

COPE: EVALUATION OF A SCHOOL-BASED INTERVENTION TO IMPROVE THE
OVERALL MENTAL HEALTH, RESILIENCY, AND SOCIAL-EMOTIONAL
DEVELOPMENT OF RURAL NORTH DAKOTA ADOLESCENT YOUTH

A Dissertation
Submitted to the Graduate Faculty
of the
North Dakota State University
of Agriculture and Applied Science

By

Jessica Rae Lindblom

In Partial Fulfillment of the Requirements
for the Degree of
DOCTOR OF NURSING PRACTICE

Major Department:
Nursing
Option: Family Nurse Practitioner

March 2017

Fargo, North Dakota

North Dakota State University
Graduate School

Title

COPE: EVALUATION OF A SCHOOL-BASED INTERVENTION TO
IMPROVE THE OVERALL MENTAL HEALTH, RESILIENCY, AND
SOCIAL-EMOTIONAL DEVELOPMENT OF RURAL NORTH
DAKOTA ADOLESCENT YOUTH

By

Jessica Rae Lindblom

The Supervisory Committee certifies that this *disquisition* complies with North Dakota
State University's regulations and meets the accepted standards for the degree of

DOCTOR OF NURSING PRACTICE

SUPERVISORY COMMITTEE:

Molly Secor-Turner PhD, MS, RN

Chair

Mykell Barnacle, DNP, FNP-BC

Kathryn Gordon, PhD

Heidi Saarinen DNP, FNP-C

Approved:

3/31/2017

Date

Carla Gross PhD, MS, RN

Department Chair

ABSTRACT

Approximately one in every four to five adolescent youth are affected by anxiety or depression yet fewer than 25% of adolescent youth are getting the mental health treatment they need (Foy, 2010). Without the ability to manage stress and cope effectively many youth are plagued with life-long disability. Researchers hypothesize that the underdevelopment of areas of the pre-frontal cortex and limbic systems during adolescence may render teens less able to successfully regulate emotions placing them at greater risk for anxiety, depression, and stress disorders (Ahmed, Bittencourt-Hewitt, & Sebastian, 2015). Due to the brain development that occurs during adolescence, research has suggested that teens may have a heightened propensity for learning and flexibility. Adolescence, therefore, may be a critical phase for the development of emotional regulation strategies and positive coping skills (Ahmed et al, 2015).

The purpose of this practice improvement project was to implement and evaluate an evidence-based mental health prevention and treatment program, Creating Opportunities for Personal Empowerment (COPE), focused on the development of healthy behaviors and positive coping skills to improve the mental health and resiliency of rural North Dakota youth.

The COPE program was offered to students at Wahpeton High School in Wahpeton, ND. COPE, a previously developed, seven-session, cognitive behavioral therapy skills building intervention was offered to eligible and interested students once weekly for seven weeks. Pre-and post-program evaluations, surveys, and screening tools were administered; prior to beginning the first session and immediately following the final session to ensure completion.

Although not statistically significant, participant and facilitator feedback of the COPE intervention was encouraging. More than half of the participants showed improvement in depression and anxiety scores from baseline, and all participants reported newly learned skills for

managing thoughts, feelings, and behaviors in response to stress. Reviews of the program by participants were positive, with most students indicating that they would recommend the program to other students. Based on results of the evaluation, the COPE program has the potential to be an effective program and is well-accepted in helping to improve the mental health and resiliency of rural North Dakota youth.

ACKNOWLEDGEMENTS

I have been blessed with the support and guidance of many individuals in the completion of this practice improvement project. First and foremost, I would like to thank my dissertation chairperson, Dr. Molly Secor-Turner, for her continual support and guidance throughout this project. Her expertise and passion for adolescent health has had immeasurable influence in the success of this project. I would also like to thank my dissertation committee: Dr. Mykell Barnacle, Dr. Kathryn Gordon, and Dr. Heidi Saarinen for their expertise and advice throughout the project.

I owe a huge thank you to the staff and students at Wahpeton High School for participating in this practice improvement project. Without the help, support and dedication from Principal Ned Clooten and High School Counselor Leslie Lemke this project would not have been possible.

Lastly, thank you to the South East Education Cooperative for you continued support of the students and staff at Wahpeton High School and for your generous monetary contribution which made it possible to bring COPE to the students at Wahpeton High School.

DEDICATION

I dedicate the completion of this project to my amazing family for their unwavering support and confidence in me. Their support and confidence has given me the motivation and confidence needed to succeed in the completion of my graduate studies. I know that with their love and support there is no challenge too grand to accomplish.

TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	v
DEDICATION.....	vi
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
LIST OF APPENDIX TABLES.....	xiii
CHAPTER ONE. INTRODUCTION.....	1
Clinical Problem.....	3
Project Purpose.....	4
Project Description.....	4
Project Objectives.....	5
CHAPTER TWO. REVIEW OF LITERATURE & THEORETICAL FRAMEWORK.....	7
Review of Literature.....	7
Methods.....	7
Results.....	8
Screening and Treatment Recommendations.....	8
Barriers to Mental Health Services.....	9
Academic Impact and School.....	11
School-Based Mental Health Services.....	12
Prevention.....	13
Cognitive Behavioral Therapy.....	14
Implications for the Nurse Practitioner.....	19
Theoretical Framework.....	20
CHAPTER THREE. METHODS.....	24

Project Design.....	24
Project Implementation.....	24
Staff Training.....	24
Recruitment.....	25
Sample.....	26
Delivery.....	27
Protection of Human Subjects	28
Data Collection	29
CHAPTER FOUR. EVALUATION.....	30
Outcomes Evaluation	32
Process Evaluation	33
Participant Feedback.....	34
Facilitator Feedback.....	34
Framework for Evaluation	35
CHAPTER FIVE. RESULTS.....	36
Participants.....	36
Outcomes Data.....	37
Objective 1. Improve depression and anxiety scores from baseline.....	37
Objective 2. Improve teens’ knowledge and ability to recognize patterns of thinking, feeling and behaving in response to stress.....	42
Objective 3. Teens will gain skills needed to manage thoughts, feelings, and behaviors	43
Process Evaluation Data	44
Objective 4. Determine the acceptability and feasibility of administering COPE in a rural North Dakota high school	45
CHAPTER SIX. DISCUSSION AND RECOMMENDATIONS	50

Interpretation of Results.....	50
Reach.....	50
Efficacy.....	51
Adoption.....	53
Implementation.....	55
Maintenance.....	55
Limitations.....	55
Recommendations.....	57
Implications for Practice.....	58
Implications for Future Research.....	59
Application to Other DNP Roles.....	59
Conclusion.....	60
REFERENCES.....	62
APPENDIX A: PERMISSION TO USE COPE.....	71
APPENDIX B. RECRUITMENT LETTER.....	72
APPENDIX C. PARENTAL CONSENT FORM.....	73
APPENDIX D. YOUTH ASSENT FORM.....	77
APPENDIX E. IRB APPROVAL.....	80
APPENDIX F. PARTICIPANT DEMOGRAPHICS.....	81
APPENDIX G. PHQ-9 DEPRESSION SCREENING TOOL.....	83
APPENDIX H. GAD-7 ANXIETY SCREENING TOOL.....	84
APPENDIX I. PARTICIPANT FEEDBACK FORM.....	85
APPENDIX J. FACILITATOR FEEDBACK FORM.....	87
APPENDIX K. EXECUTIVE SUMMARY.....	89
Introduction.....	89

Project Purpose	89
Project Description.....	89
Results.....	90
Recommendations.....	93
Implications for Further Research	93
Implications for Practice	93
Conclusion	94

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.	Participant Demographics	27
2.	Evaluation of Project Objectives	31
3.	PHQ-9 Depression Scores	39
4.	GAD-7 Anxiety Scores.....	41
5.	Participant Report of Learned and Utilized Skills.....	44
6.	Participant Feedback Data.....	46

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Theoretical Framework	21
2.	Logic Model	23

LIST OF APPENDIX TABLES

<u>Table</u>		<u>Page</u>
K1.	PHQ-9 Depression Scores	91
K2.	GAD-7 Anxiety Scores.....	92
K3.	Participant Feedback Data.....	92

CHAPTER ONE. INTRODUCTION

Adolescence is a challenging and stress-inducing period of development for many youth. Adolescence marks a period of rapid and progressive transformational changes involving biological, psychological, social, and cognitive transformations designed to help the individual progress through adolescence and prepare for adulthood (Katzman & Neinstein, 2012). These rapid, progressive, and transformational changes often create stress for youth as they learn to navigate changing relationships with peers, new demands at school, family tensions, and other issues like poverty, loss, and violence. How adolescents manage these stressors can have a significant impact on their physical and emotional health. Difficulties in managing stress can lead to a number of mental health problems, including depression and anxiety.

Depression and anxiety are among some of the most common disorders to emerge during adolescence with a median age of onset between 11 and 13 years of age (Merikangas et al., 2010). Without the ability to manage stress and cope effectively many youth are plagued with long-term disability. For example, a national prevalence survey of mental health disorders in U.S. adolescents found that one in every four to five adolescent youth has a mental health disorder, such as depression or anxiety, which would impair his or her ability to function effectively throughout the course of their lifetime (Merikangas et al., 2010). Furthermore, approximately forty percent of teens who met the criteria for one disorder, such as depression or anxiety, had a co-morbidity for at least one other mental health disorder like obsessive compulsive disorder or attention deficit disorder (Merikangas et al., 2010). The impact of mental health disorders on adolescent youth is significant. Studies suggest that adolescents with depression are six to twelve times more likely to have anxiety, four to eleven times more likely to have a disruptive behavior disorder, and three to six times more likely to have a substance

abuse problem compared to their non-depressed peers (Thapar, Collishaw, Pine, & Thapar, 2012).

Adolescent youths' ability to function at home, in school, and in social settings is often significantly impaired in the presence of depression and anxiety as well. Studies have shown that teens suffering from conditions like depression and anxiety are typically in poorer physical and mental health than their peers and may be more likely to engage in risky behaviors like substance abuse, unsafe sexual activity, fighting, and weapon carrying (Ozer et al., 2009). The risk of suicide and suicide attempts among depressed adolescents is also significantly higher than that of their non-depressed peers, especially when youth are devoid of effective coping skills and strategies to manage stress. According to the CDC National Vital Statistics report, suicide remains the second leading cause of death for youth between the ages of 10 and 24 years of age (Heron, 2016). Additionally, up to 90% of teens who died by suicide were suffering from a mental disorder, usually depression, at the time of their death (National Institute for Health Care Management [NIHCM], 2010).

North Dakota youth are not excluded from these statistics. In North Dakota suicide is the second leading cause of death among adolescent youth. For every 100,000 North Dakota youth, 9.9 committed suicide between the years 2006 and 2010 (North Dakota Department of Health, 2011). Despite unsurmountable data demonstrating the associated morbidity and mortality related to depression and anxiety amongst teens, rates of depression and suicide have continued to rise. According to the CDC's Youth Risk Behavior Survey the percentage of American teens who reported that they felt sad or hopeless has steadily increased since 2009. Survey results also found increasing rates in the number of adolescent youth who: seriously considered suicide; made a plan about how they would attempt suicide; attempted suicide; and attempted suicide that

resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse (Centers for Disease Control and Prevention [CDC], 2015).

When coupled with the stress that teens experience during the transformational changes that occur during adolescence, depression, anxiety, and other mental health disorders have the potential to dramatically affect the overall health and development of adolescent youth when healthy coping skills and behaviors are not in place. Consequently, adolescence is a critical time for the development of life-long behaviors and healthy coping mechanisms. Access to health services and other sources of information that help adolescents learn healthy behaviors and coping mechanisms is essential to health promotion during this period of development.

Clinical Problem

Even though depression and anxiety are the most common mental health disorders among adolescents, with over a fourth of adolescent youth affected, adolescents are not receiving the evidence-based mental health services that they require (National Research Council & Institute of Medicine, 2009 and Rushton, Forcier, & Schecktmann, 2002). According to Foy (2010), fewer than 25% of adolescent youth are getting the mental health treatment that they need due to mental health provider shortages, access issues in rural communities, and other barriers to care such as stigma and financial resources. Of those who do receive treatment, approximately 28-75% of teens and families terminate treatment prematurely, typically after only 1-2 mental health visits (De Haan, Boon, De Jong, Hoeve, & Vermeiren, 2013). In a survey conducted among North Dakota youth, 27.6% of children who needed mental health services did not receive the treatment that they required (National Survey of Children's Health [NSCH], 2007).

In order to meet the growing mental health needs for adolescents it is estimated that approximately 30,000 adolescent psychiatrists are needed, but currently there are only about

7,000 in practice (Aupont et al., 2013). Adolescents residing in rural communities face even greater challenges in receiving the evidence-based mental health services that they require. In rural settings, access to mental health providers is even more limited, with only about 60% of rural U.S counties reporting having access to adolescent specialty mental health services (Cummings, Wen, & Druss, 2013). In North Dakota, it is estimated that more than 22,000 youth face mental health challenges, yet North Dakota is in a state of crisis in regards to access to mental health services due to severe service shortages (Canady, 2015).

Project Purpose

The key to health promotion among adolescents, especially those with anxiety, depression, and other mental illness, is timely access to mental health services and other sources of information designed help adolescents learn healthy behaviors and coping mechanisms. This practice improvement project focuses on identifying barriers to the provision of adolescent mental health services as well as identifying evidence-based solutions that can be used to improve the mental health and resiliency of North Dakota youth. The goal of this practice improvement project is to implement and evaluate an evidence-based mental health prevention and treatment program that focuses on the development of healthy behaviors and positive coping skills designed to ultimately improve the mental health and resiliency of rural North Dakota youth.

Project Description

This practice improvement project will evaluate the efficacy and feasibility of implementing COPE, a mental health pilot program designed to improve the mental health and resiliency of students at Wahpeton High School. Creating Opportunities for Personal Empowerment (COPE) is an evidence-based mental health prevention and treatment program

designed specifically for teens. The program is a manual-based, seven-session program that is delivered once weekly for seven weeks. COPE is designed to assist teens in reducing negative thoughts, increasing healthy behaviors, and improving communications and problem-solving skills. Each session can be delivered in brief 25- 30 minute sessions making it an ideal program for implementation in high school settings (Melnik, Kelly, & Lusk, 2014).

Wahpeton High School was chosen as the study site for this pilot project due to reported shortages in mental health resources in this community. School staff reported struggles with meeting the mental health needs of students and reported an ongoing search for an evidence-based mental health tool that could be utilized in the school setting and feasibly replicated in other rural North Dakota schools. High school staff recognized the COPE program as a potential solution for the mental health needs faced by Wahpeton youth and agreed to pilot the COPE program for this practice improvement project.

Project Objectives

The goal of this practice improvement project was to evaluate the success and efficacy of the Creating Opportunities for Personal Empowerment (COPE) program at Wahpeton High School and to determine if it is a program that can be reasonably replicated in other ND schools.

The overall objectives for the dissertation include:

- Educating school personnel on the evidence-based COPE program;
- Implementing and delivering the COPE program in a rural North Dakota high school; and
- Contributing to improving access to and the delivery of mental health resources for adolescent youth in rural North Dakota.

Objectives specific to evaluation of the COPE program include:

1. Improvement in depression and anxiety scores from baseline.

2. Improvement in knowledge and ability to recognize patterns of thinking, feeling and behaving in response to stress; and
3. Acquisition of skills to manage thoughts, feelings, and behaviors.

Data were also collected evaluating the format, feasibility and acceptability of the program in an effort to determine if it was a methodology preferred by participants and school staff and if it could be easily be replicated in other rural ND schools. Therefore, the fourth outcome for this projects was to:

4. Determine the acceptability and feasibility of administering COPE in a rural North Dakota high school based on:

- a. Student satisfaction with

- Length and format of sessions
- Location of sessions
- Perception of overall usefulness of the program

- b. Facilitator satisfaction with:

- Training
- The ease and feasibility of administering the COPE program
- The extent to which the program positively influences teens skills building strategies for managing general stress, depression, and anxiety
- Perception of overall usefulness of the program

CHAPTER TWO. REVIEW OF LITERATURE & THEORETICAL FRAMEWORK

Review of Literature

The following integrative literature review synthesizes current information about various components of adolescent mental health, coping, and resilience. Both qualitative and quantitative studies were examined in the effort to obtain a well-rounded view of the subject. The review was conducted to determine what is known about adolescent mental health including prevention, screening and treatment recommendations, barriers to the provision of mental health services, the role schools play in identifying and treating adolescents with mental health challenges, and any implications for nurse practitioners.

