected from the survey served as the quantitative portion of the study. The Qualtrics program allows respondents to submit responses anonymously. The survey accepted answers for 2 weeks. A reminder email was sent 1 week after the initial email, and a final reminder email was sent 3 days prior to the survey closing. The survey consisted of three multiple-choice questions, five Likert scale questions, and one short answer question that allowed the participant to enter their email address if they agreed to a structured interview. If the participant chose not to participate in the interview, they could answer that survey question by typing N/A.

Qualitative data were collected through structured interviews. Each interviewee was assigned a number that would serve as their identifying label. Interviews were scheduled through email, and all interviews were conducted within 1 week of the participant completing the survey. The interviews were conducted virtually via Google Meet and recorded. The recordings were transcribed using the Sonix transcription program. The structured interviews consisted of seven questions that were asked with consistent wording and in the same order for each participant. Each transcription was labeled with an identifiable participant number, cut by question number, and sorted. The primary and secondary coding processes were used to identify common themes among responses.

Of the 36 eligible participants, 15 completed the survey, and 10 of those participants agreed to participate in the interview. Of the 10 who agreed to be

interviewed, six serve in the elementary setting and four serve in the middle school

setting. The overall participation rate for the survey was 42%, and the participation rate

for the survey and interview combined was 28%. Data collected from specific survey and

interview questions are discussed in accordance with the assigned research question as

outlined in Table 10 in Chapter 3.

Teacher Survey Data

Research Question 1: What Behavioral Situations Require NVCI to Be Implemented?

Research Question 1 aligns with the context phase of Stufflebeam and Coryn's

(2014) CIPP framework for program evaluations. The purpose of this phase is to assess

the needs, materials, and areas of opportunities required to implement the program.

Research Question 1 was addressed by Survey Questions 1, 2, and 3. These survey

questions addressed the demographics of the participants, and Interview Question 1

addressed the specific situations that required techniques to be implemented.

Survey Question 1 was a multiple-choice question that gathered data related to the

level of educational setting the participant currently teaches in an elementary, middle,

high, public separate school, and alternative school. Eight elementary school EC teachers

participated in the study. Elementary school teachers made up 53% of the study

participants. Middle school EC teachers who serve students in Grades 6-8 accounted for

40% of the responses. One high school EC teacher provides instruction for ninth- to 12th-

grade students, accounting for 7% of the responses.

Survey Question 2 was a multiple-choice question. Participants were asked to

select an answer choice that reflected the total number of years they have been certified

in NVCI. Data collected from this question demonstrated that all 15 participants have

been certified for longer than 5 years. Survey Question 3 was also a multiple-choice

question that asked the participants if they have ever used any of the de-escalation

techniques learned from NVCI training. All 15 participants selected "yes" that they had

utilized techniques learned from this program.

Research Question 2: How Do EC Teachers Perceive the Professional Development Of NVCI Strategies for De-Escalation Without Using Restraints?

Research Question 2 aligns with the input evaluation phase of the CIPP

framework. The input evaluation phase examines the program's current training practices

and ways the training may be improved. This was addressed by Survey Question 7.

Survey Question 7 was a Likert scale question rating the effectiveness of NVCI as not

effective (1), somewhat effective (2), effective (3), or very effective (4). Results from

Survey Question 7 are recorded in Table 11.

Table 11

Survey Question 7–How Effective Is the Training for Nonviolent Crisis Intervention?

Participant ratings and statistics for Survey Question 7		
Participant response		
Very effective	53%	
Effective	27%	
Somewhat effective	20%	
Not effective	0%	
Descriptive statistics		
Mean		3.333
Standard deviation		0.816
Mode		4

Note. Percentages were calculated based on responses from 15 participants.

The data displayed in Table 11 represent the percentage of participants who rated the training as not effective, somewhat effective, effective, or very effective. Based on responses, 53% of participants rated the training as very effective. An additional 27% rated the program as effective and the remaining 20% rated the program as somewhat effective. To calculate the range, mean, and mode for survey responses, the answer choices were converted into numerical values of not effective (1), somewhat effective (2), effective (3), and very effective (4). There were three participants who rated the effectiveness of the program as somewhat effective, four selected effective, and eight chose very effective. Overall, the program is perceived as effective based on most EC teacher perspectives.

Research Question 3: How Are the Behavioral Interventions Implemented During the NVCI Cyclic Process Monitored and Evaluated?

Research Question 3 addressed the process component of the CIPP framework. During this evaluation phase of the framework, the program's procedures and implementation processes are analyzed. Research Question 3 was addressed by Survey Questions 4, 5, and 6. Table 12 provides the data from the Likert scale Survey Questions 4, 5, and 6.

Table 12

Survey Questions 4, 5, and 6

Survey question	Answer choices					Descriptive statistics		
	0% of the time	25% of the time	50% of the time	75% of the time	100% of the time	Mean	Standard deviation	Mode
4. Which category best describes the frequency that you submit the Incident Reporting Form following the use of a restraint?	0%	7%	0%	20%	73%	4.600	0.828	5
5. Which category best describes the frequency that you debrief with the team members after a technique has been implemented?	0%	0%	7%	47%	47%	4.400	0.632	4, 5
6. Which category best describes the frequency that you debrief with the student who exhibited the behaviors after a technique has been implemented?	0%	0%	27%	27%	47%	4.200	0.816	5

Note. Percentages were calculated based on responses from 15 participants.

Survey data provided in Table 12 represent all 15 participants' ratings of the frequency with which they submit the incident reporting document after the utilization of a restraint. Based on survey responses, 73% of participants selected that they do submit the incident reporting form 100% of the time. Of the remaining participants, 27% of the teachers selected that they submit the incident reporting form at least 75% of the time, and 7% selected 25% of the time. To calculate the range, mean, and mode for survey responses, the answer choices were converted into numerical values: 0% of the time (1), 25% of the time (2), 50% of the time (3), 75% of the time (4), and 100% of the time (5). Based on the data, the majority of the teachers submitted the form.

Survey Question 5 represents all 15 participants' rating scores on the frequency they debrief with team members following the implementation of an NVCI technique. Results indicated that 47% of teachers debrief with their CPI team members following the use of restraint 100% of the time. An additional 46% of teachers selected that they debrief with team members 75% of the time following the use of restraint. Lastly, 7% of teachers selected that they debrief 50% of the time. To calculate the range, mean, and mode for survey responses, the answer choices were converted into numerical values: 0% of the time (1), 25% of the time (2), 50% of the time (3), 75% of the time (4), and 100% of the time (5). Based on survey data, debriefing with team members following an incident occurs at least 75% of the time.

Survey data provided in Table 12 for Survey Question 6 represents all 15 participants' rating scores on the frequency that they debrief with the student following the implementation of a restraint. Data indicate that 46% of teachers debrief with the student 100% of the time following the use of restraint. An additional 27% of teachers selected that they debrief with the student 75% of the time. Lastly, another 27% of teachers selected that they debrief with the student 50% of the time. To calculate the range, mean, and mode for survey responses the answer choices were converted into numerical values: 0% of the time (1), 25% of the time (2), 50% of the time (3), 75% of the time (4), and 100% of the time (5). Based on survey data, results debriefing with students occurred at least 75% of the time.

Research Question 4: How Effective Do EC Teachers Perceive NVCI Techniques as an Intervention?

Research Question 4 aligns with the product evaluation component of the CIPP.

The purpose of this evaluation phase is to determine if the program addressed the intended outcomes. Survey Question 8 addresses Research Question 4. Survey Question 8 was a Likert scale question asking participants to rate how effective they believe the NVCI techniques are when used with an agitated EC student. The answer choices participants could select ranged from not effective (1), somewhat effective (2), effective (3), or very effective (4). See Table 13 for data collected from Survey Question 8.

Table 13

Survey Question 8–How Effective Are the Nonviolent Crisis Intervention Verbal De-Escalation Techniques When Used With an Agitated EC Student?

Participant ratings and statistics for Survey Question 8		
Participant response		
Very effective	20%	
Effective	47%	
Somewhat effective	27%	
Not effective	7%	
Descriptive statistics		
Mean		2.800
Standard deviation		0.862
Mode		2

Note. Percentages were calculated based on responses from 15 participants.

Survey data provided in Table 13 represent all 15 participants' rating scores on how effective the participants believe the NVCI program is at de-escalating agitated EC students. Survey results indicated 20% of teachers feel that the program is very effective, and 46% of teachers rated the program as effective. Of the remaining responses, 27%

indicated that the program is somewhat effective, and 7% rated the program as not

effective. To calculate the range, mean, and mode for survey responses, the answer

choices were converted into numerical values: not effective (1), somewhat effective (2),

effective (3), or very effective (4). One participant reported that the program was not

effective, four selected that the program is somewhat effective, seven reported that the

program is effective, and three participants rated the program as very effective. Based on

survey data, the de-escalation strategies are perceived as somewhat effective.

Survey data collected related to the context evaluation for Research Question 1

indicated that all participants had 5 or more years of certification with NVCI and were

certified EC teachers. All the teachers confirmed that they have used the de-escalation

strategies within their setting. The participants included eight elementary school teachers,

six middle school teachers, and one high school teacher. Based on survey data collected

for Research Question 2, the input evaluation, EC teachers rated the program's input or

professional development as effective. Survey data collected for Research Question 3, or

the process evaluation, indicated that the teachers complete the appropriate restraint-

related documentation 75% of the time. Additionally, data indicated that the EC teachers

debrief with the student and their team members following the use of a restraint 75% of

the time. According to data collected for Research Question 4, the product evaluation, EC

teachers believe that NVCI is somewhat effective at de-escalating agitated EC students.

Teacher Interview Results

Structured interviews were conducted virtually and recorded. The recording was

uploaded into a transcription program which provided a printable transcription of the

interview. Each transcription was split by the question and labeled with the participant's

identifiable number. After sorting each response by item number, I was able to identify

common themes. Each common theme was sorted by category. The secondary coding

phase identified analytic or narrower themes within the identified categories. Themes are

displayed in table format in this chapter.

Research Question 1: What Behavioral Situations Require NVCI to Be Implemented?

Interview Question 1 asked participants to reflect upon the NVCI training and

describe the behavioral situations that require techniques learned from the program to be

implemented. This interview question was designed to address Research Question 1.

There were two prominent themes identified: utilization of NVCI techniques when a

student is a danger to themself or others and the importance of being aware of escalation

in behavior. See Table 14 for the data collected.

Table 14

Interview Question 1–Based on NCVI Training, What Behavioral Situations Require

NCVI Techniques to Be Implemented?

Theme	Type of theme	Number of teachers by setting
The student is a danger to themselves or others	Primary	5 elementary, 5 middle
Awareness of escalating behaviors	Secondary	3 elementary, 3 middle

Two prominent themes were identified as referenced in Table 14. The themes

were labeled as primary or secondary based on the frequency participants referenced each

identified theme. The educational setting in which the participant worked was also

calculated to identify possible discrepancies in themes between educational settings.

