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Emotional CPR (Connect, Partner Respond): Outcome Evaluation of a School-Based Intervention for Child and Adolescent Suicidality

Elisabeth Wise

Emotional CPR (Connect, Partner Respond): Outcome Evaluation of a School-Based Intervention for Child and Adolescent Suicidality

Elisabeth Wise

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Elisabeth Wise

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Committee Members

Dr. Celeste Jones, Psy.D, ABCCAP, Chair

Dr. Jeri Turgesen, Psy.D MSCP, ABPP, Member

Dr. Kristi Knows His Gun, Psy.D, ABPP, Member

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Abstract

Introduction. The aim of this study was to assess the efficacy of a universal, school-based program (Emotionally- Connect, Partner, Respond [E-CPR]) that seeks to improve adolescent attitude, confidence in ability to respond to a peer in crisis and ability to identify adequate crisis intervention skills. **Methods.** E-CPR includes a didactic portion with emphasis on knowledge and attitudinal components and role play activities to enhance skill-building. To test the effectiveness of E-CPR a comparison group was gathered using an online survey platform. **Results.** There was a significant difference in pre-test to post-test scores for the participants such that attending E-CPR increased participants likelihood to endorse confidence in their ability to respond to a peer in crisis, endorse adequate crisis intervention skills, and increased comfort seeking resources for a peer in crisis. Compared to the control group, youth who received E-CPR training were not found to differ significantly in their confidence in ability to respond to a peer in crisis. The intervention group of school leader scored significantly higher on perceived competence and comfort accessing an adult or resource compared to the general high school population. **Conclusion.** E-CPR is an effective intervention to improve student-leader support towards peers experiencing emotional health crisis including suicide risk. However, compared to the general high-school student control group, the intervention group of student leaders in this study had increased competence and resource-seeking comfort at the outset, but similar confidence ratings. Future studies are required to explore generalizability to a more universal high school.

Keywords: adolescent suicide, E-CPR, universal school-based intervention

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Chapter 1

Suicide is an enormous public health problem, and is currently the second leading cause of death among young people ages 10–24 years (Centers for Disease Control and Prevention, 2021; Curtin & Heron, 2019). The World Health Organization estimates that approximately one million people die by suicide each year. In the United States, estimates suggest that approximately 47,173 people die by suicide annually (Centers for Disease Control and Prevention, 2017), around 6,200 of those being children and adolescents between the ages of 10 and 19 years. As alarming as these numbers are, completed youth suicides are only part of the problem. For every youth who dies by suicide, 100–200 youth make a suicide attempt or experience suicidal ideation (Drapeau & McIntosh, 2018). Furthermore, approximately 1 out of 7 high school students engage in severe suicidal ideation, 1 in 10 make a suicidal plan, and 1 in 14 make a suicide attempt that will require medical care (Labuhn et al., 2021; Miller et al., 2010). The psychological, emotional, social, and medical costs of suicidal behavior and emotional distress are devastating for individuals, communities, and families (Labuhn et al., 2021; Price & Khubchandani, 2021; Singer et al., 2018)

Concerning these dire statistics, there is a crucial need to address suicidality among young people. Research suggests that 42%–66% of youth who die by suicide appear to have been experiencing some form of a depressive disorder at the time of their death (Holland et al., 2016; Miller et al., 2010). Noting that hopelessness is a common variable in suicide (Posamentier et al., 2022), addressing emotional and behavioral signs of a crisis is an important part of youth suicide

prevention efforts. However, youth are often reluctant to get help for suicidal thoughts or behaviors (Cigularov et al., 2008; Radez, 2020). Suicidal thoughts and other behaviors are common barriers to support in children and adolescents (Calear et al., 2014; Labuhn et al., 2021; Miller et al., 2010). Specifically, most suicidal adolescents experience distorted thinking patterns, including difficulty problem-solving, perceiving suicide as the only option (Burke et al., 2015; Capuzzi, 1994). Further, suicidal adolescents report feeling low self-worth, guilt, difficulty communicating emotions, and perceived burdensomeness, all of which prevent help-seeking (Berman, 2009; Labuhn et al., 2021). Usually connected with low self-worth, guilt experienced by suicidal adolescents can contribute to a feeling of needing to be punished. This serves as a motivation for suicide, preventing youth from feeling worthy of help (Capuzzi, 1994; Miller et al., 2010). In addition, suicidality in youth is linked to difficulty with emotional expression, communicating to others that something is wrong (Berman et al., 2006; Labuhn et al., 2021). Perceived burdensomeness in youth involves feeling useless to family or friends or feeling expendable and ineffective, with the distorted thought that their death is worth more than their life (Miller et al., 2010).