Methods

Literature from a variety of sources was examined to gain a broad overview of adolescent mental health. Sources were carefully evaluated to determine relevancy to the topic. Key search terms that guided the review included: *adolescent, mental health, depression, anxiety, nurse practitioner, school-based mental health services, rural adolescent health, adolescent mental health treatment, resilience, coping, and cognitive behavioral therapy*. The databases of CINAHL, PubMed (MEDLINE), and OVID were searched utilizing the following criteria:

- Literature published between the years of 2005-2017;
- Literature featured in a peer-reviewed journal;
- Written in the English language;
- Full text available for viewing;
- Information relevant to adolescent youth.

Exclusion criteria consisted of the following:

- Information pertinent strictly to adult and/or geriatric mental health

Results

The database search yielded thousands of articles relevant to adolescent mental health. Search results were narrowed to include articles focusing on protective and preventive factors, barriers to the provision of mental health services and recommendations for the treatment of adolescent depression and anxiety. The following literature review organizes information into categories pertinent to adolescent mental health including screening and treatment recommendations, prevention, barriers and solutions to the provision of adolescent mental health services, and implications for the nurse practitioner.

Screening and Treatment Recommendations

Many common mental health disorders such as depression and anxiety first emerge in adolescence, necessitating the need for prevention, early intervention and timely evidence-based treatment (Merikangas et al., 2010; March, 2009). In fact, 75% of all adult mental health disorders have reached onset by age 24, and 50% of adult disorders have reached onset by age 14 (Gladstone, Beardslee, & O'Connor, 2011). Early identification and treatment for mental health problems among adolescents may reduce the progression to more severe mental health disorders and their related complications (Jackson-Allen & McGuire, 2011). According to de Hann et al. (2013), youth who terminate treatment prematurely or never receive mental health treatment are more likely to rely on mental health treatment as adults. Likewise, those who do not receive treatment or terminate prematurely are more likely to face negative consequences of untreated behavioral health issues including engagement in delinquent activities, substance abuse, failure to complete degree attainment, and unemployment (de Haan et al., 2013).

The early signs of mental health disorders in adolescents, however, often go unnoticed or unaddressed by health care professionals (Jackson-Allen & McGuire, 2011). The United States

Preventative Services Task Force (USPSTF) has recommended that all young people ages 12-18 years old be routinely screened for depression when adequate systems are in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (Siu, 2016). Many screening tools exist and are being utilized in primary care settings to screen youth for depression, anxiety, and other mental and behavioral disorders. As a result of USPSTF recommendations, many youth are now being screened in primary care settings, however, as described above, too few who test positive for mental health disorders are receiving or completing the recommended treatment (Foy, 2010).

Barriers to Mental Health Services

Barriers such as lack of transportation, financial and time constraints, child mental health professional shortages, stigma related to mental health as well as disparities based on race/ethnicity, income, gender, age, geography, and sexual orientation may help explain why adolescents are not receiving the mental health treatment that they require.

More than five million adolescents, ages 10-19, are estimated to be medically uninsured (Osius & Rosenthal, 2009). Adolescents who lack health insurance coverage tend to have poorer access to needed health services, poorer access to timely and appropriate care, and poorer health than those who have medical coverage (Osius & Rosenthal, 2009). Many teens also have difficulty gaining access to specialized services due to shortages of specially trained personnel and a lack of appropriate or convenient settings that are suitable for their developmental level (Osius & Rosenthal, 2009). According to a 2012 Children's Hospital Association survey, appointments for child and adolescent psychiatric care had an average wait time of seven and a half weeks (Children's Hospital Association, 2012). Poor coordination of mental health services may also contribute to teens not receiving the adequate and timely mental health care that they

need (Murphy, Vaughn, & Barry, 2013). Without access to timely, affordable, and streamlined mental health care, many youth and their families terminate treatment prematurely or may even forgo treatment altogether.

Another significant barrier to the provision of mental health services for adolescent youth is the stigma associated with mental health disorders, which not only prevents the discussion and identification of mental health problems, but also prevents many teens from seeking and receiving treatment (Murphy, Vaughn, & Barry, January 2013). Teens report feeling apprehensive to discuss emotional problems due to concerns about confidentiality, stigmatization, and rejection (Wisdom, Clarke, & Green, 2006). Consulting professionals for help with mental health issues is also contradictory to adolescent goals of establishing autonomy and reducing dependence on adults (Wisdom, Clarke, & Green, 2006). Contributing to the issue is the fact that adolescents frequently underestimate the severity of their symptoms and are unable to perceive the risks associated with mental illness, thus preventing them from seeking treatment (Wisdom, Clarke, & Green, 2006).

Many disparities in access to care also exist based on race/ethnicity, income, gender, age, geography, and sexual orientation. According to Murphy, Vaughn & Barry (2013), for example:

It is estimated that black children and adolescents are less likely than are their Hispanic or white peers to receive outpatient treatment for depression; that adolescent males ages 16 and 17 are among the least likely to receive services; and that geographic location affects the ability to access appropriate care (p. 2).

Given the significant morbidity, mortality, and economic burden associated with mental health disorders like depression and anxiety in youth it is essential that teens have access to needed

health services and sources of information to promote mental health, social-emotional development, and resiliency.

Academic Impact and School

Schools are recognizing the importance of students' mental, social and emotional well-being in promoting positive academic and behavioral outcomes. Youth with mental health issues, such as depression and anxiety, are estimated to miss an average of 18-22 days of school per year (Cooper, Clements, & Holt, 2012). School absenteeism among youth has been associated with higher dropout rates and subsequent social and economic repercussions for individuals (National Association of School Nurses [NASN], 2012). Furthermore, youth struggling with anxiety and depression have been associated with poor academic achievement; high scholastic anxiety; more school suspensions; and diminished ability or desire to complete homework, concentrate, and attend class when compared with their peers (National Center for Mental Health Checkups at Columbia University, 2012). Schools play a critical role in promoting the health and safety of young people by helping them develop skills for healthy coping and positive life-long behaviors. School-based programs that help students to improve mental health, resiliency, and social-emotional development are being sought out by school personnel to improve the overall health, well-being and academic achievement of students nationwide. School-based programs designed to equip adolescents with skills they need to improve their mental health, resiliency, and social-emotional development may be an effective strategy for overcoming the barriers to mental health services faced by young people residing in rural North Dakota. The implementation of the COPE program in a rural ND high school is in congruence with North Dakota's Title V performance goal to, "Promote optimal mental health and social-emotional development of the maternal and child health population" (North Dakota Department of Health, 2011, p. 186).

School-Based Mental Health Services

In recent years, school-based mental health services have evolved as a strategy for removing barriers in accessing mental health care services, accessing sources of information, and improving the coordination of services for teens (Bains & Diallo, 2016). By centralizing mental health services and interventions in schools, many barriers to the provision of mental health prevention and treatment services can be overcome, such as lack of transportation, time and financial constraints, lack of skilled personnel, and the stigma associated with receiving services at mental health facilities. Schools may be a familiar and comfortable place where adolescents spend the majority of their time. For example, studies have shown that students with access to school-based mental health services were ten times more likely than students without such access to initiate a visit for a mental health or substance abuse concern (Bains & Diallo, 2016). An added benefit to school-based interventions is the fact that schools employ personnel specifically trained to work with children and adolescents, making them prime locations for adolescent services. While school guidance counselors and social workers may not be specifically trained in dealing with adolescent mental health issues, schools are, in fact, one of the largest providers of mental health services. Research has shown that school mental health professionals (guidance counselors, social workers, psychologists) have the capability to effectively design, implement and monitor a number of programs that prevent and treat depression and other mental health problems (Desrochers & Houck, 2013). Other benefits to school-based mental health interventions include the opportunity for school personnel to undergo training in specific evidence-based treatments and prevention programs, as well as the opportunity for school personnel to gain further insight into student's stressors, personal values, as well as their home situations and environments (Creed et al., 2011).

Prevention

In recent years, scientists and researchers have begun to develop a deeper understanding of the ongoing structural and functional development of the brain during adolescence. Research demonstrates that the pre-frontal cortex and limbic systems in the adolescent brain are undergoing structural and developmental changes that have been shown to continue development into adulthood. These areas of the brain are responsible for regulating emotions, decision making, and perspective taking. Because these areas are underdeveloped researchers have hypothesized that the underdevelopment of these areas during adolescence renders teens less able to successfully regulate emotions placing them at greater risk for anxiety, depression, and stress disorders (Ahmed et al, 2015). It is also hypothesized that because adolescents' brains are functionally immature they are less effective not only at regulating emotion but are also more affected by peer influence when making decisions, which may also explain risk taking during the adolescent years. Research also suggests that this period of brain development has a heightened propensity for learning and flexibility and may be a critical phase for the development of emotional regulation strategies and positive coping skills (Ahmed et al., 2015).

Consequently, rather than focusing on treating symptoms as they emerge, there has been a shift to a proactive focus on mental health and on maximizing protective factors while reducing risk factors for mental illness. In order to maximize prevention efforts, a focus on decreasing risk factors and enhancing protective factors for these conditions must be in place. Risk factors include issues such as low self-esteem, negative body image, low social support, negative cognitive thought processes, and ineffective coping. Protective factors that contribute to adolescent resilience include the presence of supportive adults, strong family relationships,

strong peer relationships, coping skills, and skills in effective communication and emotional regulation.

Cognitive-behavioral and interpersonal therapy approaches have been widely studied by researchers focusing on preventive interventions for depression and anxiety in youth (Gladstone et al., 2011). These interventions have previously been found to be helpful in the treatment of depression and anxiety among adolescent youth and have recently been recognized for their efficacy in the prevention of depression and anxiety among adolescent youth by teaching skills to reduce or eliminate risk factors and enhance protective factors, thus improving overall resiliency (Gladstone et al., 2011).

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is an evidence-based program for both the treatment and prevention of adolescent depression and anxiety. There are a number of Cognitive Behavioral Therapy programs that are standardized, structured, and manual-guided. The structure of CBT programs makes them user friendly and portable, thus an ideal school-based intervention for depressed and anxious or at risk adolescent youth. CBT is a form of evidence-based psychotherapy that focuses on the relationship between cognitive and behavioral components of mental health. The cognitive component of therapy focuses on identifying challenging situations, automatic thoughts, and cognitive distortions that cast a negative perception on experiences (Spirito, Esposito-Smythers, Wolff, & Uhl, 2011). Behavioral components of therapy focus on developing positive coping skills, interpersonal relationships, social problem solving, and participation in pleasant activities (Spirito et al., 2011). CBT is designed so that through the combination of cognitive and behavioral components of therapy

teens become aware of inaccurate or negative thinking so that they are able to view challenging situations more clearly and respond to them in more effective ways.

CBT has been one of the most widely researched psychotherapy approaches in the treatment and prevention of depression and anxiety among adolescent youth (Williams, O'Connor, Eder, and Whitlock, 2009; Watanabe, Hunot, Omori, Churchill, & Farukawa, 2007). Several systematic reviews and meta-analysis, the highest levels of supporting evidence, have been conducted and offer support for CBT as an effective prevention effort and first line treatment for depression and anxiety in adolescence (Zhou et al., 2015; Spirito et al., 2011; March, 2009; Williams et al., 2009; Watanabe et al., 2007). In a systematic review and meta-analysis performed by Zhou et al. (2015), 52 randomized controlled trials were analyzed comparing the efficacy of various forms of psychotherapy for depression in children and adolescents. Results of the meta-analysis determined CBT to be the most efficacious form of treatment and was recommended as the initial choice of psychological treatment for depression in children and adolescents (Zhou et al., 2015). Spirito et al. (2011) also reviewed the efficacy of CBT as a first line treatment for depression and anxiety among children and adolescents. The systematic review included multiple studies including the Treatment for Adolescents with Depression Study (TADS), the largest multi-site study for the treatment of adolescent depression, and the multi-site Treatment of SSRI-Resistant Depression in adolescents study (TORDIA). This systematic review concluded that CBT appeared to be well established and efficacious for the majority of participants in both individual and group CBT settings with and without parental components (Spirito et al., 2011). Given the abundance of evidence supporting CBT as an effective first line treatment for depression and anxiety in adolescents, clinical practice guidelines now recommend psychotherapy as a first line treatment for the management of mild to

moderate depression (American Academy of Child and Adolescent Psychiatry, 2007; Cheung et al., 2007; National Collaborating Centre for Mental Health, 2005).

In a meta-analysis of 32 randomized controlled trials evaluating positive characteristics of youth psychotherapy programs, structured standardized treatments (e.g. manual-based CBT programs) were identified as equivalent or superior to individually tailored, office-based, CBT treatment (Weisz, Jensen-Doss, & Hawley, 2006). Therefore standardized, structured, manual-guided programs that are user friendly and portable for implementation in school settings offer an evidence-based treatment option that is associated with positive outcomes and may promote prevention and early intervention for depressed and anxious rural adolescent youth. Several evidence-based CBT programs have been previously implemented in school settings. The Coping with Depression Adolescent (CWDA) course was one of the first adolescent specific CBT programs for group treatment of adolescent depression and has been successfully implemented in school settings (Lewinsohn, Clarke, Hops, & Andrews, 1990). Other evidence-based programs delivered in schools include “FRIENDS”- a group manual-based intervention based on Kendall’s Coping Cat (Kendall, 2006), the Beck Institute based model “Cognitive Therapy for Adolescents in School Settings” (Creed, Reisweber, & Beck, 2011), and the “Coping With Stress” (CWS) course (Clarke, Rhode, Lewinsohn, Hops, & Seely, 1999). Although these courses are effective and well-established forms of school-based CBT, these interventions are structured according to traditional 50-90-minute individual therapy sessions. Many school guidance counselors and social workers have large caseloads and some travel to multiple schools, challenging the successful implementation and sustainability of 50-90-minute session programs. The traditional 50-90-minute sessions may also lead to higher drop-out rates for busy adolescent youth. Creating Opportunities for Personal Empowerment (COPE) is a

newer CBT program that can be delivered in brief 20-30 minute sessions, thus offering more flexibility for implementation by busy school personnel (Lusk & Melnyk, 2013).

Creating Opportunities for Personal Empowerment (COPE)

Creating Opportunities for Personal Empowerment (COPE) is an evidence-based cognitive behavioral skills building therapy program that was developed specifically for adolescents and has been effectively implemented in a variety of settings including outpatient mental health centers, primary care clinics and schools. COPE was first designed by Bernadette Melnyk (2003), a pediatric nurse practitioner, as a health promotion and skills building intervention for adolescents on an inpatient psychiatric unit. The program was designed to enhance adolescents' ability to cope and deal with stressful situations and engage in healthy behaviors. The curriculum is based on the cognitive theory of depression and psychotherapy as developed by Aaron Beck (Beck, Rush, Shaw, & Emery, 1979). This theory purports that the ways in which an individual thinks will affect his or her feelings, emotions, and behaviors. According to cognitive theory, when an individual has negative thoughts or beliefs they are more likely to have negative emotions, such as depression and anxiety, and display negative behaviors, such as risk taking and poor school performance. By focusing on identifying and correcting negative thoughts or distortions, increasing pleasurable activities, and improving assertiveness and problem solving skills individuals can achieve skills needed to manage stress and cope with difficult situations in more positive ways.

Melnyk's COPE program is developmentally appropriate and engaging for teens and has been amended to reflect the feedback and preferences of adolescents who have completed the program over the past several years (Lusk & Melnyk, 2013). In a meta-analysis performed by McCarty & Weisz (2007) the most effective components of psychotherapy for depressed teens

were evaluated. The meta-analysis identified twelve components necessary for effective therapy for depressed adolescent youth. The twelve components include: achieving measurable goals, adolescent psycho-education, self-monitoring, relationship skills/social interaction, communication training, cognitive restructuring, problem solving, behavioral activation, relaxation, emotional regulation, parent psycho-education, and improving the parent child relationship (McCarty & Weisz, 2007). Melnyk's COPE program includes each of these twelve components of effective psychotherapy for depressed adolescent youth, contributing to the body of evidence and support for this program as an excellent prevention and intervention program for depressed, anxious, or at risk adolescent youth (Lusk & Melnyk, 2013).

Since its development, COPE has been effectively implemented in a variety of settings including schools and outpatient settings (Lusk & Melnyk, 2011; Lusk & Melnyk, 2013; Melnyk et al., 2007; Melnyk et al., 2009; Lusk & Melnyk, 2013; Melnyk, Kelly, & Lusk, 2014; Ritchie, 2011). To date, 14 intervention studies including randomized controlled trials have been performed using the COPE intervention. COPE interventions have been shown to decrease anxiety and depression in teens and improve self-concept (Lusk & Melnyk, 2013). In a study performed by Lusk and Melnyk (2011), using the COPE intervention during routine mental health outpatient medication checks, they found "significant decreases in depression, anxiety, anger, and destructive behavior as well as increases in self-concept and personal beliefs about managing negative emotions" (p. 226). COPE has also received positive responses from teens who have completed the program. Examples of comments from youth who have completed the program include:

"I learned how to cope with anxiety, because before I didn't really know how to deal with it in the right ways."

