Adolescent Mental Health Literacy

Rebecca J. Landon

Arizona State University

Abstract

Adolescents in the U.S. are experiencing a growing epidemic of maladaptive coping. The increasing occurrence of these behaviors make it likely that school personnel will continue to see an increase in adolescents presenting with maladaptive coping patterns, such as nonsuicidal self-injury and suicide, highlighting the urgency for continued research regarding effective education. Nonsuicidal self-injury is highly correlated with suicidal behavior, and suicide is the second leading cause of death among ten to nineteen year olds in the US. Research points to the use of a specific type of Coping Skills Training known as Mental Health Literacy that reduces the chances that maladaptive coping will become the norm in adulthood.

Keywords: maladaptive coping, nonsuicidal self-injury, suicide, Coping Skills Training, Mental Health Literacy

Adolescent Mental Health Literacy

Better education has the potential to instill lifelong behaviors such as help-seeking for mental, emotional, and physical setbacks, potentially reducing the epidemic of nonsuicidal self-injury (NSSI) and suicide in US adolescents. These targeted interventions may reduce the number of adolescents struggling through difficult times solely with maladaptive coping skills in their "tool boxes." Therefore, there may be a benefit to focusing on younger people when designing mental health programs.

When discussing adolescent coping styles, one must remember that coping methods, whether adaptive or maladaptive, are specific to the individual developmental level of the adolescent, and that coping skills learned in childhood and adolescence could predict patterns of coping utilized in adulthood (Compas, et al., 2001). In their seminal work on stress, Lazarus & Folkman (1984) define *coping* as the cognitive and behavioral activities that a person utilizes to manage specific stressful life events as well as the emotions generated by these events.

Background/Significance

Internal Evidence

The Problem, Issue, or Gap (PIG) identified for this project is maladaptive coping among adolescent students at a local middle school in Northern Arizona. The student body consists of approximately 1100 students; 34 are documented to engage in self-harm. This indicates roughly 3% of the school population participates in NSSI. Administration and counseling staff at the school are concerned about the increasing number of students requiring mental health interventions while at school. Although there are over 1000 students, recent budget cuts have resulted in downsizing of counseling staff; there is only one counselor to handle the ever-increasing mental health needs of the student body. The Vice Principal reported the school nurse

will see 50 or more students in a 7 hour shift; many require mental health interventions that the nurse is not trained to provide (R. Bronson, personal interview, 3/8/18).

Adolescent Coping

A recent systematic review of the literature identified Coping Skills Training (CST) programs as the most promising preventative measures to address the growing need for better mental health education. Dialectical Behavior Therapy for Adolescents (DBT-A), Mentalization Based Treatment for Adolescents (MBT-A), developmental group interventions, and Therapeutic Assessment and Brief Intervention (TA) have been identified as effective treatment options for maladaptive coping including NSSI (Flaherty, 2018).

Dialectical behavioral therapy for adolescents. DBT-A was developed to reduce NSSI by addressing common skill deficits in adolescents with emotional dysregulation (Mehlum et al., 2014). The intervention is 19 weeks long and includes 1 weekly individual session and 2 weekly multiple family sessions. This study supports the importance of family involvement in the treatment of adolescents. Mehlum et al., (2014) published a randomized controlled trial (RCT) which identified a highly significant drop in NSSI in the treatment group after DBT-A as opposed to the control group. Despite the small sample size and the unmanualized control, DBT-A shows promise as an effective intervention for adolescents at risk of self-harm, indicating that specific behavior modifications may be an important protective factor for the reduction of NSSI.

Mentalization-based treatment for adolescents. MBT-A is a yearlong treatment with 50 minute weekly individual sessions and 50 minute monthly family sessions. MBT-A is a psychodynamic, psychotherapeutic program that aims to improve the ability of participants to accurately identify and represent their feelings and the feelings of others in emotionally challenging situations (Rossouw & Fonagy, 2012). An RCT completed by Rossouw & Fonagy

(2012) indicated that both the intervention and control groups reported benefit from treatment with reduced rates of NSSI. This study can be applied to practice because it suggests that NSSI behaviors can be reduced by increasing the ability of the self-harmer to accurately identify and then represent their feelings and the feelings of others in emotionally charged situations.

Developmental group therapy. Developmental Group Therapy (DGT), a specific developmental group intervention, was designed to treat self-harming adolescents age 12-18. The acute phase of DGT lasts six weeks with weekly sessions on relationships, family problems, anger management, depression and self-harm, hopelessness, and negative feelings about the future (Wood et al., 2001). The second long-term phase focused on general group processes and continues to reinforce techniques and strategies learned in the acute phase, which may continue for up to 12 months (Wood et al., 2001). An RCT published by Wood et al. (2001) indicated significant improvement in NSSI when compared to control group. However, subsequent trials were unable to replicate these findings. Hazell et al. (2009) found an increase in NSSI in the intervention group during the follow-up period when compared to the control group, as well as at 6 months post-intervention. At 12 months post-intervention, a statistically nonsignificant trend of NSSI in the intervention group when compared to the control group was apparent (Hazell, et al., 2009). Green et al. (2011) also failed to replicate the original Wood et al. (2001) study. Overall, the participants demonstrated a significant reduction in NSSI from baseline to both 6 and 12 month follow up; however, despite the improvement, no indication of an advantage of the DGT as compared to routine care was found (Green et al., 2011).

DGT is promising as an intervention for adolescents with NSSI behaviors, but requires further research regarding its generalizability. All three studies report improvements across the

cohorts; however, this improvement could be related to efficacy of routine care, possibly suggesting any form of treatment can reduce NSSI in adolescents.

Therapeutic assessment and brief intervention. Therapeutic Assessment and Brief Intervention (TA) is a brief manualized intervention that is completed immediately after a standard psychological assessment. Cognitive analytic framework is the basis for TA, and aims to identify the problem at hand, teach techniques to enhance motivation to change, identify solutions, and then share an "understanding letter" (Flaherty, 2018) with the family members of the adolescent.

Ougrin et al. (2011) published an RCT examining the effect of TA as compared to treatment as usual. Participants in the TA group were more likely to attend the first follow-up appointment, and also more likely to attend four or more treatment sessions when compared to the control group (Ougrin et al., 2011). At the three-month follow-up, no difference between the groups in regard to frequency or recurrence of NSSI behaviors was found. Another study indicated a difference in the total number of sessions attended by the TA intervention group when compared to the control group with a small and nonsignificant effect on NSSI episodes in the TA intervention group (Ougrin, et al., 2013).

Although these studies also have some limitations (sample size, short follow-up period, exclusion of clinically relevant subgroups), they do help provide insight regarding the importance of brief interventions aimed at engaging adolescents in treatment and promoting treatment compliance and attendance.

Structured writing. Fukumori et al., (2017) examined the effect of a guided, structured writing program on ideations of self-harm and emotional regulation. The structured writing in this study promoted awareness of the participant's emotions, understanding of the function of

these emotions, and learning the difference between primary and secondary emotions (Fukumori et al., 2017). First, psycho-education was provided, then a period of self-reflection by writing where participants were asked to recall a situation that hurt their feelings, made them confused, and continued to bother them (Fukumori et al., 2017).

The structured writing method developed in this study did have positive results on ideations of self-harm, particularly in the area of emotional regulation. This study provides preliminary evidence that psychoeducation combined with emotional reflection through structured writing is potentially useful for enhancing emotional regulation. However, it is problematic that results of the program were still evident at the two-week follow-up but not at the one-month follow up (Fukumori, et al., 2017). Small sample size, no alternative activity for the control group, and the use of a self-harm index specifically designed for the study and not validated by any other research are all limitations. This study observed ideations of self-harm rather than NSSI, but could be a promising basis for further research.

Emotional expression. Thomassin et al. (2017) observed the link between specific coping strategies and deficits of emotional expression and NSSI in adolescents. The study examined the role of five specific coping strategies including problem-focused coping, support-seeking, positive reframing, avoidance, and distraction on the relation between maladaptive emotional expression and NSSI (Thomassin et al., 2017). Rates of NSSI were determined using the Deliberate Self-Harm Inventory (DSHI) (Gratz, 2001); emotional expression was measured using the Emotion Expression Scale for Children (EESC) (Zeman & Penza-Clyve, 2002); and the specific coping strategies examined were captured with the Children's Coping Strategies Checklist (CCSC) (Gaylord-Harden et al., 2008).

Overall results of the Thomassin et al. (2017) study support positive reframing and support seeking as the most significant moderators of poor emotional expression and NSSI. Problem-focused coping, distraction, and avoidance were not statistically significant moderators (Thomassin et al., 2017). At low levels of positive reframing, poor awareness of emotions and hesitation to express emotions were correlated with higher rates of NSSI, whereas at high levels of positive reframing, these correlates were no longer significant (Thomassin, et al., 2017).