Unfortunately, strong evidence suggests that inability to talk to adults and lack of closeness with school adults prevents suicidal adolescents from seeking adult support (Cigularov et al., 2008; Joshi et al., 2015; Loon et al., 2020). In addition, many adolescents are reluctant to seek help from a professional (Michelmore & Hindley, 2012; Stuckey et al., 2021), being intimidated by professional support and viewing consultation with mental health experts as a last resort. When seeking out support, adolescents prefer turning to friends for help, with three in four young people reporting they would first turn to a friend for help if they were considering

suicide (Michelmore & Hindley, 2012; Stuckey et al., 2021). Thousands of people who die by suicide in the United States are not seen in a mental health setting, but often come into contact with people before and right to their death (Miller et al., 2010; Wilcox &Wyman, 2016). Helping people recognize the warning signs and how to assist a person in getting help is a vital intervention point for preventing suicide (Joiner et al., 2009; Price & Khubchandani, 2021; Van Order et al., 2010). However, youth peers are often ill-equipped to recognize or provide adequate support for a friend in a mental health crisis. Barriers that youth peers of suicidal children and adolescents experience are: (a) fear of making the wrong judgment about their friend, (b) lack of approachability of school adult, (c) fear of friend's hospitalization, and (d) underestimating their friend's problems (Cigularov et al., 2008; Mason et al., 2015; Radez, 2020). Conversely, peers that are equipped with the skills and knowledge to recognize warning signs and support finding appropriate help for their friends are invaluable, providing an opportunity for early detection and intervention when an adolescent is at risk of suicide.

As a population-based health issue, the broadest and most effective dissemination of this preparedness training is likely through universal school-based programming (Loon et al., 2020; Miller et al., 2009; Wilcox & Wyman, 2016). The purpose of the following study is to examine the use of a universal school-based crisis intervention and suicide prevention program for adolescents (Emotionally Connect, Partner, Respond [E-CPR]) as a useful intervention to improve peer support towards adolescents at risk of suicide. The following is a review of the literature that examines universal school-based interventions and curriculum.

Universal School-Based Suicide Prevention

Studies suggest that effective school-wide suicide prevention incorporates several levels of intervention: (a) indicated programs, designed for students already displaying suicidal behavior, (b) selective interventions, targeting those identified as being at risk of suicide and (c) universal programs, designed to reach an entire school population without needing to discern which individuals are at elevated risk (Miller et al., 2010; Posamentier et al., 2022). This study focuses on the third level, universal school-based suicide prevention programs which are presented to all students, regardless of the level of risk, to enhance positive factors and reduce risk factors (Miller et al., 2009; O'Connor et al., 2018). Universal approaches operate with an understanding that the conditions that contribute to youth suicide go unrecognized and untreated. By educating students and staff about the appropriate response, the goal is to increase better help-seeking for treatment and support. Universal approaches attempt to reach the highest number of students and staff possible and include providing information and education on youth suicide, mental health knowledge and promote a positive attitude towards mental and emotional health to both youth and staff (Klimes-Dougan et al., 2012; Miller et al., 2010; O'Connor et al., 2018).

Use of universal programming shows strong evidence for effectiveness over selective approaches in school settings specifically (Hart et al., 2019). Research suggests that this may be due to higher levels of engagement from youth with a population-based program as adolescents appear reluctant to accept screening or interventions from trained staff and are more amenable to a program received by all students (Posamentier et al., 2022; Wasserman et al., 2015). One final advantage of universal program designs includes the ability to implement the programs more efficiently. Universal programs are an essential component of school-based suicide prevention in

that they provide an entire student population with intervention and encourage responsiveness from students.