“It made me more confident in myself.”

“It helped me take a second to think about things before I react... I am less mean to people.” (Lusk & Melnyk, 2013).

Teens have also reported improvements in their ability to identify learned skills including deep breathing, imagery, and ability to transform negative thoughts into positive thoughts when confronted with difficult and stressful situations (Lusk & Melnyk, 2013).

Implications for the Nurse Practitioner

It is well known that there has been an ongoing search for better ways to improve patient access to care while maintaining or improving cost-effectiveness and quality of care within the health care system. In many ways the doctor of nursing practice (DNP) degree was designed to enhance nurses' ability to lead and manage collaborative efforts with other health care personnel in order to meet the challenges and health care needs of our nation (Moran, Burson, & Conrad, 2014). According to the American Association of Colleges of Nursing (2004), the role of the DNP prepared nurse practitioner is to possess enhanced knowledge and leadership skills to improve nursing practice and patient outcomes and to strengthen practice and healthcare delivery. The COPE program is an evidence-based intervention that was developed by advanced practice nurses in an effort to enhance access to mental health prevention and treatment services for adolescent youth who are plagued by issues prohibiting access to mental health care. The ability of nurse practitioners to identify unique practice arenas, such as school and community agencies, can improve patient outcomes, strengthen access to care, and improve health care delivery. Offering the COPE program to rural adolescent youth in a school-based setting allows nurse practitioners to positively affect health outcomes by providing students and school personnel with a developmentally appropriate, reliable, evidence-based mental health

intervention that improves mental health, resiliency, and social- emotional development while reducing barriers to care.

Theoretical Framework

Theory-driven practice enhances the achievement of positive patient outcomes and is seen as an essential characteristic of advanced practice nurses. The utilization of theory in practice provides a structure that defines goals, and guides interventions by which the effectiveness of interventions can be evaluated. The development of this dissertation project is guided by the Integrated Theory of Health Behavior Change (Ryan, 2009) as well as a Logic Model.

The Integrated Theory of Health Behavior Change (ITHBC), developed by Ryan (2009), describes the relationship between self-management behaviors and positive health outcomes. This theory is derived from a variety of theoretical frameworks, including theories of health behavior change, self-regulation theories, and social cognitive theory. The ITHBC purports that engagement in healthy behavior is essential to improvement in overall health and the management of chronic conditions. By engaging oneself in fostering knowledge and beliefs, increasing self-regulation skills and abilities, and enhancing social facilitation, individuals in turn influence the long-term outcome of improved health status.

According to this theory, adolescent youth will be better equipped to engage in healthy behaviors and manage mental health issues like depression and anxiety if they are provided with information on healthy coping skills and behaviors, if they develop self-regulation abilities to manage thoughts and behaviors, and through social facilitation that positively influences and supports them to engage in preventative health behaviors. Self-regulation involves activities such as goal setting, self-monitoring and reflective thinking, decision-making, self-evaluation and

self-management of physical, emotional, and cognitive responses. The COPE program, which is based on Beck’s Cognitive Theory of Depression, coincides well with this theory in that it fosters knowledge about the relationship between negative thoughts, feelings, and behaviors. As a result, adolescents are equipped with the skills necessary to learn how to recognize and stop automatic negative thoughts and replace them with positive thoughts resulting in feeling emotionally better and behaving in healthy ways (Figure 1).

Integrated Theory of Health Behavior Change

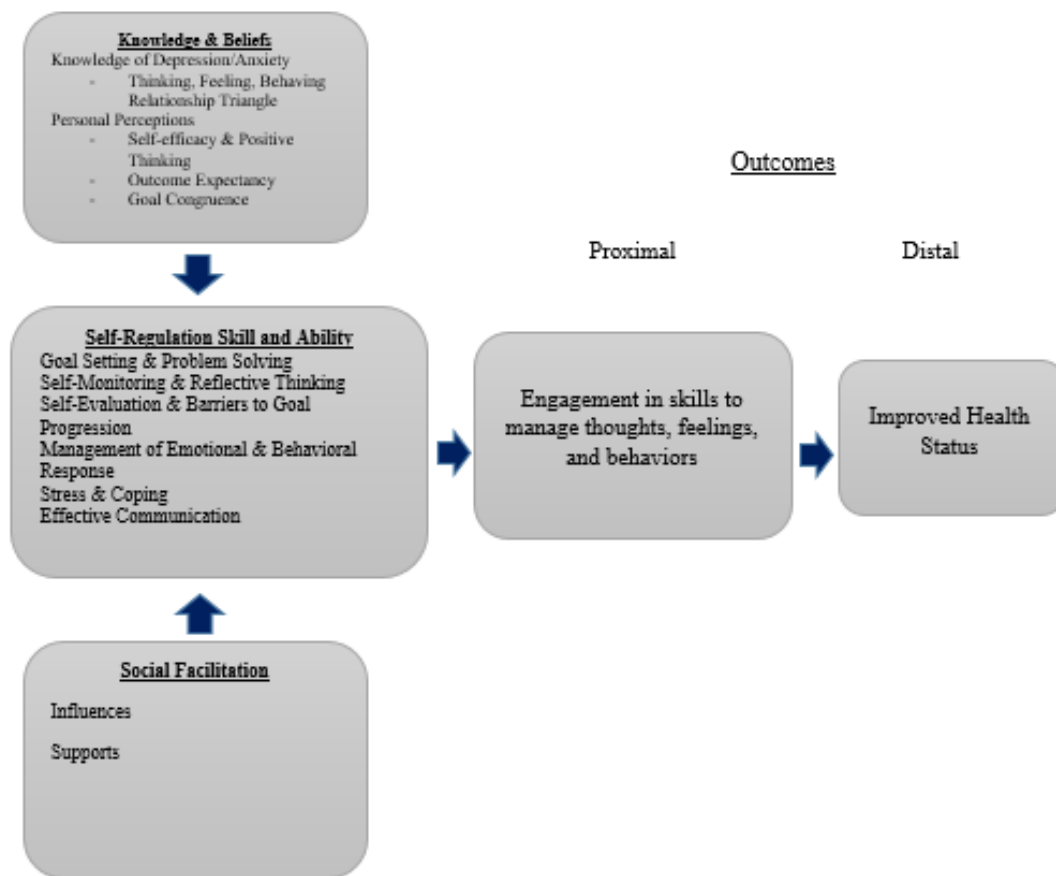
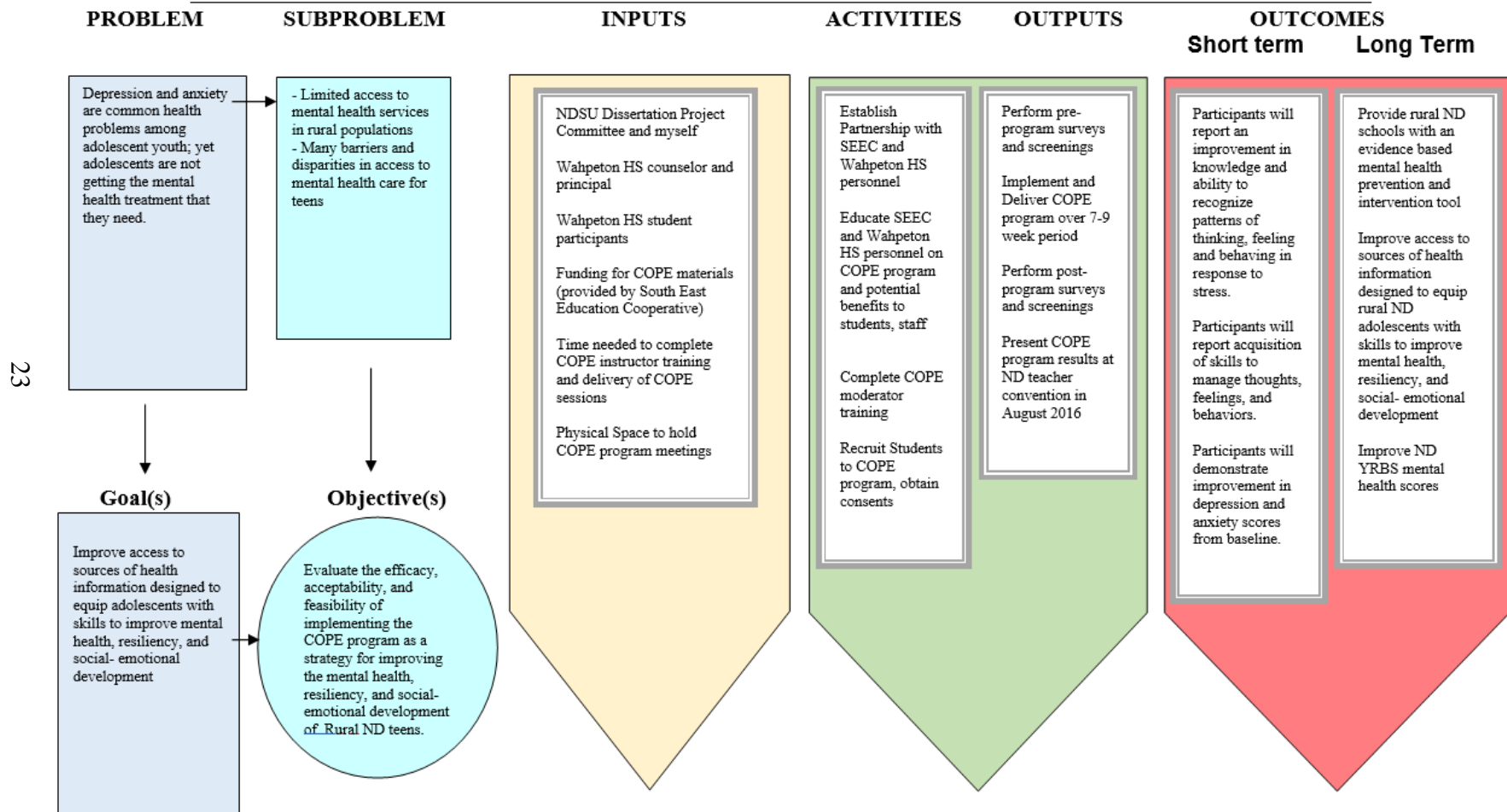


Figure 1. Theoretical Framework

Logic models are a systematic and visual way to present relationships among the resources one has to carry out a project or activity (Millett, 2000). Therefore, a logic model was also utilized to guide the evaluation of this dissertation project. The Logic Model is displayed in Figure 2.

LOGIC MODEL

Evaluation of a School-Based Intervention to Improve the Overall Mental Health, Resiliency, and Social-Emotional Development of Rural North Dakota Adolescent Youth



23

Figure 2. Logic Model

CHAPTER THREE. METHODS

Project Design

As previously discussed, the purpose of this dissertation project was to evaluate the success and efficacy of the Creating Opportunities for Personal Empowerment (COPE) program in a rural North Dakota High School and to determine if it is a program that can be reasonably replicated in other ND schools. The COPE program was offered to students at Wahpeton High School in Wahpeton, ND. COPE, a pre-developed, seven-session, manual-based, CBT skills building intervention was offered to interested students during their scheduled “Mi Time” study hall period at the end of the school day, once weekly for seven weeks. Pre-and post-program evaluations, surveys, and screening tools were administered; prior to beginning the first session and immediately following the final session to ensure completion. Incentives, which included a drawing for a Scheels and iTunes gift card, were also offered to encourage the completion of all seven sessions in order to maximize participation and accuracy of program evaluations. The weekly program sessions were led by the high school counselor to promote the sustainability of the COPE program after the completion of this dissertation project.

Project Implementation

Staff Training

Prior to implementation of the project, an informational and educational session was conducted by the DNP student facilitating the implementation of this project with local and regional teachers. Three 45-minute education and information sessions were offered during a teacher’s in-service to reach approximately 130 teachers from Wahpeton High School and other regional districts. School staff from Wahpeton High School and other regional schools who attended the regional teacher in service were educated about the mental health needs of ND

youth and the potential benefits of using COPE to improve the mental health and resiliency of rural North Dakota youth through the development of healthy behaviors and positive coping skills.

In order to facilitate the COPE CBT program the high school counselor was required to complete an online training webinar, developed by COPE founders. The COPE instructor training was a 2.5-hour online webinar training designed to educate facilitators on the background and delivery of COPE while also licensing successful participants as COPE instructors. Following completion of the webinar, participants were required to complete a 20-question multiple-choice quiz to verify understanding of the basic elements of the program. A passing score of 80% or greater and completion of one practice program delivery session was required for the school counselor to become successfully licensed to deliver the COPE program.

Recruitment

With the goal of recruiting as many students to the program as possible a letter was sent out to all Wahpeton High School students and their parents/guardian's explaining the program details and objectives with an invitation to participate in the program (Appendix B). Through general recruitment processes it was speculated that the program would reach students both with and without mental health diagnosis or symptomatology, and thereby serve a dual purpose as an educational skills building program as well as a program that could offer supportive treatment for those students in need. By recruiting any interested students to participate in the COPE program, any potential stigma associated with recruiting only those students with mental health diagnosis was also abridged. Students interested in the program contacted the high school counselor to sign up for the program and were then given consent and assent forms to participate in COPE to

be completed by each student and their parent/legal guardian prior to the start of the program (Appendixes C and D).

Sample

The target population for this project was adolescent youth ages 12-18 who were enrolled as students at Wahpeton High School. Thirteen students and/or guardians expressed interest in the COPE program. After completing and obtaining guardian consent and student assent forms a total of 12 students were successfully enrolled to participate in the program. Participant demographics are displayed in Table 1.

The mean age of the participants was 16 years (range 14-18 years). Of the 11 adolescents who completed the program, females represented 64% ($n=7$) of this sample and males represented the other 36% ($n=4$). Of the 11 participants, ten were of Caucasian origin and one was American Indian.

Participants were asked to self-report any previously diagnosed mental health conditions. Of the eleven participants, seven (64%) reported underlying mental health conditions. The most common mental health condition reported was ADHD ($n=6$), followed by depression ($n=3$), anxiety ($n=2$), and bipolar ($n=1$). Of those who reported mental health conditions, three participants indicated that they were currently receiving treatment, three had received treatment in the past, and one had never received any kind of treatment (Table 1).

Table 1

Participant Demographics

	<i>n</i>	%
Gender		
Male	4	36%
Female	7	64%
Ethnic Origin		
Caucasian/White	10	91%
American Indian	1	9%
Age		
14	1	9%
15	2	19%
16	3	27%
17	4	36%
18	1	9%
Mental Health Diagnosis		
Yes	7	64%
Diagnosis Type		
ADHD	6	
Anxiety	2	
Depression	3	
Bipolar	1	
Receiving Treatment		
Currently	3	
In past	3	
Never	1	

Delivery

Following recruitment and obtaining appropriate consents, the COPE program was delivered as small group sessions by the high school counselor once weekly for a total of seven weeks. Weekly sessions were held on Wednesdays in order to avoid any attendance conflicts due to early school dismissal for students participating in fall sports. Meetings were held in the high school counseling office to ensure privacy and confidentiality during the sessions. To reduce conflict with transportation needs, the program sessions were offered during the students

scheduled “Mi Time” study hall period at the end of the regularly scheduled school day. Sessions lasted approximately 30 minutes each and focused on the following subjects:

Session 1: Thinking, Feeling, and Behaving: What is the connection?

Session 2: Positive Thinking and Forming Healthy Thinking Habits

Session 3: Coping with Stress

Session 4: Problem Solving & Setting Goals.

Session 5: Dealing with your Emotions in Healthy Ways through Positive Thinking and Effective Communication

Session 6: Coping with Stressful Situations

Session 7: Pulling it All Together for a Healthy You

Each student participating in the program received a “Teen Manual Workbook” which contains program content and skills building activities that allow the teens to practice new skills, write about personal experiences, and work to find solutions to problems. Following each session the teens were encouraged to complete the skills building activities (homework) throughout the week to practice new skills learned that week to help change the way they think, act and behave for positive change.