Support seeking as an effective coping mechanism is supported by research done by Andover et al. (2007) showing that adolescents who do not engage in self-harm - whether suicidal in nature or not – are more likely to utilize support strategies such as talking to someone.

Mental Health Literacy. There are many interventions available to improve mental health coping skills and reduce the rates of self-harm and suicide attempts. These include effective clinical care for mental, physical, and substance use disorders; easy access to a variety of clinical interventions and support for help-seeking; family and community support; support from ongoing medical and mental health care relationships; and skills in problem solving, conflict resolution, and nonviolent ways of handling disputes (US Public Health Service, 1999).

Jorm et al. (1997) first defined *Mental Health Literacy* (MHL) as "knowledge and beliefs about mental health problems which aid their recognition, management, or prevention." MHL in the school setting has four unique but integrated aspects: 1) understanding how to foster and maintain good mental health; 2) understanding disordered mental health and treatments available; 3) decreasing negative attitudes or stigma; and 4) effective help-seeking behaviors (Kutcher & Wei, 2014).

The Mental Health & High School Curriculum Guide: Understanding Mental Health & Mental Illness (The Guide) (Kutcher, 2017) is a manual-based curriculum that is student-,

teacher-, and administration-friendly, easy to integrate into the existing school curriculum, sustainable, and inexpensive to apply (Kutcher & Wei, 2014). The Guide supports research on DBT-A by Mehlum et al. (2014) in that it promotes behavior modification, an important protective factor for the reduction of self-harm. It also supports the concept of accurately identifying and representing feelings as an effective means for emotional regulation in challenging situations as identified by Rossouw & Fonagy (2012) in their research on MBT-A. Research conducted by Thomassin et al. (2017) on emotional expression found effective support-seeking to be one of the most significant moderators of poor emotional expression and NSSI; help-seeking is also a key component of The Guide (Kutcher, 2017). Adolescents who do not engage in self-harm are more likely to use support strategies such as help-seeking, as evidenced by research conducted by Andover et al. (2007) on emotional expression. For these reasons, The Guide (Kutcher, 2017) was chosen as the intervention for this Evidence-Based Practice project.

Problem Statement

According to a 2017 Coconino County report on suicide and NSSI, 26% of interviewed teens felt sad or hopeless every day. When asked about having a suicide plan in the past year, 12% of teens indicated yes, while 6% reported having made an attempt (CCPHSD, 2017). The rates were all higher for LGBTQ youth (CCPHSD, 2017). There were 1800 self-harm related hospital visits in Coconino County between 2010 and 2015 (this data does not differentiate between NSSI and suicidal self-harm); over half of these visits were female patients, and 1 in 3 was an American Indian patient (CCPHSD, 2017). Nearly half of all self-harm related hospital visits were patients between the ages of 10 to 24 years old (CCPHSD, 2017). The majority (56%, 1440 patients) of visits were a result of drugs, alcohol, and/or some other form of poisoning, with

the second most common (26%, 670 patients) a result of injury with a sharp object (CCPHSD, 2017).

This inquiry has led to the clinically relevant PICOT question: In school staff such as teachers, nurses, and counselors (P), does adolescent mental health curriculum training (I) compared to no intervention (C) impact mental health literacy (O) within a sixteen week period (T)?

Search Strategy

A comprehensive database search of PsycINFO, PubMed and CINAHL was conducted. The original search terms used were "coping skills" and "adolescent". The Boolean operator "and" was used for the main aspects of the PICOT question, including population, intervention, and outcome. Population was defined as adolescents, intervention was school-based coping skills education, and the outcome of interest was improved mental health coping skills.

This original search yielded 1,924 results on PsycINFO, reduced to 694 when the specifier "mental health" was added, and to 204 results when the limits *peer reviewed* with publishing dates of 2010-2019 were added. When "school based" was added to help further refine the search results, 71 articles were produced. Refining the search to the last ten years produced 49 results, and re-adding *peer reviewed* changed it to 27 (Appendix A).

A PubMed search using the same terms yielded 23,758 journal articles. Specifying "mental health coping skills" reduced the number to 2,905, "school-based mental health coping skills" further reduced it to 43, with 12 final studies when *clinical trial* and publishing date within past 10 years were added (Appendix B).

The original CINAHL search produced 226 studies, reduced to 41 when “mental health” was added to clarify the search. The final search yield was 4 when “school based” was added and the time frame was narrowed to between 2010 and 2018 (Appendix C).

Changing “mental health” to “depression” did not produce any relevant changes in the research results. Using the term “pediatric” rather than “adolescent” changed the search results to include more studies from other countries.

Citation searching, or “data mining” of journals found during primary searches yielded additional references. Expert recommendations were requested through email inquiries in an attempt to make contact with primary adolescent coping skills researchers in the field, including authors of known adolescent coping skills programs. Because of the general scarcity of high quality coping skills training research, quasi-experimental designs and landmark studies were reviewed.

Critical Appraisal and Synthesis

Ten studies were included in this literature review. Nine of the studies focused on mental health outcomes, while one study looked at the coping skills of school-aged children diagnosed with diabetes. This study took into account the effect of coping skills education on depression levels and was therefore included in the review. Seven studies were RCTs, one was a waitlist control trial, and two were quasi-experimental with one pre/posttest with a control group and one pre/posttest with an untreated, nonequivalent control group. The reliability and validity of this evidence was substantiated by statistically significant results (Appendix D).

The study by Moreira, et al. (2010) is potentially problematic in that Moreira is the author of the program evaluated and receives royalties from sales of the program manuals. Conflict of interest is not an issue in the other studies. Seven of the studies were guided by the conceptual

framework of Cognitive Behavior Theory, two by Social Cognitive Theory, and one by Theory of Interpersonal Relations. All the studies employed adequate sample sizes, ranging from 82 participants in the Grey, et al. (2009) study to over a thousand in the first three years of the Moreira, et al. (2010) study. The mean age of subjects was variable, with most studies focusing on middle school and high school students, but elementary and college age students were also included in the review.

A wide array of measurement tools were utilized (Appendix E). This variation in tools is likely due to the multiple countries in which the studies took place, as well as variance in age group studied. For example, the Children's Depression Inventory (CDI) (Kovacs, 1985) was used in several of the studies looking at depression in children, while the Beck Depression Inventory (BDI) (Beck, et al., 1996) was used in the Hamdan-Mansour, et al. (2009) study that looked at depression in college students. Despite difference in tools used, similar variables, such as depression, anxiety, and coping skills, were observed in all the studies.

Purpose and Rationale

The purpose of this paper is to discuss the growing need for mental health literacy in the adolescent population. The growing mental health needs of this population make it likely that school personnel will see an increase in adolescents presenting with NSSI and other maladaptive coping patterns, highlighting the urgency for better research regarding effective education.

NSSI is highly correlated with suicidal behavior, and suicide is the second leading cause of death among 10-to-19-year-olds in the US (CDC, 2014). Due to the potential for serious injury or even death, NSSI is often a trigger for admission to acute psychiatric care; an expensive and restrictive treatment with a weak evidence base (Burns, et al., 1999; Zaisman et al., 2008). It is imperative that a better understanding of the causes of these behaviors is reached and that

effective interventions are implemented in school age children in an attempt to improve coping skills and mental health.

EBP Model and Conceptual Model

Rosswurm and Larrabee's (1999) Model for Evidence Based Practice Change (Appendix F) was chosen for this project. This model was designed to guide healthcare professionals through a systematic process of change to evidence-based practice, but is easily translatable to the goals of this project, in that the research done will be used to synthesize empirical and contextual evidence into an evidence-based change for the school. Rosswurm and Larrabee (1999) based their model on theoretical and research literature on evidence-based practice, as well as research utilization, standardized language, and change theory. This model can be used to guide the process of developing and integrating an evidence-based change in any setting, and supports evidence-based practice changes based on a combination of quantitative and qualitative data combined with clinical expertise and contextual evidence (Rosswurm & Larrabee, 1999).

The six steps of the model include: 1) Assess the need for change in practice; 2) Link problem interventions and outcomes; 3) Synthesize best evidence; 4) Design practice change; 5) Implement and evaluate change in practice; and 6) Integrate and maintain change in practice (Rosswurm & Larrabee, 1999). Both internal and external evidence on adolescent coping skills indicate this phenomenon to be a growing problem that requires effective intervention; development of maladaptive coping skills and limited knowledge of healthy coping compounds the problem. This model effectively illustrates a framework for change in the school system, as each step described in the model speaks to a step taken to implement an evidence-based coping skills program to help address the growing incidence of maladaptive coping in the adolescent population.

The Stuart Stress Adaptation Model (2009) (Appendix G) provides a framework for the implementation of interventions designed to promote adaptation to chronic illness, and suggests that adaptation may be viewed as an active process experienced by the individual as they adjust to their environment and the challenges they face (Stuart, 2009). This model identifies adaptation as the degree to which an individual adjusts both physically and mentally to the stress of living with chronic illness, and individual characteristics such as age, socioeconomic status, treatment modality, individual responses (i.e. depression and anxiety), and context (for example, coping skills, self-efficacy, help-seeking) influence the level of individual adaptation (Stuart, 2009). The theory suits the proposed project of implementing mental health literacy education due to the concept of executing interventions to promote adaptive coping.