The primary theme was identified by all participants and focused on the need to

implement NVCI techniques when a student is a danger to themselves or others. In reference to the continuum of behavior exhibited, Middle School Teacher Participant 9 stated, "It does go all the way up to students who are physically abusive, assaulting themselves or others. Then there may need to be physical, but that's the last resort." This answer is consistent with the response from Middle School Teacher Participant 2, who stated,

> In my experience, I use these techniques when things are a little out of control and we start harming ourselves or others. I want to say that I do not mind when a kid is tearing down a classroom. Sometimes I think that they get aggression out, but when that aggression turns to where they are hurting themselves, like banging their head against the wall, banging their head against the desk, or they're trying to harm people in the room.

Responses were consistent with elementary and middle school teachers all emphasizing that the use of the techniques should be utilized when the student is exhibiting aggression or is a danger to themself or others.

The secondary theme identified by six total participants, three elementary teachers and three middle school teachers, was the need to be aware of escalation or changes in behavior to respond appropriately. Elementary School Teacher Participant 7 stated,

> I try to implement those [de-escalation strategies] as soon as I see that a kid is starting to get agitated to prevent them from getting to a full-blown meltdown where a hold might be needed. I try to know my students and their triggers and their signs of them becoming frustrated to be able to intervene early so that I can prevent that [restraints].

Elementary School Teacher Participant 1 also discussed how she consistently focuses on reading the behavior of her students:

So, we are certainly using those de-escalation techniques all day long with how we are reading the student's behavior and how we are responding back and forth based on what we see from them, what they see from us. So, we are constantly analyzing all of those factors and using the techniques to respond appropriately.

Middle School Teacher Participant 5 also emphasized the importance of identifying escalation and being aware of your student's typical behavior:

I think definitely if a student verbally escalates, and it is not ordinary. It is not ordinary for them to escalate like that like they start cursing or they start getting verbally aggressive toward other students or myself or other staff members. I think then you try to start de-escalation strategies.

Research Question 2: How Do EC Teachers Perceive the Professional Development of NVCI Strategies for De-Escalation Without Using Restraints?

Interview Questions 2, 3, and 4 were designed to answer Research Question 2 addressing input or training of NVCI. Interview Question 2 asked participants to explain how the NVCI training can be improved. Primary and secondary themes were identified through the primary and secondary coding process as shown in Table 15.

Table 15

Interview Question 2–How Can the Nonviolent Crisis Intervention Training Be Improved

for the Educational Setting?

Theme	Type of theme	Number of teachers by setting
Additional/ follow-up training	Primary	2 elementary, 4 middle
Practice in different setting	Secondary	2 elementary, 1 middle

As shown in Table 15, the primary theme was the need for additional or follow-up training. There were six participants: Two of the participants worked in an elementary setting, and four worked in a middle school setting. All participants stated that additional training is needed. Elementary School Teacher Participant 10 stated, "I think it should be something that should have refreshers every couple of months instead of just one training." This response is consistent with Middle School Teacher Participant 2, who stated,

> I think there needs to be more required follow-up for the training. I know that it's recommended that teams within a school meet monthly to practice techniques and holds, but I personally know from working in a school that this doesn't always happen.

One teacher suggested that an increased focus on physical restraints would be beneficial. Middle School Teacher Participant 5 stated, "I think it's hard training to really memorize the physical restraint part of it. Sometimes I think we need more time on that [physical restraints]." On the contrary, Elementary School Teacher Participant 7 stated, "I feel like we know the restraints and how to properly do them which is important, but if we spent more time on de-escalation, it might prevent some of those holds from having to happen."

Another theme identified during the structured interviews was the recommendation to have more scenarios or training for when incidents occur in different areas of the school environment. Two elementary school teachers recommended the addition of more scenarios to the training by referencing this need compared to only one middle school teacher. Elementary School Teacher Participant 9 stated, "I think it is always good when training can be fit to scenarios that actually happen within the classroom. Making it more real-life applicable." This message was supported by Elementary School Teacher Participant 1.

> The educational setting does have quite a few unique environments that other medical facilities or businesses may not have, specific to children in the school environment, locations like the bus, or even the cafeteria. Addressing how that environmental factor might change, and how you respond could be an area of improvement, giving some real-world scenarios or videos of how you might address behavior in that environment. It is unique to school, so that is one area that they could probably improve.

Middle School Teacher Participant 3 also recommended cross-setting training to improve response to behavioral situations in various areas of the building:

> This is crucial training, in my opinion. I do think that sometimes you could go to different places in the school building, like the cafeteria. If a kid is in crisis in the cafeteria, what does that look like? It is going to look different than the classroom, maybe even the bus, or the playground. So maybe some of the training could be more specific to situations that teachers could see or places where students could have these outbursts of behavior.

Interview Question 3 asked participants to explain how the NVCI training can be improved to de-escalate agitated EC students. The prominent themes identified through the coding process are displayed in Table 16.

Table 16

Interview Question 3–How Can the Nonviolent Crisis Intervention Training Be Improved to De-Escalate Agitated EC Students?

Theme	Type of theme	Number of teachers by setting
A focus on learning differences	Primary	2 elementary, 2 middle
Scenarios/case studies	Secondary	2 middle
Pre-teaching	Secondary	2 elementary

Table 16 shows the three themes identified by coding participant responses. The primary theme is the need for a more specific focus on the learning differences of special populations. Middle School Teacher Participant 2 suggested consulting experts in related fields:

I think that there is so much happening with mental health that we are yet to know. It would be nice to pull in behavioral interventionists and our clinical people who help with social-emotional behaviors to constantly improve the way that we talk to children. Access them on the level that they are emotionally and with their age. We are constantly learning new things about how kids think and how they learn, and we do not always update the techniques that we are using.

Elementary School Teacher Participants 6 and 9 focused their recommendation on different communication techniques to improve the training in regard to the de-escalation strategies used with EC students who have receptive language barriers. Elementary School Teacher Participant 6 stated,

I feel like the guidelines that they [CPI] give us are pretty basic, but they do not take into account the differences in communication or students themselves. You have certain students that you cannot de-escalate verbally by talking to them. If the training included ways to de-escalate a student who is nonverbal that would help.

Elementary School Teacher Participant 9 recommended limiting verbal communication and adding visual supports to communicate. She also made the recommendation to model the use of visuals in the training:

People need to understand that de-escalation does not always involve talking. I think because we are verbal people, we use a lot of words to de-escalate. I think adding some visual support into the training and modeling so that people [teachers] know how to use it would be good.

Middle School Teacher Participant 3 made the recommendation to improve the training by focusing on specific EC eligibility areas and combining that with application-based scenarios:

I think maybe if the training had some specific scenarios based on different [EC] eligibility areas like a student with autism might be handled a little differently than a student that just has a learning disability because of their cognitive ability levels. I think that if you actually took some scenarios and worked through them, what would you do? When would you call a [CPI certified] team versus when would you continue to try to implement the strategies for de-escalation? It makes it more pertinent to the EC population and the EC teacher.

One of the secondary themes identified by two middle school teachers was the

recommendation of adding additional scenarios to the training. Middle School Teacher Participants 3 and 5 would like to see the addition of more real-life scenarios to training. According to Middle School Teacher Participant 5,

> You could add more scenarios where we do some small group [activities] or we read the scenario and talk about the strategies that can be applied in that. That from what we have learned, for example, you know, the open stance [CPI supportive stance] or, knowing when not to engage, knowing when to do all those steps [CPI Crisis Development Model]. Sometimes giving somebody a scenario helps you process what strategies you need to use in that scenario, like real-world scenarios.

Another secondary theme was the recommendation of pre-teaching. Both participants who made this recommendation work in the elementary school setting. Elementary School Teacher Participant 6 simply stated to "pre-teach" when referencing the importance of de-escalation skills. Elementary School Teacher Participant 8 provided more detail in her recommendation:

> You need to teach the kids ahead of time, give them some tools, whether it's taking deep breaths or a quiet area that they can go to or if they're upset and they want to hit something, give them something that is safe for them to hit rather than to hit other people or hitting you.

Interview Question 4 asked participants to explain how the NVCI training can be improved to de-escalate EC students exhibiting risk-taking behavior. Table 17 provides a visual of the two identified themes.

Table 17

Interview Question 4–How Can the Nonviolent Crisis Training Be Improved to De-

Escalate EC Students Exhibiting Risk-Taking Behavior?

Theme	Type of theme	Number of teachers by setting
Increase emphasis on debriefing following an incident	Primary	1 elementary, 2 middle
Additional scenarios/case studies added to the training	Primary	1 elementary, 2 middle

The two primary themes displayed in Table 17 are the need to increase emphasis

on the debriefing process and the need for additional case studies within the course.

Elementary School Teacher Participant 1 recommended the importance of debriefing and

reflecting after an incident occurs:

> They [NVCI certified teachers] are going to have specific questions that they
>
> might have for their environment that they may not have known while they were
>
> taking the training because they have not had the opportunity to implement the
>
> tools and techniques. But, when they go back into their building and are working
>
> with their specific students, they are going to see areas of weakness that they
>
> need to address.

Middle School Teacher Participant 3 and Elementary School Teacher Participant

1 referenced both identified themes in their recommendation to focus on the debriefing

process as well as taking that real-life scenario and applying it to future training. Middle

School Teacher Participant 3 made the following recommendation:

> I think that it's a crucial time to have that debriefing conversation after a student
>
> that is EC or any student that has had some of these strategies used for students

demonstrating risk behavior. I think our training is not going to get better until we

know what's working and what's not working. I think that comes from talking to

the teachers or the staff who implemented it [NVCI techniques] or the students

themselves who lived through it. So, I think that it is the part probably missed in

the [debriefing] cycle where you do it [restraint], you implement it and then you

just move on. I think it really could be beneficial if we take the time to debrief

everyone involved in a situation. That feedback could then be used in the training

so that people would not have to relive something that maybe went south or that

they could actually improve the techniques that are being used because they're

seeing more risk-taking behavior and they could adapt specifically for those

behaviors. But it takes communication, and it takes follow-through.

Research Question 3: How Are the Behavioral Interventions Implemented During the NVCI Cyclic Process Monitored and Evaluated?

Interview Questions 5 and 6 were used to address Research Question 3 and the

process component of the CIPP framework. Table 18 contains identified themes from

Interview Question 5. This interview question asked participants to explain why they do

or do not complete the mandatory incident reporting form following the implementation

of a restraint.

Table 18

Interview Question 5–What Are the Reasons You Do or Do Not Complete the Incident

Reporting Form After the Use of Restraint?

	Theme	Type of theme	Number of teachers by setting
Reason the incident form is completed	Documentation	Primary	6 elementary, 3 middle
Reasons the incident form is not completed	Fear	Primary	2 middle
	Unclear if it is needed	Primary	1 elementary, 1 middle
	Not enough time	Primary	1 elementary, 1 middle

Table 18 provides a breakdown of the primary reasons the incident reporting is or

is not completed following the implementation of a restraint. The primary theme

referenced by nine participants for why the form is completed is documentation purposes.

This primary theme could be reduced further to identify different types of documentation

purposes. These types of documentation themes referenced by participants include the

need to document for litigation, to inform parents of an incident, and because it is district

policy. Elementary School Teacher Participant 6 referenced the need for the form from a

litigation perspective:

> Especially in cases like in our room, when you have students who go home and
>
> they say things happen that didn't happen, you have documented proof of who
>
> was in the room. This is exactly what I did, and this is why I did it. So, if anybody
>
> has any questions, it is right there on paper.