Protection of Human Subjects

Institutional Review Board approval through North Dakota State University was obtained prior to proceeding with implementation of the COPE cognitive behavioral therapy project (Appendix E). Human subjects involved with the study included the students who took part in the COPE sessions, the DNP student, and school counselor. Potential risks included issues of confidentiality, potential for the students to be uncomfortable during the intervention, experiencing mental or psychological distress (triggering of depression/anxiety), and the

potential disclosure of thoughts of suicide. Measures were in place to ensure the safety and confidentiality of participants. For example, the DNP student and school counselor were present at all sessions to monitor students and were available to students following sessions for any concerns. For any students with disclosure of suicide or psychological distress, school policies and procedures were followed and carried out by the high school counseling staff.

Potential benefits of completion of the program for student participants included an improved ability to cope with and manage stress, which may in turn improve the overall mental health, resiliency, and social emotional development of participants. Students also benefited from the opportunity to win prizes including a Scheels gift card and iTunes gift card for completion of the program.

Data Collection

Data for this project were obtained via pre-and post-program evaluations, surveys, and screening tools that were administered and collected prior to beginning the first session and immediately following the final session to ensure completion. Prior to the start of the program, participants were asked to complete a form to identify demographic information for group participants (Appendix F). Information collected included: age, gender, self-reported mental health diagnosis(es), current or prior mental health treatments, grades in school, and recent stressors. Efficacy of the COPE intervention was measured via pre-and post-program screening tools for depression and anxiety to determine if the program was effective in improving baseline scores. Measurements of depression and anxiety were evaluated using the Patient Health Questionnaire Modified for Teens (PHQ-9 Modified) and the Generalized Anxiety Disorder Scale (GAD-7) (Appendixes G and H).

CHAPTER FOUR. EVALUATION

Evaluation of COPE was performed according to the identified project objectives. To evaluate the success, efficacy, and feasibility for implementation at other sites, outcomes for the COPE intervention were organized into process evaluation data and program outcomes data; see Table 2 below. In evaluating the project objectives, efficacy was largely evaluated via screening tools for depression and anxiety that were administered prior to the beginning the COPE intervention and immediately after its completion. At the completion of the program, student and counselor feedback surveys were distributed (Appendixes I and J). The surveys distributed evaluated the objectives of this project by assessing both the student participant and school counselor opinions in regards to the efficacy, acceptability, and feasibility of providing the COPE program in a rural school setting. The surveys contained both quantitative and qualitative data, utilizing Likert scales, yes/no questions, and free text entry. Evaluation questionnaires included questions previously validated to evaluate successful COPE interventions as well as questions that were written specifically for the evaluation of the COPE program in a rural ND school (Jelsma, 2014).

Table 2

Evaluation of Project Objectives

	Objective	Evaluation
Outcomes data	<ol style="list-style-type: none"> 1. Improve participant depression and anxiety scores from baseline 2. Improve participant knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress 3. Impart skills to manage thoughts, feelings, and behaviors 	<p>Pre-and Post GAD-7 & PHQ-A Appendixes G & H</p> <p>Participant Feedback Form Appendix I , Question 2</p> <p>Participant Feedback Form Appendix I, Questions 3 & 4</p>
Process data	<ol style="list-style-type: none"> 4. Determine the acceptability and feasibility of administering COPE in a rural North Dakota high school based on: <ol style="list-style-type: none"> a. Student satisfaction with <ol style="list-style-type: none"> c. Length and format of sessions d. Location of sessions e. Perception of overall usefulness b. Facilitator satisfaction with: <ol style="list-style-type: none"> a. Training b. The ease and feasibility of administering the COPE program c. The extent to which the program positively influences teens skills building strategies for managing general stress, depression, and anxiety d. Perception of overall usefulness 	<p>Participant Feedback Form, Appendix I</p> <p>Question 6</p> <p>Question 7</p> <p>Question 1</p> <p>Facilitator Feedback Form, Appendix J</p> <p>Question 4</p> <p>Question 9</p> <p>Question 8</p> <p>Question 1</p>

Outcomes Evaluation

Efficacy of the COPE intervention was measured via pre-and post-program screening tools for depression and anxiety to determine if the program was effective in improving baseline scores. Measurements of depression and anxiety were evaluated using the Patient Health Questionnaire Modified for Teens (PHQ-9 Modified) and the Generalized Anxiety Disorder Scale (GAD-7). The PHQ-9 Modified for Teens is a 13-item self-completion screening questionnaire designed to detect symptoms of depression and suicide risk in adolescents. Because diagnostic criteria for depressive disorders are slightly different for adults and children or adolescents, the PHQ-9 Modified has been adapted to reflect the symptomatologic differences experienced by teens including irritability, and failure to meet expected weight gains. The PHQ-9 has demonstrated satisfactory psychometric properties in adolescents with a sensitivity of 89.5% and specificity of 78.8% (Richardson et al., 2010). Although no study has published psychometric data on the PHQ-9 Modified, the PHQ-9 and PHQ-9 Modified are identical with the exception of two additional symptoms added to the PHQ-9 Modified version (in Questions 1 and 4). It is therefore reasonable to apply psychometric scores derived from the PHQ-9 in an adolescent population. According to the PHQ-9 Modified, scores of 1-4 indicate minimal depression, 5-9 mild depression, 10-14 moderate depression (>11 positive screen), 15-19 moderately severe depression, and 20-27 indicates severe depression. The goal of the intervention was a decrease in PHQ-9 Modified scores indicating an improvement in depression symptomatology as self-reported by the teen. Paired t-tests were performed using JMP 13 statistical software to evaluate for statistical improvement between pre-and post PHQ-9 scores.

The Generalized Anxiety Disorder Scale (GAD-7) is a seven item self-reported anxiety questionnaire that has also been shown to have satisfactory psychometric properties. Test

sensitivity is 89% with a specificity of 82% (Lowe et al., 2008). This scale has been tested and validated for use in adolescents and adults in the general population (Lowe et al., 2008).

According to the GAD-7, scores of 5-9 indicate mild anxiety, 10-14 moderate anxiety, and scores greater than 15 indicate severe anxiety. The goal of this intervention was a decrease in GAD-7 scores indicating an improvement in anxiety symptomatology as self-reported by the teen. Paired t-tests were performed using JMP 13 statistical software to evaluate for statistical improvement between pre-and post GAD-7 scores.

Efficacy was also measured by the degree in which teens reported that the program was helpful in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress, as well as the program's ability to impart skills to manage thoughts, feelings, and behaviors. Participants indicated the usefulness of the program in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress, by indicating its degree of helpfulness on a Likert scale. Student feedback was evaluated for the proportion and of students who chose specific answers as well as the mean score. To evaluate the ability of the program to impart skills to manage thoughts, feelings, and behaviors, teens indicated any new skills learned and any new skills being utilized by completing a "check all that apply" questionnaire, which was included in the post-program feedback form, listing the skills taught in the COPE program. Results were then tabulated and analyzed for the proportion of students who reported that new skills were learned and being utilized.

Process Evaluation

To evaluate the success and efficacy of the Creating Opportunities for Personal Empowerment (COPE) program and to determine if it is a program that can be reasonably replicated in other ND schools, implementation and delivery components of the program were

evaluated by student participants and the high school counselor facilitating the program sessions. Evaluation of process related outcomes were satisfied by data obtained from student and facilitator feedback surveys distributed at completion of the COPE program (Appendixes I and J).

Participant Feedback

Participants of the COPE program evaluated their perceived usefulness and overall satisfaction with the program components and delivery upon completion of the program. Participants were asked to rate the usefulness and their overall satisfaction with the program based on: perceived ability to recognize patterns of thinking, feeling and behaving in response to stress; acquisition of skills to manage thoughts, feelings, and behaviors; the length and format of sessions, the location of sessions; and overall usefulness and satisfaction with program components. Student feedback consisted of qualitative and quantitative data in the form of Likert scales, yes/no answers, and fill in the blank descriptions. Likert scales and yes/no answers evaluated for the proportion of students who chose a specific answer for the given question. Results were then tabulated and compared. Fill in the blank answers completed by students were tabulated and compared for recurring themes.

Facilitator Feedback

The high school counselor facilitating the COPE sessions was also asked to evaluate the usefulness and her overall satisfaction with the program upon completion of the program. She was asked to rate the usefulness and her overall satisfaction with the program based on: satisfaction with training; the ease and feasibility of administering the COPE program, the extent to which the program positively influences teens skills building strategies for managing general stress, depression, and anxiety; and overall usefulness and satisfaction with program

components. Feedback consisted of qualitative and quantitative data in the form of likert scales, yes/no answers, and fill in the blank descriptions. Likert scales and yes/no answers evaluated specific answers for given questions. Fill in the blank answers were compared with quantitative answers for recurring themes.

Framework for Evaluation

In an effort to translate knowledge gained from the COPE intervention for use in public health settings, such as other rural ND schools, the RE-AIM framework was utilized to guide the evaluation process. The RE-AIM framework is a model that focuses on behavioral health interventions and organizes information into five dimensions, which provide information for evaluation of public health interventions (Glasgow, Boles, & Vogt, 2017). The five dimensions include reach, efficacy, adoption, implementation, and maintenance.

- **Reach:** Examines the methods utilized to reach the target population and an analysis of the number of individuals willing to participate in the intervention.
- **Efficacy:** Analyzes and measures the impact of the intervention on intended outcomes.
- **Adoption:** Investigates the support for the program and the number of people who are willing to initiate and use the program.
- **Implementation:** Evaluates and determines measures to ensure proper delivery of the program, the consistency of delivery, as well as consideration for cost.
- **Maintenance:** Involves analyzing methods to incorporate an intervention into organizational policy or structure to ensure that the intervention is delivered long term.

CHAPTER FIVE. RESULTS

To evaluate the success and efficacy of the program, and to determine whether this program can feasibly be implemented in other ND schools, outcomes for the COPE intervention were organized into program outcomes data and process evaluation data. Results of the COPE intervention will be discussed as they relate to program outcomes and process evaluation data.

Participants

The target population for the COPE project was adolescent youth ages 12-18 years who were enrolled at Wahpeton High School. Enrollment at Wahpeton High School for the 2016-2017 school year was 338 students. Of the total enrollment, twelve students were recruited to participate in the program. Of those twelve who were signed up to participate in COPE, eleven students completed the program. One student completed four COPE sessions prior to withdrawing from the program due to social circumstances which required temporary displacement and subsequent absence from Wahpeton High School. The final sample included eleven participants in the data analysis. Due to the small sample size, all students who participated in the program and were able to complete the pre- and post-surveys were included in data analysis. Of the eleven participants who completed the program, only three of those students completed all seven COPE sessions. One student who completed the program was only able to complete the last four sessions due to school absence for a hospitalization. Other student absences were due to illness, medical appointments, and various conflicts with scheduling. The mean attendance for the group was 5.5 sessions.

The majority of participants in this project were female (64%, n=7) and of Caucasian/white descent (91%, n=10). Participants ages ranged 14 to 17 years of age. A large proportion (64%, n=7) of participants self-reported pre-existing mental health diagnosis

including ADHD, anxiety, depression, and bipolar disorder. Of those participants with mental health diagnoses, three reported that they were currently receiving treatment.

Outcomes Data

The efficacy of the COPE intervention was determined by evaluating project outcomes. Project outcomes sought to determine if the program was effective in improving baseline scores for depression and anxiety; the degree in which teens reported that the program was helpful in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress; as well as the program's ability to impart skills needed to manage thoughts, feelings, and behaviors. The results of each outcome are described below.

Objective 1. Improve depression and anxiety scores from baseline

Efficacy of the COPE intervention was measured via screening tools for depression and anxiety to determine if the program was effective in improving baseline depression and anxiety scores. Measurements of depression and anxiety were evaluated using the Patient Health Questionnaire Modified for Teens (PHQ-9 Modified) and the Generalized Anxiety Disorder Scale (GAD-7). Each teen was asked to complete the PHQ-9 Modified and the GAD-7 prior to the start of the program and again upon completion of the program. The goal of the intervention was a decrease in both the PHQ-9 Modified and GAD-7 scores, indicating an improvement in depression and anxiety symptomatology as self-reported by the teen.

PHQ-9 Modified Depression Screening

The mean participant score pre-intervention was 7.09 with scores ranging from 0-27 (see Table 3). Two participants had scores indicating severe depression at pre-intervention. Of the two participants with scores indicating severe depression on pre-screening, both students answered in the affirmative to the PHQ-9 question asking if the teen had, "Thoughts that you

would be better off dead, or of hurting yourself in some way.” School counselors were notified and school protocols were followed to ensure the safety of each participant. Of the two students, answering in the affirmative to the above question, one student subsequently required intervention and was hospitalized prior to the start of the program due to suicidal ideation, then later joined the COPE group and attended sessions after discharge and return to school.

Following the COPE intervention participants performed the same screening for depression. The mean post intervention score was 7.18, a 0.09 increase from pre-intervention, with scores ranging from 0-27. One participant who scored 0 on the pre-program survey, indicating no depression, also scored 0 on the post-program survey. Four participants had a decrease in their depression scores, indicating improvement in depression symptomatology. One of which had a significant decrease; scoring severe on pre-program survey and only moderate on post-program survey. The same participant had also answered in the affirmative to the PHQ-A question asking if the teen had, “Thoughts that you would be better off dead, or of hurting yourself in some way” on the pre-survey, but indicated no such thoughts on the post survey. Four participants had higher scores on the post-intervention than the pre-, indicating worsening depression symptomatology, however scores worsened by only 1-3 points, which still placed the participants in the “minimal” depression category. One participant was the exception, who’s score worsened by seven points, moving that participant from the minimal to mild depression category. Two participants had no change in their depression scores (mild and severe) from pre- to post-survey. The participant with severe depression scoring had no change in scoring from pre- to post-intervention despite hospitalization and intensive medical therapy outside of the COPE program.

Based on the evaluation of the PHQ-9 scores from pre-intervention to post intervention it is difficult to determine an overall trend. However, it appears that those students with symptoms of moderate depression responded best as evidenced by a reduction in the mean score for the group. Overall, four participants showed improvement in scores, which occurred across all levels of depression (mild to severe); for students with prior underlying mental health conditions and for those without. The remainder of the participants either had no change or worsening of scores which also occurred across all levels of depression; for students with prior mental health conditions and for those without. No trend could be identified with cross referencing scores to program attendance. Therefore, although it is difficult to determine indicators for success in improving depression scores from baseline, it appears that participants falling into the moderate severity category for depression may gain the most benefit. The determinants of success in improving depression symptomatology may also be attributable to individual factors and situational influences which are difficult to account for.

Table 3

PHQ-9 Depression Scores

Depression Severity	Pre (N)	Mean	Post (N)	Mean	Change
None (0-4)	6	1.17	5	1.80	0.63
Mild (5-9)	2	6.00	3	6.67	0.67
Moderate (10-14)	1	12.00	2	11.50	-0.50
Moderately Severe (15-19)	0	0	0	0	0
Severe (20-27)	2	23.50	1	27.00	3.5
Mean	7.09		7.18		0.09
Range	0-27		0-27		

Paired t-tests were performed using JMP 13 statistical software to evaluate for statistical improvement between pre-and post PHQ-A scores. A significance value of $\alpha=0.05$ ($p < .05$) was used to analyze the change between pre-and post- PHQ-9 modified scores. Statistical scores for depression, as indicated by PHQ-9 scores from pre-COPE ($M = 7.09, SD = 8.99$) to post-COPE ($M= 7.18, SD = 7.67$), $t=0.0867, p = .9362$ (two-tailed) did not show statistical significance for the intervention. Overall mean scores increased by 0.09, with a p value of 0.9362, indicating no statistical difference at the $\alpha=0.05$ significance level, for improving depression scores from pre-to post-intervention. However, when looking at the overall trend in scores, more than half ($n=6, 55\%$) of the program participants did not exhibit depression symptomatology at pre-intervention thus making it difficult to demonstrate statistical improvement in depression scores for the group.

GAD-7 Anxiety Screening

GAD-7 anxiety screenings were also administered pre-and post-intervention. The goal of this intervention was a decrease in GAD-7 scores indicating an improvement in anxiety symptomatology as self-reported by the teen. The mean participant score pre-intervention was 9.18 with scores ranging from 2-21 (Table 4). According to participant scores, five participants had no symptoms of anxiety, two had mild anxiety, one had moderate anxiety, and three participants had scores indicating severe anxiety pre-intervention.