Methods

Design/Approach

Prior to the recruitment of participants, ethical approval was obtained from Arizona State University Internal Review Board. This Evidence Based Practice (EBP) project examined the impact of a manual-based curriculum resource known as The Mental Health & High School Curriculum Guide (The Guide) (Kutcher, 2017), designed for use by school personnel to enhance both students' and teachers' knowledge and attitudes related to mental health and mental illness.

The Guide (Kutcher, 2017) is designed for use with students in grades 7 through 10. The Teacher Knowledge Update, part of The Guide (Kutcher, 2017), was presented to participating school personnel during an allotted staff meeting time. The key stakeholders included the teachers, the school therapist, the school nurse, the Vice Principal, and the Associate Director of Student Support Services. The investigator identified school staff interested in participating through an email sent to all school employees.

Survey data was collected before, immediately after, and 3 months following exposure to The Teacher Knowledge Update, part of The Guide (Kutcher, 2017).

A cover letter was also handed out to those in attendance at the scheduled staff presentation; this letter explained the purpose of the project as well as the potential risks/benefits to the participants. Consents were obtained from those willing to participate. No personal identifying information was collected on pre-, post- or follow-up surveys. Confidentiality was maintained through the use of a coding system to guarantee answers to the pre- and post-tests were always anonymous. Pre-, post-, and follow-up surveys were linked on an individual level and coded by the last four digits of the participant's phone numbers. The contact information of the participants was stored on a personal laptop with a private password.

Measures

Initial information was collected on demographic data and MHL of participants. MHL was measured using the Mental Health Literacy Scale (MHLS) (O'Connor & Casey, 2015) (Appendix H), a 35-item univariate scale which includes ability to recognize disorders (8), knowledge of where to seek information (4), knowledge of risk factors and causes (2), knowledge of self-treatment (2), knowledge of professional help available (3), and attitudes that promote recognition of appropriate help-seeking behavior (16). The MHLS was constructed over 3 key stages including measure development, pilot testing, and assessment of psychometrics and methodological quality (O'Connor & Casey, 2015). This scale demonstrated good internal and test-retest reliability; initial testing of the instrument found the mean score for the scale was 127.38 (SD = 12.63) and scores ranged from 92 to 155 (O'Connor & Casey, 2015). Somewhat normal distribution was indicated (skewness = -115, Kurtosis = =.231) (O'Connor & Casey, 2015). Readability of the MHLS was determined using the Flesch-Kindcaid Formula and

indicated a grade level of 7.6 (O'Connor & Casey, 2015). The scale indicated good reliability (R(69) = .797, p = <.001), and standard error of measurement was calculated and found to be 5.70 (O'Connor & Casey, 2015).

A three month follow-up survey was conducted to determine how the MHL of the school staff exposed to The Guide (Kutcher, 2017) had changed from baseline. Intended outcomes included increased knowledge of mental health (including ability to recognize specific disorders, knowledge of where to seek information, and knowledge of risk factors and causes), decreased stigma related to mental health care (including knowledge of self-treatment and knowledge of professional resources available), and enhanced help-seeking behaviors, such as attitudes that promote recognition of when help is needed and how to find help (Kutcher, 2017).

Data Analysis

Descriptive statistics were used to describe the sample and outcome variables. To examine a significant change of the average scores between pretest, post-test, and follow-up, the Friedman's test was used. Missing data was handled with intent to treat, replacing missing data with average scores. IBM SPSS Statistics 23 (IBM SPSS Inc., Armonk, NY) was used to conduct the analysis. A two-tailed test was run and the critical value was set at $p<0.05$.

Results

The sample consisted of personnel employed at a public middle school (N = 8). Seven (87.5%) were females and one (12.5%) was male. The average age of participants was 45 (SD = 13.64) and the ages ranged from 28 to 64. Five (62.5%) participants reported having Graduate Degrees, and three (37.5%) participants had Undergraduate Degrees. Six (75%) were teachers, one (12.5%) was a librarian, and one (12.5%) was a counselor. There were 12 participants in the pre- and post-test, but only 8 completed the three month follow-up; we adjusted the number of

participants accordingly. The MHLS has a high score of 165 and a low score of 35. A score of 128 or higher is indicative of good MHL. Prior to exposure to The Guide (Kutcher, 2017), the average score was 126 (SD = 9.37), and scores ranged from 112 to 138 points. Following exposure to The Guide (Kutcher, 2017), the average score increased to 135 (SD = 13.78), and scores ranged from 109 to 150 points. At the three month follow-up, the average score remained above pre-exposure scores at 133 (SD = 10.18), and scores ranged from 111 to 145 points. Friedman's test indicated a x^2 value of 1.750 with a $p = .417$; $r = .36$, indicating a medium effect size.

Discussion

A recent systematic review and narrative synthesis of MHL programs for school teachers included The Guide (Kutcher, 2017). The studies conducted in Canada in 2013 (Kutcher, Wei, McLuckie, & Bullock) and 2014 (Wei & Kutcher; Wei, Kutcher, Hines, & McKay), Malawi in 2015 (Kutcher et al.), and Tanzania in 2016 (Kutcher, et al.) all indicated an increase in knowledge of mental health disorders and understanding of stigma related to mental health post exposure to The Guide (Kutcher, 2017), but did not demonstrate an increase in help-seeking behaviors (Yamaguchi, et al., 2018). These results, as well as the moderate effect size of this intervention, highlight the need for more quality research before the effectiveness of mental health literacy programs for school personnel can be formally established.

There is no consensus on the best practice or executed format for formal mental health education programs. Most of these programs are designed to foster social problem solving, improved communication skills, cognitive behavioral modification, stress management, and conflict resolution. Effective MHL education in childhood and adolescence can reduce the incidence of maladaptive coping such as NSSI, violence towards others, and even suicide.

Implementation of this MHL curriculum could help school personnel increase and maintain the MHL of both themselves and their students, as evidenced by the increase of MHL demonstrated by participants from pre- to post- and three month follow-up exposure to The Guide (Kutcher, 2017). The program helped to educate the school personnel on the four key concepts of MHL identified by Kutcher & Wei (2014), including understanding how to foster and maintain good mental health, understanding disordered mental health and treatments available, decreasing negative attitudes or stigma, and effective help-seeking behaviors. Ultimately, rates of maladaptive coping such as NSSI and suicide could be reduced. This program could potentially be implemented in other schools in the district.

The strengths of the project include the student-, teacher-, and administration-friendly nature of the manual-based intervention, the ease with which it can be integrated into the school curriculum, the sustainability of the intervention, and its' relative low cost (The Guide can be downloaded for free from teenmentalhealth.org, or it can be purchased on Amazon.com for $40.00). The enthusiasm of the school personnel toward The Guide (Kutcher, 2017) is another strength. Limitations include the small sample size, a loss of 30% to the three month follow-up, and the non-statistically significant nature of the results. Participants of this study also attended a mandatory Zero Suicide Workshop conducted at the school between the post-test and the three month follow-up test, which may have skewed the results. A 7th grade student at the school died by suicide several weeks after this EBP project took place; this experience likely had an effect on the three month follow-up participation and results.

Conclusion

Adaptive coping skills provide adolescents with the ability to manage stress and risk factors and to build a resilient personality as an adult. Adolescents who are not able to effectively

cope with stressors, chronic illness, or other risk factors are at increased risk for mental illness and poor developmental outcomes. Interventions such as MHL education are essential for decreased incidence of mental health outcomes such as greater distress, decreased quality of life, worsening of symptoms, decreased social functioning, and even violence and suicide.

Most CSTs are designed to increase individual competence and skill mastery while providing training to end the use of maladaptive coping and incorporate more adaptive and functional strategies (Grey et al., 2009). Formal CST trainings have been implemented in multiple settings, including schools, school-based health centers, and both outpatient and inpatient environments. CST programs are generally manual-based and are founded on years of traditional psychological and social work-based CBT treatment plans. Some programs, such as Teaching Kids to Cope (Puskar, et al., 2009) follow a specific copyrighted program and can be costly to implement, while others, such as The Guide (Kutcher, 2017), follow a group format based on traditional CBT techniques and educational practices and are free or relatively low-cost to implement. The evidence reviewed in this paper supports the conclusion that no one program is superior to another, and any intervention is better than no intervention. The school staff expressed interest in education to help them better identify students struggling with behavioral health issues and how to best interact with them. With this in mind, The Teacher Knowledge Update, part of The Guide (Kutcher, 2017), was chosen as the intervention.

References

Andover, M.S., Pepper, C.M., & Gibb, B.E. (2007). Self-mutilation and coping strategies in a college sample. *Suicide and Life-Threatening Behavior*, 37, 238-243.

Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for the beck depression inventory-II*. San Antonio, TX: Psychological Corporation.

Burns, B.J., Hoagwood, K., & Mrazek, P.J. (1999). Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review*, 2, 199-254.

Centers for Disease Control and Prevention. *Suicide mortality in the United States, 1999-2017*. Retrieved from https://www.cdc.gov/nchs/products/databriefs/db330.htm

Clarke, G.N., Hawkins, W., Murphy, M., Sheeber, L.B., Lewinsohn, P.M., & Seeley, J.R. (1995). Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: A randomized trial of a group cognitive intervention. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(3), 312-321.

Coconino County Public Health Services District (2017). *Suicide in Coconino County: An overview of suicide trends from 2010-2016*. Retrieved from http://www.coconino.az.gov/DocumentCenter/View/20418

Compas, B.E., Connor-Smith, J.K., Saltzman, H., Thomsen, A.H., & Wadsworth, M.E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127(1), 87-127.

Essau, C.A., Conradt, J., Sasagawa, S., & Ollendick, T.H. (2011). Prevention of anxiety symptoms in children: results from a universal school-based trial. *Behavior Therapy*, 43(2012), 450-464.

Flaherty, H. (2018). Treating adolescent nonsuicidal self-injury: A review of psychosocial interventions to guide clinical practice. *Journal of Child and Adolescent Social Work*, 35, 85-95.

Fukumori, T., Kuroda, H., Ito, M., & Kashimura, M. (2017). Effect of guided, structured, writing program on self-harm ideations and emotion regulation. *The Journal of Medical Investigation*, 64, 74-78.

Gaylord-Harden, N.K., Gipson, P., Mance, G., & Grant, K.E. Coping patterns of African American adolescents: A confirmatory factor analysis and cluster analysis of children's coping strategies checklist. *Psychological Assessment*, 20, 10-22.

Gratz, K.L. (2001). Measurement of deliberate self-harm: Preliminary data on the deliberate self-harm inventory. *Journal of Psychopathological Behavior Assessment*, 23, 253-263.

Green, J.M., Wood, A.J., Kerfoot, M.J., Trainor, G., Roberts, C., Rothwell, J., Woodham, A., Ayodeji, E., Barrett, B., Byford, S, & Harrington, R. (2011). Group therapy for adolescents with repeated self-harm: Randomized controlled trial with economic evaluation. *British Medical Journal (Clinical Research Edition),* 342, d682.

Grey, M., Whittemore, R., Jaser, S., Ambrosino, J., Lindemann, E., Liberti, L., Northrup, V., & Dziura, J. (2009). Effects of coping skills training in school-age children with type 1 diabetes. *Research in Nursing and Health*, 32, 405-418.

Hamdan-Mansour, A.M., Puskar, K., & Bandak, A.G. (2009). Effectiveness of cognitive-behavioral therapy on depressive symptomology, stress and coping strategies among Jordanian university students. *Issues in Mental Health Nursing*, 30, 188-196.

Hazell, P.L., Martin G., McGill, K., Kay, T., Wood, A., Trainor, G., & Harrington, R. (2009). Group therapy for repeated deliberate self-harm in adolescents: Failure of replication of a

randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48, 662-670.

Jorm, A.F., Korten, A.E., Jacomb, P.A., Christensen, H., Rodgers, R., & Pollit, P. (1997). "Mental health literacy": A survey of the public's ability to recognize mental disorders and their beliefs about effectiveness of treatment. *Medical Journal of Austria*, 166, 182-186.

Kovacs, M. (1985). The children's depression inventory (CDI). *Psychopharmacology Bulletin*, 21, 995-998.

Kowalenko, N., Rapee, R.M., Simmons, J., Wignall, A., Hoge, R., Whitefield, K., Stonehous, R., & Baillie, A. (2005). Short-term effectiveness of a school-based early intervention program for adolescent depression. *Clinical Child Psychology and Psychiatry*, 10(4), 493-507.

Kutcher, S. (2017). Mental health & high school curriculum guide: Understanding mental health and mental illness version 3. USA Edition: Washington State. Retrieved from http://teenmentalhealth.org/wp-content/uploads/2018/01/Washington-FINAL-Guide-2017-Online-Cover-and-Interior.pdf

Kutcher, S., Wei, Y., McLuckie, A., & bullock, L. (2013). Educator mental health literacy: A programme evaluation of the teacher training education on the mental health & high school curriculum guide. *Advances in School Mental Health Promotion*, 6(2), 83-93.

Kutcher, S. & Wei, Y. (2014). School mental health literacy: A national curriculum guide shows promising results. *Education Canada*, March 2014, 22-25.

Kutcher, S., Gilberds, H., Morgan, C., Greene, R., Hamwaka, K., & Perkins, K. (2015). Improving Malawian teacher's mental health knowledge and attitudes: An integrated school mental health literacy approach. *Global Mental Health*, 2, e1.

Kutcher, S., Wei, Y., Gilberds, H., Ubuguyu, O., Njau, T., Brown, A., …Perkins, K. (2016). A school mental health literacy curriculum resource training approach: Effects on Tanzanian teacher's mental health knowledge, stigma, and help-seeking efficacy. *International Journal of Mental Health Systems*, 10, 50.

Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York, NY: Springer.

Mehlum, L., Tormoen, A.J., Ramberg, M., Haga, E., Diep, L.M., Laberg, S., Larsson, B.S., Stanley, B.H., Miller, A.L., Sund, A.M., & Groholt, B. (2014). Dialectical behavior therapy for adolescents with repeated suicidal and self-harming behavior: A randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 53(10), 1082-1091.

Melnyk, B.M., Kelly, S., Jacobson, D., Belyea, M., Shaibi, G., Small, L., O'Haver, J., & Marsiglia, F.F. (2013). The COPE healthy lifestyles TEEN randomized controlled trial with culturally diverse high school adolescents: Baseline characteristics and methods. *Contemporary Clinical Trials*, 36 (2013), 41-53.

Moreira, P., Crusellas, L., Sa, I., Gomes, P., & Matias, C. (2010). Evaluation of a manual-based programme for the promotion of social and emotional skills in elementary school children: Results from a 4-year study in Portugal. *Health Promotion International*, 25(3), 309-317.

O'Connor, M. & Casey, L. (2015). The mental health literacy scale (MHLS): A new scale-based measure of mental health literacy. Psychiatry Research, 229(1-2), 511-516. Retrieved from http://dx.doi.org/10.1016/j.psychres.2015.05.064

Ougrin, D., Zundel, T., Ng, A., Banarsee, R., Bottle, A., & Taylor, E. (2011). Trial of therapeutic assessment in London: Randomized controlled trial of therapeutic assessment verses standard psychosocial assessment in adolescents presenting with self-harm. *Archives of Disease in Childhood*, 96, 148-153.

Ougrin, D., Booge, I., Stahl, D., Banarsee, P., & Taylor, E. (2013). Randomized controlled trial of therapeutic assessment versus usual assessment in adolescents with self-harm: 2-year follow-up. *Archives of Disease in Childhood*, 98, 148-153.

Puskar, K., Sereika, S., & Tusaie-Mumford, K. (2003). Effect of the teaching kids to cope (TKC) program on outcomes of depression and coping among rural adolescents. *Journal of Child and Adolescent Psychiatric Nursing*, 16(2), 71-80.

Puskar, K., Grabiak, B.R., & Bernardo, L.M. (2009). Adolescent coping across time: Implications for psychiatric mental health nurses. *Issues in Mental Health Nursing*, 30, 581-586.

Roberts, C., Kane, R., Thomson, H., & Bishop, B. (2003). The prevention of depressive symptoms in rural school children: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 71(3), 622-628.

Rossouw, T.I., & Fonagy, P. (2012). Mentalization-based treatment for self-harm in adolescents: A randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatr*y, 51(12), 1304-1317.

Rosswurm, M.A., & Larrabee, J.H. (2009). A model for change to evidence-based practice. *Journal of Clinical Scholarship*, 31(4), 317-322. Retrieved from http://library.armstrong.edu/eres/docs/eres/NURS4445-1_TAGGART/444502tagModelforChange.pdf

Stuart, G.W. (2009). *Principles and practice of psychiatric nursing (10th ed).* Kansas City, MO: Mosby Elsevier.

Thomassin, K., Gunrin, C.M., Venasse, M., & Shaffer, A. (2017). Specific coping strategies moderate the link between emotion expression deficits and nonsuicidal self-injury in an inpatient sample of adolescents. *Child and Adolescent Psychiatry and Mental Health,* 11(21). Retrieved from https://www-ncbi-nlm-nih-gov.ezproxy1.lib.asu.edu/pmc/articles/PMC5390354/

U.S. Public Health Service (1999). *The surgeon general's call to action to prevent suicide*. Washington, DC: U.S. Department of Health and Human Services.