Informing the parents was the second type of reason for the need for

documentation. There were two from the elementary setting and one from the middle

school setting. Middle School Teacher Participant 5 stated,

> Any time you put your hands on a student using Nonviolent Crisis Intervention
> techniques, you put the student in a hold, or you do something that is going to
> include one of those physical strategies to help students. It is a last resort, and
> then you have to report it for the safety of the student, the safety of the staff, and
> to let the parent know, "hey, we had to do this." It [incident reporting form] just
> keeps everybody safe. It documents that the incident happened and if someone is
> injured it is documented.

The other participants were very generic in their response to Interview Question 5 and
simply stated the importance of informing parents of what happened and keeping
documentation.

District policy was identified as the main reason participants completed the
incident reporting form. Elementary School Teacher Participant 4 provided the most
direct answer by stating, "The reason that you do is that you're required to do that."

The second theme that was identified is the submission of incident reporting
forms for the purposes of identifying patterns. Middle School Teacher Participant 2 and
Elementary School Teacher Participant 8 both referenced the need to look back at the
incident report to identify trends in responses or possible ways to intervene differently in
the future.

Table 18 shows that there were three primary themes that emerged to suggest why
the incident reporting form is not completed. The three themes included the fear that the
documentation could be detrimental later, uncertainty if documentation is really
necessary, and the time to complete the form. The first theme is fear that the

documentation could be detrimental later. In response to this interview question, Middle School Teacher Participant 3 stated,

> I also think that sometimes it is not completed out of fear, because there's a fear when you have to actually lay hands on a student and that becomes very uncomfortable. So, I feel like they [intervening staff] think that something's going to happen, you know, unless it's to a point where they think it needs to be documented, they kind of use their discretion as to how intensive it was. And if it wasn't that intense, then we can just roll on.

The fear of establishing a paper trail was also a referenced reason that the form may not be completed. Middle School Teacher Participant 2 referenced fear and the lack of desire to create a paper trail. Her response was, "I do know people that have not filled out the form because they do not want the paper trail, or they are afraid that they have done something wrong and they are going to get in trouble."

The second identified theme that suggests why teachers do not complete the incident reporting form is the uncertainty of if the form is really necessary. Elementary School Teacher Participant 9 stated,

> I have talked to other colleagues about this, and I think there is some ambiguity as to what constitutes the incident being severe enough. When do you document versus when do you not? So, I think it's really just an unclear understanding.

This response is consistent with Middle School Teacher Participant 3 who also implied that discretion occurs when the severity of the incident may be less.

The last theme identified is related to the time it takes to complete the form. According to the Elementary School Teacher Participant 1, time is a barrier:

In our specific classroom, we are very good at completing the incident reporting

form. I would say 100% of the time. But I could see how during a moment of

crisis their certain environmental factors are such as the schedule or when the

incident occurred that might impede someone from completing it. For example, if

the incident were to occur at the very end of the day, or if the incident was of

such high risk that someone was injured and needed immediate medical attention,

whether it be the student or staff member who normally would complete the

form, I could see how that could impede the form from being completed.

Additionally, if I could see a factor of those in the building, if they don't have a

large team who have been trained, there may not be enough staff members to

complete the form.

Middle School Teacher Participant 3 also reported that time to complete the document is a barrier. She explained,

Some of the reasons why it is not completed is lack of time. Sometimes the

situation just gets so volatile and so much happens that by the time the dust has

settled, it's not the most pressing thing on someone's mind.

Table 19 contains identified themes from Interview Question 6. This interview question asked participants if they have used NVCI techniques and to describe those techniques. There was one primary theme and three secondary themes identified based on the responses from the 10 participants.

Table 19

Interview Question 6–If You Have Used NVCI De-Escalation Techniques, Please

Describe the Techniques Used.

Theme	Type of theme	Number of teachers by setting
Communication	Primary	3 elementary, 2 middle
Restraints/disengagement techniques	Secondary	1 elementary, 3 middle
CPI support stance	Secondary	1 elementary, 2 middle
Rapport	Secondary	1 elementary, 1 middle

The four identified themes outlined in Table 19 describe the most frequently

referenced NVCI used by the participants. The four themes include a focus on various

communication techniques/modifications, the use of restraints or disengagement

techniques, utilizing the CPI supportive stance, and relying on rapport with the student.

The primary theme was the focus on various communication techniques or modifications.

Of the 10 respondents, half of the teachers referenced the importance of using various

ways to communicate such as visual support or modifying the manner they communicate

to assist in de-escalation. Elementary School Teacher Participant 1 explained that she

modifies her tone when responding based on the student's response. Elementary School

Teacher Participant 4 provided a specific way of being aware of how she communicates

with students. She stated,

> Give the student time to process what they are going through before you go and
>
> talk to them through the different phases [CPI Crisis Development Model].
>
> Because sometimes if you talk to them too early or try to keep pressuring them or
>
> asking them about this situation, that can actually cause the behaviors to escalate.
>
> So, just knowing how to use those techniques to de-escalate the situation. The

way that the program prompts you to respond has been really helpful for me personally.

The first secondary theme is the utilization of NVCI restraints or disengagement techniques. The use of these techniques was referenced by three middle school teachers and one elementary school teacher. Middle School Teacher Participant 3 explained the techniques that she has used: "I've definitely had to use all the holding patterns [restraints]. I had a biter, and you had to lead into the bite [disengagement technique for when you are being bitten]." Middle School Teacher Participant 10 listed all the restraint techniques that she has used: "standing control, stated control at all levels, child control, and team control."

An additional identified secondary theme was the importance of utilizing the CPI supportive stance. Middle School Teacher Participants 3 and 5 referenced the importance of maintaining personal space and using the CPI supportive stance to maintain safety and appear nonthreatening to the acting-out student. Elementary School Teacher Participant 6 also referenced the importance of the supportive stance in her response.

The last secondary theme identified was the need to establish rapport with their students. Middle School Teacher Participant 5 and Elementary School Teacher Participant 7 both stated the importance of knowing their students. Elementary School Teacher Participant 7 explained,

> If I see that, they [students] are getting agitated. Building that communication and that rapport with the student is essential. If I can see they are frustrated I just try to ask questions that are not too wordy, that will get them even more agitated. But if I find out what the cause of their frustration is and just pinpoint how I can help

them de-escalate before they get too frustrated. Having that rapport with the

students and identifying if they need something like what is overstimulating to

them, why are they upset? Do they need to be away from people? Is somebody

talking too much, or asking too many questions? Do they need sensory input,

whatever it might be?

Research Question 4: How Effective Do EC Teachers Perceive NVCI Techniques as an Intervention?

Interview Question 7 addressed the product evaluation of the CIPP framework

and Research Question 4. Table 20 contains identified themes from Interview Question 7.

This interview question asked participants what they consider to be the benefits of NVCI

training. There were three themes identified based on the responses from the 10

participants.

Table 20

Interview Question 7–What Are the Benefits of Non-Crisis Intervention Training?

Theme	Type of theme	Number of teachers by setting
Framework	Primary	6 elementary, 4 middle
Safety	Secondary	2 elementary, 1 middle
Beneficial for new teachers	Secondary	1 elementary, 1 middle

Table 20 provides a visual of the three identified themes. The three themes were

that the NVCI program provides a framework for response, it has been proven to provide

a safe option for intervention, and it is beneficial to new teachers. The most predominant

theme identified by all 10 participants is that the NVCI program serves as a framework

for response in a crisis situation. Elementary School Teacher Participant 6 stated, "I think

the benefit is that it gives you a blueprint of the different techniques if it gets to that

point." Elementary School Teacher Participant 1 referenced the amount of confidence gained intervening with agitated students after receiving the training:

> The training gives you the foundation and the knowledge and the confidence to be able to respond to these students in crisis. So, it gives you a sense of confidence when you are going into these situations that can be very stressful to know that your response has been proven and is a good response because it can often be a question of, oh, gosh, what should I do? I do not want to mess up. But this training gives you the confidence that you are going to be able to handle it, even in a moment when you may not think so. You can always go back to your training, and you have a place to start.

Middle School Teacher Participant 9 discussed the importance of NVCI training and de-escalation techniques. She explained how important it is to have alternative interventions instead of just restraints:

> My end goal is to not touch this child. I do not want to have to use restraints. I do not want the need to be there, that I need to touch this child. What can I do before it gets to that point? I've got my bag of tricks from Nonviolent Crisis Intervention to go through. If those things do not work, then we go to our last resort [restraints]. It [the program] has decreased the number of opportunities that I have had to use to put my hands on a student to intervene.

A secondary theme that was discussed was the understanding that when done correctly, NVCI techniques have been proven to be safe. Middle School Teacher Participant 2 explained,

> When it comes time to and we have to put our hands on a child, it [Nonviolent

Crisis Intervention] teaches you the safest way to do so. We can limit any kind of

harm to not only the adults in the room but the children also.

An additional secondary theme identified was how beneficial NVCI is for new

teachers. This theme was referenced by one participant from the elementary setting and

one from the middle school setting. Elementary School Teacher Participant 9 provided

the most in-depth response related to the benefit for new teachers:

I think as a younger teacher, I immediately moved to laying on hands [physical

restraint], like, I just need to keep the student safe. I felt like that was the only

thing to do. As I have gotten older and I have used this [program] more, I find that

I use physical restraint even less because I am able to go back and say, okay, what

can I do first before it gets to that point? Because my end goal is to not touch this

child.

Summary

Quantitative and qualitative data were used to evaluate CPI's NVCI program from

the perspective of EC teachers. Participants included a sample of elementary, middle, and

high school teachers. There were 15 teachers who completed the quantitative survey. and

10 of the survey participants agreed to structured interviews. Of the 10 participants, six

work in the elementary school setting, and four work in a middle school setting. There

were common themes identified for each section of the CIPP program evaluation model.

The first identified theme under context evaluation or Research Question 1 indicated that

the teachers were able to identify when the de-escalation strategies are necessary. The

identified theme for the input evaluation or Research Question 2 was the teachers

recommended additional training, a specific focus on communication strategies for

students with cognitive delays, and increased use of case studies. The identified theme for the process component or Research Question 3 indicated that the teachers submit the incident reporting document because it is part of district policy and those who do not do so because of fear. The theme identified related to the product evaluation or Research Question 4 indicated that the program has a positive perception as a framework of response to crisis. General statistical analysis was conducted and displayed in table format. Themes identified from the primary and secondary coding of interview responses were also displayed in table format. Interpretation of results and recommendations are discussed in Chapter 5.