School Based Interventions and Efficacy

Schools provide an ideal setting in which to implement universal suicide prevention efforts, providing broad access to adolescents, having existing educational routines, and being a place of frequent peer interaction for adolescents (Berman et al., 2006; Kalafat & Elias, 1994; Posamentier et al., 2022). According to the Substance Abuse and Mental Health Services Association, an educational initiative that increases awareness of suicide can play a significant role in reducing the risk of suicide (Center for Mental Health Services, 2015). In addition, research shows that adolescents are willing to learn how to support their peers regarding suicide prevention and mental health (Cigularov et al., 2008; Kalkbrenner, & Goodman-Scott, 2021). Further, students who reported an ability to recognize signs of mental health disorders or suicide crisis were 3–4 times more likely to take a helping action than those who did not recognize signs of suicide and mental health disorder (Kalkbrenner, & Goodman-Scott, 2021; Olsson & Kennedy, 2010). Still, another study examining the use of a school-based universal program reported that after engaging in a universal program, youth were more likely to contact an adult with concerns for a peer's suicidal behavior (Miller et al., 2010; Posamentier et al., 2021; Singer et al., 2018).

Common Components of Universal School-Based Suicide Prevention Programs

In the past 15 years, high school curricula have incorporated several diverse approaches to suicide prevention (Aseltine & DeMartino, 2004; Robinson et al., 2012) Although an increasing number of studies examining the effectiveness of school-based suicide prevention

programs are available overall, they remain relatively few, and there is still a great deal to be understood about the effectiveness of school-based interventions (Cusimano & Sameem, 2011; King, & Fazel, 2021; Miller et al., 2010). Research suggests that effective school-based programs do the following: (a) raise awareness of suicide intervention (including pertinent demographics, information about suicide, dispelling common myths, various risk factors that increase the likelihood of suicide, warning signs, and protective factors that decrease the probability of suicidal behaviors (Hart et. al, 2019; Miller et al., 2010), (b) teach appropriate peer responses and problem-solving skills, and (c) promote social and school connectedness, providing information to students about school and community resources for getting help (Miller et al., 2010; O'Connor et al., 2018; Posamentier et al., 2022. Evidence suggests that successful programs also provide youth with the skills to take specific actions in responding to the signs of suicide once recognized. Resource identification is particularly important as it makes help-seeking behavior appear more normative. The goal of most curricula is to help youth connect with a responsible adult and appropriate resources.

In each of these domains, effective programs engage not just knowledge, but also attitudes. Mental health literacy includes the "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 2016 p.4; Patafio et al., 2021). Mental health literacy includes the ability to recognize specific disorders, risk factors, and how to seek out information about mental health. While increasing adolescent mental health literacy is essential, strong mental health literacy does not necessarily translate into less negative attitudes toward individuals who die by suicide or to less judgment of one's suicidal thoughts and behaviors (Batterham et al., 2012). In this way, it is not sufficient to provide knowledge alone.

Programs are more likely to be successful at increasing students' help-seeking behavior for themselves or others if they include knowledge and attitudinal components, building in an attitude that engages with professional treatment or suitable options for self-help and an awareness of where to go for resources (Hart et al., 2016). In fact, evidence suggests that school-based suicide prevention programs are effective in improving both student knowledge and attitudes toward suicide (Calear et al., 2014; Cusimano & Sameem, 2011; Posamentier et al., 2022. Further, this research provides evidence to suggest that enhancing adolescent knowledge of and attitudes toward suicide (reducing mental health stigma) facilitate help-seeking behavior.

E-CPR Intervention

E-CPR is a universal school-based suicide intervention 90-minute workshop that aims to increase knowledge and improve attitudes toward adolescent mental health crises. The workshop includes knowledge and attitudinal components including building suicide awareness, recognizing warning signs of suicide, identifying barriers to support-seeking, skills and steps to initiating conversation with a peer in crisis, being an ally and meaningful listener, how to connect a peer in crisis with an adult, resource identification, and role clarification/maintenance of boundaries. The workshop includes role play activities to enhance skill-building, allowing students the opportunity to practice and apply newly acquired skills.

Current Study

The current study aims to explore the effectiveness of E-CPR in improving confidence in ability to respond to a peer in crisis, ability to identify adequate crisis intervention responses, and increasing comfort accessing an adult or other appropriate resource for peers who are struggling.

Hypothesis 1: Participant scores on post-test data will increase in comparison to their pre-test scores in likelihood to endorse confidence in ability to respond to a peer in crisis.

Hypothesis 2: Participant scores on post-test data will increase in comparison to their pre-test scores in likelihood to endorse adequate crisis intervention responses.

Hypothesis 3: Participant scores on post-test data will increase in comparison to their pre-test scores in likelihood to endorse comfort accessing an adult or resource for peers who are struggling.