Wei, Y., & Kutcher, S. (2014). Innovations in practice: 'Go-to' educator training on the mental health competencies of educators in the secondary school settings: A program evaluation. Child and Adolescent Mental Health, 19(3), 219-222.

Wei, Y., Kutcher, S., Hines, H., & MacKay, A. (2014). Successfully embedding mental health literacy into Canadian classroom curriculum by building on existing educator competencies and school structures: The mental health and high school curriculum guide for secondary schools in Nova Scotia. *Literacy Information and Computer Education Journal*, 5(3), 1649-1654.

Wood, A., Trainor, G., Rothwell, J., Moore, A., & Harrington, R. (2001). Randomized trial of group therapy for repeated deliberate self-harm in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry,* 40(11), 1246-1253.

Yamaguchi, S., Foo, J.C., Nishida, A., Ogawa, S., Togo, F., & Sasaki, T. (2019). Mental health literacy programs for school teachers: A systematic review and narrative synthesis. *Early Intervention in Psychiatry*, 2019, 1-12.

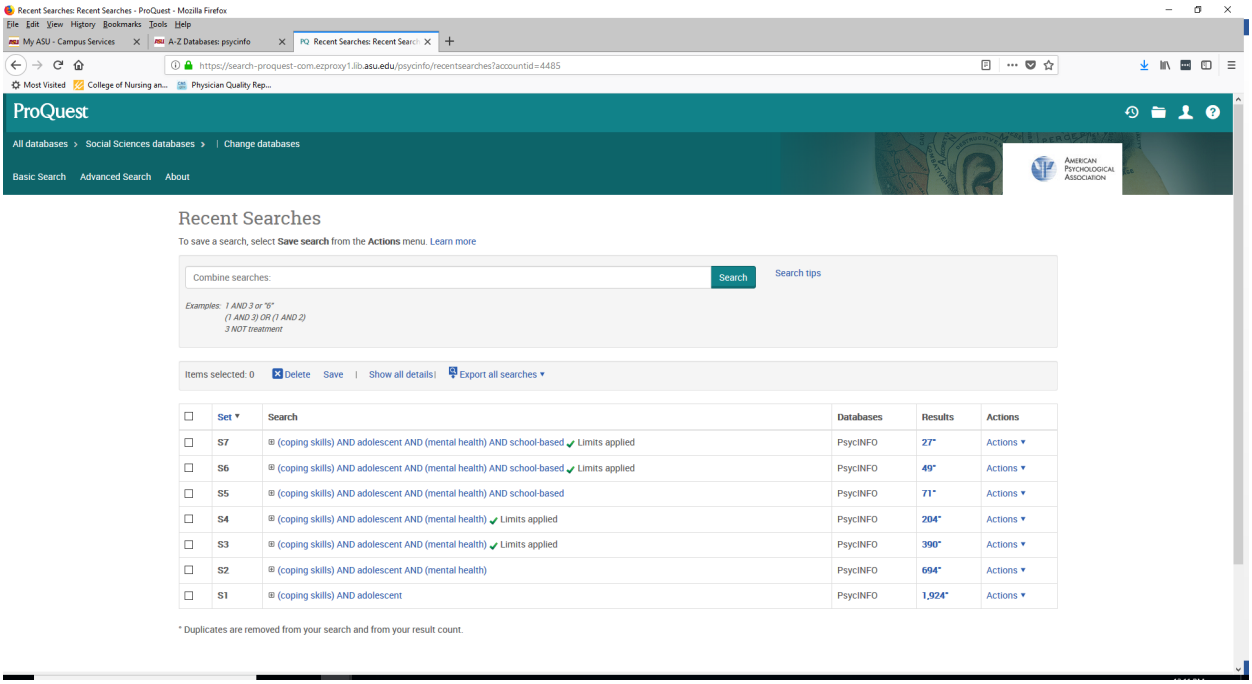
Zaisman, G., Levy, T., & Shovar, G. (2008). Interaction of child and family psychopathology leading to suicidal behavior. *Psychiatric Clinics of North America*, 31, 237-246.

Zeman, J., & Penza-Clyve, S. (2002). Initial validation of the emotion expression scale for children (EESC). *Journal of Clinical Child and Adolescent Psychology*, 31, 540-547.

