Mental Health Training: Pathway to Early Mental Health Intervention

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Abstract

There is an increase in the prevalence of mental health problems in the United States. Healthy People 2020’s leading mental health indicator is to increase the delivery of care to those with mental health issues and lower the number of youth who experience a major depressive disorder. Teachers and non-teaching staff are well placed in the community to identify youth undergoing emotional distress and facilitate early interventions, yet do not receive adequate training in mental health. A project was undertaken to determine if a mental health training intervention affected the community youth mentors knowledge, attitude and self-efficacy towards helping youth with mental health issues. Three instruments with good validity and reliability namely Mental Health Literacy Scale (MHL-S), Attitudes to Severe Mental Illness (ASMI) scale, and Gatekeeper Behavior Scale were used in pre intervention, immediately post intervention and two weeks post intervention questionnaires. The Wilcoxon Signed Ranks test indicated changes in the pre and post intervention scores as significant in knowledge, and attitude between pre intervention and immediately post intervention time periods. Cohen’s effect size value suggested large, medium, small, and minimum clinical significance in the variables over period of time. Mental health literacy narrows the gap between symptom onset and intervention. Numerous mental health trainings are currently available worldwide. Schools and after school clubs in collaboration with hospital mental health and other community agencies are better equipped to bridge the gap. School staff report better confidence in addressing mental health and behavioral health issues among youth when equipped with additional resources within the school in the form of psychologists, social workers, and counselors.

Keywords: non-teaching staff, mental health training, youth mentors, major depressive disorder
The World Health Organization defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. It has also identified mental health as a state of complete wellbeing without psychological distress and impaired functioning (Delfabbro et al., 2018). Psychological wellbeing is a state in which individual flourishes emotionally and is able to reach goals, and thrive. An estimated 50% of adults suffering from psychological syndromes reported having its onset before 15 years of age (O’Reilly et al., 2018).

**Problem Statement**

Death by suicide is the second leading cause of death among youth aged 10 to 34 and 50% of all lifetime cases of mental illness begin by 14 years of age (National Alliance on Mental Illness [NAMI]. (2019). The average delay between the onset of illness manifestation and interventions is 11 years, and only 50.6 % of youth 6 to 17 years of age with mental health disorder received mental health services in 2016 (NAMI, 2019). Self-harm is a leading public health issue concerning adolescents internationally with a lifetime prevalence estimated at 16.1% to 18% in adolescents 11-18 years of age (Townsend et al., 2018).

Children in Arizona spend an average of 6.43 hours per day and an average of 181 days per year in school (National Center for Education Statistics [NCES], 2008). Despite the integral role teachers and non-teaching staff play in mental health services in schools, they receive limited training to support the mental health of children (Ball et al., 2016). Nationwide, currently there is shortage of 6.4 percent of the psychiatrists we need and 15,000 behavioral health practitioner shortages by 2025 (Nenn, 2017). Over one-half of teachers and non-teaching staff are unable to identify traumatic stress in children (Long, Albright, McMillan, Shockley, & Price, 2018). They also do not possess knowledge regarding the procedures for referral, or obtaining additional resources, which make them less supportive to traumatized children (Le et al., 2017).
They feel overwhelmed in handling mental health needs due to their lack of knowledge (Imran, Rahman, Chaudhry & Asif, 2018).

**Purpose and Rationale**

Healthy people 2020’s leading mental health indicator is to increase the number of children with mental health problems who receive treatment and reduce the number of adolescents 12 - 17 years of age who experience major depressive disorder (Office of Disease Prevention and Health Promotion [ODPHP], 2014). Teachers and non-teaching staff have an integral role in school mental health and specific training in mental health literacy will lead to early detection and referral in mental health of children. Desired outcomes include an increase in youth mentors and non-teaching staff’s knowledge and beliefs regarding mental health, which will influence how they respond to children mental health crises. They will not feel overwhelmed and incompetent from lack of knowledge, and skills in the area of mental health. They will promote positive mental health and a sense of connectedness among stakeholders. They will experience reduction of stigma, knowledge improvement and confidence in providing support to the students.

A project was undertaken to examine if the implementation of an evidence-based mental health training will impact the knowledge, attitude and self-efficacy of youth mentors at after school club.

**Background & Significance**

Children and adolescents fail to receive adequate treatment for disorders related to mental health, with only 24% of children 6-11 years of age receiving psychotherapy compared to 33% who received psychotropic medications (Long, Albright, McMillan, Shockley, & Price, 2018). Mental health problems result in truancy, repeating a grade, dropping out of school, suicidal
thoughts and attempts, and developing internalizing and externalizing mental health disorders (Schulte-Korne, 2016). In 2019, in the United States, 17% of youth, 6-17 years of age experienced a mental health disorder and only 51% received treatment (NAMI, 2019).

Being bullied is often associated with depressive symptomatology, suicidal behaviors, self-harm, suicide attempt, higher somatization scores, more functional neurological symptoms, and anxiety (John et al., 2018). There is strong evidence supporting the relationship between bullying victimization and hospitalization for acute psychiatric illness (Leader et al., 2018). Environmental triggers along with genetic predisposition lead to emergence of personality disorders in adolescents. If untreated, adolescents are at risk of experiencing significant social, educational, employment and financial impairments later in life (Townsend et al., 2018).