Hypothesis 4: It is hypothesized that the pre-test scores of the student leader recipients of E-CPR will not be significantly different from those of a general high school population.

Chapter 2

Methods

Participants

Participants in the intervention group consisted of 287 high school student council leaders, between the ages of 14–18 years. Regarding age, the experimental group average age was 15.61 years (*SD* = 1.37). For the comparison group, the final sample included 220 participants with the average age of 16.79 years (*SD* = 1.02; see Table 1). The gender distribution of the intervention group was 84 males (29.4%), 196 females (68.5%), and two transgender individuals (0.7%). The comparison group consisted of 47 males (21.4%), 162 females (73.6%) and 11 transgender individuals (5.0%; see Table 2). In regard to year in school, the intervention group was composed of 36 freshmen (12.6%), 85 sophomores (29.7%), 88 juniors (30.8%), and 73 seniors (25.5%). Comparatively, the comparison group consists of 18 freshmen (8.18%), 37 sophomores (16.8%), 79 juniors (35.9%) and 86 seniors (39.0%; see Table

3). Regarding race/ethnicity, there were 190 White participants (66.4%), 34 Hispanic/Latinx (11.9%), four Black or African American (1.4%), six Native American or American Indian (2.1%), 17 Asian or Pacific Islander (5.9%), 23 multiracial (8.0%), and 4 participants marked "Other" (1.4%) in the experimental group. The control group race and ethnicity distribution included 123 White participants (51.9%), 41 Hispanic/Latinx (17.3%), 52 Black or African American (21.9%), six Native American or American Indian (2.5%), 11 Asian or Pacific Islander (4.6%) and four participants multiracial (1.7%) and zero marked "Other" (see Table 4).

Table 1

Age Demographic Data for Intervention and Comparison Group

	Age (years)					
	14	15	16	17	18	Total
Intervention *n*	35	75	85	68	24	287
Control *n*	9	8	65	76	62	220

Table 2

Gender Demographic Data for Intervention and Comparison Group

	Gender			
	Male	Female	Transgender	Total
Intervention	84	196	2	282
Control	47	162	11	220

Table 3

Year in School Demographic Data for Intervention and Comparison Group

	Year in School

	Freshmen	Sophomore	Junior	Senior	Total
Intervention	36	85	88	73	282
Control	18	37	79	86	220

Table 4

Race and Ethnicity Demographic Data for Intervention and Comparison Group

	Race/Ethnicity							
	White	Hispanic/ Latinx	Black or African	Native American Indian	Asian. Pacific Islander	Multiracial	Other	Total
Intervention	190	34	4	6	17	23	4	278
Control	123	41	52	6	11	4	0	220

Materials

Pre-test data were collected using a self-report 10-item survey based on a five-item Likert scale where 1 is *strongly disagree*, 3 is *neutral*, and 5 is *strongly agree*. The survey was designed to determine student's competence and confidence in ability to respond to a peer in an emotional crisis or experiencing suicidal ideation before and after E-CPR training. The survey consisted of sentence statements (e.g., "I understand the frequency of emotional health concerns for adolescents"; "I can identify warning signs that a peer is having an emotional health crisis"). The survey took approximately 10 minutes to complete. The same survey was used in the post-test; however, two additional questions were added to the post-test, including "I have previously helped support a peer with an emotional health crisis," and "Based on the information I learned today, I will change how I support my peers moving forward." The same pre-test questions were

given to the control group aside from the last question which referred to attending the E-CPR training.

Items were combined to form three variables of interest: confidence (items two–four), competence (items five & six), and comfort accessing an adult or resource (item seven).

Procedure

The following study was approved by the Human Subjects Research Committee at George Fox University, including an archival experimental group and a newly collected comparison group. Archival experimental data were collected during an E-CPR training session presentation to the Oregon Association of Student Councils Leadership Conference. The comparison group was recruited through Qualtrics online survey platform. This service allowed the researcher to distribute surveys to a specific group of respondents. The author of this study requested that the sample be representative of the US Census data for Oregon in terms of gender, racial/ ethnic distribution and that participants be currently in high school and between 14–18 years of age. Two checks were embedded in the online survey to ensure participants were the correct age and currently enrolled in high school. Responses from participants who passed both checks were considered valid.