Chapter 5: Discussion

Introduction

Restraints to managing violent and aggressive behavior in the educational system is a controversial subject. Students with a disability are often at the center of conversations related to restraints in the school setting. Students with disabilities are 200% more likely to be restrained than a nondisabled peer and account for 85% of all restraints reported (Katsiyannis et al., 2020). Opponents of the use of these techniques claim it is unnecessary and abusive. Proponents of the techniques routinely insist that the use of restraints in the school setting is necessary to ensure safety. Unlike other settings, such as hospitals and psychiatric facilities, no federal law governing the use of restraints in the educational setting exists; therefore, each state has been left to create regulations surrounding the use of these techniques. North Carolina signed the Greenblatt Act into law in 2005 which provided provisions for the permissible use of restraints, defined impermissible use, and outlined the training components that must be met for staff. Many school districts choose to purchase commercially available programs to meet the training components outlined in the Greenblatt Act. The district of this study currently utilizes CPI's NVCI program to meet the professional development component of the Greenblatt Act.

Purpose of the Study

The purpose of this study was to explore EC teacher perceptions of the implementation and effectiveness of NVCI utilizing Stufflebeam's (1968) program evaluation framework. The following research questions were used to guide this study:

1. What behavioral situations require NVCI to be implemented?

2. How do EC teachers perceive the professional development of NVCI strategies for de-escalation without using restraints?

3. How are the behavioral interventions implemented during the NVCI cyclic process monitored and evaluated?

4. How effective do EC teachers perceive NVCI techniques as an intervention?

An anonymous survey was distributed, and structured interviews were conducted to gather data.

Summary of Findings

The four research questions for this study were developed to align with Stufflebeam's (1968) CIPP framework. Through anonymous surveys and structured interviews, I was able to explore teacher perceptions of the effectiveness and implementation of NVCI from the EC teacher perspectives. Quantitative and qualitative data were compiled and coded to identify common themes. A summary of all data and identified themes were discussed in Chapter 4.

Context Evaluation

Research Question 1: What Behavioral Situations Require NVCI to Be Implemented?

According to Daniel Stufflebeam, during the context evaluation phase, opportunities, materials, assets, and expertise are identified and analyzed (Stufflebeam & Coryn, 2014). During this phase, the needs and goals are established, and the ability to meet those objectives is analyzed. The distribution of a survey and structured interviews were conducted to collect data and evaluate the context in which the program is being used and to answer Research Question 1, "What behavioral situations require NVCI to be implemented?"

According to data collected from surveys and interviews, 15 of the EC teachers have 5 or more years of certification through the NVCI program. Of those, all 15 teachers confirmed they have used the program within their classrooms. There were two specific behavioral situations that were identified through the coding of interview responses in which the de-escalation interventions were needed. The first and most predominant theme identified from interview data is when a student's behavior poses a danger to themselves or others. Participants recognized that the use of NVCI de-escalation strategies is beneficial when responding to dangerous behaviors. All 10 interviewees referenced the need for de-escalation strategies when a student is a danger to themselves or others. Middle School Teacher Participant 2 stated,

> In my experience, I use these techniques when things are a little out of control and
> we start harming ourselves or others. I want to say that I do not mind when a kid
> is tearing down a classroom. Sometimes I think that they get aggression out, but
> when that aggression turns to where they are hurting themselves, like banging
> their head against the wall, banging their head against the desk, or they're trying
> to harm people in the room.

The second identified theme from interview responses is the observation of a change in behavioral baseline status. The first step of the CPI Crisis Development Model is the recognition of anxiety. CPI defines anxiety as, "a change in typical behavior" (CPI, 2022, p. 26). Based on the NVCI training, staff would initiate the appropriate de-escalation strategy at this point. This was confirmed by 60% of the participants who recognized the need to use de-escalation strategies when a noticeable change in behavior is observed. Elementary School Teacher Participant 1 also discussed how she consistently

focuses on assessing the behavior of her students:

> So, we are certainly using those de-escalation techniques all day long with how
> we are reading the student's behavior and how we are responding back and forth
> based on what we see from them, what they see from us. So, we are constantly
> analyzing all of those factors and using the techniques to respond appropriately.

Middle School Teacher Participant 5 also referenced the need to implement de-escalation
strategies when there were noticeable behavioral changes in her students:

> I think definitely if a student verbally escalates, and it is not ordinary. It is not
> ordinary for them to escalate like that like they start cursing or they start getting
> verbally aggressive toward other students or myself or other staff members. I
> think then you try to start de-escalation strategies.

The above findings indicate that the NVCI program is currently meeting its
intended purpose for the district of study as outlined by North Carolina state law.
Specifically, the Deborah Greenblatt Act mandated school systems to provide
professional development in verbal de-escalation and safe restraint (A.B. 1032, 2005).
The district of the study chose to purchase the commercially available NVCI program to
meet this professional development component. NVCI states that when an individual is a
danger to themselves or others, the use of physical intervention may need to be
considered as a last resort to ensure safety for all (CPI, 2022). This aligns with interview
responses from all 10 interviewees who discussed the need for restraints when a student
is a danger to themselves or others.

Both identified themes align with the literature related to the assault cycle. The
assault cycle stresses the importance of identifying the behavioral phase that the acting-

out student is demonstrating and responding with the corresponding staff approach to safely de-escalate the situation (Kaplan & Wheeler, 1983; Nielson, 2021). According to Kaplan and Wheeler (1983), if staff members do not respond as soon as there are noticeable changes in the individual's behavior, that individual may continue to escalate. Escalation can rise to the crisis phase in which physical restraint may need to be implemented (Kaplan & Wheeler, 1983; Nielson, 2021).

A study conducted by Hawkinson (2012) supported the findings of this research question. Hawkinson studied the effects of NVCI de-escalation strategies with EC students identified as having emotional behavioral disorders. She concluded that if staff members identified what level of the CPI Crisis Development Model the student was currently in and responded according to the recommended approach, de-escalation would occur at a faster rate. The faster rate of de-escalation meant the EC students could return to the general education classroom.

Given the higher probability of EC students being subjected to restraint compared to nondisabled peers, it is pertinent that EC teachers know when to intervene to prevent and respond to behavioral escalations. Data gathered from interviews and a survey indicated that EC teachers in the district of study are able to identify when NVCI techniques should be implemented.

Input Evaluation

Research Question 2: How Do EC Teachers Perceive the Professional Development of NVCI Strategies for De-Escalation Without Using Restraints?

The input evaluation phase focuses on the analysis of current programming practices (Stufflebeam & Coryn, 2014). Based on the needs identified during this phase,

alternative programming approaches or strategies are investigated to improve current practices. According to Stufflebeam and Coryn (2014), it is during this phase of the evaluation process that procedural and resource plans are developed for implementation. Through surveys and structured interviews, current input practices for the implementation of NVCI were examined through Research Question 2, "How do EC teachers perceive the professional development of NVCI strategies for de-escalation without using restraints?"

Based on data analyzed from Survey Question 7, the overall average perception of the NVCI training is that it is effective. Specifically, 53% of participants rated the training as very effective. Despite the overall positive perceptions, there were areas of improvement identified for the training design or the input process of NVCI. When asked how to improve the program for the educational setting, 60% of the EC teachers recommended more training in addition to the yearly refresher. There were six participants, two who worked in an elementary setting and four who worked in a middle school setting, who stated that there should be more frequent training. Elementary School Teacher Participant 10 stated, "I think it should be something that should have refreshers every couple of months instead of just one training."

Literature supports that more frequent training leads to better competency utilizing the program. CPI (2015) published an article titled *6 Considerations on How Your Organization Should Train* to guide training frequency procedures. The article suggested that organizations utilize a needs assessment to examine their own needs in regard to the frequency of training. Although state regulation requires at least an annual training, CPI reinforces the teachers' recommendations identified in this study. CPI

(2015) stated, "Repeated exposure to the presented content has been shown to be effective for retaining learning" (p. 4). Furthermore, CPI (2015) suggested that more frequent training should occur if there are enrolled students with a high incidence of aggressive behavior.

Based on identified themes, 40% of the participants believe that the de-escalation of EC students would have a higher success rate if there was an increased focus on the different learning styles of EC students. Elementary School Teacher Participant 6 referenced the need to adapt the communication strategies to meet the cognitive level of their EC students:

> I feel like the guidelines that they [CPI] give us are pretty basic, but they do not take into account the differences in communication or students themselves. You have certain students that you cannot de-escalate verbally by talking to them. If the training included ways to de-escalate a student who is nonverbal that would help.

The importance of modifying staff verbal intervention strategies was also referenced by a teacher in the middle school setting. Middle School Teacher Participant 9 stated,

> People need to understand that de-escalation does not always involve talking. I think because we are verbal people, we use a lot of words to de-escalate. I think adding some visual support into the training and modeling so that people [teachers] know how to use it would be good.

The interview data reinforce previous research conducted by Crick and Dodge (1996) and Diamond (2014), who concluded if individuals with disabilities are given specific strategies to improve their executive functioning and information-processing skills, they

are more equipped to handle incidents in a more appropriate manner; therefore, if verbal strategies are modified to better support EC students, the likelihood of more successful de-escalation could occur without the use of restraints.

When asked how to improve NVCI to help teachers de-escalate EC students exhibiting risk-taking behavior, two themes emerged. Theme 1 was the increased emphasis on the need to debrief following an incident. The second theme was the need to have additional scenarios or educational-specific case studies added to the training.

Theme 1, the need to debrief following an incident, is already an established process of the program and will be discussed below in the process evaluation section. The second identified theme was the recommendation to supplement the current input with case studies. Middle School Teacher Participant 5 stated,

> You could add more scenarios where we do some small group [activities] or we read the scenario and talk about the strategies that can be applied in that. That from what we have learned, for example, you know, the open stance [CPI supportive stance] or, knowing when not to engage, knowing when to do all those steps [CPI Crisis Development Model]. Sometimes giving somebody a scenario helps you process what strategies you need to use in that scenario, like real-world scenarios.

This recommendation is supported by research from the Boston University Center for Teaching and Learning (n.d.), which found that there are advantages to using case studies as an educational tool. They suggested that case studies actively engage the participant in the ability to problem solve, analyze, manage complex situations, and work through ambiguities (Boston University Center for Teaching and Learning, n.d.).

Based on survey and interview data, the current training or input of NVCI is viewed as effective in the district of study. Some areas of opportunity identified by the teachers and supported by literature are the need for additional follow-up training, specific instruction related to intervention strategies with individuals with disabilities, and the addition of real-life education-based case studies.

Process Evaluation

Research Question 3: How Are the Behavioral Interventions Implemented During the NVCI Cyclic Process Monitored and Evaluated?

During the process component of the CIPP framework, the evaluation consisted of an examination of the program's design and implementation. During this phase, Stufflebeam and Coryn (2014) suggested analyzing implementation problems and ways they were resolved. Additionally, it is during the process evaluation phase of the CIPP framework that the examiners should consider feedback from users of the program related to the effectiveness of the context and the input. In this study, the process component was assessed by Research Question 3, "How are the behavioral interventions implemented during the NVCI cyclic process monitored and evaluated?"

The survey data indicate that 75% of EC teachers debrief with their team members and the acting-out student following an incident. The importance of debriefing was also supported by interview data that stated that 30% of participants felt that debriefing needs to occur more frequently with students and staff. Elementary School Teacher Participant 1 discussed the importance of the debriefing process following an incident. She explained how teachers may have questions on how to implement NVCI techniques in the real-world classroom setting.