Teachers and non-teaching staff are strategically positioned in community settings to bridge the gap in delay in mental health services. Evidence suggests that teachers do not receive training to address students’ mental health problems. Lack of training in early detection of psychological distress contributes to delay in intervention and accessing mental health services (Ball et al., 2016). Nationwide, there is shortage of behavioral health practitioners, and this shortage is predicted to nearly double by 2025 (Nenn, 2017). There exists disparities in providing services, with only 24% of children, aged 6 to 11 receiving psychotherapy compared to 33% who received psychotropic medications (Long, Albright, McMillan, Shockley, & Price, 2018). Teachers and non-teaching staff report lack of adequate training and resource availability in addressing youth mental health problems (Ball et al., 2016). Youth experiencing psychological distress will likely experience truancy, repeating a grade, school drop-out, suicidal thoughts and attempts, developing internalizing, and externalizing mental health disorders (Schulte-Korne, 2016). The ripple effect of mental illness includes higher chances of cardiovascular and
metabolic diseases, higher rates of unemployment, higher rates of school drop outs, and substance use disorder. Per data updated in 2020 on NAMI website from CDC (Centers for Disease Control and Prevention), in the US, the revenue lost in providing care for serious mental illness were $193.2 billion dollars, and 60% of U.S. counties do not have a single practicing psychiatrist.

There is an increase in mental health disorders among youth over the last two decades with greater interest in youth mental health worldwide. The high incidence of onset of mental health disorders before 25 years of age and its persistent impact results in social and economic burden. Additional challenges include delay in initial assessment and access to care; lack of family involvement; youth to adult care transitioning challenges; and high rate of discontinuation from services (Malla et al., 2018). A recent systematic review shows clear evidence that adolescents with mental health issues have suboptimal academic performance and unemployment. Additional factors contributing to poor mental health include social exclusion, cannabis use, alcohol use and smoking (Hale & Viner, 2018). Mental health training programs without doubt equip teachers and school staff to recognize mental health difficulties. Mental health training programs offer a basic understanding to help with children’s mental health issues, facilitating early identification and intervention. Mental Health First Aid USA and ALGEE (Assess for risk of suicide; Listen non-judgmentally; Give reassurance and information; Encourage professional help; Encourage self-help) training notably improves mental health knowledge, attitude, confidence and skills among teachers and non-teaching staff (Kidger et al., 2016).

Mental health literacy is foundational for improving access to care and reducing stigma regarding mental illness (Kutcher et al., 2015). Health literacy which includes mental health
literacy is recognized globally as a foundation and strong determinant of good health. It is stronger than income, education level, employment status, and racial or ethnic group (Kutcher et al., 2016). The four components of mental health literacy are; (1) maintaining positive mental health; (2) understanding the types of mental health disorders and its treatment; (3) reducing mental health stigma; (4) knowing when to seek help and developing competencies in improving mental health (Kutcher et al., 2016). Mental health literacy is the foundation for mental health promotion, early identification of mental illness, intervention and continuing care. This has led to the clinically relevant PICOT question: Among youth mentors and non-teaching staff at after school club, does mental health training affect the knowledge, attitude and self-efficacy of youth mentors in helping youth with psychological distress over two week time period?

**Search Strategy**

A database search was accessed through the Arizona State University Library website. The databases searched were PsycINFO, Grey literature; worldwide services, Cochrane library and PubMed. The search strategies for each resource were guided by the PICOT question. The grey literature search initially yielded 942 studies. It did not yield any final studies without duplicate studies found in other database searches.

The database search involved the use of keywords. The search on the PsycINFO database included combinations of words ‘mental health training for teachers’, ‘in schools’, ‘impact on students mental health’. Each term was linked with the Boolean term ‘AND’. The initial search yielded 118 results. The same database search with different combinations including, ‘mental health education’, ‘for teachers’, ‘mentors’ ‘in schools’, yielded 93 search results. The final search yields from PsycINFO database were six studies.
The Cochrane Library database involved the use of keywords as ‘mental health training’, ‘among teachers OR educators’, and ‘in schools’. Advanced filters were applied to the search criteria, which included randomized control trials, research articles, peer reviewed, systematic review, meta-analysis, within the past five years, published in English language only. The final yield was three studies.

The PubMed database involved the use of keywords, ‘mental health education’, ‘AND’, ‘among school teachers’ ‘youth club leaders’. Advanced search filters were applied which included meta-analysis, randomized controlled trial, systematic reviews, within five years of publication, and studies done in English. The initial yield were 46 studies and the final yield was seven studies.