In the initial procedure, E-CPR began with a brief check-in and informed consent assessing students' understanding of the training they were attending. Informed consent also included acknowledging the presenter and moderators' credentials as trained mental health professionals, and encouraging participants to check in with the presenter or moderator if feeling distressed during E-CPR training. Before and after the training, survey participation was optional. The presenter gave participants approximately 10 minutes to complete the pre-test.

Upon completion of E-CPR, students were given approximately 10 minutes to complete the post-test.

Participants in the control group were asked to complete a brief survey that would take less than 10 minutes to complete. Parental consent and adolescent assent were obtained before the participants accessed the survey. Participants were informed that they were participating in research on adolescents and helping a peer through an emotional crisis and asked to answer questions as honestly as they could. Compensation was provided based on the agreement between each participant and Qulatrics. There was no missing data.

Chapter 3

Results

Descriptive Statistics

Descriptive statistics for the measures included in this study can be found in Tables 5 and 6. These measures consists of score means, standard deviations, and skewness and kurtosis found using the Shapiro–Wilk test of Normality for both the intervention and control group.

Table 5

Descriptive statistics

Variables		*N*	*M*	Shapiro-Wilk P value (Normality)
Confidence	Experimental Pre-test	283	11.30	<.001
	Experimental Post-test	284	13.49	<.001
	Comparison Group	220	12.52	<.001
Competence	Experimental Pre-test	283	6.84	<.001

	Experimental Post-test	282	8.55	<.001
	Comparison Group	220	7.98	<.001
	Experimental Pre-test	284	3.79	<.001
Resource Seeking	Experimental Post-test	283	4.33	<.001
	Comparison Group	220	3.87	<.001

Hypothesis 1- Participant Confidence Pre- to Post-Intervention

A Wilcoxon Signed-Rank test was used to compare pre-test to post-test scores for the intervention group in each of the score domains (confidence, competence, and comfort accessing an adult or resource). There was a significant difference between pre-test confidence scores (*Mdn* = 3.82, *n* = 281) and post-test confidence scores (*Mdn* = 4.54, *n* = 281; *Z* = 13.50, *p* < .001), with a moderate effect size, *r* = .56. Such results indicate that attending E-CPR caused an increase in participant's likelihood to endorse confidence in ability to respond to a peer in crisis (see Table 6).

Table 6

Confidence in Ability to Respond Wilcoxon Signed Rank Test Results

Intervention Group	*N*	*M*	*Z*	*P*
Pre-test	283	3.82	13.497	.000
Post- test	284	4.54	13.497	.000

Hypothesis 2- Participant Competence Pre- to Post-Intervention

There was also a significant difference between pre-test competence scores (*Mdn* = 3.42, *n* = 281) and post-test confidence scores (*Mdn* = 4.27, *n* = 281; Z = 12.07, *p* < .001), with a

moderate effect size, $r = .5$. As such, attending E-CPR increased participant likelihood to endorse adequate crisis intervention skills (see Table 7).

Table 7

Competence in Adequate Crisis Intervention Wilcoxon Signed Rank Test Results

Intervention Group	*N*	*M*	*Z*	*P*
Pre-test	283	3.42	12.07	.000
Post- test	282	4.27	12.07	.000

Hypothesis 3- Participant Resource-Seeking Pre- to Post-Intervention

The final hypothesis for the intervention group included whether or not attending E-CPR would increase resource-seeking for peers who are struggling. Results indicated that there was also a significant difference between pre-test comfort scores ($Mdn = 3.79$, $n = 283$) and post-test comfort scores ($Mdn = 4.33$, $n = 283$; $Z = 7.77$, $p < .001$), with a low effect size, $r = .3$. These findings suggest that attending the intervention increased resource-seeking comfort (see Table 8).

Table 8

Resource-Seeking Wilcoxon Signed Rank Test Results

Intervention Group	*N*	*M*	*Z*	*P*
Pre-test	284	3.79	7.77	.000
Post- test	283	4.33	7.77	.000

Hypothesis 4- Intervention Group vs. Controls

Mann-Whitney U Test

In order to compare the pre-test score of the intervention group with that of the control group and to assess the effectiveness of E-CPR for a general high school population in improving adolescent confidence in ability to respond to a peer in crisis, endorse adequate crisis

intervention skills and to endorse comfort accessing and adult or resource, a Mann-Whitney U test was utilized. Compared to the control group, youth who received E-CPR training were not found to differ significantly in confidence in their ability to respond to a peer in crisis (control *Mdn* = 3.82, intervention *Mdn* = 3.85; U ($I_{Intervention}$ = 283, $C_{Control}$ = 220) = 31684, *z* = 0.346, *p* = .729).