Furthermore, Middle School Teacher Participant 3 referenced how the debriefing process is a crucial process for both staff and students. She explained that the debriefing conversation is crucial in determining which interventions are successful and which were ineffective. The debriefing process is already an established component of the NVCI program. Module 8 in the NVCI program discusses the COPING Model. This model serves as a framework that is used to guide staff through the debriefing process (CPI, 2020). This framework is discussed in detail in Chapter 2. Failing to follow the program's process with fidelity would serve as an opportunity for implementation improvement.

Based on data collected from interviews, 90% of EC teachers in the district of study complete the incident reporting form following the use of restraint. The specific reasons for the documentation vary, but 50% complete the form because it is a district policy. Elementary School Teacher Participant 4 stated, "The reason that you do is that you're required to do that." The district of study requires all restraints to be documented, not just the ones that meet the minimum standards outlined in the Greenblatt Act. Other reasons for documentation include litigation, informing parents, and identifying patterns in behavior and response. Middle School Teacher Participant 5 stated,

> Any time you put your hands on a student using Nonviolent Crisis Intervention techniques, you put the student in a hold, or you do something that is going to include one of those physical strategies to help students. It is a last resort, and then you have to report it for the safety of the student, the safety of the staff, and to let the parent know, "hey, we had to do this." It [incident reporting form] just keeps everybody safe. It documents that the incident happened and if someone is injured it is documented.

The themes identified from transcribed interviews found that the primary reasons EC teachers do not complete the required documentation following a restraint are fear, uncertainty that the form is needed, and not enough time. One participant stated, "I do know people that have not filled out the form because they do not want the paper trail, or they are afraid that they have done something wrong and they are going to get in trouble." Besides fear, uncertainty regarding the form needing to be completed was mentioned by Elementary School Teacher Participant 9:

I have talked to other colleagues about this, and I think there is some ambiguity as to what constitutes the incident being severe enough. When do you document versus when do you not? So, I think it is really just an unclear understanding.

Lastly, a lack of time to complete the appropriate documentation following an incident was identified as a barrier. Middle School Teacher Participant stated,

Some of the reasons why it is not completed is lack of time. Sometimes the situation just gets so volatile and so much happens that by the time the dust has settled, it's not the most pressing thing on someone's mind.

Based on data collected from Interview Question 6, there were portions of the NVCI program that are used more than others. Based on an interview question asking which techniques they have used in the past, common interventions were identified. A common theme identified was the need for the teacher to modify their communication strategies based on their understanding of the escalation pattern. Elementary School Teacher Participant 4 stated,

Give the student time to process what they are going through before you go and talk to them through the different phases [CPI Crisis Development Model].

Because sometimes if you talk to them too early or try to keep pressuring them or

asking them about this situation, that can actually cause the behaviors to escalate.

So, just knowing how to use those techniques to de-escalate the situation. The

way that the program prompts you to respond has been really helpful for me

personally.

Multiple EC teachers referenced the need to limit extra words while communicating with

agitated EC students. The other NVCI techniques that were referenced were restraints

and disengagement techniques, the use of the CPI supportive stance, and a specific focus

on established therapeutic rapport.

The guiding philosophy of CPI is the care, welfare, safety, and security of all.

This means that the purpose of the program is to protect all individuals involved at all

times and to avoid unnecessary risk. The majority of the teachers in this study indicated

that they have used verbal de-escalation techniques at a higher percentage than the

restraints. This indicates that the teachers are attempting to use the nonrestrictive

strategies of the program prior to using restraints. That would align with the context and

input goals associated with the program.

Based on themes identified in Research Questions 2 and 3, an area of opportunity

was identified by the process evaluation. Based on teacher responses, there is a need to

focus on debriefing following an incident. Debriefing is an important section of the

program that is outlined under the COPING Model of the NVCI program. The COPING

Model is discussed in-depth in Chapter 2. The need for debriefing following an incident

is also identified historically in the assault cycle framework under the post-crisis phase.

Findings from Research Question 3 indicate that the teachers in this study

document the use of restraints at a consistent rate, primarily due to district policy. Although 75% of the teachers state that they currently debrief with team members and the acting-out student following an incident, the need to debrief was identified as an area of opportunity to improve current processes. Additionally, it was determined that verbal de-escalation strategies have been the most used interventions from this program.

Product Evaluation

Research Question 4: How Effective Do EC Teachers Perceive NVCI Techniques as an Intervention?

The product evaluation is the last phase in the CIPP framework. It is during this phase that the program is analyzed to determine if it met the overall objectives of the implementing agency. The positives and negatives of the program are analyzed. According to Stufflebeam and Coryn (2014), data gathered for the product evaluation process can be positive or negative. Data gathered from stakeholders should be used to consider changes to the input process. This study utilized a survey and structured interviews to gather data related to the product evaluation component and to answer Research Question 4, "How effective do EC teachers perceive NVCI techniques as an intervention?"

In the survey, all 15 participants rated the effectiveness of the verbal de-escalation strategies with an agitated EC student. One participant rated the program as not effective, four selected that the program is somewhat effective, seven reported that the program is effective, and three participants rated the program as very effective. The majority rated the program as effective. The average score classified the overall rating of the program as somewhat effective.

Data collected from interview responses concluded that EC teachers see overwhelming value in the program. Based on coding results, 100% of the participants identified that the program is beneficial because it provides a framework of response when intervening with aggressive or dangerous behaviors. Elementary School Teacher Participant 6 stated, "I think the benefit is that it gives you a blueprint of the different techniques if it gets to that point." Elementary School Teacher Participant 1 explained that the program gives you a foundation of knowledge that is beneficial when responding to crisis situations. She stated, "This training gives you the confidence that you are going to be able to handle it, even in a moment when you may not think so." It is worth noting that 30% of the participants agree that the program is beneficial because it provides a proven safe way to intervene when physical restraints are needed. Middle School Teacher Participant 2 stated,

When it comes time to and we have to put our hands on a child, it [Nonviolent Crisis Intervention] teaches you the safest way to do so. We can limit any kind of harm to not only the adults in the room but the children also.

Overall, results from the survey and interview questions align with the intended purpose of the program as stated by CPI (2022):

The purpose of this program is to build the knowledge and skills needed to recognize and manage crisis behaviors you may encounter in your workplace. You will begin to establish a common philosophy and framework for the culture of safety for your organization. (p. 17)

Additionally, based on survey and interview data, the program is viewed by the teachers as being useful in accomplishing its overall intended objectives and providing a proven

safe way to safely de-escalate crisis situations.

Implications of Practice

The analysis of common data from survey and interview responses regarding the use of the NVCI program with EC students has identified common themes related to the strengths and opportunities of the program. The identified themes will be used to improve program implementation. EC teacher professional development will be modified based on these results to improve program implementation fidelity and reduce the use of restraints.

Additional Training

Based on conclusions drawn from data analysis, there is a need for additional professional development or improvement in the input process of NVCI. Specifically, there is a need for professional development for EC teachers related to the safe management of aggressive behavior. It is recommended that the district use the data gathered from this study as evidence to reconsider how often recertification classes should be conducted. Currently in the district of study, recertification occurs every school year. CPI (2015) recommended that training should occur more frequently if there are students who have a tendency to become aggressive or dangerous. Based on local school district data provided in Chapter 1, students with disabilities are overwhelmingly restrained at a higher rate than nondisabled peers. Based on data collected from this study, 60% of the teachers indicated that it would be beneficial if training occurred more often. Based on these findings, I recommend that the training renewal occur every 6 months, which would increase exposure to the content and improve content retention (CPI, 2015).

In addition to more frequent renewal training, I recommend that the district supplement established training content with additional material. Based on interview results, EC teachers within the district of study recommended training specifically on intervening strategies for students with disabilities. Professional development on specific interventions related to best communication practices with individuals with executive functioning delays could improve their ability to process information (Diamond, 2014). It is also recommended that within the training, specific types of disabilities should be identified and the best practices reviewed on how to successfully de-escalate noncompliant or aggressive tendencies that align with the disability. For example, a student who has a learning disability can process information in a different manner than a student who is identified with autism. Even though this training allows methods and strategies dealing with behavior, it would be beneficial for participants to be able to have a toolbox of ideas to use depending on the type of disability the student may have.

It is also recommended that the district of study supplement the current training content to include additional case studies. Within these case studies, a collection of students who have various disabilities can be used to help participants "see" the actions of students in relation to a specific disability. Focusing on themes identified throughout the interview process in addition to case studies surrounding real-life educational situations is thought to be beneficial by the EC teachers in this study. The Vanderbilt University Center for Teaching (2023) concluded that case studies can be used as a teaching tool to discuss the application of theory to a real-life application. Working through previous real-life situations in a safe environment may benefit teachers by identifying ways to improve their response to incidents of aggression or violence. In

addition, at the start of the training, a form could be administered to the participants that can be completed allowing them to write questions related to a situation they had experienced or handled. An ongoing, frequently asked questions document could then be created and shared as a resource with team members across the district as a support measure and collaborative communication tool.

Lastly, it is recommended that the district of study provide additional training on the context of when NVCI strategies should be implemented. Based on survey data, 100% of the participants confirmed that they have used the de-escalation strategies from the program. Additionally, based on interview data, all the participants recognized the need to implement a restraint when a student is a danger to themselves or others. Despite that conscience, only 60% of the participants recognized the need to use de-escalation strategies when a noticeable change in behavior was observed. This is an opportunity for the district of study to provide additional training on the CPI Crisis Development Model. The purpose of the model is to provide staff with the appropriate responses to observable behavior to safely de-escalate a crisis situation without the use of restraints (CPI, 2020). Being able to identify a change in a student's baseline behavior and responding with the appropriate staff response can greatly improve the outcome of the situation (CPI, 2020, p. 25; Hallett & Dickens, 2017). This is consistent with the assault cycle theory that also stresses the importance of prompt identification of the acting-out individual's behavioral level and then providing the appropriate staff responsible for successful de-escalation (Kaplan & Wheeler, 1983; Nielson, 2021). With only 60% of the study participants referencing the de-escalation strategies compared to 100% identifying the program as restraint education, there is an opportunity for the district to provide additional training

on the context in which the program should be utilized. The objective of NCVI training is to equip staff with the necessary skills to respond to aggressive or dangerous behavior (A.B. 1032, 2005; CPI, 2020). There should be an increased focus on de-escalation and not the use of restraints.

Training Additional Staff

Through the data analysis, another recommendation has come forth, that the district of study should expand its certification program to include additional staff in order to maintain school safety and prevent the occurrence of violence in the school system. This recommendation is supported by CPI as discussed in Module 5 Safety Interventions, you should use a coordinated and collaborative approach when responding to crisis intervention, therefore justifying the need to have teams in each school location (CPI, 2020). Prior to the COVID-19 pandemic, the district of study had approximately 275 or 14% of eligible staff certified in NVCI from all 54 locations. At the time this study was initiated, there were less than 50, or less than 1%, certified trained staff members including the 36 EC teachers who are referenced in this study. Specifically, it is recommended that every EC teacher in the district of study receive and maintain active certification. Students with disabilities account for 80% of all restraints reported; it is imperative that all EC teachers maintain certification (DeVos & Richey, 2020). This recommendation is also in accordance with specifications outlined in the Greenblatt Act that stated staff most likely to respond to an incident should receive training in verbal de-escalation and the safe implementation of restraints (A.B. 1032, 2005). Since EC students are 200 times more likely to be restrained, it is recommended that EC teachers maintain full certification (Katsiyannis et al., 2020).