Table 4

GAD-7 Anxiety Scores

Anxiety Severity	Pre (<i>n</i>)	Mean	Post (<i>n</i>)	Mean	Change
None (0-5)	5	3.20	6	2.67	-0.53
Mild (6-10)	2	8.00	3	8.00	0
Moderate (11-15)	1	11.00	1	13.00	2.00
Severe (16-21)	3	19.30	1	18.00	-1.30
	Mean	9.18	6.45		-2.73
	Range	2-21	2-18		

Following the COPE intervention participants performed the same screening for anxiety. The mean post-intervention score was 6.09, a 2.73 point decrease from pre-intervention, indicating an overall improvement in anxiety scoring, with scores ranging from 2-18. Seven of the eleven participants had a decrease in their anxiety scores from baseline, indicating and improvement in symptomatology. One of which, had a significant improvement with a score improving from 21 (severe) to 2 (none). Two participants had worsening scores with one worsening by four points, moving the participant from “no anxiety” to the “mild anxiety” category; and the other worsening by eight points, moving the participant from the “no anxiety” to “moderate anxiety” category. It should be noted that the second of these two participants with worsening scores was also the only participant who had significant worsening of their depression score (seven points), moving that participant from the minimal to mild depression category. Two participants had no change in their anxiety score from pre-to post-intervention. One student had a score of 3 on both pre-and post-intervention, placing the participant in the “no anxiety” category, while the other had a score of 18 (“severe anxiety”) on both surveys despite hospitalization and

intensive medical therapy outside of the COPE program. Based on trends in scoring the intervention appears to be the most effective for those with severe anxiety at pre-intervention, as evidenced by a mean reduction for those in the severe anxiety group.

Paired t-tests were performed using JMP 13 statistical software to evaluate for statistical improvement between pre-and post-GAD-7 scores. A significance value of $\alpha=0.05$ ($p < .05$) was used to analyze the change between pre-and post-anxiety scores. Statistical scores for anxiety, as indicated by GAD-7 scores from pre-COPE ($M = 9.18, SD = 7.09$) to post-COPE ($M = 8.66, SD = 6.99$), $t = -1.302, p = 0.2219$ (two-tailed) did not show statistical significance for the intervention. Overall mean scores decreased by 2.73. However, with a p value of 0.2219, no statistical difference could be found for improving anxiety scores from pre-to post intervention at the $\alpha=0.05$ significance level. However, when looking at the overall trend in scores, nearly half ($n=5, 46\%$) of the program participants did not exhibit anxiety symptomatology at pre-intervention thus making it difficult to demonstrate statistical improvement in depression scores for the group.

Objective 2. Improve teens' knowledge and ability to recognize patterns of thinking, feeling and behaving in response to stress

Efficacy for the COPE intervention was also measured by the degree in which teens reported that the program was helpful in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress. Participants indicated the usefulness of the program in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress, by indicating its degree of helpfulness on a Likert scale. Participants were asked to rate the degree to which they found the program helpful by indicating whether the program was: 1- Not helpful, 2- Somewhat helpful, 3-Moderately

helpful, or 4- very helpful. The mean score selected by students was 3.3, indicating that students found the program moderately to very helpful in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress.

Objective 3. Teens will gain skills needed to manage thoughts, feelings, and behaviors

Efficacy was also determined based on the program's ability to impart skills to manage thoughts, feelings, and behaviors. To evaluate the ability of the program to impart skills to manage thoughts, feelings, and behaviors, teens indicated any new skills learned and any new skills being utilized by completing a "check all that apply" questionnaire from a list of the skills taught in the COPE program. All participants indicated that they had both learned and were also utilizing at least one skill taught in the COPE program for managing thoughts, feelings, and behaviors in response to stress. Table 5 below lists new skills learned and being utilized as self-reported by teen participants.

Table 5

Participant Report of Learned and Utilized Skills

	<i>n</i>	%
Skills Learned		
Being thankful	6	55%
Positive thinking	4	36%
Positive self-talk	4	
Goal setting	4	
Coping positively w/ stress	4	
Practicing self-control	4	
The ABC's	3	27%
Staying present in the moment	3	
Monitoring emotions	3	
Seeking help when needed	3	
Changing unhealthy habits	2	18%
4 step problem solving	2	
Mental imagery	2	
Effectively communicating	2	
Seeing the cup half-full	1	9%
Regulating emotions	1	
Planning response to negative events	1	
Skills Using		
Goal setting	5	45%
Coping positively with stress	5	
Seeking help when needed	5	
Being thankful	5	
Positive thinking	4	36%
Positive self-talk	3	27%
Monitoring emotions	3	
Seeing the cup half-full	3	
The ABC's	2	18%
Staying present in the moment	2	
Changing unhealthy habits	2	
Regulating emotions	2	
Practice self-control	2	
4 step problem solving	2	
Mental imagery	1	9%
Effectively communicating	1	
Planning response to negative events	1	

Process Evaluation Data

Implementation and process delivery components of the program were evaluated by student participants and the high school counselor facilitating the program sessions to determine

if COPE is a program that is accepted by students and school staff and whether it can be reasonably replicated in other ND schools. Project outcome four sought to determine the acceptability and feasibility of administering COPE in a rural ND high school based on participant and facilitator feedback data which was obtained from student and facilitator feedback surveys distributed at completion of the COPE program.

Objective 4. Determine the acceptability and feasibility of administering COPE in a rural North Dakota high school

Participant Feedback

As previously described, participants were asked to rate the usefulness and their overall satisfaction with the program based on: the length and format of sessions, the location of sessions; and overall usefulness and satisfaction with program components. Overall participants review of the COPE program was positive. When participants were asked if they found the program helpful nine of the eleven students (81%) indicated that they found the program helpful. Additionally, nine students indicated that they knew friends who would benefit from the COPE program and all participants stated that they would recommend the program to other students.

See Table 6.

Table 6

Participant Feedback Data

	<i>n</i>	%
Found cope helpful	9	81%
Reported barriers in attending all sessions	5	45%
Like session length	8	73%
Like location of cope	8	73%
Know friends who would benefit	9	81%
Would recommend to other students	11	100%
Feel cope should be delivered to all students	6	55%

Participants were given the opportunity to describe what they did or did not like about the program. Some comments included:

“It was really helpful and I thought it was progressive”

“It helps when you’re feeling down”

“It helped me with my anger with using breathing exercises”

“When I notice I’m stressing out I feel better when I do the breathing exercises”

The positive remarks from participants along with the majority of the participants stating that they found the COPE to be helpful and 100% of them indicating that they would recommend this program to other adolescents suggests that the students satisfaction and approval of the COPE program.

Participants had varying opinions as to whether or not the program should be offered to all students. Six participants felt that it should be offered to all students and comments included:

“Yes, Stress is a common thing and is needed to help”

“Yes, everyone should learn how to deal with their problems positively”

“Yes, it may help with what they are going through”

“Yes, a lot of kids get mad over nothing”

“Yes, it would help other students a lot”

While the other five students did not feel that all students would necessarily benefit from the program stating: “No, not everyone needs it” and, “No, some people are positive and could use their time differently”.

While participants’ review of the COPE program was primarily positive, participants did identify barriers and areas for improvement. For example, despite being offered during the students scheduled “Mi Time” study hall period at the end of the scheduled school day, and being held on Wednesdays to avoid early school dismissal for sporting events 45% of participants still encountered barriers in attending all COPE sessions. Participants stated that they were not able to attend all sessions for various reasons including needing the time to complete school work, work commitments, conflicts with extracurricular activities, and illness. Session length was well accepted by 73% ($n=8$) of participants, but some felt that there was not enough time to adequately cover material. The majority of participants (73%, $n=8$) also indicated that they like the location of COPE because of the easy access, and the fact that it was private and uninterrupted. The only complaints about the location were due to the size of the space. Participants indicated that they felt it was too small for the group size and would have liked to have more space.

Facilitator Feedback

The high school counselor facilitating the COPE sessions was asked to rate the usefulness and her overall satisfaction with the program based upon: satisfaction with training; the ease and feasibility of administering the COPE program, the extent to which the program positively influences teens skills building strategies for managing general stress, depression, and anxiety; and overall usefulness and satisfaction with program components.

When asked if the counselor felt that the COPE sessions were helpful for students she indicated “no” and explained:

“It was hard to know if the lessons were helpful because they were not willing to share and we did not go over any of the homework. It was difficult to measure their level of understanding.”

She also felt dissatisfied with the facilitator webinar training and manual-based format of the program, due to the fact that the training was not “clear” other than to explain that the material should be delivered “word for word” from the instructor manual. This caused some confusion because discussion of the previous week’s homework was not covered in the webinar training and the manual did not prompt the instructor to discuss the previous week’s homework in any of the lessons, with the exception of one. She stated,

“I think the processing piece is missing. It would be helpful to go over the homework as a group so the facilitator would at least know if they did not do the homework, and they would have a chance to process out the lesson and skills.”

Like some of the student reviews, the counselor also did not find the length of the COPE sessions (30 min) to be adequate. Her review stated, “We could have benefited from at least 40 minutes to

settle the group and deliver the content.” If time were to be included to allow for review of the previous week’s homework, 45-50 minutes would be ideal for comprehensive delivery.

Despite the issues described above, the counselor indicated that the COPE program was very easy to deliver being it was read word for word from an instructor manual, thus could be easily delivered by anyone. She also indicated that despite the issues mentioned she would still recommend the program to other students and would continue to use the program in her school. She stated, “I think it could be a valuable, simple program to deliver, however there would need to be some changes.”

When asked if she felt COPE should be delivered to all students she stated, “No, I don’t think that all students would find the material helpful- some mindsets are already positive.” Therefore, based on feedback from the school counselor facilitating the COPE intervention, this could be a valuable tool to continue to use at Wahpeton High School with some minor changes to program length and incorporating discussion of the previous week’s homework.

CHAPTER SIX. DISCUSSION AND RECOMMENDATIONS

Interpretation of Results

As previously described, the RE-AIM model is a framework that focuses on behavioral health interventions and organizes information for evaluation of public health interventions. The acronym stands for Reach, Effectiveness, Adoption, Implementation, and Maintenance which can determine the impact of public health interventions. This framework is used to understand the strengths and weaknesses of different approaches to health promotion and chronic disease self-management in public health settings (Glasgow et al., 2017). RE-AIM also enables program planners to consider various essential program elements that can improve the adoption and implementation of effective, evidence-based interventions. Therefore, to translate knowledge gained from the COPE intervention for use in public health settings, such as other rural ND schools, the RE-AIM framework is utilized to discuss study results.

Reach

The target population for the COPE project was adolescent youth ages 12-18 who were enrolled at Wahpeton High School. A total of twelve students were recruited to participate in the program. Of those twelve who were signed up to participate in COPE, eleven students successfully completed the program. One student was unable to complete the COPE program due to social circumstances which required temporary displacement and subsequent absence from Wahpeton High School.

Although the participant sample for this study for this pilot project was small, there was an approximately equal distribution between age and gender. The sample of participants included students both with and without prior mental health diagnosis, thereby enabling the program to serve a dual purpose as an educational skills building program, as well as a program that could

offer supportive treatment for those students with prior mental health diagnosis. Students participating in the program agreed to participate on a volunteer basis and were instructed that they were permitted to drop out of the program at any time. Despite being delivered on a volunteer basis, all participants continued to attend COPE week after week, indicating that students found benefit in attending COPE sessions. With continued use and the dissemination of study results showing the efficacy, feasibility, and acceptability by students, subsequent interventions may reach larger proportions of students at Wahpeton High School and with its success may even potentially reach students in other rural ND schools.

Efficacy

Overall, the results of the COPE intervention were encouraging. Program participants were asked to rate the degree to which they found the program helpful. The mean score selected by students was 3.3 on a Likert scale of 1 to 4, indicating that students found the program moderately to very helpful in improving their knowledge and ability to recognize patterns of thinking, feeling, and behaving in response to stress. Additionally, all eleven participants indicated that they had not only learned but were also using new skills taught in the program to manage thoughts, feelings, and behaviors.

While no statistical significance could be found for the overall improvement in participant depression and anxiety scores from pre-to post-intervention, the COPE intervention does, in fact, demonstrate operational significance. Several students showed improvement in their anxiety and depression scores from pre-intervention to post-intervention, some with significant improvements. Seven of the eleven participants had a decrease in their anxiety scores from baseline, indicating an improvement in symptomatology. Likewise, four participants had a decrease in their depression scores, indicating improvement in depression symptomatology. One

student in particular had a significant decrease, scoring severe on pre-program survey and only moderate on post-program survey. The same participant had also answered in the affirmative to the PHQ-A question asking if the teen had, “Thoughts that you would be better off dead, or of hurting yourself in some way” on the pre-survey, but indicated no such thoughts on the post survey. This improvement in scores occurred across all levels of depression and anxiety, for students with prior underlying mental health conditions and for those without, indicating that the program is effective across primary, secondary, and tertiary levels of prevention. The greatest improvements were seen in anxiety scores for teens participating in this program. This may be due to the fact that anxiety may potentially be easier to treat via the development of positive coping skills such as deep breathing, guided imagery, positive self-talk, etc, which were some of the main components of the program.

While some students showed improvement in scores, there were also some who did not. One participant had undergone hospitalization and intensive medical treatment for mental health issues, yet despite treatment had the highest possible scores on both the anxiety and depression questionnaires at pre-intervention and post-intervention. However, because the student participated in the COPE program the student was subsequently able to be referred for timely intensive mental health treatment after indicating suicidal thoughts/plans on the pre-screening depression form. Had the student not participated in the COPE program it is possible that treatment may not have been initiated when it had, also contributing to the potential for suicide or self-harm in the absence of needed mental health treatment. Therefore, participation in the COPE program had significant impact on the student’s overall mental health, safety, and well-being. Another participant had demonstrated low scores (PHQ 1, GAD 2) at pre-intervention and at post-intervention had a moderate increase (PHQ 8, GAD 10). Therefore, it can be concluded

that there are indeterminate individual factors contributing to the success of the program that cannot be accounted for. Even in medical practice, one medical therapy may not work for one individual but works well for another. It is difficult to know whether there is an ideal tool that can be used as a stand-alone intervention for the prevention and treatment of depression and anxiety due to various individual factors contributing to its success. COPE, however, is a program that may be very effective for some teens as a prevention and treatment program, and may thereby serve as a stand-alone option for some and as an excellent adjunct to other therapies for others.

In prior studies evaluating the efficacy of COPE in reducing anxiety and depression scores among high school students, in the school setting, results have been positive. Prior studies utilized Beck's Youth Inventory for depression, anxiety and self-concept which demonstrated significant improvement in both anxiety and depression scores (Edwards, 2014; Melnyk & Lusk, 2014). Hofmann, Asnaani, Vonk, Sawyer, & Fang (2012), performed a comprehensive survey of 269 meta-analytic studies examining the efficacy of CBT for various disorders including depression, anxiety, and general stress disorders. According to the meta-analytic review, the efficacy of CBT for depression was mixed, with some studies suggesting strong evidence and others reporting weak support, while the efficacy of CBT for anxiety and stress disorders was consistently strong. Therefore, the results of this study are consistent with that of other studies examining the efficacy of CBT for depression, anxiety, and stress disorders.

Adoption

Wahpeton High School was chosen as the study site for this pilot project due to reported shortages in mental health resources. School staff reported struggles with meeting the mental health needs of students and reported an ongoing search for an evidence-based mental health tool

that could be utilized in the school setting. The South East Education Cooperative (SEEC) is a state funded corporation that supports area schools through various methods intended to strengthen teaching, learning, and student support in North Dakota. SEEC has been supportive of rural ND schools in identifying an evidence-based mental health tool that could be feasibly replicated in rural ND school systems. With that support, the SEEC agreed to fund this pilot project with hopes that this program could be replicated in other schools if deemed successful.

Although there were issues with program delivery during this pilot including time constraints in the delivery of the program and some confusion about incorporating discussion of the participants homework, the counselor facilitating this pilot program indicated that the COPE program was very easy to deliver being it was read word for word from an instructor manual, thus could be easily delivered by anyone. She also stated that she would both recommend the program to other students and would like to continue to offer the program at Wahpeton High School. With some minor changes to some of the delivery components the facilitator felt that COPE was a valuable, simple tool that could be delivered to help adolescents learn healthy behaviors and coping mechanisms. Therefore, with some recommendations for minor changes to program delivery, this is a program that could easily be replicated in other rural schools.

The adolescent youth who participated in COPE also gave positive reviews of the program. The participants voluntarily attended COPE each week and the majority stated that they found the program helpful and would recommend the program to other students, thereby suggesting that this is a program that could be well-accepted and preferred by students in other rural ND schools as well.

Implementation

In any public health intervention, there is the concern with the ability to maintain consistency in program delivery and of the programs intended use when distributing interventions for use. By the nature of its design, the COPE program is an ideal mental health tool for use in public school settings. The program is a simple, manual-based program, in which instructors deliver the content of the intervention word for word from the instructor manual, thereby ensuring consistency in the delivery of program content. Facilitators are also required to complete a training module and achieve a passing score on a post-test in order to become licensed to purchase COPE materials and deliver the program, thus ensuring the competency of COPE instructors.