**Critical Appraisal & Synthesis of Evidence**

The Melnyk and Fineout-Overholt’s (2011) rapid critical appraisal was used to evaluate the quality of the 10 articles selected for this literature review. Ten studies included the teaching staff and teachers both male and female. The studies were published from 2015 to 2019. The level of evidence ranged from VI to I. The largest sample size was 18,896 teachers (Appendix B). The setting was primarily community schools. Among the study groups there were significant heterogeneity in the use of measurement tools. Two studies by the same author used similar measurement tools, questionnaires on knowledge, attitude and comfort. The duration of intervention was from one to three days. There was heterogeneity in the interventions, only two studies by Kutcher et al., 2015 and Kutcher et al., 2016 used the same intervention tool: Mental health literacy- African Guide Malawi version (Appendix B). Another study by Kidger et al., 2016 used the Mental Health First aid (MHFA) and ALGEE training to improve knowledge, attitude and skills among teachers and school staff. All the above mentioned studies reported
significant increase in knowledge, attitude, skills and comfort among teachers and non-teaching staff towards youth with mental health issues. There were significant difference in the sample size in the above mentioned studies. The Kutcher et al, 2015 & 2016 studies had sample size of 218 and 61 respectively and the setting was specific to Tanzania in Africa. The Kidger et al., 2016 study had a sample size of 648 staff and setting was secondary schools in the United Kingdom. A statistically significant increase in teachers and non-teaching staffs’ knowledge of mental illnesses, confidence in helping students and helping behaviors towards students were reported. Due to the heterogeneity of interventions no single intervention was superior.

Conceptual Framework

The social cognitive theory, (SCT), developed by Albert Bandura, is a learning theory that focuses on observational learning, modeling, and self-efficacy (Butts & Rich, 2015). Principles of modifying behavior to improve health behavior are derived from SCT. Self-efficacy influences health behavior change by enhancing confidence in one’s ability to act and persist in the act despite challenges or obstacles when applied to the mental health first aid (Appendix C) and ALGEE training, the self-efficacy model suggests that staff will experience possible outcomes of persistence, continued performance and approach challenges instead of avoiding them. Mental health first aid (MHFA) training significantly improves mental health knowledge, attitude, confidence and skills among teachers and non-teaching staff (Kidger et al., 2016).

Evidence Based Practice (EBP) Model

The Rosswurm and Larrabee’s evidence based model (Appendix D) was used to guide the project implementation. The focus is on changing the culture from status quo to implementation of an EBP process. The model uses six steps which includes assessing the need for change in practice; link problem, intervention; aid outcomes; synthesize best evidence;
design practice change; implement and evaluate change in practice (Reavy, 2016). The Rosswurm and Larrabee model incorporates the self-efficacy model of Bandura to facilitate practice change. One of the six steps of the EBP model is design practice change, guided by evidence. Increasing mental health literacy is an evidence based practice change aimed at improving children’s mental health.

**Methods**

Increasing mental health literacy through the mental health first aid and ALGEE training facilitate early identification, intervention and or referral for treatment. A project utilizing the mental health training and the ALGEE model was implemented among youth mentors at after school club in East Valley. The key stakeholders of this project included staff and manager of after school club, club members, families, social workers, behavioral health counselors, case managers, registered nurses, nurse practitioners, and psychiatrist.

The sample inclusion criteria included youth mentors, office staff and administrative staff at the after school club. Participants were required to be 18 years of age or older and able to speak, write, and understand the English language. Individuals who did not meet the inclusion criteria were excluded. Completion of a pre-education questionnaire and attending the educational session was considered consent for participation in this project. Participants were informed regarding no physical risk associated with the training and questionnaires, and to skip questions if they do not wish to answer. Project site approval was secured prior to project implementation. Individuals willing to participate in the project attended a 45 minute mental health training and filled out anonymous questionnaires pre intervention, immediately post intervention, and 2 weeks post intervention. Each participant created a unique ID, and used it in the pre and post intervention questionnaires.
Measures

The measures included sociodemographic data: age of participant, gender, ethnicity, level of education, experience as youth mentor, and if mental health training received in the past. The major variables measured were knowledge, attitude and self-efficacy in helping youth with mental health issues. The project evaluation questionnaire included six questions on the quality of the educational presentation (Appendix G). Three scales were utilized to measure knowledge, attitude and self-efficacy at pre intervention, immediate post intervention and two weeks post intervention.

Mental Health Literacy Scale (MHLS) (O’Connor & Casey, 2015) was used to measure participants’ knowledge about mental health illnesses. This scale has good reliability, Chronbach’s alpha (α = .873) and construct validity p < .001 (O’Connor & Casey, 2015). Five items from this scale was used to measure knowledge (see Appendix F).

Attitudes to severe Mental Illness (ASMI) scale (Madianos et al., 2012) was used to measure participants’ attitudes toward mental Illness. This scale has good reliability, Chronbach’s alpha (α = 0.88) and construct validity p < 0.01 (Madianos et al., 2012). Five items from this scale was used to measure the attitude (see Appendix F).

Gatekeeper Behavior Scale (Albright et al., 2016) was used to measure participants’ self-efficacy in helping youth with mental health issues. This scale has high reliability, (α = .94), construct validity p < .01, and Cohen’s d= -1.02. (Albright et al., 2016). Four items from this scale was used to measure self-efficacy (see Appendix F).