Appendix A

Search 1

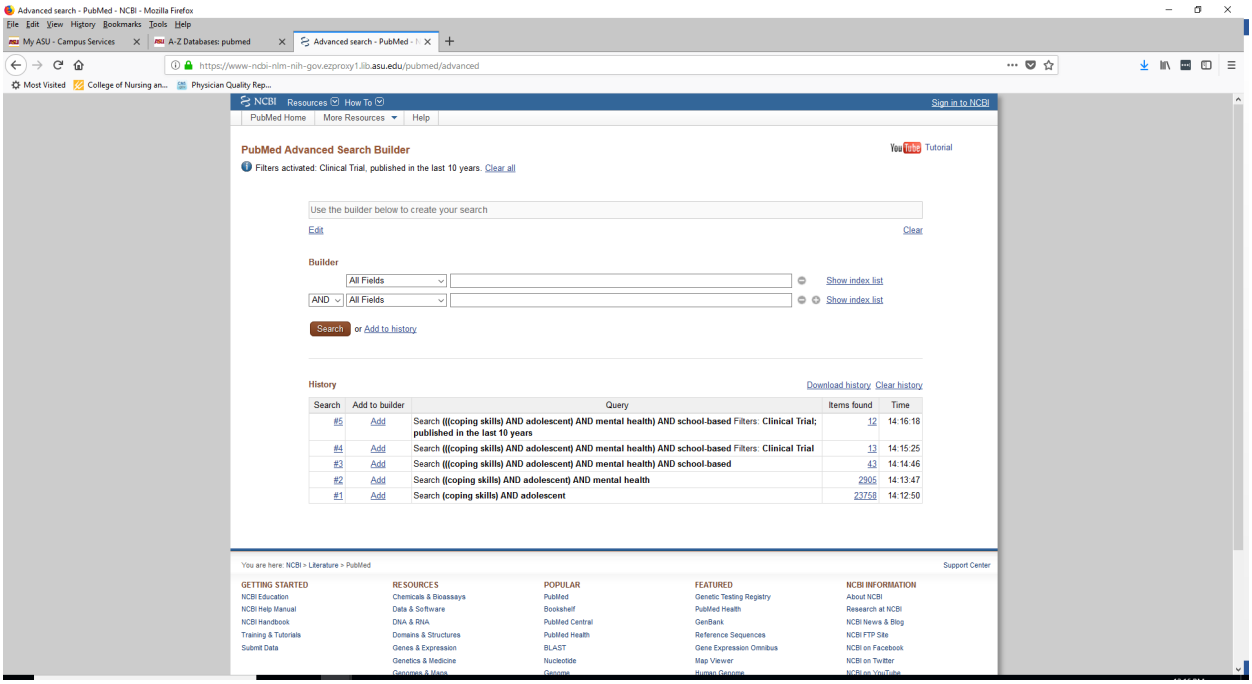
PsycINFO



Appendix B

Search 2

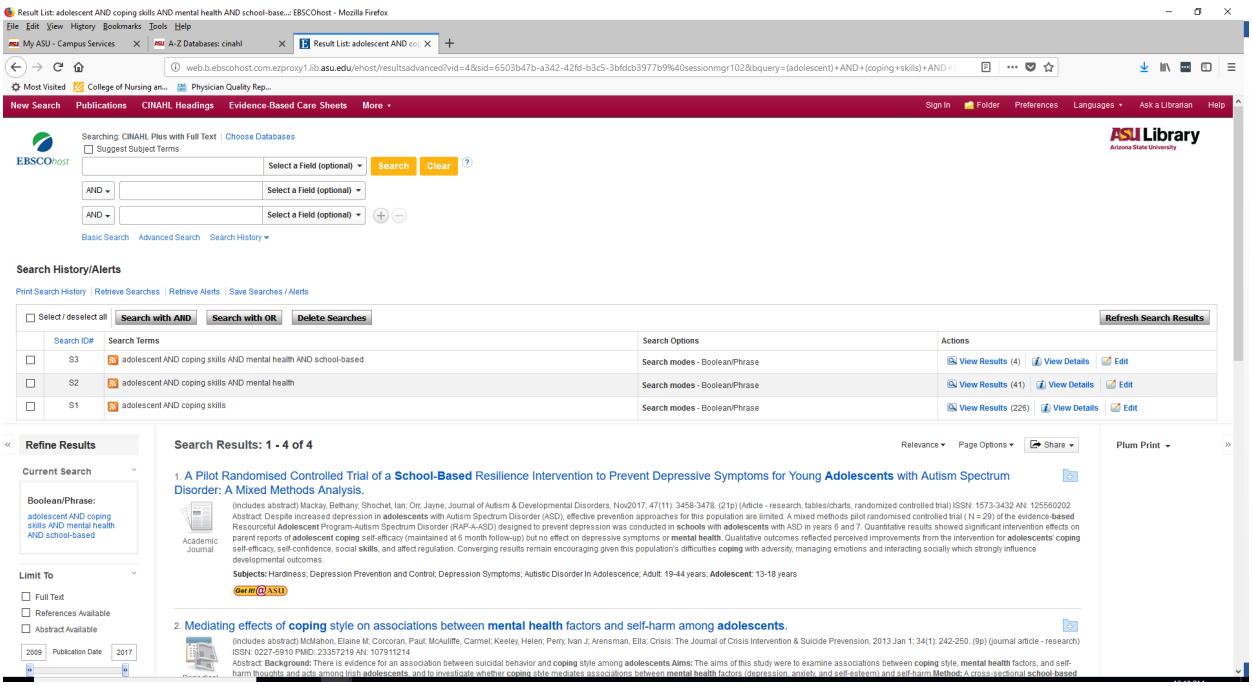
PubMed



Appendix C

Search 3

CINAHL



Appendix D

Table 1

Evaluation Table

Citation	**Conceptual Framework**	**Design/ Method**	**Sample/ Setting**	**Major Variables & Definitions**	**Measurement/ Instrumentation**	**Data Analysis**	**Findings/ Results**	**Level of Evidence; Decision for Use**
Clarke, et al., 1995; Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: A randomized trial of a group cognitive intervention, f/b NIMH, no coi, US	CBT	**Design**: RCT **Purpose**: Prevent episodes of dep in HS adol with elevated risk of dep disorder	n=150, HS adol stud, US **IC**: HS adol, elevated dep sx **EC**: no current dep	IV- CWS-A DV- dep	CES-D, K-SADS	Principle outcome analysis, survival analysis, Mantel-Cox test, one-tailed t-tests	Survival analyses indicated a sig 12mo advantage for the IG, with affective disorder total incidence rates of 14.5% for the IG vs 25.7% for the CG	Level I Strengths: session audiotaped, reviewed by "blinded" research staff to determine compliance, all group sled by specially trained staff Weaknesses: lack of attention-placebo control group, self-selection of participants, lack of cross-validation Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level of Evidence; Decision for Use
Essau, et al., 2012; Prevention of anxiety symptoms in children: results from a universal school-based trial, f/b Karl-Wilder Stiftung foundation, no coi, Germany	CBT	**Design**: RCT **Purpose**: Evaluate effectiveness of FRIENDS program in prevention of childhood anx	n=638, 9-12yo stud, Germany **IC:** 9-12yo **EC:** no parental consent	IV-FRIENDS DV-anx, dep	SCAS, RCADS, CAPS, SSQ, CASAFSC, Coping Scale for Children and Youth, FRIENDS Child Social Acceptability Measure	ANOVA, Bonferroni method, Sobel's test	Significant interactions between time and group for total anxiety scores, $F(3, 648)=17.03$, $p<.001$, and total depression score $F(3,720)=17.61$, $p<.001$; and social and adaptive functioning scores, $F(3, 513)=3.51$, $p<.05$and avoidant coping subscales of cognitive avoidance, $F(3,669)=6.42$, $p<.001$, and bx avoidance subscales, $F(3, 672)=8.21$, $p<.001$	Level I Strengths: large sample size, heterogeneity of participants, random assignment of schools to IG or CG, highly reliable and valid assessment measures Weaknesses: self-report of findings, low participation rates of parents, self-selection of participants, need for parental consent Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Grey, et al., 2009; Effects of coping skills training in school-age children with Type I Diabetes, f/b NINR, no coi, US	SCT	**Design**: RCT **Purpose:** Determine effects, mediators, and moderators of a CST vs general diabetes ed	n=82, 8-12yo stud, US **IC:** 8-12yo, dx of T1D, insulin tx 6 mos, no other health issues, in grade appropriate to age **EC**: unable to schedule CST	IV-CST DV- dep, cop, se	HbA1C, Diabetes QOL Scale, CDI, T1D-Child Scale, Self-Efficacy for Diabetes Scale, DFBS, Demographic and Clinical data, Baseline, 1 and 2 mo f/u	SAS, t-tests, Fisher's exact	Lower impact of DM (QOL) (p=.013), improved cop with DM (p=.003), improved self-efficacy (p<.001), fewer dep sx (p<.001), clinical implications of 11% dep sxs at baseline, intensive tx of DM	Level I Strengths: audio and video taped Weaknesses: selection, attrition, regression, diffusion social threat, history threat, generalization, context-dependent mediation, interaction of causal relationship over treatment variations Feasible: no

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Hamdan-Mansour, et al., 2009; Effectiveness of cognitive-behavioral therapy on depressive symptomology, stress, and coping strategies among Jordanian university students, f/b University of Jordan, no coi, Jordan	CBT	**Design:** RCT **Purpose:** Examine effectiveness of CBT in university stud with moderate to severe dep	n=84, college stud, Jordan **IC:** at least 15/63 on BDI, attend 10/10 group therapy sessions **EC:** less than 15 on Beck Dep Inventory	IV-MTKC DV-dep, stress, cop	BDI, Perceived Stress Scale, Ways of Coping Questionnaire Baseline, post-intervention, 3 mo f/u	SPSS, t-test, MannWhitney U test, Chi-Square	Less dep sx ($p<.001$), lower stress level ($p<.001$), change in perceived stress ($p<.001$), less use of avoidance cop ($p<.001$), greater problem solving ($p<.001$), greater seeking social support ($p<.001$), greater positive reappraisal ($p<.001$)	Level I Strengths: Audio & video taping of interventions, initial and ongoing consultation with developer of program, professional translation of measurement scales, all group leaders trained by developer of program, progress reports after each session Weaknesses: random permuted block allocation, regression & social threats, generalization Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Kowalenko, et al., 2005; Short-term effectiveness of a school-based early intervention program for adolescent depression, f/b N. Sydney Health Research Grant Scheme & N. Sydney Health Youth Suicide Prevention Funding, no coi, Aus	TIP	**Design:** Waitlist CT **Purpose:** Evaluate effectiveness of ACE for dep in girls	n=143, adol girls, Aus **IC:** 13-16yo, cutoff score or higher on CDI **EC:** no consent	IV-ACE DV-dep	CDI, Adolescent Coping Scale, CATS	SPSS, ANCOVA	Lower dep scores for IG, ($F(1,79)=6.65$, $p<.05$, partial $n2=.078$); Non-productive Cop subscale sig ($F(1,70)=6.48$, $p<.05$, partial $n2=.085$); CATS subscales: loss ($F(1,79)=8.26$, $p<.05$, partial $n2=.095$); social anx sig ($F(1,79)=6.51$, $p<.05$, partial $n2=0.76$); physical anx significant ($F(1,79)=9.63$, $p<.005$, partial $n2=.11$); hostility significant, ($F(1,79)=5.22$, $p<.05$, partial $n2=.062$).	Level II Strengths: matched samples, valid and reliable measurement tools Weaknesses: funding for study limited to coordination, data collection, and training of staff, unequal distribution of male participants Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Melnyk, et al., 2013; The COPE healthy lifestyles TEEN randomized controlled trial with culturally diverse high school adolescents: Baseline characteristics and methods, f/b NINR, no coi, Southwest US	CBT	**Design:** RCT **Purpose:** Testing efficacy of COPE TEEN program vs attention control program on adol healthy lifestyle behavior	n=779, SW adol stud, US **IC:** 14-16yo enrolled in health class, English speaking, parents English or Spanish speaking **EC:** medical condition that would prevent participation in physical activity component of program	IV-COPE TEEN DV-dep, anx	AHIMSA, Healthy Lifestyle Beliefs Scale, Perceived Difficulty Scale, Healthy Lifestyle Behaviors (subjective), Physical Activity (pedometer), BYI-II, height & weight, SSRS, cholesterol	Frequencies, means, SD, sample t-test, chi-square	15.79% stud above average scores on BDI, 21.56% with anx sxs, no significant difference for BYI anx or dep; AHIMSA subscales significant including assimilation (p=.00), separation (p=.02), and integration(p=.01), IG with lower assimilation and higher separation and integration scores than CG, no significant difference between groups on any other scales	Level I Strengths: design, large sample size, inclusion of physical health indicators, psychosocial outcomes, and academic performance Weaknesses: inadequate time frame to practice skills necessary for intervention, lack of follow up with teachers, stud receiving course credit for participation, professional development credit for teachers Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Moreira, et al., 2010; Evaluation of a manual-based programme for the promotion of social and emotional skills in elementary school children: Results from a 4-year study in Portugal, f/b Instituto da Droga e da Toxicodependencia and several counties in Portugal, coi: Moreira is the author of GUP and receives royalties from sales of GUP manuals, Portugal	SCT	**Design:** ppt w/ untreated, nonequiv control grp **Purpose:** Evaluate effectiveness of teacher manual-based intervention for promotion of social and emo skills	n=yr1 1050, yr2 1806, yr3 1511, yr4 778, elementary stud 6-10yo, Portugal **IC:** in elementary school within a council funded for program, willingness of teachers and parents **EC:** no consent	IV-GUP DV-social, emo skills	CSCS, SPPC, EII, CABS, Emotional Regulation and Coping Strategies Inventory (ERCSI) Baseline, 2x year	CSCS yr1: effect size 0.831, p<.001; real bx SPPC yr 1: effect size 0.909, p<.03; peer acceptance SPPC yr1: effect size 0.942, p<0.01; EII yr2: effect size 0.889, p<.001; CABS yr3: effect size 0.876; p<.001; ERCSI yr 4: effect size 0.992, p<.003	Statistically significant differences each year, increase in children's behavior and social acceptance, increase in emotional differential skill, increase in learning capacity of emotional concepts	Level III Strengths: project supervision every 20 days, technical support provided for classroom interventions Weaknesses: not randomized, nonequivalent groups at baseline, selection history, maturation, testing, mortality, and bias Feasible: no