Table 9

Confidence in Ability to Respond Mann-Whitney U Test Results

	N	*M*	*U test Statistic*	*Z*	*P*
Intervention	283	3.82	31684	0.346	.729
Control	220	3.85	31684	0.345	.729

Regarding perceived competence in adequate crisis intervention response, a significant difference was found between the intervention group (*Mdn* = 3.42) and the control group (*Mdn* = 3.62; *U* ($N_{Intervention}$ = 281, $N_{Control}$ = 220) = 34841, *z* = 2.48, *p* < .013). The intervention group of student leaders scored significantly higher on perceived competence than the general high school population.

Table 10

Competence in Adequate Crisis Intervention Mann-Whitney U Test Results

	N	*M*	*U test Statistic*	*Z*	*P*
Intervention	281	3.42	34841	2.48	.013
Control	220	3.62	34841	2.48	.013

Finally, regarding comfort accessing an adult or resource, a significant difference was found between the intervention group (*Mdn* = 3.79) and the control group (*Mdn* = 3.26; U ($N_{Intervention}$ = 284, $N_{Control}$ = 220) = 23616, *z* = -4.85, *p* < .001). The intervention group of student

leaders scored significantly higher on comfort accessing an adult or resource than the general high school population.

Table 11

Resource-Seeking Mann-Whitney U Test Results

	N	*M*	*U test Statistic*	*Z*	*P*
Intervention	284	3.79	23616	-4.85	0
Control	220	3.26	23616	-4.85	0

Chapter 4

Discussion

The purpose of the following study is to examine the use of a universal school-based crisis intervention and suicide prevention program for adolescents (E-CPR) as an intervention to improve peer support towards adolescents experiencing an emotional health crisis and at risk for suicide. Given that suicide remains the second leading cause of death among young people ages 10–24 years (Centers for Disease Control and Prevention, 2017; Curtin & Heron, 2019), there is a crucial need to address suicidality among young people and to address the emotional and behavioral signs of a crisis. Research suggests that when seeking out support, adolescents prefer turning to friends for help, however, youth peers are often ill-equipped to recognize or provide adequate support for a friend in a mental health crisis. Youth report several barriers around competence of mental and emotional crisis and lack of confidence around approaching a school adult or professional resource (Michelmore & Hindley, 2012; Radez, 2020; Stuckey et al., 2021).

As a population-based health issue, the broadest and most effective dissemination of this preparedness training is likely through universal school-based programming (Loon et al., 2020;

Miller et al., 2009; Wilcox & Wyman, 2016). Research suggests that effective school-based programming not only addresses knowledge around suicide intervention, but also teaches peer responses and problem-solving skills (Miller et al., 2010; O'Connor, 2018; Posamentier et al., 2022) including the following components: (a) aims of raising awareness of suicide intervention (including pertinent demographics, information about suicide, dispelling common myths, various risk factors that increase the likelihood of suicide, warning signs, and protective factors that decrease the probability of suicidal behaviors (Hart et. al, 2019; Miller et al., 2010), (b) teaching appropriate peer responses and problem-solving skills, and (c) promoting social and school connectedness, providing information to students about school and community resources for getting help (Miller et al., 2010; O'Connor et al., 2018; Posamentier et al., 2022. Programs are also more likely to be successful at increasing students' help-seeking behavior for themselves or others if they include these attitudinal components, promoting engagement with professional treatment, suitable options for self-help, and an awareness of where to go for resources (Hart et al., 2016; Posamentier et al., 2022.

The current study sought to explore the effectiveness of E-CPR, a 90-minute universal school-based suicide intervention workshop that aims to improve confidence in ability to respond to a peer in crisis (confidence), ability to identify adequate crisis intervention responses (competence), and increasing comfort accessing an adult or other appropriate resource for peers who are struggling (resource-seeking). E-CPR includes essential components such as teaching appropriate peer responses and problem-solving skills. Evidence suggest that successful programs provide youth with the skills to take specific actions in responding to the signs of suicide or crisis once recognized (King & Fazel, 2021; Miller et al., 2010; O'Connor, 2018). E-CPR includes case scenarios, discusses active listening skills, and teaches strategies for

expanding dialogue versus asking leading questions. In addition, E-CPR prepares adolescents to respond to hesitance or resistance in peers that are struggling and promotes emotional health problem solving skills. E-CPR not only includes information around role and responsibility for youth when supporting a peer in crisis, but also includes specific information around partnering with an adult. Specifically, E-CPR addresses use of a trusted school official, parent, crisis line, medical professional or other mental-health-based resource.