Results

Descriptive statistics were used to describe the sample and outcome variables. SPSS Statistical software was used to analyze data. The sample (n=11) were youth mentors at after
school club. The sample consisted of 55% (n=6) female and 45% (n=5) male. The age of the participants ranged from 18 to 46 years, with a mean of 23.6 and (SD= 8.69). The Latino and Hispanic ethnicity were the largest at 64%, and the African American and Caucasians were 18% each. The educational level were high school graduate and some college at 91% and only 9% had a college degree. The years of experience as a mentor ranged from 0- 25 years, with mean of 5.82 (SD= 7.56). The participants with 0- 5 years of experience as a youth mentor were 18 % and 27% had 11 to 15 years of experience. Those with mental health training in the past were 36% and 64% had no mental health training in the past.

At pre intervention (T0) knowledge score had mean of 15.72 (SD= 1.79), attitude score had a mean of 7.09 (SD= 1.92), and self-efficacy score had mean of 11.90 (SD= 3.56). At immediately post intervention (T1) the knowledge score mean was 17 (SD=1.78), attitude score mean was 6.09 (SD= 1.22) and self-efficacy score mean was 12.36 (SD= 1.29). At two weeks post intervention (T2) the knowledge score mean was 16.29 (SD= 2.36), attitude score mean was 5.71 (SD= 1.38) and self-efficacy score mean was 11.86 (SD= 0.69). Appendix I, shows the variables along with their mean and standard deviation. The sum of knowledge, attitude and self-efficacy scores over time are represented in figures 6, 7 and 8 respectively in Appendices J and K.

A non-parametric test was conducted due to small sample size and Wilcoxon Signed Ranks test was used to describe key variables and to compare scores over time. Cohen’s effect size was utilized to determine the clinical significance of the project findings. The Wilcoxon Signed Ranks test indicated changes in the pre and post intervention scores as statistically significant in knowledge for T0 and T1 (Z = 2.35, p = .01), and between T0 and T1 attitude score (Z = 2.07, p = .03). The T0 and T1 self-efficacy scores was not significant (Z = 1.12, p =
The T1 and T2 knowledge score was \( (Z = 0.73, p = 0.46) \). The T1 and T2 attitude score was \( (Z = 1.00, p = 0.00) \). The T1 and T2 self-efficacy score was \( (Z = 1.00, p = 0.31) \). The T0- T2 knowledge score was not significant \( (Z = 0.27, p = 0.8) \). The T0-T2 attitude and self-efficacy score were \( (Z = 1.5, p = 0.12) \), and \( (Z = 1.51, p = 0.13) \) respectively.

Cohen’s effect size value suggested large clinical significance in knowledge score between T0 and T1 \( (d = 0.89) \), small effect size for knowledge between T1 and T2 \( (d = 0.28) \), and very small effect size for knowledge between T0 and T2 \( (d = 0.08) \) (see Appendix J). There was medium effect size for attitude scores at T0-T1 \( (d = 0.74) \) and between T0 and T2 \( (d = 0.63) \) (see Appendix K). There was no clinical significance seen in attitude between T1 and T2. The clinical significance of self-efficacy score between T0 and T1 was very small \( (d = 0.13) \), between T1 and T2 the effect size was small \( (d = 0.38) \) and between T0 and T2 the effect size was medium \( (d = 0.63) \) (see Appendix L).

Descriptive statistics were utilized to examine the evaluation of the mental health training intervention and 91% strongly agreed that the content presented was appropriate to address mentor’s understanding of mental health. 90% agreed with improvement in mental health knowledge. About 72% agreed with being more comfortable in identifying signs and symptoms of mental distress, 64% agreed they felt confident in identifying students who may have mental health problem, 82% reported better understanding about helping student access appropriate mental health care in the community, and 82% reported they were more comfortable in supporting students who may have a mental health problem.

**Discussion**

Several mental health training interventions are available, namely, mental health awareness training; anti stigma intervention; online anti-stigma video; MHFA; audio-visual
synchronous podcast related to autism; and many more (Booth et al., 2017). Students of teachers trained in MHFA reported receiving help and resources regarding mental health problems compared to students of teachers who did not receive the training. Teachers also reported increase in confidence and knowledge (Booth et al., 2017).

More recent developments have been in mental health training intervention for school nurses and other health providers in schools. Recommendations for meeting the barriers include web based accessible training modules, including a mental health assessment triage flowchart for step by step guidance for school nurses, and inclusion of resources for crisis management.

Several positive outcomes can be concluded from this project. The project revealed statistically significant outcomes over time in knowledge and attitude. The result suggested further on-going training to ensure knowledge and self-efficacy is sustained over time. The participants were given resources for a one day MHFA and ALGEE training at their nearest location in order to sustain the outcomes of the project intervention. The participants need further training in identifying symptoms of psychological distress among youth.

Additional resources within the after school clubs like counselors and social workers provide linkage of students and families to mental health services in the community. A multi-tiered system within the school providing prevention, assessment, screening, identification, intervention and treatment services have been accepted widely by clinicians and educators.