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Puskar, et al., 2003; Effect of the teaching kids to cope (TKC) program on outcomes of depression and coping among rural adolescents, f/b NINR, no coi, US	CBT	**Design:** RCT **Purpose:** Test effectiveness of group-administered CBT on rur adol	n=89 rur adol, US **IC:** at least 13yo, rur area, mid-range score on Reynold's Adol Dep Scale, no death of family or friend in past year **EC:** no consent	IV-TKC DV- dep, cop	Reynold's Adolescent Depression Scale, Coping Response Inventory-Youth, Self Report, Baseline, 6 and 12 mo f/u	SAS software, mean, SD, two-tailed Student's t-test	Higher cognitive problem-solving coping strategies, improvement in dep sxs (p=.026), improvement in cop skills, higher problem solving style (p=<.05), positive reappraisal (p=<.05), acceptance/resignation (p=<.05)	Level I Strengths: design, audiotaping of sessions, review of 1/3 of all tapes by consultant, all group leaders trained by developer of program Weaknesses: groups different at baseline, social threats, generalization, interaction of causal relationship with setting Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Puskar, et al., 2009; Adolescent coping across time: Implications for psychiatric mental health nurses, f/b NINR, no coi, US	CBT	**Design:** ppt w/ con grp **Purpose:** Compare rur adol cop responses pre and post TKC-A	n=179, rur adol, US **IC:** read, write, speak English, 9th, 10th, or 11th, grade, rur **EC: no consent**	IV-TKC-A DV- anger	Coping Response Inventory-Youth Baseline Postintervention 6 and 12 mo f/u	t-tests, Mann-Whitney U-tests, chi-square analysis, content analysis of themes	No statistical significance between groups, clinical significance, decrease in cognitive avoidance and emo discharge, qualitative reports of improvement and satisfaction	Level III Strengths: Supervision of group leaders, review of adherence to treatment, audiotaping of TKC, reviewed by outside expert Weaknesses: Nonrandomized Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Results	Level of Evidence; Decision for Use
Roberts, et al., 2003; The prevention of depressive symptoms in rural school children: A randomized controlled trial, f/b Western Australian Health Promotion Foundation, Save the Children Fund, Curtin University's Munja Festival, no coi, Aus	CBT	**Design:** RCT **Purpose:** Evaluate prevention program designed to reduce dep and anx in rur school children	n=189, rural stud, Aus **IC:** 7th grade, rur school district **EC:** no consent	IV-PPP DV- dep	CDI, Revised Children's Manifest Anxiety Scale, Children's Attributional Style Questionnaire, Matson Evaluation of Social Skills with Youngsters, Child Behavior Checklist	ANCOVA	Mean dep scores for both groups reduced over time	Level I Strengths: design, large sample size Weaknesses: quality of implementation of program difficult to measure, lack of true placebo control group Feasible: yes

Key: ACE – Adolescents Coping with Emotion; adol – adolescent; anx – anxiety; AHIMSA-Acculturation, Habits, and Interests Multicultural Scale for Adolescents; Aus- Australia; BDI-Beck Dep Inventory; Beck Youth Inventory 2nd Ed-BYI-II; CABS-Children's Assertive Behavior Scale; CAPS-Child and Adolescent Perfectionism Scale; CBT – cognitive behavior theory; CASAFS-Child and Adolescent Social and Adaptive Functioning Scale; CATS-Children's Automatic Thoughts Scale; CDI- Children's Dep Inventory; CES-D-Center for Epidemiologic Studies-Dep Scale; CG-control group; CSCS-Children's Self-Control Scale; coi- conflict of interest; cop- coping; COPE – Creating Opportunities for Personal Empowerment; CS-coping skills; CST- Coping Skills Training; CT – controlled trial; CWS- Coping With Stress; dep – depression; DFBS-Diabetes Family Behavior Scale; DV-dependent variable; dx- diagnosis; EC-exclusion criteria; emo – emotional; EII-Emotional Identification Inventory; fb- funded by; FRIENDS – F-feeling worried? R- relax and feel good I – inner thoughts E – explore plans N – nice work, reward yourself, D- don't forget to practice S- stay calm; GE-Group Education; GUP- Growing Up Playing; HS – high school; IC- inclusion criteria; IG-intervention group; IV- independent variable; K-SADS-Schedule for Affective Disorders and Schizophrenia for School-Age Children; MTKC – Modified Teaching Kids to Cope; n- number of participants; NINR- National Institute of Nursing Research; PPP- Penn Prevention Program; ppt- pre/posttest; QOL-Quality of Life; RCT- Random Control Trial; RCADS-Revised Child Anx and Dep Scale; rur – rural; SCT – social cognitive theory; se-self-efficacy; SCAS-Spence Children's Anxiety Scale; SD-standard deviation; SPPC-Self-Perception Profile for Children; SS-social skills; SSQ-Social Skill Questionnaire; SSRS-Social Skills Rating System; stud – student; sx-symptoms; TEEN- Thinking, Emotions, Exercise, Nutrition; T1D-Type 1 Diabetes; TIP-theory of interpersonal relations TKC- Teaching Kids to Cope; TKC-A- Teaching Kids to Cope with Anger; US – United States