It was hypothesized that confidence, competence, and resource-seeking scores would improve after intervention. Further, it was hypothesized that the intervention group (student council leaders) would be representative of the general high school population on pre-intervention scores, not demonstrating significantly different scores than the control group on confidence, competence, or resource-seeking. Results indicated that the intervention group scores on confidence, competence, and resource-seeking were significantly improved pre-intervention to post-intervention, suggesting that E-CPR is an effective intervention in improving student leader outcomes on these variables. This finding is commensurate with research on other universal school-based programs (Hart et. al, 2019; Miller et al., 2010; O'Connor et al., 2018; Posamentier et al., 2022. In this way, E-CPR appears to be effective in its aims of improving student leader confidence in their ability to respond to a peer in crisis, increasing student leader ability to endorse adequate crisis intervention responses, and enhancing their comfort accessing an adult or resource for peers who are struggling.

After the intervention was successful for student council leaders, pre-intervention scores were collected from general high school students as well in order to better understand how the intervention may generalize to the general high school population, a more universal application.

Results indicated that the student council leaders performed commensurately with a general high school population on confidence in their ability to respond to a peer in crisis. However, the student leaders in this study's intervention group had significantly increased competence (ability to endorse adequate crisis intervention responses) at the outset, and significantly increased resource-seeking comfort at the outset. After completing E-CPR, the student leaders improved in both of those arenas, but because their pre-intervention scores differed on these domains, some considerations may need to be made to ensure that the E-CPR intervention is appropriately suited to a more universal general high school population.

Several factors could contribute to these pre-intervention score differences between student leaders and a general high school population. Participation in student councils or leadership position have been found to have positive benefits to students including increasing life skills such as communication, problem solving, improving peer relationships and student-adult relationships (Griebler, 2017). Thus, the impacts of participating in student council may be contributing to the initial competence and comfort seeking resources the student leaders endorsed compared to the general high school population. Further, student leaders are likely to have had extensive practice with multiple skills that are applicable when assisting a peer in an emotional health crisis, but may not yet be aware of their competence in these skills. As such, it is possible that the student leader's unconscious competence with these skills caused them to endorse a comparable level of confidence to a general high school population when it comes to assisting a peer with an emotional health crisis. Another hypothesis is a selection bias for students who are elected into student leadership positions. It is possible that students elected into leadership have greater competence and resource-seeking skills even prior to engagement as a student leader, with greater competence and resource-seeking skills perhaps even being reasons they were

elected. More research exploring characteristics of students leaders could assist in this clarification.

Limitations and Future Research

When looking at these results, it is important to take into consideration the limitations of the study. More robust studies around E-CPR are needed and should be considered in future research. In this study, intervention group data was gathered form a group of high school student leaders living in the Pacific Northwest. For generalizability to a more universal high-school population, more exploration should be done to assess the effectiveness of E-CPR in a general high school population. As noted above, more research exploring characteristics of student's leaders could assist in clarifying intervention impact differences between student leaders and a general high school population. Further future studies should also consider adding a follow-up data collection stage to explore what improvements were retained. Another step in intervention development would be exploring implementation by high school staff or teachers. Finally, outcome measures outside of self-report measures could be explored to determine broader impacts of the intervention (e.g., do rates of peer-support instances increase?).

Conclusion

E-CPR is an effective intervention to improve student-leader support towards peers experiencing emotional health crisis including suicide risk. E-CPR has been found to promote confidence in ability to respond to a peer in crisis, use of adequate crisis intervention skills and increases youth comfort accessing and adult or resource for peers who are struggling. However, compared to the general high-school student control group, the intervention group of student leaders in this study had increased competence and resource-seeking comfort at the outset, but similar confidence ratings. Future studies are required to explore generalizability to a more

universal high-school population, including implementation by high school teachers or staff. Future studies are also required to ascertain whether these increases are indeed associated with better provision of support and prevention of youth suicide.