**Conclusion**

Increasing mental health literacy is a community based preventive measure in maintaining psychosocial wellbeing among youth. Early intervention in mental health reduces hospitalization and healthcare expenditure. Even though teachers and non-teaching staff play a vital role in the early identification of mental illness they admit to high degree of uncertainty in
assisting children experiencing psychological distress. With the increase in occurrence of depressive symptoms, suicidal thoughts and attempts among adolescents in Arizona, there is evidence in literature reviewed and the mental health training project implemented that mental health training intervention significantly improves knowledge, attitude, and self-efficacy among staff interacting with youth experiencing mental health issues. This grass-root level preventive measure facilitates early identification of symptoms of mental health disorders among youth. The implementation of this practice change will reduce the current gap of onset of behavioral health symptoms and its therapeutic intervention.
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https://doi.org/10.1111/eip.12772


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### Appendix A

#### Evaluation Table of Quantitative Studies

<table>
<thead>
<tr>
<th>Citation</th>
<th>Theory/Conceptual Framework</th>
<th>Design/Method</th>
<th>Sample/Setting</th>
<th>Major Variables &amp; Definitions</th>
<th>Measurement &amp; Data Analysis</th>
<th>Findings/Results</th>
<th>Level/Quality Of Evidence; Decision for practice/application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias: None.</td>
<td>Purpose: To examine the difference and similarities in content across state standards for teachers and the extent to which state standards for teachers include competencies for SMH.</td>
<td>Sample Type: In-service teaching standards documents.</td>
<td></td>
<td>DV1: TC in policies and laws.</td>
<td>Pilot test.</td>
<td></td>
<td>DV2: n = 43 89.6% states.</td>
</tr>
<tr>
<td>Funding: None.</td>
<td>Attrition: None.</td>
<td>IV: SMH competency content in state standards documents and InTASC</td>
<td></td>
<td>DV3: TC in collection and use of data measuring student behavior.</td>
<td></td>
<td></td>
<td>DV4: n = 34 70.8% of states.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IV: SMH competency content in state standards documents and InTASC</td>
<td></td>
<td>DV3: TC in collection and use of data measuring student behavior.</td>
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</tr>
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<td></td>
<td></td>
<td>IV: SMH competency content in state standards documents and InTASC</td>
<td></td>
<td>DV3: TC in collection and use of data measuring student behavior.</td>
<td></td>
<td></td>
<td>DV5: n = 44 90% of states.</td>
</tr>
</tbody>
</table>

Key: AA- African American; ADSH- Assessment towards Deliberate Self Harm; ADSHQ- Assessment towards Deliberate Self Harm Questionnaire; AGMv – African Guide: Malawi version; AH- Acute hospitalization; ALGEE- assess risk of suicide, listen non judgmentally, give advice and information; AS- Attitudes and Skills; ASQ- Attitudes and Skills Questionnaires; BV- Bullying Victimization; CB- cyberbullying; CDC- Center for Disease Control; CG- control group; CI- confidence interval; CMH- Complex Mental Health; d- Cohen’s; DV- Dependent Variable; F-Female; FGD-focus group discussions; IG- Intervention group; InTASC- interstate teacher assessment and support consortium; IPP- In- patient pediatric; IV- Independent Variable; KDS- Knowledge of Deliberate Self Harm; KDSQ- Knowledge of Deliberate Self Harm Questionnaire; LOE- Level Of Evidence; M- Male; MH- Mental health; MHFA- mental health first aid; MHKA- mental health knowledge and attitudes; MHL- mental health literacy; MOE- Ministry of education; N- Number of participants; OBQ- Olweus Bully/Victim Questionnaire; OR- odds ratio; p- level of significance; PD- Personality Disorder; PHQ- patient health questionnaire; PI- psychosocial intervention; RCT- randomized control trial; SB- suicidal behaviors; SH- self harm; SIUH- Staten Island University Hospital; SMH- school mental health; ST- School Teachers; TC- teacher competency; Time 0- baseline; Time 1- immediate post training; Time 2- 6-9 weeks post training; WEMWBS- Warmick Edinburg Wellbeing scale; WISE- well-being in secondary education; WHO- World Health Organization; YCL- Youth club leaders; y.o.- year old; α – Cronbach’s alpha value.
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<th>Findings/ Results</th>
<th>Level/Quality Of Evidence; Decision for practice/ application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding: None.</td>
<td></td>
<td></td>
<td>Setting: School classrooms.</td>
<td>DV2: Externalizing outcomes.</td>
<td>Externalizing outcomes measures.</td>
<td></td>
<td></td>
<td>Weakness: Interventions were not culturally competent, not specific for ethnic minority youth.</td>
</tr>
<tr>
<td>Bias: None.</td>
<td></td>
<td></td>
<td>Exclusions: If study did not involve teachers; study did not report information for calculating effect size; study samples were not independent; studies that did not measure</td>
<td>Definition: PI is delivered in a school setting to improve students behavioral, emotional or social functioning.</td>
<td>Internalizing symptoms are anxiety, depression and somatic.</td>
<td></td>
<td>Conclusions: School based PI delivered by teachers are more effective with internalizing symptoms.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Externalizing: impulsive, disruptive and substance use symptoms.</td>
<td></td>
<td>Feasibility: PI by teachers are effective in internalizing and externalizing outcomes</td>
<td></td>
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</tr>
</thead>
<tbody>
<tr>
<td>John et al., (2018). Self-harm, suicidal behaviors and cyberbullying in children and young people: systematic review.</td>
<td>Inferred to be the social cognitive theory.</td>
<td>Systematic Review</td>
<td>Articles= 33 N= 156,384</td>
<td>IV: Bullying via electronic communication-CB, DV1= SH, DV2=SB, DV3= Suicide attempt</td>
<td>Critical appraisal of the paper.</td>
<td>Meta-Analysis</td>
<td>DV1: OR 2.10 CI 95%</td>
<td>LOE: 1</td>
</tr>
<tr>
<td>Country: UK</td>
<td></td>
<td></td>
<td>Electronic search from 01/1996 to 02/2017 across MEDLINE, Cochrane and PsycINFO</td>
<td>Inclusion: Studies that examined any association between CB involvement and SH or SB in a sample aged under 25 years</td>
<td>Data extraction sheet.</td>
<td>Forest plot</td>
<td>DV2: OR 2.57 CI 95%</td>
<td>Strengths: Meta-analysis, large pool of population.</td>
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<tr>
<td>Funding: None.</td>
<td></td>
<td></td>
<td></td>
<td>Definition: Bullying is an aggressive, intentional act carried out by a group or an individual repeatedly overtime against a victim who cannot easily defend himself or herself CB is bullying that occurs via electronic forms of contact.</td>
<td>Independent reviewers.</td>
<td>Der Simonian and Laird random-effects model.</td>
<td>DV3: OR 1.21 CI 95%</td>
<td>Weakness: No analysis on intervention, no mention of type of CB, frequency and gender.</td>
</tr>
<tr>
<td>Bias: None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Conclusion: CB victims have higher risk of SH and SB.</td>
</tr>
</tbody>
</table>