Appendix E

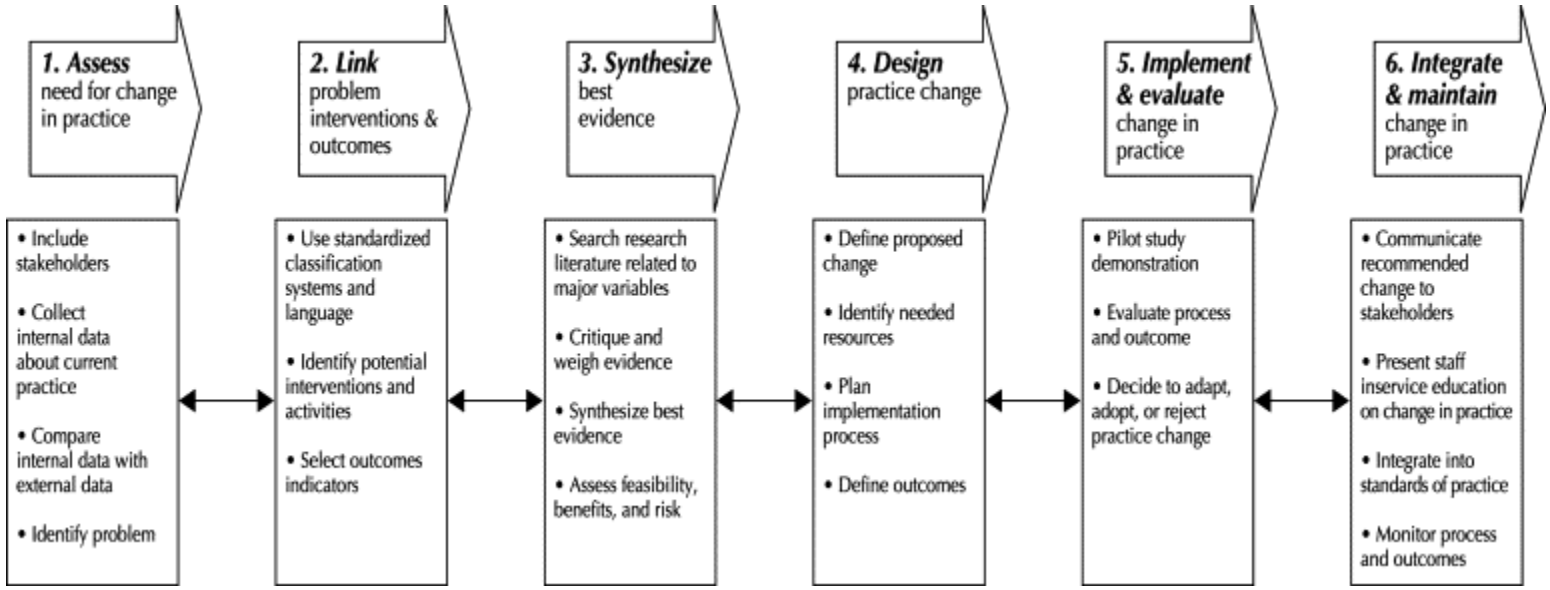
Table 2

Synthesis Table

Author	Clarke	Essau	Grey	Hamdan-Mansour	Kowalenko	Melnyk	Moreira	Puskar	Puskar	Roberts
Year	1995	2012	2009	2009	2005	20013	2010	2003	2009	2003
Design	RCT	RCT	RCT	RCT	Waitlist CT	RCT	PPT	RCT	PPT	RCT
Number of subjects	150	638	82	84	143	779	1050; 1806; 1511; 778	89	179	189
Independent Variables										
Teaching Kids To Cope				X				X	X	
Coping with Stress	X									
FRIENDS		X								
Coping Skills Training			X							
Adolescents Coping with Emotion					X					
COPE TEEN						X				
Growing Up Playing							X			
Penn Prevention Program										X
Dependent Variables										
Depression	X	X	X	X	X	X		X	X	X
Anxiety		X				X				
Coping				X				X	X	
Self-efficacy			X							
Stress				X						
Social and Emotional Skills							X			
Findings										
Improved Mental Health Ratings	X	X	X	X	X	X		X		X
Improved Coping Skills		X		X	X		X	X	X	
Greater Self-efficacy			X	X			X	X		
Reduced Stress Levels				X						
Improved Social Functioning		X		X	X	X	X		X	
Setting										
Elementary		X	X				X			
Middle School		X	X		X	X		X		X
High School	X				X	X			X	
College				X						

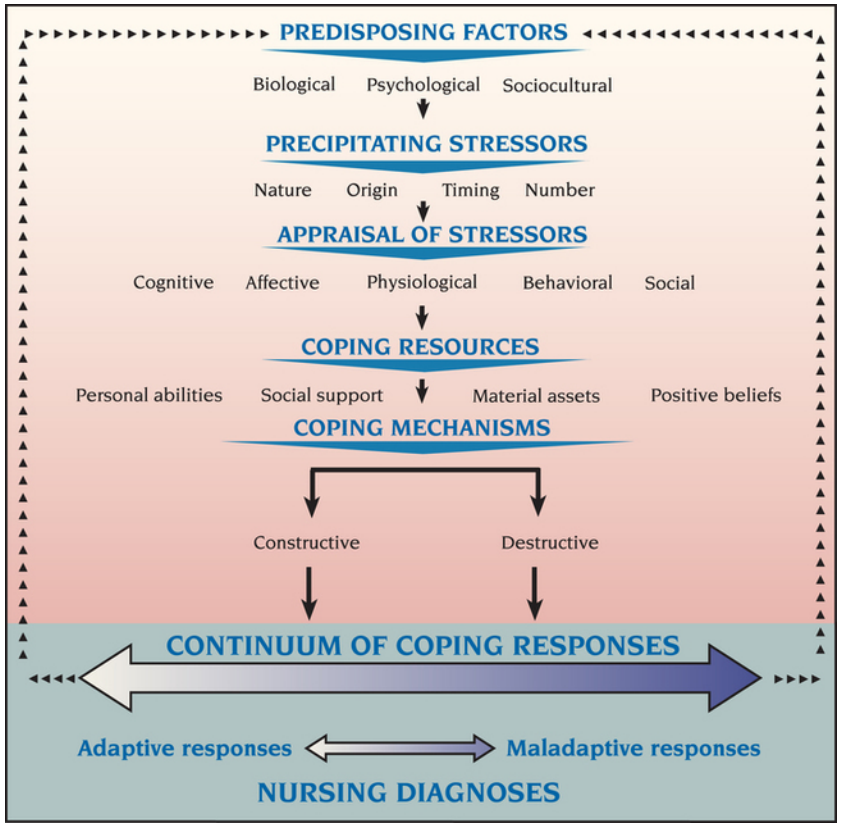
Appendix F

Rosswurm & Larrabee Model for Evidence Based Practice Change (1999)



Appendix G

Stuart Stress Adaptation Model (2009)



Appendix H

Mental Health Literacy Scale (2015)

Mental Health Literacy Scale (MHLS)

Instructions: These questions are designed to gain an understanding of your knowledge of various aspects of mental health. When responding, we are interested in your *degree* of knowledge. Therefore, when you **CIRCLE** your response, consider that:

- Very Unlikely = I am certain it is NOT likely
- Unlikely = I think it is Unlikely but am not certain
- Likely = I think it is likely but am not certain
- Very Likely = I am certain it IS very likely

1) If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **Social Phobia:**

Very Unlikely **Unlikely** **Likely** **Very Likely**

2) If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **Generalized Anxiety Disorder:**

Very Unlikely **Unlikely** **Likely** **Very Likely**

3) If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **Major Depressive Disorder:**

Very Unlikely **Unlikely** **Likely** **Very Likely**

4) To what extent do you think it is likely that **Personality Disorders** are a category of mental illness:

Very Unlikely **Unlikely** **Likely** **Very Likely**

5) To what extent do you think it is likely that **Persistent Depressive Disorder (Dysthymia)**is a disorder:

Very Unlikely **Unlikely** **Likely** **Very Likely**

6) To what extent do you think it is likely that the diagnosis of **Agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing:

Very Unlikely **Unlikely** **Likely** **Very Likely**

7) To what extent do you think it is likely that the diagnosis of **Bipolar Disorder** includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood:

Very Unlikely **Unlikely** **Likely** **Very Likely**

8) To what extent do you think it is likely that the diagnosis of **Drug Dependence** includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect):

Very Unlikely **Unlikely** **Likely** **Very Likely**

9) To what extent do you think it is likely that in general in the United States, **women are MORE likely to experience a mental illness of any kind compared to men:**

Very Unlikely **Unlikely** **Likely** **Very Likely**

10) To what extent do you think it is likely that in general, in the United States**, men are MORE likely to experience an anxiety disorder compared to women:**

Very Unlikely **Unlikely** **Likely** **Very Likely**

Instructions: When you **CIRCLE** your response, consider that:

- Very Unhelpful = I am certain it is NOT helpful
- Unhelpful = I think it is unhelpful but am not certain
- Helpful = I think it is helpful but am not certain
- Very Helpful = I am certain it IS very helpful

11) To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed):

Very Unhelpful **Unhelpful** **Helpful** **Very Helpful**

12) To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions:

Very Unhelpful **Unhelpful** **Helpful** **Very Helpful**

Instructions: When you **CIRCLE** your response, consider that:

- Very Unlikely = I am certain it is **NOT** likely
- Unlikely = I think it is Unlikely but am not certain
- Likely = I think it is likely but am not certain
- Very Likely = I am certain it IS very likely

13) To what extent do you think it is likely that **Cognitive Behavior Therapy (CBT)** is a therapy based on challenging negative thoughts and increasing helpful behaviors:

Very Unlikely **Unlikely** **Likely** **Very Likely**

14) Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If you are at immediate risk of harm to yourself or others

Very Unlikely **Unlikely** **Likely** **Very Likely**

15) Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If your problem is not life-threatening and they want to assist others to better support you

Very Unlikely **Unlikely** **Likely** **Very Likely**

Mental Health Literacy Scale (MHLS)

Instructions: Please indicate to what extent you agree by placing a **CHECK** in one of the columns:

	Strongly Disagree	**Disagree**	**Neither Agree or Disagree**	**Agree**	**Strongly Agree**
16) I am confident that I know where to seek information about mental illness.					
17) I am confident using the computer or telephone to seek help about mental illness.					
18) I am confident attending face to face appointments to seek information about mental illness (i.e. a Medical Doctor).					
19) I am confident I have resources (i.e. doctor, internet) that I can use for information about mental illness.					
20) People with a mental illness could snap out if it if they wanted.					
21) A mental illness is a sign of personal weakness.					
22) A mental illness is not a real medical illness.					
23) People with a mental illness are dangerous.					
24) It is best to avoid people with a mental illness so that you don't develop this problem.					
25) If I had a mental illness I would not tell anyone.					

Instructions: Please indicate to what extent you agree by placing a **CHECK** in one of the columns:

26) Seeing a mental health professional means you are not strong enough to manage your own difficulties.					
27) If I had a mental illness, I would not seek help from a mental health professional.					
28) I believe treatment for a mental illness, provided by a mental health professional, would not be effective.					
29) How willing would you be to move next door to someone					
30) How willing would you be to socialize with someone with a mental illness?					
31) How willing would you be to make friends with someone with a mental illness?					
32) How willing would you be to work closely with someone with a mental illness?					
33) How willing would you be to have someone with a mental illness marry into your family?					
34) How willing would you be to vote for a politician if you knew they had suffered a mental illness?					
35) How willing would you be to employ someone if you knew they had a mental illness?					