Maintenance

Currently there is no established plan for the continuation of COPE or for its distribution to other schools. The school counselor stated that she would like to continue to offer COPE at Wahpeton High School, however the frequency of intervention has not yet been determined. An executive summary of study findings will be distributed to Wahpeton High School and the SEEC for review as they deliberate the details for continuing COPE at Wahpeton and to aid in their decision to implement COPE as an evidence-based mental health tool in other rural ND schools.

Limitations

As with any study, there were limitations to this practice improvement project. The sample size for this project was a limitation in that there were only eleven participants who completed the program. In general, twenty-five subjects is the minimum number of subjects needed for most statistical analysis. Therefore, given the small sample size for this project it is difficult to analyze the results of this study from a statistical approach.

Due to the already small sample size for the COPE project, there was no identified inclusion or exclusion criteria for the project. Nor was there a control group in which to compare study results. Any students wishing to participate in the COPE intervention were encouraged to do so. This limited control for various factors such as concurrent medical therapy. Because it was not within the scope of this project to control for other forms of treatment that participants may have received during the COPE intervention, it cannot be assumed that improvement in participant's symptoms can be solely attributed to the COPE intervention.

Selection bias may have also contributed to the results of the study. While all students attending Wahpeton High School were invited to participate in COPE, there were also students who were identified by the school counselor as whom she thought could potentially benefit from the intervention. Those select students were, therefore, encouraged to participate. In doing so, the participant group consisted of students with known social and mental health challenges, not necessarily reflective of that of the general high school population.

Another potential limitation to the study was the time frame in which the post-program screenings and surveys were conducted. The COPE intervention concluded at the start of finals week for the high school students, which was also just prior to the Christmas holiday. It is impossible to know for sure if the added stress of studying for finals, potential concerns about grades, and any stress provoked by the holiday season may have had any negative impact on the post-program screening results. It would have been ideal to complete the program and post-program screenings during a more typical school week, however time constraints did not allow for this.

Recommendations

While statistical significance could not be found for overall improvement in depression and anxiety scores for teens who participated in this project, several participants did show improvements from their baseline scores. Some teens even demonstrated significant improvement from pre- to post-intervention. The program was well accepted by teens, who indicated that they found the program helpful in developing skills to positively cope with thoughts, feelings, and behaviors. Every teen participating in COPE also stated that they would recommend this program to other teens. While there may not be an ideal tool that can be used as a stand-alone intervention for the prevention and treatment of depression and anxiety due to various individual factors, COPE is a program that may be very effective for some teens as a prevention and treatment program, and may thereby serve as a stand-alone option for some and as an excellent adjunct to other therapies for others. Based on positive response from COPE participants and the absence of any other available mental health programs, COPE should continue to be offered at Wahpeton High School and should be considered for dissemination in other rural ND schools.

In order to improve the delivery of COPE moving forward suggestions have been provided by the school counselor facilitating this pilot project. Following each COPE session, participants are asked to complete homework, delineated in the teen handbook, for the week leading up to the next session. The homework allows teens to practice using the skills taught in the previous lesson. The COPE instructor training does not clarify the discussion of this homework prior to the start of each COPE session, however, without the discussion of the prior week's homework it is difficult to gauge students understanding of the material and does not allow for processing. It is recommended that time be allotted for the discussion of the

participant's homework prior to delivering the session content for the week. Along with this recommendation, it is suggested that 40-50 minutes be allotted for the delivery of COPE sessions.

Implications for Practice

Depression and anxiety are the most common mental health disorders among adolescents, affecting 25% of adolescent youth (Foy, 2010). When devoid of adequate treatment and coping mechanisms teens suffering from depression and anxiety are typically in poorer physical and mental health than their peers and may be more likely to engage in risky behaviors like substance abuse, unsafe sexual activity, fighting, and weapon carrying (Ozer et al., 2009). As discussed, the key to health promotion among adolescents, especially those with anxiety, depression, and other mental illness, is timely access to mental health services and other sources of information designed help adolescents learn healthy behaviors and coping mechanisms.

Nurse practitioners are well-known for education and health promotion strategies. The COPE program is an evidence-based intervention that was developed by an advanced practice nurse in an effort to enhance access to mental health prevention and treatment services for adolescent youth who are plagued by issues in access to mental health care. It is essential that nurse practitioners have the ability to identify and successfully implement programs in unique practice arenas, such as school and community agencies, in order to improve patient outcomes, strengthen access to care, and improve health care delivery. Thus far, the COPE program has reached only a handful of teens at Wahpeton High School. With the hope of reaching a larger population of rural ND adolescent youth this project has been disseminated and promoted via poster presentation at the annual North Dakota Nurse Practitioner Association Pharmacology Conference. Results will be disseminated again this spring at the North Dakota State University

Health Professions poster presentation. An executive summary outlining the project details and results will also be submitted to Wahpeton High School and the South East Education Cooperation as they consider the use of COPE in other rural ND schools. An executive summary of the practice improvement project can be found in Appendix K.

Implications for Future Research

Considering this was a pilot program for Wahpeton High School, it would be ideal to re-evaluate program components with the recommended changes. Now that the facilitator is familiar with program delivery and certain aspects can be altered to improve the delivery it would be ideal to see if this results in any changes. Likewise, a larger sample size would be ideal to evaluate program success. Perhaps the program could be delivered multiple times and results compared.

There are many factors not discussed in this pilot program that influence mental health including sleep, exercise, and nutrition. COPE founders offer the seven-session program, that was delivered during this practice improvement project as well as a fifteen-session program that builds upon the seven-session program to include topics on nutrition, sleep, and exercise in combating low self-esteem, depression, and anxiety. Future studies may compare outcomes of the fifteen-session program to that of the seven, as well as outcomes of group therapy versus individual therapy.

Application to Other DNP Roles

Nurse Practitioners in a wide range of roles and in a variety of settings may interact with adolescents. It is essential that Nurse Practitioners recognize that adolescence is a critical time for the development of life-long behaviors and healthy coping mechanisms. Likewise, nurse practitioners must ensure that access to health services and other sources of information that help

adolescents learn healthy behaviors and coping mechanisms are in place in order to promote mental health and resiliency during this period of development. As discussed, there are many barriers faced by adolescents in obtaining mental health resources and treatment, especially for those living in rural communities. Nurse practitioners must be prepared to lead, educate, and collaborate with other professionals, including school counselors, teachers, parents, and other community members to meet the healthcare needs of adolescent youth. By identifying and evaluating evidence-based solutions to health care problems, like the COPE intervention, nurse practitioners in all arenas can improve patient outcomes, strengthen access to care, and improve health care delivery.

Conclusion

The goal of this practice improvement project was to evaluate the success and efficacy of the Creating Opportunities for Personal Empowerment (COPE) program at Wahpeton High School and to determine if it is a program that can be reasonably replicated in other ND schools. Overall the intervention was successful and well-accepted by participants. Several participants showed improvements from their baseline depression and anxiety scores. Teens also reported that the program was helpful in developing their knowledge and ability to recognize patterns of thinking, feeling and behaving in response to stress and taught them skills needed to manage thoughts, feelings, and behaviors. Every teen participating in COPE indicated that this is a program that they would recommend to other teens.

School staff facilitating the program also indicated that the COPE program is a simple, easy to deliver intervention that may be beneficial for students. With some minor recommendations for improved delivery, this is a program that will continued to be recommended to students and offered by the staff at Wahpeton High School.

COPE is a program that was very effective for some teens and may thereby serve as a stand-alone therapy and skills building program for some and as an excellent adjunct to other therapies for others. Based on positive response from COPE participants, the COPE program appears to be an effective solution to improving the overall mental health, resiliency, and social emotional development of participants through the development of healthy coping mechanisms. COPE should continue to be offered at Wahpeton High School and should be considered for dissemination in other rural ND schools.

REFERENCES

- Ahmed, S., Bittencourt-Hewitt, A., Sebastian, C. (2015) Neurocognitive bases of emotion regulation development in adolescence. *Developmental Cognitive Neuroscience, 15*, 11-25.
- American Academy of Child and Adolescent Psychiatry. (2007). Practice parameters for the assessment and treatment of children and adolescents with depressive disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 1503-1526.
- American Association of Colleges of Nursing. (2004). AACN position statement on the practice doctorate in nursing. Retrieved from <http://www.aacn.nche.edu/publications/position/DNPpositionstatement.pdf>
- Aupont, O., Doerfler, L., Connor, D.F. et al. (2013). A collaborative care model to improve access to pediatric mental health services. *Administration and Policy in Mental Health and Mental Health Services Research, 40*(4): 264-273. doi:10.1007/s10488-012-0413-0
- Bains, R. M., & Diallo, A. F. (2016). Mental health services in school-based health centers: A systematic review. *The Journal of School Nursing, 32*(1), 8-19.
- Beck, A., Rush, A., Shaw, B., & Emery, G. (1979). *Cognitive theory of depression*. New York, NY: Guilford Press.
- Canady, V. (2015). N.D. advocates, lawmakers addressing BH challenges identified in reports. *Mental Health Weekly, 25*(3), 1-6. <http://dx.doi.org/DOI: 10.1002/mhw.30041>
- Centers for Disease Control and Prevention. (2015). North Dakota 2015 high school (grades 9-12) YRBS results. Retrieved from <https://www.nd.gov/dpi/uploads/1298/2015NDHStatewideYRBSReport20151110FINAL2NoCover.pdf>

- Cheung, A. H., Zuckerbrot, R. A., Jensen, P. S., Ghalib, K., Laraque, D., & Stein, R. E. (2007). Guidelines for adolescent depression in primary care (GLAD-PC): II treatment and ongoing management. *Pediatrics*, *120*, e1313-1326.
- Children's Hospital Association. (2012). Pediatric specialist physician shortages affect access to care. Retrieved from <https://www.childrenshospitals.org/issues-and-advocacy/graduate-medical-education/fact-sheets/2012/pediatric-specialist-physician-shortages-affect-access-to-care>
- Clarke, G., Rhode, P., Lewinsohn, P., Hops, H., & Seely, J. (1999). Cognitive-behavioral treatment of adolescent depression: Efficacy of acute group treatment and booster sessions. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38*(3), 272-279.
- Cooper, G. D., Clements, P. T., & Holt, K. E. (2012). Examining childhood bullying and adolescent suicide: Implications for school nurses. *The Journal of School Nursing*, *28*, 275-283. <http://dx.doi.org/10.1177/1059840512438617>
- Creed, T., Reisweber, J., & Beck, A. (2011). *Cognitive therapy for adolescents in school settings*. New York: Guilford Press.
- Cummings, W., Wen, H., & Druss, B. (2013). Improving access to mental health services for youth in the United States. *JAMA*, *309*(6), 553-554.
- De Haan, A. M., Boon, A. E., De Jong, J. T., Hoeve, M., & Vermeiren, R. R. (2013). A meta-analytic review on treatment dropout in child and adolescent outpatient mental health care. *Clinical Psychology Review*, *33*, 698-711.
- Desrochers, J., & Houck, G. (2013). Chapter 1: Depression in childhood adolescence: A quiet crisis. In *Depression in children and adolescents: guidelines for school practice* (pp. 11-

- 21). Retrieved from
http://www.nasponline.org/publications/booksproducts/N1306_Chapter_1.pdf
- Edwards, S. (2014). *Creating opportunities for personal empowerment for adolescent students in a rural high school* (Doctoral dissertation). Retrieved from
http://encompass.eku.edu/dnpcp/3/?utm_source=encompass.eku.edu%2Fdnpcp%2F3&utm_medium=PDF&utm_campaign=PDFCoverPages
- Foy, J. (2010). Enhancing pediatric mental health care: Report from the American Academy of Pediatrics task force on mental health. *Pediatrics, 125* (supplement 3), s69-s160.
- Gladstone, T. R., Beardslee, W. R., & O'Connor, E. E. (2011). The prevention of adolescent depression. *Psychiatric Clinics of North America, 34*(1), 35-52. <http://dx.doi.org/10.1016/j.psc.2010.11.015>
- Glasgow, R., Boles, S., & Vogt, T. (2017). RE-AIM. Retrieved from <http://re-aim.org/about/what-is-re-aim/>
- Heron, M. (2016). *Deaths: Leading causes for 2014* [National Vital Statistics Report]. Retrieved from National Center for Health Statistics:
http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_05.pdf
- Hofmann, S., Asnaani, A., Vonk, I., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy and Research, 36*(5), 427-440. <http://dx.doi.org/10.1007/s10608-012-9476-1>
- Jackson-Allen, P. L., & McGuire, L. (2011). Incorporating mental health checkups into adolescent primary care visits. *Pediatric Nursing, 37*(3),137-140.

- Jelsma, L. (2014). *Use of the COPE intervention for depressed adolescents* (Doctoral dissertation, Grand Valley State University). Retrieved from <http://scholarworks.gvsu.edu/cgi/viewcontent.cgi?article=1024&context=dissertations>
- Katzman, D., & Neinstein, L. (2012). Adolescent medicine. In Goldman, L. & Schafer, A. (Eds.), *Goldman's Cecil Medicine* (59-63). Philadelphia, PA: Elsevier Saunders.
- Kendall, P. (2006). *Coping cat manual*. Ardmore, PA: Workbook.
- Lewinsohn, P., Clarke, G., Hops, H., & Andrews, J. (1990). Cognitive-behavioral treatment for depressed adolescents. *Behavior Therapy*, *21*, 385-401.
- Lowe, B., Decker, O., Muller, S., Brahler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Medical Care Journal*, *46*(3), 266-274.
<http://dx.doi.org/10.1097/MLR.0b013e318160d093>
- Lusk, P., & Melnyk, B. M. (2011). The brief cognitive-behavioral COPE intervention for depressed adolescents: Outcomes and feasibility of delivery in 30 minute outpatient visits. *Journal of the American Psychiatric Nurses Association*, *17*(3), 226-236.
- Lusk, P., & Melnyk, B. M. (2013). COPE for depressed and anxious teens: A brief cognitive-behavioral skills building intervention to increase access to timely, evidence based-treatment. *Journal of Child and Adolescent Psychiatric Nursing*, *26*(1), 23-31.
- March, J. (2009). The future of psychotherapy for mentally ill children and adolescents. *Journal of Child Psychology and Psychiatry*, *50*(1-2), 170-179.
- McCarty, C., & Weisz, J. (2007). Effects of psychotherapy for depression in children and adolescents: what we can (and can't) learn from meta-analysis and component profiling. *Journal of the Academy of Child and Adolescent Psychiatry*, *46*(7), 879-886.