It is recommended that each school select a team composed of EC teachers, assistants, administrators, and other key personnel involved in working with students who have disabilities. This team should then be reported to the district office representatives so a training date can be established. This should be an expectation of every school, and intentional time and resources should be allocated to ensure each school has a trained team with all materials needed to successfully help implement the taught strategies as well as de-escalate situations. In his case study, Walsh (2010) concluded that there are benefits to having crisis response teams. Walsh found that staff perceptions of the effectiveness of crisis response teams in responding to violent behavior at a prekindergarten through sixth-grade elementary school were positive. The staff believed that they were effective and consistent in responding to crisis behavior, proactive with nonrestrictive interventions, and had improved confidence in the way they responded to defiant student behavior or violence.

Debriefing

One theme identified in the data analysis of the study was the lack of time for the team to debrief following an incident. According to data gathered from the transcribed interviews, stress often impacts the individuals who are involved in de-escalating aggressive and noncompliant episodes, especially when a restraint is included. Time needs to be allocated for the participants involved in the situation to discuss what occurred, how the situation progressed, if it was handled appropriately, and if not, what could be changed; and how it impacted all parties involved, including the student. It is imperative for all individuals to sort through their thoughts, emotions, and feelings in order to reestablish therapeutic rapport (CPI, 2020). Reflection and debriefing are

valuable tools that are identified by the program and should be used by staff. Module 8

Post-Crisis of the NVCI program includes the COPING Model that serves as a debriefing

framework used to reestablish therapeutic rapport (CPI, 2020). A component of the

COPING Model is investigating alternatives to the behavior that led to the

implementation of the de-escalation techniques. The acquisition of alternative behavioral

strategies can improve a student's executive functioning and information-processing

skills, equipping them with the ability to react differently in similar situations (Crick &

Dodge, 1996; Diamond, 2014). A study conducted by Malti et al. (2011) showed that

students demonstrated less impulsive behavior when provided with strategies to improve

their executive functioning skills compared to students who were not taught alternatives.

A randomized controlled study conducted by Kenworthy et al. (2013) showed that

interventions focusing on executive functioning skills were effective at improving

behavior in children with autism. It was concluded that the implementation of

contextually based executive functioning strategies improved student behavior within the

classroom and their problem-solving ability (Kenworthy et al., 2013).

In addition, it is recommended that the school counselor lead the debriefing

process. In the district of study, school counselors are trained to be in tune with the

emotions of students and lead social-emotional learning. Their additional training could

be beneficial when interacting with students and staff who are in a heightened emotional

state following a crisis situation. The school counselors in the district of study are also

responsible for completing the threat assessment protocol, a scripted protocol that must

be followed if a threat is made by a student. This experience of following a scripted

protocol would be beneficial as it is similar to following the COPING Model from the

NVCI program. School counselors would also be good candidates to lead the debriefing process due to their role in the crisis situation. School administrators are typically the first employees called in the event of a crisis situation, they are also responsible for assigning any discipline that may be necessary, and they serve as the supervisor for staff who respond to the incident. This complicates their role and may lead to bias in the student's or staff's responses during the interactive COPING process. The school counselor would provide a neutral staff member to guide this process, leading to honest responses from the student and staff.

Study Limitations

A limitation of this study is the small sample size. The district of study is still in the process of recovering from COVID-19 social distancing restrictions. Throughout the pandemic, the school system ceased all in-person professional development, hindering the NVCI initial training and renewal process. This led to over 200 staff member certifications expiring. Once the COVID-19 training restrictions were lifted, the district of study still did not allow classroom teachers to be pulled for professional development. Due to substitute teacher shortages, teachers were not allowed to attend professional development. This limited the staff who were available to participate in certification training. Due to those two factors, there are currently only 36 NVCI-certified EC teachers in the district of study.

My role as the researcher should also be considered a limitation as bias may have influenced responses. During the implementation of the study, I served as one of the district's NVCI trainers, the Greenblatt Act trainer, and a coordinator for the EC department. Due to my roles within the district, I have an established relationship with all

the participants. It is possible that participants provided answers they thought I wanted to hear during the interview instead of answering the questions truthfully.

Another limitation of the study was the limited number of high school EC teachers who participated in the study. There were no high school teachers who were willing to participate in the interview portion of the study. There was only one EC teacher who currently works in the high school setting who completed the survey.

Study Delimitations

The delimitation of this study was that I chose to only survey and interview certified EC teachers. The population was limited to EC teachers because they are experts in educating students with disabilities. National, state, and local restraint data show that students with disabilities are subjected to restraints at a disproportionate rate. Perspectives from EC teachers and their experience and knowledge of intervening with students with disabilities could be beneficial in making improvements to the NVCI program. Other potential participants were considered but ultimately rejected, including the EC director, EC teacher assistants, general education teachers, related service providers, and school administrators. These participants were excluded from the study because I wanted to focus on the perspectives of EC teachers.

Recommendations for Further Research

This mixed methods study used the CIPP program evaluation as a framework to examine the effectiveness of the NVCI outcomes and implementation practices from the perception of EC teachers. There were 15 participants who completed an anonymous survey and 10 who completed the survey and a structured interview. During the data analysis process, it was evident that there are areas of opportunity for future research.

- An area of further research should be a similar study with a larger sample size. Of 36 potential participants, 15 choose to participate in this study. A larger sample size would provide more validity to the findings. Those findings could then be compared to the findings from this study. This could be accomplished by conducting this study in a larger school system.

- An additional recommendation for further research would be to focus on high school EC teacher perceptions of the program. There was only one high school teacher represented in this study. Perceptions of the program could be compared across school settings. This comparison could be beneficial in tailoring professional development to meet the needs of the teacher in the setting where they currently serve.

- Further research could focus on the perspectives of EC teachers who work in specialty or separate settings. Teachers who work in self-contained classrooms, separate schools, or alternative schools may have a different perspective on how to improve program implementation.

- Another area for further research could be a comparative study across school districts or states. The training and practices in this school district may differ from other school districts. A comparison study would provide useful data to establish best practices.

- Instead of examining the perceptions of EC teachers, a recommendation for further study would be to examine the perceptions from different stakeholder perspectives. School administrators are often the first respondents to situations of aggression or violence. Their input could be beneficial in improving the

outcomes or implementation of NVCI. The perspectives from leadership

within the EC department would also provide insightful data.

Conclusions

The overall perception is that the NVCI program is effective, according to EC

teachers. This study was conducted in a large suburban school district in the piedmont

region of North Carolina. Results from the context evaluations showed that teachers were

able to identify the need for the program and the overall objectives for its use. The input

or the professional development itself was also rated as effective, with the majority of

teachers rating the program training as very effective. The process evaluations concluded

that an overwhelming majority of the EC teachers followed the established processes for

response to the escalation, debriefing, and reporting requirements. The product evaluation

concluded that the teachers believe the de-escalation strategies are somewhat effective,

with the majority of the participants rating the program as effective. Participants can all

agree that NVCI is beneficial because it provides a framework of response for

intervening with dangerous behavior.

Despite the overall positive perceptions, data collected from the CIPP evaluation

phase of the NVCI program in the district of study have identified opportunities for

improvement. Based on survey and interview data, the input phase or professional

development component can be improved by having refresher training more frequently

and adding additional content in the area of communication strategies for individuals with

cognitive delays. The supplementation of case studies is also recommended to assist the

teachers in learning the context in which the interventions from NVCI should be applied.

The recommendation is also made that the district of study expands the number of staff

members currently trained to ensure the safety of school buildings. It is recommended that all EC teachers be trained based on the historical data indicating the increased likelihood of restraints being necessary.

An additional recommendation is a need for the district of study to prioritize the debriefing process following an incident. Data gathered from interviews concluded that the debriefing process does not occur with consistency. The COPING Model is the debriefing framework already incorporated within the NVCI program. It is recommended that the district of study find time to ensure that the debriefing process occurs in accordance with the COPING Model framework. Overall, the NVCI program is successful in meeting the desired outcomes for the district of study; the program provides staff with a framework of responses for verbal de-escalation and the safe use of physical restraints.

References

A.B. 1032, 2005 House Bill, 2005 Reg. Sess. (NC 2005).

    https://www.ncleg.net/Sessions/2005/Bills/House/HTML/H1032v2.html

Amos, P. A. (2004). New considerations in the prevention of aversives, restraint, and

    seclusion: Incorporating the role of relationships into an ecological perspective.

    Research and Practice for Persons with Severe Disabilities, *29*(4), 263–272.

    https://doi.org/10.2511/rpsd.29.4.263

Anuar, A., & Sadek, D. M. (2018). Validity test of lean healthcare using Lawshe's

    method. *International Journal of Supply Chain Management*, *7*(6), 197–203.

Aslan, S. (2018). *An examination of administrators', teachers', and school psychologists'*

    concerns about and perceptions of the implementation of multi-tiered system of

    supports across North Carolina (Order No. 10837288) [Doctoral dissertation, The

    University of North Carolina at Chapel Hill). ProQuest LLC.

Ayre, C., & Scally, A. J. (2014). Critical values for Lawshe's content validity ratio.

    Measurement and Evaluation in Counseling and Development, *47*(1), 79–86.

    https://doi.org/10.1177/0748175613513808

Barnett, R., Stirling, C., & Pandyan, A. D. (2012). A review of the scientific literature

    related to the adverse impact of physical restraint: Gaining a clearer

    understanding of the physiological factors involved in cases of restraint-related

    death. *Medicine, Science and the Law*, *52*(3), 137–142.

    https://doi.org/10.1258/msl.2011.011101

Blum, D. (2004). *Love at Goon Park: Harry Harlow and the science of affection.* Berkley

    Books.

Boston University Center for Teaching and Learning. (n.d.). *Using case studies to teach*. https://www.bu.edu/ctl/teaching-resources/using-case-studies-to-teach/

Bowers, L. (2014). A model of de-escalation. *Mental Health Practice, 17*(9), 36–37.