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Appendix A

Pre-Test

Pre-Assessment

Personal Identifier:

1. **I understand the frequency of emotional health concerns for adolescents.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

2. **I can identify warning signs that a peer is having an emotional health crisis.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

3. **I feel I can partner and be an ally for someone who is having emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

4. **I am familiar with resources that can help support myself or others for emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

5. **I know how to connect with someone who is expressing emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

6. **I know how to respond to a peer who is having an emotional health *crisis*.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

7. **I feel comfortable accessing an adult or resource if I am aware that a peer is struggling.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

8. **Talking or asking about suicide will cause someone to attempt to harm themselves.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

About me:

Identified Gender:

☐ Male ☐ Female ☐ Transgender

Age: _____

Year in School:

☐ Freshman ☐ Sophomore

☐ Junior ☐ Senior

Ethnicity

☐ European American/White

☐ Hispanic/Latino

Black or African American

☐ Native American or American Indian

☐ Asian/Pacific islander

☐ Other _____

Appendix B

Post Test

Post-Assessment

Personal Identifier:
Make sure it's the same as your first identifier!

1. **I understand the frequency of emotional health concerns for adolescents.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

2. **I can identify warning signs that a peer is having an emotional health crisis.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

3. **I feel I can partner and be an ally for someone who is having emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

4. **I am familiar with resources that can help support myself or others for emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

5. **I know how to connect with someone who is expressing emotional health concerns.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

6. **I know how to respond to a peer who is having an emotional health *crisis*.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

7. **I feel comfortable accessing an adult or resource if I am aware that a peer is struggling.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

8. **Talking or asking about suicide will cause someone to attempt to harm themselves.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

9. **I have previously helped support a peer with an emotional health crisis.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

10. **Based on the information I learned today, I will change how I support my peers moving forward.**

1	2	3	4	5
Strongly Disagree		*Neutral*		*Strongly Agree*

On the back, please include any comments or information that you feel would be helpful to include in the presentation moving forward. Thank you!

Appendix C

Parental Consent

Dear Parent/ Guardian,

Your student has been invited to participate in a research study examining teen's confidence in ability to respond to a peer in an emotional crisis. The decision if your child participates in this study is up to you.

In this research study, we are investigating the outcomes of a peer crisis response training. If you say yes to this form, your student will be asked to complete a brief survey that should take less than 10 minutes to complete. Your student also will be asked if they want to participate and answer the questions before they survey is administered. For the survey, they will be asked questions around how confident they feel in their ability to help someone in an emotional health crisis. Previous research suggests that asking students questions like this rarely makes students feel upset or distressed. Further, most students report they like supporting projects that help others in the community.

It is important to know that your student's name or any identifying information will not be included in the survey. Instead survey results will be given a de-identified number to use instead of your student's name. All answers your child gives to the researchers will be kept private. The information from this survey will be used as a comparison to those gathered from a peer emotional crisis response training. All data will be put together so that it will be impossible in any reports or paper to tell what individual students said on the surveys.

Participation in this study is voluntary. You and your student have the right to not participate at all and to withdraw their permission at any time.

If you have any further questions about the study, email Elisabeth Wise at ewise18@georgefox.edu

My child has permission to participate

Yes ☐

No ☐

Appendix D

Student Assent

Dear Student,

You are being invited to participate in a research study examining teen's confidence in ability to respond to a peer in an emotional crisis. The decision to participate in this study is up to you.

In this research study, we are investigating the outcomes of a peer crisis response training. If you say yes to this form, you will be asked to complete a brief survey that should take less than 10 minutes to complete. For the survey, you will be asked questions around how confident you feel in your ability to help someone in an emotional health crisis. Asking you these questions should not cause you to experience any distress or to feel upset. Further, by answering these questions you are helping us understand how to support others teens just like you.

It is important to know that we are not going to ask you for your name or any identifying information. Instead survey results will be given a de-identified number to use instead of your name. All answers you give to the researchers will be kept private. The information from the survey you fill out will be used as a comparison to those gathered from a peer emotional crisis response training. All data will be put together so that it will be impossible in any reports or paper to tell what individuals said on the survey.

Participation in this study is voluntary. You have the right to not participate at all and to withdraw their permission at any time.

If you have any further questions about the study, email Elisabeth Wise at ewise18@georgefox.edu

I want to participate

Yes ☐

No ☐

My parents are aware that I am participating in filling out this survey

Yes ☐

No ☐