- Melnyk, B. M. (2003). *COPE (Creating Opportunities for Personal Empowerment) for teens: A 7-session cognitive behavioral skills building program.*
- Melnyk, B. M., Jacobson, D., Kelly, S., Belyea, M., Shaibi, G., Small, L., ... Marsiglia, F. F. (2013). Promoting healthy lifestyles in high school adolescents: A randomized controlled trial. *American Journal of Preventive Medicine, 45*(4), 407-415.
- Melnyk, B. M., Jacobson, D., Kelly, S., O'Haver, J., Small, L., & Mays, M. Z. (2009). Improving the mental health, healthy lifestyle choices and physical health of Hispanic adolescents: A randomized controlled pilot study. *Journal of School Health, 79*(12), 575-584.
- Melnyk, B. M., Kelly, S., & Lusk, P. (2014). Outcomes and feasibility of a manualized cognitive-behavioral skills building intervention: Group COPE for depressed and anxious adolescents in school settings. *Journal of Child and Adolescent Psychiatric Nursing.*
<http://dx.doi.org/10.1111/jcap.12058>
- Melnyk, B. M., Small, L., Morrison-Beedy, D., Strasser, A., Spath, L., Kreipe, R., ... Jacobson, D. (2007). The COPE healthy lifestyles TEEN program: Feasibility, preliminary efficacy and lessons learned from an after school group intervention with overweight adolescents. *Journal of Pediatric Health Care, 21*(5), 315-322.
- Merikangas, K. R., Small, L., Morrison-Beedy, D., Strasser, A., Spath, L., Kreipe, R., ... O'Haver, J. (2010). Lifetime prevalence of mental disorders in U.S. adolescents: Results from the national co-morbidity survey replication- Adolescent supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 49*(10), 980-989.
- Millett, R. A. (2000). Introduction to logic models. Retrieved from
<https://apps.publichealth.arizona.edu/CHWToolkit/PDFs/Logicmod/chapter1.pdf>

- Moran, K., Burson, R., & Conrad, D. (2014). *The doctor of nursing practice scholarly project: A framework for success*. Burlington, MA: Jones & Bartlett Learning.
- Murphey, D., Vaughn, B., & Barry, M. (January 2013). Adolescent health highlight: Access to mental health care. Retrieved from http://www.childtrends.org/wp-content/uploads/2013/04/Child_Trends-2013_01_01_AHH_MHAccessl.pdf
- National Association of School Nurses. (2012). The case for school nursing. Retrieved from http://www.nasn.org/portals/0/about/2012_The_Case_for_School_Nursing.pdf
- National Center for Mental Health Checkups at Columbia University. (2012). Youth mental health and academic achievement. Retrieved from <http://www.flgov.com/wp-content/uploads/childadvocacy/mental-health-and-academic-achievement-2-24-12.pdf>
- National Collaborating Centre for Mental Health. (2005). Depression in children and young people: Identification and management in primary, community, and secondary care. In (Ed.), . Leicester and London: British Psychological Society and Royal College of Psychiatrists.
- National Institute for Health Care Management. (2010). Improving early identification & treatment of adolescent depression: Considerations & strategies for health plans. Retrieved from http://www.nihcm.org/pdf/Adol_MH_Issue_Brief_FINAL.pdf
- National Research Council & Institute of Medicine. (2009). *Adolescent health services: Missing opportunities*. The National Research Council and The Institute of Medicine; Washington, D.C.: National Academy of Science Press.
- National Survey of Children's Health. (2007). *North Dakota mental and emotional well-being profile from the National Survey of Children's Health*. Retrieved from Child and

Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website: www.childhealthdata.org

North Dakota Department of Health. (2011). *North Dakota five-year needs assessment (2011-2015) for the maternal and child health services title v block grant program*. Retrieved from <http://www.ndhealth.gov/familyhealth/publications/NDNeedsAssessment2011-2015.pdf>

Osius, E., & Rosenthal, J. (2009). The National Research Council/Institute of Medicine's Adolescent Health Services: Highlights and considerations for state health policymakers. *National Academy for State Health Policy*, 1-22. Retrieved from <http://nashp.org/sites/default/files/AdolHealth.pdf?q=files/AdolHealth.pdf>

Ozer, E. M., Zahnd, E. G., Adams, S. H., Husting, S. R., Wibbelsman, C. J., Normal, K. P., & Smiga, S. M. (2009). Are adolescents being screened for emotional distress in primary care? *Journal of Adolescent Health*, 44, 520-527.

Richardson, L. P., McCauley, E., Grossman, D. C., McCarty, C. A., Richards, J., Russo, J. E., ... Katon, W. (2010). Evaluation of the patient health questionnaire (PHQ-9) for detecting major depression among adolescents. *Pediatrics*, 126(6), 1117-1123. <http://dx.doi.org/10.1542/peds.2010-0852>

Ritchie, T. (2011). *Evaluation of the impact of the creating opportunities for personal empowerment (COPE) healthy lifestyles thinking, emotions, exercise, and nutrition (TEEN) program in a rural high school health class* (Unpublished doctoral dissertation). West Virginia University, Morgantown, West Virginia.

- Rushton, J. L., Forcier, M., & Schecktmann, R. M. (2002). Epidemiology of depressive symptoms in the National Longitudinal Study of Adolescent Health. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(2), 199-205.
- Ryan, P. (2009). Integrated theory of health behavior change: Background and intervention development. *Clinical Nurse Specialist, 23*(3), 161-172.
- Satcher, D. (2004, June). American Academy of Pediatrics policy statement: School-based mental health services. *Pediatrics, 113*(6), 1839-1845.
- Siu, A. (2016). Screening for depression in children and adolescents: US Preventative Services Task Force recommendation statement. *Annals of Internal Medicine.*
<http://dx.doi.org/10.7326/M15-2957>
- Spirito, A., Esposito-Smythers, C., Wolff, J., & Uhl, K. (2011). Cognitive-behavioral therapy for adolescent depression and suicidality. *Child and Adolescent Psychiatric Clinics, 20*(2), 191-204.
- Thapar, A., Collishaw, S., Pine, D. S., & Thapar, A. K. (2012). Depression in adolescence. *Lancet, 379*(9820), 1056-1067. [http://dx.doi.org/10.1016/S0140-6736\(11\)60871-4](http://dx.doi.org/10.1016/S0140-6736(11)60871-4)
- Watanabe, N., Hunot, V., Omori, I., Churchill, R., & Farukawa, T. (2007). Psychotherapy for depression among children and adolescents: A systematic review. *Acta Psychiatrica Scandinavica, 116*, 84-95.
- Weisz, J., Jensen-Doss, A., & Hawley, K. (2006). Evidence-based youth psychotherapies versus usual clinical care. *The American Psychologist, 61*(7), 671-689.
- Williams, S., O'Connor, E., Eder, M., & Whitlock, E. (2009). Screening for child and adolescent depression in primary care settings: A systematic review for the U.S. Preventative Services Task Force. *Pediatrics, 123*(4), 716-734.

Wisdom, J., Clarke, G., & Green, C. (2006). What teen want: Barriers to seeking care for depression. *Administration and Policy in Mental Health, 33*(2), 133-145.

Zhou, X., Hetrick, S. E., Cuijpers, P., Qin, B., Barth, J., Whittington, C. J.... Xie, P. (2015). Comparative efficacy and acceptability of psychotherapies for depression in children and adolescents: A systematic review and network meta-analysis. *World Psychiatry, 14*(2), 207-222.

APPENDIX A: PERMISSION TO USE COPE

Hi Jessica,

I would be delighted for you to implement my evidence-based COPE program for your DNP project--it truly is a terrific EBP project for your DNP. To what age teens will you deliver COPE and how many do you project will receive it? When will you start the project?

Before you begin to deliver the program, you will need to enroll in the on-line COPE training at www.cope2thrive.com. The training takes approximately 3 hours and reviews the key elements of cognitive-behavioral therapy, the evidence behind COPE, and how to deliver the program.

I so look forward to you bringing the program to North Dakota. So many teens could benefit from it there. Best wishes and please do not hesitate to let me know if you have further questions.

Warm regards,

Bern

Bernadette Melnyk, PhD, RN, CPNP/PMHNP, FAANP, FNAP, FAAN

APPENDIX B. RECRUITMENT LETTER

NDSU NORTH DAKOTA
STATE UNIVERSITY

School of Nursing
Physical address: 1919 University Drive North, Suite 1
Fargo, ND 58108-6050
(701) 231-7395

Dear Student and Guardian,

I am happy to inform you about an exciting opportunity that will be coming to your school this fall. This fall we will be offering a pilot program called Creating Opportunities for Personal Empowerment (COPE). COPE is a school-based program that is designed to equip adolescents with healthy coping skills that can be used to improve optimal mental health, resiliency, and social- emotional development. As you are certainly aware, adolescence is a critical time in the development of life-long behaviors and healthy coping mechanisms. The key to health promotion amongst adolescents is access to health services and other sources of information that help adolescents learn healthy behaviors and coping mechanisms.

This program will be delivered in a group setting during the student's scheduled "mI time" session at the end of the scheduled school day. The COPE program is free to teens that would like to participate. The program utilizes a workbook to deliver educational material. This workbook describes and teaches various ways to deal with stress and teaches different coping skills that help teens handle difficult situations in more effective ways. There are seven sessions that will be delivered over the course of seven weeks with each session lasting approximately 30 minutes. The program will be offered starting Wednesday October 26th and will be delivered once weekly on Wednesday's for a total of 8 weeks. The program will be delivered by the high school counselor and a NDSU nurse practitioner student. The program planning, implementation, and evaluation will be facilitated by the NDSU student. The school counselor will help with delivery of the program but will not have any role in the data collection or research associated with the delivery of this program. If this is something that you are interested in please contact Leslie Lemke by e-mail at Leslie.Lemke@k12.nd.us or by phone at 701-642-2604 ext 5084 or Jessica Lindblom by email at Jessica.beebe@ndsu.edu or by phone at 701-893-5261 for further information. The deadline to sign up to participate in this program and return required forms will be Friday, October 21st.

Sincerely,

Jessica R. Lindblom, RN, BAN
Graduate Nurse Practitioner Student
North Dakota State University

APPENDIX C. PARENTAL CONSENT FORM

NDSU NORTH DAKOTA
STATE UNIVERSITY

School of Nursing

Physical address: 1919 University Drive North, Suite 1

Fargo, ND 58108-6050

(701) 231-7395

PARENT CONSENT FORM

Title of Research Study: COPE: Evaluation of a School-Based Intervention to Improve the Overall Mental Health, Resiliency, and Social-Emotional Development of Rural North Dakota Adolescent Youth

This study is being conducted by: Jessica Lindblom, BAN, RN, Doctor of Nursing Practice Student and will be supervised by Molly Secor-Turner, PhD, MSN, RN.

Why is my child being asked to take part in this research study?

We are offering the COPE program to any teens ages 12-18 at Wahpeton High School who are interested in participating in the program. The program will teach teens skills to positively manage thoughts, feelings, and behaviors in response to stress.

What is the reason for doing the study?

The purpose of this project is to determine if the Creating Opportunities for Personal Empowerment (COPE) program is an effective strategy for improving the mental health, resiliency, and social- emotional development of rural ND teens.

What will my child be asked to do?

Your child will be asked to participate in a seven-session program. During the program sessions the teens will be given the chance to reflect on what they are learning and try to apply it to their lives.

As part of the project some information will be collected from your child to learn more about who participated in the program and to measure the success of the program. Questions will ask about your child's feelings, emotions, and coping skills. Some sample questions include, "Over the last 2 weeks how often have you been bothered by feeling bad about yourself", and "Over the last 2 weeks how often have you been bothered by worrying too much about different things." In addition, we will ask for descriptive information about your child, such as age, grade, gender, race/ethnicity, etc. All information collected on these surveys will be kept private and confidential

Where is the study going to take place, and how long will it take?

The program will be delivered as an after school group program at Wahpeton High School. There will be seven, 30-minute sessions given over the course of seven weeks. The first and last session will last approximately 60 minutes to allow time to complete the surveys that are a part of this project. The total amount of time it will take for your

teen to take part in this project is roughly 4 hours and 30 minutes. The program is free to any students who participate.

What are the risks and discomforts?

Potential risks to your teen include the chance that your child may be uncomfortable during the program if asked sensitive information or could experience mental or psychological distress thinking about stressful situations. However, if your child experiences any of these, the school counselor will be present to help work through these issues. Any reports of thoughts about harming self or others or experiences of abuse or neglect will be reported to authorities following mandated reporting laws in the state of North Dakota.

Are their benefits to my child?

Potential benefits of completion of the program for your child may include an improved ability to cope with and manage stress. This may in turn improve the overall mental health, resiliency, and social emotional development of your child. However, your child may not get any benefit from participating in this program.

What are the benefits to other people?

If this program is successful it may continue to be utilized by ND schools to promote the mental health, resiliency, and social-emotional development of students.

Does my child have to participate in the study?

Whether your child participates in this study is your choice. If you and your child decide to participate in the study, either of you may change your mind or stop participating at any time without penalty or loss of benefits to which you and your child are already entitled.

Who will have access to my child's information? How will it be presented?

We will keep all research records that identify your child private. Your child's information will be combined with information from other students taking part in the study. When we write about the study, we will write about the combined information that we have gathered and will not individually report any information. We may publish the results of the study; however, we will keep your child's name and other identifying information private. You should know, however, that there are some circumstances in which we may have to break confidentiality. For example the law may require us to report if we suspect your child has been abused or neglected, or if s/he is a danger to himself or others.

Is compensation being offered for participation?

Incentives will be placed to encourage the completion of all seven sessions. Each student will place their name in a drawing each week that they attend the COPE program. At the end of the program each student's name will have been entered once for each week that they attended the program, thus the more sessions attended the better the odds of winning a prize. At the end of the last COPE session student names

will be drawn for the chance to win 3 prizes valued at approximately \$15 each, such as movie tickets, iTunes gift cards, or restaurant coupons.

What if I have questions?

Before you decide whether to accept this invitation to take part in this program, please ask any questions that might come to mind now. Later, if you have any questions about the study, you can contact the researcher, Jessica Lindblom at jessica.beebe@ndsu.edu or by phone at 701-893-5261 or her advisor Molly Secor-Turner at molly.secor-turner@ndsu.edu or by phone at 701-231-7517

What are my child’s rights as a research participant?

Your child has rights as a participant in research. If you have questions about your child’s rights, or complaints about this research, you may talk to the researcher or contact the NDSU Human Research Protection Program by:

- Telephone: 701.231.8995 or toll-free 1.855.800.6717
- Email: ndsu.irb@ndsu.edu
- Mail: NDSU HRPP Office, NDSU Dept. 4000, PO Box 6050, Fargo, ND 58108-6050.

The role of the Human Research Protection Program is to see that your rights are protected in this research; more information about your rights can be found at: www.ndsu.edu/irb .

Documentation of Informed Consent:

You are freely making a decision whether to be in this research study. Signing this form means that

1. you have read and understood this consent form
2. you have had your questions answered, and
3. you give your permission for your child to be in the study.

You will be given a copy of this form to keep.

Your signature

Date

Your printed name

Your Child’s Name

Signature of researcher explaining study

Date

Printed name of researcher explaining study

APPENDIX D. YOUTH ASSENT FORM

NDSU NORTH DAKOTA
STATE UNIVERSITY

School of Nursing

Physical address: 1919 University Drive North, Suite 1

Fargo, ND 58108-6050

(701) 231-7395

YOUTH ASSENT FORM

Title of Research Study: COPE: Evaluation of a School-Based Intervention to Improve the Overall Mental Health, Resiliency, and Social-Emotional Development of Rural North Dakota Adolescent Youth

Invitation:

- You are invited to take part in a research study to teach teens skills to positively manage thoughts, feelings, and behaviors in response to stress. The study is being done by Jessica Lindblom, BAN, RN, Doctor of Nursing Practice Student and will be supervised by Molly Secor-Turner, PhD, MSN, RN.

What will the research involve?

- If you agree to participate, you will attend after school COPE sessions with some of your peers once a week for a total of seven weeks. The sessions will last approximately 30 minutes. The sessions are designed to teach teens how to cope with and manage stress in positive ways. As a part of the program you will be asked some questions to learn more about who participated in the program and to measure the success of the program. Questions will ask about your feelings, emotions, and coping skills. Some sample questions include, "Over the last 2 weeks how often have you been bothered by feeling bad about yourself", and "Over the last 2 weeks how often have you been bothered by worrying too much about different things". In addition, we will ask for information about you such as your age, grade, gender, race/ethnicity, etc. All information collected on these surveys will be kept private and confidential.
- The total amount of time it will take for you to take part in this project is roughly 4 hours and 30 minutes. The first and last session will last approximately an hour to allow time to complete the surveys at the start and finish of the program otherwise each session will last about 30 minutes.

What are any risks or benefits for me?

- Potential risks to you include issues of confidentiality, potential for you to feel uncomfortable during the intervention, and the potential for experiencing mental or psychological distress. Every effort will be made to ensure your safety and confidentiality during this project.
- It may be good for you to take part in this research because this program has

been shown to help teens learn skills to improve their ability to cope with and manage stress. This may improve your overall mental health and help you develop lifelong skills to manage difficult situations. You can feel good about helping to determine if this program is successful and if it is a strategy that other ND schools can use to promote the mental health and improve communication and problem-solving skills for other students.

Do I have to take part in the research?

- Your parent(s) or legal guardian(s) have given their permission for you to be in the research, but it is still your choice whether or not to take part.
- Even if you say yes now, you can change your mind later, and stop participating.
- Your decision will have no effect (bad or good) on your school work or activities.

Who will see my answers and information?

- We will make every effort to keep your information private; only the people helping us with the project will know your answers or see your information.
- Your information will be combined with information from other people in the study. When we write about the study, we will write only about this combined information, and no one will be able to know what your information is.
- If you want to look at the information we collect from you, just let us know, and we will provide it to you. But, you cannot look at information from others in the research.
- Sometimes we need to show your information to other people. If you tell us that you have been abused, or if we think that you might be a danger to yourself or other people, we will tell someone who can help, like the police or a doctor.

What will I get if I agree to be in the research?

- Incentives will be placed to encourage the completion of all seven sessions. Each student will place their name in a drawing each week that they attend the COPE program. At the end of the program each student's name will have been entered once for each week that they attended the program, thus the more sessions attended the better the odds of winning a prize. At the end of the last COPE session student names will be drawn for the chance to win 3 prizes valued at approximately \$15 each, such as movie tickets, iTunes gift cards, or restaurant coupons.

What if I have questions?