Bradshaw, C. P., Reinke, W. M., Brown, L. D., Bevans, K. B., & Leaf, P. J. (2008). Implementation of school-wide positive behavioral interventions and supports (PBIS) in elementary schools: Observations from a randomized trial. *Education and Treatment of Children*, *31*(1), 1–26. https://doi.org/10.1353/etc.0.0025

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2015). Examining variation in the impact of school-wide positive behavioral interventions and supports: Findings from a randomized controlled effectiveness trial. *Journal of Educational Psychology*, *107*(2), 546–557. https://doi.org/10.1037/a0037630

Butler, J. (2019). *How safe is the schoolhouse? An analysis of state seclusion and restraint laws and policies.* http://www.autcom.org/pdf/HowSafeSchoolhouse.pdf

Childs, K. E., Kincaid, D., George, H. P., & Gage, N. A. (2015). The relationship between school-wide implementation of positive behavior intervention and supports and student discipline outcomes. *Journal of Positive Behavior Interventions*, *18*(2), 89–99. https://doi.org/10.1177/1098300715590398

Civil Rights Data Collection. (n.d.-a). *2011-2012 State and national estimations*. https://ocrdata.ed.gov/assets/downloads/2011-2012/Restraint%20and%20Seclusion/by%20state/NC-Restraint-and-Seclusion.xlsx

Civil Rights Data Collection. (n.d.-b). *2013-2014 State and national estimations mechanical restraints*. https://ocrdata.ed.gov/assets/downloads/2013-2014/Mechanical-Restraint.xlsx

Civil Rights Data Collection. (n.d.-c). *2013-2014 State and national estimations physical restraints.* https://ocrdata.ed.gov/assets/downloads/2013-2014/Physical-Restraint.xlsx

Civil Rights Data Collection. (n.d.-d). *2013-2014 State and national estimations seclusion.* https://ocrdata.ed.gov/assets/downloads/2013-2014/Seclusion.xlsx

Civil Rights Data Collection. (n.d.-e). *2015-2016 State and national estimations mechanical restraints*. https://ocrdata.ed.gov/assets/downloads/2015-2016/Mechanical-Restraint.xlsx

Civil Rights Data Collection. (n.d.-f). *2015-2016 State and national estimations physical restraints.* https://ocrdata.ed.gov/assets/downloads/2015-2016/Physical-Restraint.xlsx

Civil Rights Data Collection. (n.d.-g). *2015-2016 State and national estimations seclusion.* https://ocrdata.ed.gov/assets/downloads/2015-2016/Seclusion.xlsx

Civil Rights Data Collection. (n.d.-h). *2017-2018 State and national estimations mechanical restraints*. https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_mech.xlsx

Civil Rights Data Collection. (n.d.-i). *2017-2018 State and national estimations physical restraints.* https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_phys.xlsx

Civil Rights Data Collection. (n.d.-j). *2017-2018 State and national estimations seclusion.* https://ocrdata.ed.gov/assets/downloads/2017-2018/Restraint-and-Seclusion/Restraint-and-Seclusion/Restraint-or-Seclusion.Students-under-IDEA-or-not_secl.xlsx

Colaizzi, J. (2005). Seclusion & restraint: A historical perspective. *Journal of Psychosocial Nursing and Mental Health Services*, *43*(2), 31–37. https://doi.org/10.3928/02793695-20050201-07

Colomer, C., Berenguer, C., Roselló, B., Baixauli, I., & Miranda, A. (2016). The impact of inattention, hyperactivity/impulsivity symptoms, and executive functions on learning behaviors of children with ADHD. *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2017.00540

Cowan, N. (2015). George Miller's magical number of immediate memory in retrospect: Observations on the faltering progression of science. *Psychological Review, 122*(3), 536–541. https://doi.org/10.1037/a0039035

Crick, N., & Dodge, K. (1996). *Social information-processing mechanisms in reactive and proactive aggression*. Child Development. https://pubmed.ncbi.nlm.nih.gov/8706540/

Crisis Prevention Institute. (2006). *Instructor manual for the nonviolent crisis intervention training program.* Author.

Crisis Prevention Institute. (2015). *6 Considerations on how often your organization should train.*

https://www.crisisprevention.com/CPI/media/Media/Resources/research/6-Considerations-On-How-Often-Your-Organization-Should-Train.pdf

Crisis Prevention Institute. (2020). *CPI nonviolent crisis intervention training instructor guide* (2nd ed.)*. Author.

Crisis Prevention Institute. (2021). *De-escalate crisis before it gets physical.* Author. https://www.crisisprevention.com/

Crisis Prevention Institute. (2022). *About us: Crisis prevention institute (CPI).* Author. Retrieved May 30, 2022, from https://www.crisisprevention.com/en-IE/About-Us

DeVos, B., & Richey, K. M. (2020). 2017-18 Civil rights data collection the use of restraint and seclusion on children with disabilities in k-12 schools1–15. U.S. Department of Education Office of Civil Rights.

Diamond, A. (2014). Executive functions: Insights into ways to help more children thrive. *Zero to Three,* 9–17.

Disability Rights North Carolina. (2021, May 14). *Seclusion and restraint in schools*. DRNC. https://disabilityrightsnc.org/resources/seclusion-and-restraint-in-schools/

Disability Rights North Carolina. (2022, March 14). *Carolina legal assistance and Deborah Greenblatt.* https://disabilityrightsnc.org/mission-history/carolina-legal-assistance-and-deborah-greenblatt/

Dix, R., Page, M. J. (2008). De-escalation. In M. D. Beer, S. M. Pereira, & C. Paton (Eds), *Psychiatric intensive care* (2nd ed.). Cambridge University Press, 2008.

ETSU Center for Teaching Excellence. (2022, July 12). *Information processing theory*. https://www.etsu.edu/teaching/resources/more_resources/info_process_theory.php

Farmer, T. W., Lane, K. L., Lee, D. L., Hamm, J. V., & Lambert, K. (2012). The social functions of antisocial behavior: Considerations for school violence prevention strategies for students with disabilities. *Behavioral Disorders*, *37*(3), 149–162. https://doi.org/10.1177/019874291203700303

French, D. D., & Wojcicki, C. A. (2017). Restraint and seclusion: Frequency, duration, and rate of injury for students with emotional and behavioral disorders. *School Mental Health*, *10*(1), 35–47. https://doi.org/10.1007/s12310-017-9240-5

Gage, N. A., Pico, D. L., & Evanovich, L. (2020). National Trends and school-level predictors of restraint and seclusion for students with disabilities. *Exceptionality*, 1–13. https://doi.org/10.1080/09362835.2020.1727327

Gagnon, D. J., Mattingly, M. J., & Connelly, V. J. (2017). The restraint and seclusion of students with a disability: Examining trends in U.S. school districts and their policy implications. *Journal of Disability Policy Studies*, *28*(2), 66–76. https://doi.org/10.1177/1044207317710697

Gilbert, G. E., & Prion, S. (2016). Making sense of methods and measurement: Lawshe's content validity index. *Clinical Simulation in Nursing*, *12*(12), 530–531. https://doi.org/10.1016/j.ecns.2016.08.002

Hallett, N. (2018, February 21). *Preventing and managing challenging behaviour*. https://journals.rcni.com/nursing-standard/preventing-and-managing-challenging-behaviour-aop-ns.2018.e10969

Hallett, N., & Dickens, G. L. (2017). De-escalation of aggressive behavior in healthcare settings: Concept analysis. *International Journal of Nursing Studies*, *75*, 10–20. https://doi.org/10.1016/j.ijnurstu.2017.07.003

Harkin, T. (2014). *Dangerous use of seclusion and restraints in schools remains widespread and difficult to remedy: A review of ten cases.* U.S. Senate. https://files.eric.ed.gov/fulltext/ED544755.pdf

Hawkinson, T. (2012, May). De-escalation techniques for students with emotional and behavioral disorders [Masters thesis, University of Wisconsin-Superior]. https://minds.wisconsin.edu/bitstream/handle/1793/61074/Tara.pdf?sequence=1&isAllowed=y

Hayes, L., & Lillenstein, J. (2015, February). *A framework for coherence: College and career readiness standards, multi-tiered systems of support and educator effectiveness*. Center on Great Teachers and Leaders at American Institute for Research, Special Issues Brief. https://files.eric.ed.gov/fulltext/ED558028.pdf

Healy, S. J., Murray, L., Cooper, P. J., Hughes, C., & Halligan, S. L. (2013). A longitudinal investigation of maternal influences on the development of child hostile attributions and aggression. *Journal of Clinical Child & Adolescent Psychology*, *44*(1), 80–92. https://doi.org/10.1080/15374416.2013.850698

Howe, T. (2020). *An examination of the impact of crisis intervention training on student behavior and staff perception of crisis intervention training* (Order No. 27832303) [Doctoral dissertation, Missouri Baptist University]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Independent Advisory Panel on Deaths in Custody. (2012, February). *End of term report 2012.* https://www.insidetime.org/wp-content/uploads/resources/Publications/IAP-end-of-term-report-Feb-2012.pdf

Individuals With Disabilities Education Act. (2020, November 24). *A history of the individuals with disabilities education act*. https://sites.ed.gov/idea/IDEA-History

International Journal of Research. (2019, December 18). *Information processing theory and impact on learning*. https://internationaljournalofresearch.com/2019/12/18/information-processing-theory-and-impact-on-learning/

Jones, N. L., & Feder, J. (2010, October 14). *The use of seclusion and restraint in public schools: The legal issues.* Congressional Research Service. https://fas.org/sgp/crs/misc/R40522.pdf

Kaplan, S. G., & Wheeler, E. G. (1983). Survival skills for working with potentially violent clients. *Social Casework*, *64*(6), 339–346. https://doi.org/10.1177/104438948306400603

Katsiyannis, A., Gage, N. A., Rapa, L. J., & MacSuga-Gage, A. S. (2020). Exploring the disproportionate use of restraint and seclusion among students with disabilities, boys, and students of color. *Advances in Neurodevelopmental Disorders*, *4*(3), 271–278. https://doi.org/10.1007/s41252-020-00160-z

Katsiyannis, A., & Smith, C. R. (2003). Disciplining students with disabilities: Legal trends and the issue of interim alternative education settings. *Behavioral Disorders, 28*(4), 410–418. https://doi.org/10.1177/019874290302800403

Kenworthy, L., Anthony, L. G., Naiman, D. Q., Cannon, L., Wills, M. C., Luong-Tran, C., Werner, M. A., Alexander, K. C., Strang, J., Bal, E., Sokoloff, J. L., & Wallace, G. L. (2013). Randomized controlled effectiveness trial of executive function intervention for children on the autism spectrum. *Journal of Child Psychology and Psychiatry*, *55*(4), 374–383. https://doi.org/10.1111/jcpp.12161

Kim, J., McIntosh, K., Mercer, S. H., & Nese, R. N. (2018). Longitudinal associations between SWPBIS fidelity of implementation and behavior and academic outcomes. *Behavioral Disorders*, *43*(3), 357–369. https://doi.org/10.1177/0198742917747589

Kirpatrick, A. J. (2019). *The impact student behavior has on learning* [Masters thesis, Northwestern University]. NWCommons. https://nwcommons.nwciowa.edu/cgi/viewcontent.cgi?article=1147&context=education_masters

Kutz, G. D. (2009). *Seclusions and restraints: Selected cases of death and abuse at public and private schools and treatment centers*. U.S. Government Accountability Office. https://www.gao.gov/assets/gao-09-719t.pdf

Lavelle, M., Stewart, D., James, K., Richardson, M., Renwick, L., Brennan, G., & Bowers, L. (2016). Predictors of effective de-escalation in acute inpatient psychiatric settings. *Journal of Clinical Nursing*, *25*(15-16), 2180–2188. https://doi.org/10.1111/jocn.13239

Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, *28*(4), 563–575. https://doi.org/10.1111/j.1744-6570.1975.tb01393.x

LeBel, J., Nunno, M. A., Mohr, W. K., & O'Halloran, R. (2012). Restraint and seclusion use in US school settings: Recommendations from allied treatment disciplines. *American Journal of Orthopsychiatry*, *82*(1), 75.