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### MENTAL HEALTH LITERACY

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<th>Sample/Setting</th>
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<th>Measurement</th>
<th>Data Analysis</th>
<th>Findings/Results</th>
<th>Level/Quality Of Evidence; Decision for practice/application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country: The United Republic of Tanzania.</td>
<td>Purpose: To evaluate the impact of participating in the refresher training exercise on the mental health knowledge and attitudes of teachers.</td>
<td>Setting: Secondary school in Tanzania.</td>
<td>Knowledge: Pretest α=0.601 Posttest α=0.435</td>
<td>DV1: Teachers knowledge change.</td>
<td>Paired t test.</td>
<td>Descriptive statistics</td>
<td>DV2: p &lt; 0.001 d = 0.50</td>
<td>Strength: modest sample size, significant outcomes.</td>
</tr>
<tr>
<td>Funding: Grand Challenges, Canada.</td>
<td>Exclusions: Teachers selected by education administrative authorities from 35 schools in Arusha and Meru districts of Tanzania. Teachers previously trained in AGMv.</td>
<td>Attenuation:</td>
<td>Attitude: Pretest α=0.661 Posttest α=0.631</td>
<td>DV2: Teachers attitude change.</td>
<td>Comfort level:</td>
<td>DV3: p &gt; 0.05 d = 0.19</td>
<td>Weakness: Cohort study, modest sample size, participants not generalized to Tanzania.</td>
<td></td>
</tr>
<tr>
<td>Bias: None.</td>
<td>DV3: Teachers comfort in addressing the mental health needs of students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Conclusion: The AGMv is an effective tool for increasing MHL within the school system at an international level.</td>
</tr>
</tbody>
</table>

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## Mental Health Literacy

### Citation

### Funding
Grand Challenges, Canada.

### Country
The Republic of Malawi.

### Bias
None.

### Theory/Conceptual Framework
Inferred to be the Social Cognitive Theory.

### Design/Method
Repeated measures design

### Sample/Setting
N 218
F 96
M 121
Gender Unknown 1

### Purpose
To evaluate the impact of training educators on the use of mental health curriculum in improving Educators positive attitudes and a decrease in stigmatizing attitudes towards MH.

### Pop. type
Teachers and YCL from primary and secondary schools.

### Setting
Semi urban community in The Republic of Malawi.

### Inclusions
Teachers and YCL selected by the MOE from both primary and secondary school.

### Attrition
11% lost to post-attitude scale.

### Major Variables & Definitions
**IV:** Educator training on use of AGMv
**DV1:** Knowledge of MH.
**DV2:** Attitude towards MH.

### Measurement
Pretest and Posttest Questionnaires on Knowledge (α = 0.638) and Attitude (α = 0.549).

### Data Analysis
Paired t test

### Findings/Results
**DV1:** Knowledge
P = < 0.0001
d = 1.16

**DV2:** Attitude
P = < 0.0001
d = 0.79

### Level/Quality Of Evidence; Decision for application to practice
LOE: IV

### Strength
Large N, low risk, non-invasive intervention, low attrition rate.

### Weakness
Non randomized non control group. Demographic limitation, funding needs for program implementation.

### Conclusions
MH literacy among teachers reduces stigma of MH and improves knowledge of MH among teachers.

### Feasibility
Potential for reducing the burden of MH care costs and improvement in psychosocial wellbeing among student.