- You should ask any questions you have right now, before deciding whether or not to be a part of the research.

- If you or your parent(s) or guardian(s) have questions later, contact Jessica Lindblom at jessica.beebe@ndsu.edu or by phone at 701-893-5261 or her advisor Molly Secor-Turner at molly.secor-turner@ndsu.edu or by phone at 701-231-7517.
- Your parent(s) or legal guardian will receive a copy of this form to keep.

What are my rights?

- You have rights as a research participant.
- For questions about your rights, or to tell someone else about a problem with this research, you can contact the NDSU Human Research Protection Program (HRPP) at:
 - 701-231-8995
 - Toll-free at 1-855-800-6717
 - ndsu.irb@ndsu.edu .
- The HRPP is responsible to make sure that your rights and safety are protected in this research. More information is available at: www.ndsu.edu/research/irb.

Sign this form only if you:

- have understood what the research is about and why it's being done,
- have had all your questions answered,
- have talked to your parent(s)/legal guardian about this project, and
- agree to take part in this research

Your Signature	Printed Name	Date
----------------	--------------	------

Name of Parent(s) or Legal Guardian(s)

Signature	Printed Name	Date
Researcher explaining study		

APPENDIX E. IRB APPROVAL



May 11, 2016

Dr. Molly Secor-Turner
School of Nursing

IRB Approval of Protocol #PH16238, "COPE: Evaluation of a School-Based Intervention to Improve the Overall Mental Health, Resiliency, and Social-Emotional Development of Rural North Dakota Adolescent Youth"

Co-investigator(s) and research team: Jessica Lindblom

Approval period: 5/11/2016 to 5/10/2017
Continuing Review Report Due: 4/1/2017

Research site(s): Wahpeton High School Funding Agency: n/a

Review Type: Expedited category # 7

IRB approval is based on the original submission, with revised: protocol and recruitment email (received 5/3/2016).

Additional approval is required:

- o prior to implementation of any changes to the protocol (Protocol Amendment Request Form).
- o for continuation of the project beyond the approval period (Continuing Review/Completion Report Form). A reminder is typically sent 4-6 weeks prior to the expiration date; timely submission of the report is your responsibility. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

A report is required for:

- o any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (Report of Unanticipated Problem or Serious Adverse Event Form).
- o any significant new findings that may affect risks to participants.
- o closure of the project (Continuing Review/Completion Report Form).

Research records are subject to random or directed audits at any time to verify compliance with IRB regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,

A handwritten signature in black ink that reads "Kristy Shirley". The signature is written in a cursive style.

Digitally signed by Kristy Shirley
DN: cn=Kristy Shirley, o=NDSU,
ou=Institutional Review Board,
email=kristy.shirley@ndsu.edu, c=US
Date: 2016.05.11 10:23:32 -05'00'

Kristy Shirley, CIP, Research Compliance Administrator

APPENDIX F. PARTICIPANT DEMOGRAPHICS

Participant Demographics and Information

Note: All information obtained is confidential.

Directions: Please fill in the blank, or check the number of the item that best answers the question.

1. Your age in years: _____

2. Gender:

- Male
- Female
- Other _____

3. Please check your ethnic background:

- White, not of Hispanic origin
- Black, not of Hispanic origin
- American Indian/Alaskan Native
- Asian/Pacific Islander
- Hispanic
- Multiracial
- Other _____

4. Have you ever been diagnosed with a mental health problem?

- Yes
- No

5. If you answered yes to the previous question, what mental health problems have you experienced (select all that apply)?

- ___ ADD/ADHD
- ___ Anxiety disorder
- ___ Bipolar
- ___ Depression
- ___ Eating disorder
- ___ Post-traumatic stress disorder (PTSD)
- ___ Other (please specify):

6. If you answered yes to the previous questions, have you ever received mental health treatment (therapy, medications, etc)?

- Yes, I am currently receiving treatment
- Not currently receiving treatment but I have in the past
- I have never received treatment of any kind

7. If you have received treatment in the past or are currently receiving treatment for a mental health problem, what kind of treatment are you receiving (select all that apply)?

- ___ Medication(s)
- ___ Counseling
- ___ Individual therapy
- ___ Group therapy
- ___ Other (please specify):

8. Have you ever been hospitalized due to a mental health condition/problem?

Yes

No

If yes, please explain below :

9. What kind of grades do you get in school?

Mostly A's

Mostly B's

Mostly C's

Mostly D's

Failing

10. Have you experienced any recent changes or stressors in your life?

Yes

No

If yes, please explain below:

APPENDIX G. PHQ-9 DEPRESSION SCREENING TOOL

Instructions: How often have you been bothered by each of the following symptoms during the past **7 days**? For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.

						Clinician Use
						Item score
		(0) Not at all	(1) Several days	(2) More than half the days	(3) Nearly every day	
1.	Feeling down, depressed, irritable, or hopeless?					
2.	Little interest or pleasure in doing things?					
3.	Trouble falling asleep, staying asleep, or sleeping too much?					
4.	Poor appetite, weight loss, or overeating?					
5.	Feeling tired, or having little energy?					
6.	Feeling bad about yourself—or feeling that you are a failure, or that you have let yourself or your family down?					
7.	Trouble concentrating on things like school work, reading, or watching TV?					
8.	Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you were moving around a lot more than usual?					
9.	Thoughts that you would be better off dead, or of hurting yourself in some way?					
Total/Partial Raw Score:						
Prorated Total Raw Score: (if 1-2 items left unanswered)						

Modified from the PHQ-A (J. Johnson, 2002) for research and evaluation purposes

APPENDIX H. GAD-7 ANXIETY SCREENING TOOL

The Generalized Anxiety Disorder 7-Item Scale

Over the <u>last 2 weeks</u> , how often have you been bothered by the following problems?	Not at all	Several Days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score: = **Add Columns** _____ + _____ + _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not at all **Somewhat difficult** **Very difficult** **Extremely Difficult**
 _____ _____ _____ _____

APPENDIX I. PARTICIPANT FEEDBACK FORM

Evaluation of COPE Program

1. Overall, did you find the COPE sessions helpful?

- Yes
- No

2. Overall, how helpful was the program in improving your ability to recognize patterns of thinking, feeling and behaving in response to stress?

- 1= Not at all helpful
- 2= A little helpful
- 3= Somewhat helpful
- 4= Very helpful

3. What new skills did you learn through the COPE sessions? (please check all that apply)

- | | |
|---|---|
| <ul style="list-style-type: none"><input type="radio"/> Positive thinking<input type="radio"/> The ABC's (antecedent, belief, consequence)<input type="radio"/> Positive self-talk<input type="radio"/> Staying in the present moment<input type="radio"/> Goal setting<input type="radio"/> Monitoring my emotions<input type="radio"/> Seeing the cup "half full"<input type="radio"/> Changing unhealthy habits<input type="radio"/> Coping positively with stress<input type="radio"/> Seeking help when I need it<input type="radio"/> Setting goals | <ul style="list-style-type: none"><input type="radio"/> Using the 4-step approach to problem solving<input type="radio"/> Being thankful<input type="radio"/> Practicing mental imagery<input type="radio"/> Regulating my emotions<input type="radio"/> Effectively communicating<input type="radio"/> Practicing self-control<input type="radio"/> Planning for how to respond to negative events<input type="radio"/> Other (please specify): _____ |
|---|---|

4. Which of the skills learned in the COPE program are you currently using? (please check all that apply)

- | | |
|---|---|
| <ul style="list-style-type: none"><input type="radio"/> Positive thinking<input type="radio"/> The ABC's (antecedent, belief, consequence)<input type="radio"/> Positive self-talk<input type="radio"/> Staying in the present moment<input type="radio"/> Goal setting<input type="radio"/> Monitoring my emotions<input type="radio"/> Seeing the cup "half full"<input type="radio"/> Changing unhealthy habits<input type="radio"/> Coping positively with stress | <ul style="list-style-type: none"><input type="radio"/> Seeking help when I need it<input type="radio"/> Setting goals<input type="radio"/> Using the 4-step approach to problem solving<input type="radio"/> Being thankful<input type="radio"/> Practicing mental imagery<input type="radio"/> Regulating my emotions<input type="radio"/> Effectively communicating<input type="radio"/> Practicing self-control<input type="radio"/> Planning for how to respond to negative events<input type="radio"/> Other (please specify): _____ |
|---|---|

5. Were there barriers for you in attending all of the COPE sessions?

Yes

No

If yes, please explain below:

6. Was the length of the COPE sessions (30 minutes) satisfactory?

Yes

No

7. Did you like the location of the COPE program, please explain?

Yes

No

Please explain below:

8. Do you know friends who would benefit from the COPE program?

Yes

No

9. Would you recommend the COPE program to other students?

Yes

No

10. Do you feel the COPE should be delivered to ALL students?

Yes

No

Please explain:

11. What else would you like to share about the COPE program?

APPENDIX J. FACILITATOR FEEDBACK FORM

Facilitator Feedback Form

1. Overall, did you find the COPE sessions helpful for students?

- Yes
- No

2. If you found the COPE sessions helpful, how were they helpful to students?

3. If you did NOT find the COPE module sessions helpful for students, how were they NOT helpful?

4. What changes have you seen in students since the start of the COPE program, if any?

Please rate your satisfaction with various components of the COPE program.

0= Extremely dissatisfied

1= Dissatisfied

2= Neither satisfied or dissatisfied

3= Satisfied

4= Extremely Satisfied

4. How satisfied are you with the COPE facilitator webinar training? 0 1 2 3 4

5. How satisfied are you with the manual based format of the COPE sessions? 0 1 2 3 4

6. How satisfied are you with the physical location of the COPE intervention? 0 1 2 3 4

7. How satisfied are you with the cost to deliver and renew the COPE program? 0 1 2 3 4

8. How satisfied are you with the extent to which the program positively influences teens ability to manage thoughts, feelings, and behaviors in positive ways? 0 1 2 3 4

9. Were the COPE sessions easy to deliver?

- Yes
- No

Please explain:

10. Was the length of the COPE sessions (30 minutes) satisfactory?

- Yes
- No

If No, Please explain:

11. Were there barriers for students in attending all of the COPE appointments, if YES, please explain?

- Yes
- No

Please explain:

12. Would you recommend the COPE program to other students?

- Yes
- No

13. Do you feel the COPE should be delivered to ALL students?

- Yes
- No

Please explain:

14. Will you continue to use the COPE program in your school?

- Yes
- No

Please explain:

APPENDIX K. EXECUTIVE SUMMARY

Introduction

Depression and anxiety are the most common mental health disorders among adolescents (Foy, 2010). It is estimated that more than 22,000 North Dakota youth face mental health challenges, yet 27.6% of ND youth who needed mental health services did not receive the treatment that they required (Canady, 2015; NSCH, 2007). Without the ability to manage stress and cope effectively many youth may be plagued with life-long disability. Researchers hypothesize that the underdevelopment of certain areas of the brain during adolescence may render teens less able to regulate emotions placing them at greater risk for anxiety, depression, and stress disorders (Ahmed, Bittencourt-Hewitt, & Sebastian, 2015). Due to the brain development that occurs during adolescence, research has suggested that teens may have a heightened ability for learning and flexibility (Ahmed et al, 2015). Therefore, access to health services and other sources of information that help adolescents learn healthy behaviors and coping mechanisms is essential to health promotion during this period of development.

Project Purpose

The purpose of this project was to implement and evaluate an evidence-based mental health prevention and treatment program, called Creating Opportunities for Personal Empowerment (COPE). COPE is a pre-developed, seven-session, manual-based intervention that focuses on the development of healthy behaviors and positive coping skills designed to improve the mental health and resiliency of adolescent youth.

Project Description

The COPE program was offered to students at Wahpeton High School in Wahpeton, ND. After interested students were recruited to the program, COPE was delivered as a small group

session and led by the high school counselor once weekly for a total of seven weeks. Sessions lasted approximately 30 minutes each and focused on the following subjects:

Session 1: Thinking, Feeling, and Behaving: What is the connection?

Session 2: Positive Thinking and Forming Healthy Thinking Habits

Session 3: Coping with Stress

Session 4: Problem Solving & Setting Goals.

Session 5: Dealing with your Emotions in Healthy Ways through Positive Thinking and Effective Communication

Session 6: Coping with Stressful Situations

Session 7: Pulling it all together for a Healthy You

Each student participating in the program received a “Teen Manual Workbook” which contained program content and skills building activities (homework) that allow the teens to practice new skills, write about personal experiences, and work to find solutions to problems.

Screening tools for depression and anxiety were administered to students prior to the beginning of the program and immediately following the final session to assess for improvement in anxiety and depression scores. Students and the high school counselor delivering the sessions also completed an evaluation of the program content and delivery after the final session to determine if COPE is a program that is well accepted by students and school staff and if it is a program that could be easily reproducible in other schools.

Results

Many of the students showed improvement in depression and anxiety scores from baseline, which was indicated by a decrease in depression and anxiety scores from pre-intervention to post-intervention. The improvement in student scores occurred across all levels of

depression and anxiety, for students with prior underlying mental health conditions and for those without. The greatest improvements were seen in anxiety scores for teens participating in this program. This may be due to the fact that anxiety may potentially be easier to treat via the development of positive coping skills such as deep breathing, guided imagery, positive self-talk, etc, which were some of the main components of the program. All students who participated in the program indicated that they had both learned and were also using new skills for managing thoughts, feelings, and behaviors in response to stress. Student evaluations of the COPE intervention were also largely positive, with most students indicating that they would recommend the program to other students. Based on results of the study, the COPE program has the potential to be an effective and well-accepted program in helping to improve the mental health and resiliency of rural North Dakota youth.

Table K1

PHQ-9 Depression Scores

Depression Severity	Pre (n)	Mean	Post (n)	Mean	Change
None (0-4)	6	1.17	5	1.80	0.63
Mild (5-9)	2	6.00	3	6.67	0.67
Moderate (10-14)	1	12.00	2	11.50	-0.50
Moderately Severe (15-19)	0	0	0	0	0
Severe (20-27)	2	23.50	1	27.00	3.5
Mean	7.09		7.18		0.09
Range	0-27		0-27		

Table K2

GAD-7 Anxiety Scores

Anxiety Severity	Pre (<i>n</i>)	Mean	Post (<i>n</i>)	Mean	Change
None (0-5)	5	3.20	6	2.67	-0.53
Mild (6-10)	2	8.00	3	8.00	0
Moderate (11-15)	1	11.00	1	13.00	2.00
Severe (16-21)	3	19.30	1	18.00	-1.30
	Mean	9.18		6.45	-2.73
	Range	2-21		2-18	

Table K3

Participant Feedback Data

	<i>n</i>	%
Found cope helpful	9	81%
Reported barriers in attending all sessions	5	45%
Like session Length	8	73%
Like location of cope	8	73%
Know friends who would benefit	9	81%
Would recommend to other students	11	100%
Feel cope should be delivered to all Students	6	55%

Recommendations

In order to improve the delivery of COPE, it is recommended that time be allotted for the discussion of the participant's homework prior to delivering the weekly session content in order to gauge students understanding of the material and allow for student processing. Along with this recommendation, it is suggested that 40-50 minutes be allotted for the delivery of COPE sessions. Based on positive response from COPE participants and the absence of other available mental health programs, COPE should continue to be offered at Wahpeton High School and should be considered for dissemination in other rural ND schools.

Implications for Further Research

There are many factors that influence mental health including sleep, exercise, and nutrition. COPE founders offer the seven-session program, that was delivered during this practice improvement project as well as a fifteen-session program that builds upon the seven-session program to include topics on nutrition, sleep, and exercise in combating low self-esteem, depression, and anxiety. Future studies may compare outcomes of the fifteen-session program to that of the seven, as well as outcomes of group therapy versus individual therapy.

Implications for Practice

It is essential that Nurse Practitioners recognize that adolescence is a critical time for the development of life-long behaviors and healthy coping mechanisms. Likewise, nurse practitioners must ensure that access to health services and other sources of information that help adolescents learn healthy behaviors and coping mechanisms are in place in order to promote mental health and resiliency during this period of development. Nurse practitioners must be prepared to lead, educate, and collaborate with other professionals, including school counselors,

teachers, parents, and other community members to meet the healthcare needs of adolescent youth.

Conclusion

COPE is a program that was very effective for some teens and may thereby serve as a stand-alone therapy and skills building program for some and as an excellent adjunct to other therapies for others. Based on positive response from COPE participants, the COPE program has the potential to be an effective intervention for improving the mental health, resiliency, and social emotional development of participants through the development of healthy coping mechanisms. COPE should continue to be offered at Wahpeton High School and should be considered for dissemination in other rural ND schools.