Macias-Smith, N. (2012). *Prevention and reduction of restraint and seclusion in public schools: A comprehensive approach* (Order No. 3540762) [Doctoral thesis, Northeastern University]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Magalhaes, A. M. (2013). *Exploring effective strategies for developing executive functioning skills within an early childhood classroom* (Order No. 3608343) [Doctoral thesis, Northeastern University]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Maier, G. J. (1996). Managing threatening behavior: The role of talk down and talk up. *Journal of Psychosocial Nursing and Mental Health Services*, *34*(6), 25–30. https://doi.org/10.3928/0279-3695-19960601-07

Malti, T., Ribeaud, D., & Eisner, M. P. (2011). The effectiveness of two universal preventive interventions in reducing children's externalizing behavior: A cluster randomized controlled trial. *Journal of Clinical Child & Adolescent Psychology*, *40*(5), 677–692. https://doi.org/10.1080/15374416.2011.597084

Marlowe, A. (2021). Multi-tiered system of supports: A case study examining effective MTSS implementation at the middle school level. *Doctor of Education Dissertations*, 36. https://digitalcommons.gardner-webb.edu/education-dissertations/36

Martinez, R. J., Grimm, M., & Adamson, M. (1999). From the other side of the door:

    Patient views of Seclusion. *Journal of Psychosocial Nursing and Mental Health*

    Services, *37*(3), 13–22. https://doi.org/10.3928/0279-3695-19990301-14

Masters, K. J. (2017). Physical restraint: A historical review and current practice.

    Psychiatric Annals, *47*(1), 52–55. https://doi.org/10.3928/00485713-20161129-01

Mayers, P., Keet, N., Winkler, G., & Flisher, A. J. (2010). Mental health service users'

    perceptions and experiences of sedation, seclusion and restraint. *International*

    Journal of Social Psychiatry, *56*(1), 60–73.

    https://doi.org/10.1177/0020764008098293

Michigan Department of Education Office of Special Education. (2022a, February).

    Functional behavior assessment (FBAs). Family Matters.

    https://www.michigan.gov/-

    /media/Project/Websites/mde/specialeducation/familymatters/FM1/FBA_FactShe

    et.pdf?rev=a0d160212fdb4cd0ba4046c15e73a834

Michigan Department of Education Office of Special Education. (2022b, February).

    When a BIP may be needed. Family Matters. https://www.michigan.gov/-

    /media/Project/Websites/mde/specialeducation/familymatters/FM1/BIP_FactShee

    t.pdf?rev=6dc5853e921640a0b15200d6facadfd8

Mohr, W. K., Petti, T. A., & Mohr, B. D. (2003). Adverse effects associated with

    physical restraint. *The Canadian Journal of Psychiatry*, *48*(5), 330–337.

    https://doi.org/10.1177/070674370304800509

National Disability Rights Network. (2012). (rep.). *School is not supposed to hurt*.

    https://www.ndrn.org/images/Documents/Resources/Publications/Reports/School

    _is_Not_Supposed_to_Hurt_3_v7.pdf

National University Library. (n.d.). Research process. Retrieved September 6, 2022, from

    https://resources.nu.edu/researchprocess/theoreticalframeworks

Nidhimura, C. F. (2011). Eliminating the use of restraint and seclusion against students

    with disabilities. *Texas Journal on Civil Liberties & Civil Rights, 16*(2), 189.

Nielson, S. (2021). *What children tell us about their experiences of being physically*

    restrained in inpatient child and adolescent mental health services: An

    interpretative phenomenological analysis [Doctoral thesis, Edge Hill University].

    https://research.edgehill.ac.uk/ws/portalfiles/portal/49559420/Simon_Nielson_Ph

    D_Thesis.pdf

North Carolina Department of Public Instruction. (n.d.). *What is NC MTSS*.

    https://www.dpi.nc.gov/media/10282/open

North Carolina Department of Public Instruction. (2017, January 30). *Multi-Tiered*

    System of Support: Tiers of Support.

    https://content.govdelivery.com/accounts/NCSBE/bulletins/183de9d

Nunno, M. A., McCabe, L. A., Izzo, C. V., Smith, E. G., Sellers, D. E., & Holden, M. J.

    (2021). A 26-year study of restraint fatalities among children and adolescents in

    the United States: A failure of organizational structures and Processes. *Child &*

    Youth Care Forum, *51*(3), 661–680. https://doi.org/10.1007/s10566-021-09646-w

Paterson, B., & Leadbetter, D. (1995). *De-escalating aggressive behaviour.* In B. Kidd & C. Stark (Eds.), *Management of violence and aggression in health care* (pp. 49-83)*.* Gaskell/Royal College of Psychiatrists.

Patrick, B. J. (2022, March 18). *5 ways to help neurodiverse students improve executive function skills*. Edutopia. https://www.edutopia.org/article/5-ways-help-neurodiverse-students-improve-executive-function-skills

Peterson, R. & Skiba, R. (2003). *Physical restraint*. Emergency or Crisis Planning and Preparation for Violence and Inappropriate Behavior. https://k12engagement.unl.edu/Physical%20Restraint%20Word%2011-24-03.pdf

Petrasek, M., James, A., Noltemeyer, A., Green, J., & Palmer, K. (2021). Enhancing motivation and engagement within a PBIS Framework. *Improving Schools, 25*(1), 37–51. https://doi.org/10.1177/13654802211002299

Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, *30*(4), 459–467. https://doi.org/10.1002/nur.20199

Rakhmatullina, M., Taub, A., & Jacob, T. (2013). Morbidity and mortality associated with the utilization of restraints. *Psychiatric Quarterly*, *84*(4), 499–512. https://doi.org/10.1007/s11126-013-9262-6

Redl, F., & Wineman, D. (1965). *Controls from within Techniques for the treatment of the aggressive child*. The Free Press.

Rochefort, C. M., Ward, L., Ritchie, J. A., Girard, N., & Tamblyn, R. M. (2011). Patient and nurse staffing characteristics associated with high sitter use costs. *Journal of Advanced Nursing*, *68*(8), 1758–1767. https://doi.org/10.1111/j.1365-2648.2011.05864.x

Ryan, J. B., & Peterson, R. L. (2004). Physical restraint in school. *Behavioral Disorders*, *29*(2), 154–168. https://doi.org/10.1177/019874290402900206

Scheuermann, B., Peterson, R., Ryan, J. B., & Billingsley, G. (2016). Professional practice and ethical issues related to physical restraint and seclusion in schools. *Journal of Disability Policy Studies*, *27*(2), 86–95. https://doi.org/10.1177/1044207315604366

Shulman, A. (2020, February 27). *Mitigating workplace violence via es-escalation training*. IAHSSF. https://iahssf.org/research/mitigating-workplace-violence-via-de-escalation-training/3/

Simonsen, B., Eber, L., Black, A. C., Sugai, G., Lewandowski, H., Sims, B., & Myers, D. (2012). Illinois statewide positive behavioral interventions and supports. *Journal of Positive Behavior Interventions*, *14*(1), 5–16. https://doi.org/10.1177/1098300711412601

Steckley, L., & Kendrick, A. (2008). Physical restraint in residential childcare. *Childhood*, *15*(4), 552–569. https://doi.org/10.1177/0907568208097207

Stewart, D. J. (2010). *Restraint and seclusion in American public schools: developing principles of appropriate use and identifying corresponding legal provisions* (Order No. 3432990) [Doctoral dissertation, The University of Minnesota]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Strunk, L., & Houlihan, D. (2017). Seclusion and restraint policy and practice: Are students safe in school? *Journal of Pediatrics Medicine and Care*, *1*(1), 14–22. https://cornerstone.lib.mnsu.edu/sowk_fac_pubs/36/

Stufflebeam, D. (1968). *Evaluation as enlightenment for decision-making*. The Ohio State University.

Stufflebeam, D., & Coryn, C. L. S. (2014). *Evaluation theory, models, and applications*. Jossey-Bass & Pfeiffer Imprints, Wiley.

Suarez, L. (2017). Restraints, seclusion, and the disabled student: The blurred lines between safety and physical punishment. *University of Miami Law Review*, *71*(3), 859.

Townshend, C. L. (2021). *Vermont special educators' perceptions on the inclusion of students with disabilities in universal positive behavioral interventions and supports (PBIS)* (Order No. 28417574) [Doctorate dissertation, The University of Vermont]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Tracy, S. J. (2020). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact* (2nd ed.). Wiley-Blackwell.

Turnbull, H. R., Wilcox, B. L., Stowe, M., & Turnbull, A. P. (2001). IDEA requirements for use of PBS. *Journal of Positive Behavior Interventions*, *3*(1), 11–18. https://doi.org/10.1177/109830070100300103

Turnbull, J., Aitken, I., Black, L., & Patterson, B. (1990). Turn it around: Short-term management for aggression and anger. *Journal of Psychosocial Nursing and Mental Health Services*, *28*(6), 6–9. https://doi.org/10.3928/0279-3695-19900601-04

U.S. Commission on Civil Rights. (2019, July). *Beyond suspensions: Examining school discipline policies and connections to the school-to-prison pipeline for students of color with disabilities.* https://www.usccr.gov/files/pubs/2019/07-23-Beyond-Suspensions.pdf

U.S. Department of Education. (2012, May 15). *Restraint and seclusion: Resource document*. https://www2.ed.gov/policy/seclusion/restraint-and-seclusion-resource-document.html

U.S. Department of Education. (2022, March 18). *A history of the individuals with disabilities education act*. https://sites.ed.gov/idea/IDEA-History#1980s-90s

U.S. Department of Education Office of Civil Rights. (2016). *Dear colleague letter: Restraint and seclusion of students*. https://www2.ed.gov/about/offices/list/ocr/letters/colleague-201612-504-restraint-seclusion-ps.pdf

Vanderbilt University Center for Teaching. (2023). *Case studies*. https://cft.vanderbilt.edu/guides-sub-pages/case-studies

Villani, V. S., Parsons, A. E., Church, R. P., & Beetar, J. T. (2011). A descriptive study of the use of restraint and seclusion in a special education school. *Child & Youth Care Forum*, *41*(3), 295–309. https://doi.org/10.1007/s10566-011-9165-3

Walsh, R. J. (2010). *School response to violence: A case study in developing crisis response teams* (Order No. 3408495). [Doctorate dissertation, Edgewood College]. ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.

Wayne RESA. (2022). *Three-tiered model of positive behavioral interventions and support*. PBIS. https://www.resa.net/teaching-learning/pbis

Weiss, E. M. (1998a, October 11). Deadly restraint: A five part series. *Hartford Courant*, pp. A1–A13.

Weiss, E. M. (1998b, October 11). *Hundreds of the nation's most vulnerable have been killed by the system intended to care for them.* Hartford Courant. https://www.courant.com/news/connecticut/hc-xpm-1998-10-11-9810090779-story.html

Wolfel, C. S. (2018). *Preparing school professionals to manage high-risk behaviors of students* (Order No. 10788621) [Doctorate dissertation, Delaware Valley University]. ProQuest Central; ProQuest Dissertations & Theses Global: The Humanities and Social Sciences Collection.