---

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<th>Findings/ Results</th>
<th>Level/Quality Of Evidence; Decision for practice/ application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader et al., (2018). Association between bullying and pediatric psychiatric hospitalizations</td>
<td>Inferred to be the Social Cognitive Theory</td>
<td>Correlational Study</td>
<td>N= 185</td>
<td>IV: Psychiatric hospitalization in children</td>
<td>OBQ</td>
<td>Fisher’s exact test</td>
<td>No difference in DV1 versus DV2 Pr &gt; Z= 0.5064</td>
<td>LOE: IV</td>
</tr>
<tr>
<td>Bias: None</td>
<td>Pt. Type: White 46%, Hispanic 29%, AA 10%, Other 12%. Unknown ethnicity 18%. Enrolled in Grades 3 to 12.</td>
<td></td>
<td></td>
<td>DV1: BV in public schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country: USA</td>
<td>Setting: Pediatric Inpatient unit in SIUH.</td>
<td></td>
<td></td>
<td>DV2: BV in private schools</td>
<td>Extensively validated and included in 2011 compendium by CDC.</td>
<td>Logistic regression</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inclusions: Children in public or private schools in grades 3-12. Capable of reading and comprehending the questionnaire.</td>
<td></td>
<td></td>
<td>DV3: BV in IPP admissions.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Attrition rate: 6%</td>
<td></td>
<td></td>
<td>DV4: BV and suicidal ideation.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
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<td></td>
<td>DV5: BV and psych consult and social consult.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BV is being a victim of physical, verbal and/or cyber bullying.</td>
<td></td>
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</tr>
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<th>Findings/ Results</th>
<th>Level/Quality Of Evidence; Decision for practice/application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long et al., (2018). Enhancing educator engagement in school mental health care through digital simulation professional development.</td>
<td>Inferred to be the Social Cognitive Theory</td>
<td>Randomized control trial.</td>
<td>N= 18,896 IG= 9427 CG= 9469</td>
<td>IV: Self-paced online simulation for 45 to 90 minutes. ( DV1: ) Gatekeeper behavior preparedness.</td>
<td>Gatekeeper behavior scale</td>
<td>Multivariate analysis.</td>
<td>( DV1: ) Post training preparedness increased significantly in CG, ( p &lt; 0.001 ) ( DV2: ) Likelihood of IG higher than CG, ( p &lt; 0.001 ) ( DV3: ) Self-efficacy of the IG significantly higher than CG, ( p &lt; 0.001 )</td>
<td>LOE: II</td>
</tr>
<tr>
<td>Country: US</td>
<td></td>
<td></td>
<td>Population Type: Teachers in elementary schools.</td>
<td>Setting: Elementary school</td>
<td>Inclusion: Elementary teachers who completed some part of the training and evaluation.</td>
<td>Exclusion: Participants who did not complete all required parts of the study.</td>
<td>Attrition = 31%.</td>
<td>Knowledge, attitudes, skills and confidence increased significantly after training</td>
</tr>
<tr>
<td>Funding:</td>
<td>Department of prevention and community health at the Milken institute of school of public health at The George Washington University.</td>
<td></td>
<td>Bias: None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Conclusions: Virtual online simulation teachers training increases preparedness, likelihood and self-efficacy of</td>
</tr>
<tr>
<td>Citation</td>
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</tr>
<tr>
<td>Townsend et al., (2018), A whole of school intervention for personality disorder and self-harm in youth: a pilot study of changes in teacher’s attitudes, knowledge and skills.</td>
<td>WHO’s whole of School Framework</td>
<td><strong>Design:</strong> Pilot Study- non randomized non controlled trial; Pre and Post Test.</td>
<td>N= 400</td>
<td>IV: Training for ST DV1: KDS DV2: ADSH DV3: AS with CMH issues</td>
<td>Questionnaire KDSQ, ADSHQ, (α=.83 pre- test) (α=.89 post- test), ASQ</td>
<td>Paired sample t-test</td>
<td>DV1: d= 0.27 CI= -0.62 DV2: d= 0.55 p value= &lt;.001 CI= -3.29 DV3: Skills &amp; Confidence p value= &lt;.001 CI= -1.01, -0.84 D= 0.67</td>
<td>LOE: IV</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Purpose:</strong> To evaluate the ability and confidence of class teachers to respond to students with CMH and self-harm in the school setting, after participating in training provided by school counselors.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Setting:</strong> Public Secondary School in Australia.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Inclusions:</strong> ST in public schools in New south Wales, Australia.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td><strong>Attrition:</strong> None discussed</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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### Table 2

**Evaluation Table of Mixed Studies**

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<th>Level/Quality Of Evidence; Decision for practice/application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eustache et al., (2017). Mental health training for secondary school teachers in Haiti: a mixed methods, prospective, formative research study of feasibility, acceptability and effectiveness in knowledge acquisition.</td>
<td>Task sharing Framework.</td>
<td>Prospective and convergent</td>
<td>N=22, Male=18, Female=4, Mean age=40</td>
<td>IV: Two and a half day SMH training for teachers.</td>
<td>Likert scales. Mean scores Pre- post training assessments.</td>
<td>ANOVA</td>
<td>DVI teachers participation=91.7% Participants completing training=100%</td>
<td>LOE: VI Strengths: Mixed methods design. Weakness: Small sample size; teachers selected by principals; unstandardized measure with unknown validity. Conclusions: SMH training is acceptable, feasible and improves knowledge, and attitude among teachers towards SMH. Feasibility: Use of unstandardized measures is not recommended.</td>
</tr>
</tbody>
</table>

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### Citation
Kidger et al., (2016). A pilot cluster randomized controlled trial of a support and training intervention to improve the mental health of secondary school teachers and students – the WISE study.

### Country: UK

### Funding:
National Institute for Health Research’s School for

### Theory/Conceptual Framework
Logic model of the WISE Intervention.

### Design/Method
Pilot cluster randomized controlled trial

### Purpose:
To provide support for staff mental health and strengthen their ability to support students.

### Sample/Setting
Schools= 6 Staff= 648

### Setting:
Secondary schools in English administrative areas.

### Exclusion:
Fee paying schools outside the local English Administrative areas.

### Major Variables Definitions
IV: WISE intervention for teachers.  
DV1: Will staff participate in RCT?  
DV2: Is MHFA training appropriate and does it improve MH knowledge and attitude among staff?  
DV3: Is a peer support service feasible and sustainable?

### Measurement & Definitions
Strength and difficulties questionnaire  
Interviews and audio recording.  
Inspection of transcripts  
WEMWBS  
PHQ-9 for assessing staff depression.

### Data Analysis
Linear and Logistic regression.  
Qualitative data analysis.

### Findings/Results
DV1: Total 648 staff Attrition greater in control schools vs, intervention schools. 74.5% vs, 55.9%  
DV2: Those who received training had better knowledge, less stigmatizing attitudes and greater tendency to use ALGEE.

### Level/Quality Of Evidence: Decision for practice/application to practice
LOE: IV  
Strength: qualitative and quantitative findings indicate that both adults and youth MHFA were effective in improving knowledge, attitude, confidence and skills in supporting others  
Weakness: Imbalance between CG and IG. CG had low staff response rate.

### Conclusion
MHFA and ALGEE training increases the knowledge, attitude, confidence and skills.

---

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<table>
<thead>
<tr>
<th>Public Health Research</th>
<th>DV4: What sample size is required for a full cluster RCT with score on WEMWBS as the primary outcome?</th>
<th>p &lt; 0.01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias: None</td>
<td>DV3: peer support service utilization 6.3% Those finding it helpful 73.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DV4: Sample size of 24 schools</td>
<td></td>
</tr>
</tbody>
</table>

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### Appendix C

**Table 2**

*Synthesis Table*

<table>
<thead>
<tr>
<th>Author</th>
<th>Ball</th>
<th>Eustache</th>
<th>Franklin</th>
<th>John</th>
<th>Kidger</th>
<th>Kutcher</th>
<th>Kutcher</th>
<th>Leader</th>
<th>Long</th>
<th>Townstead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design/LOE</td>
<td>V</td>
<td>VI (mixed study)</td>
<td>I</td>
<td>I</td>
<td>IV (mixed study)</td>
<td>VI</td>
<td>IV</td>
<td>IV</td>
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<td>LS, PPTA, SRWOR, FGD, MHKA</td>
<td>CDI, HSC, CPES</td>
<td>CA, DES, IR</td>
<td>SDQ, WEMWBS</td>
<td>Questionnaire</td>
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<td>OBQ</td>
<td>GBS</td>
<td>KDSQ, ADSHQ, ASQ</td>
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### Interventions

Key: **ADSH** - Assessment towards Deliberate Self Harm; **ADSHQ** - Assessment towards Deliberate Self Harm Questionnaire; **AGMv** – African Guide: Malawi version; **ALGEE** - assess risk of suicide, listen non judgmentally, give advice and information; **ASQ** - Attitudes and Skills Questionnaires; **BV** - Bullying Victimization; **CA** - critical appraisal; **CB** - Codebook; **CDI** - children depression inventory; **CMH** - chronic mental health; **CPES** - Children’s pessimistic explanatory style; **DES** - data extraction sheet; **DV** - Dependent variable; **FGD** - Focus group discussion; **GBS** - gatekeeper behavior scale; **HSC** - Hopelessness scale for children; **IR** - independent reviews; **LOE** - Level of evidence; **LS** - Likert scale; **KDSQ** - Knowledge of Deliberate Self Harm Questionnaire; **MH** - Mental health; **MHFA** - mental health first aid; **MHKA** - mental health knowledge and attitude; **MHL** - mental health literacy; **MI** - Motivational interviewing; **OBQ** - Olweus Bully/Victim Questionnaire; **PPTA** - Pre post training assessment; **SA** - suicide attempt; **SB** - suicidal behaviors; **SDQ** - strength and difficulties questionnaire; **SH** - self harm; **SI** - suicidal ideation; **SMH** - School mental health; **SRWOR** - Self- report written open ended responses; **WEMWBS** - Warmick Edinburg Wellbeing scale; **WISE** - well-being in secondary education; ▲ - Increase; *- Statistically significant with \( p \leq 0.050 \)
### Key:
- **ADSH** - Assessment towards Deliberate Self Harm
- **ADSHQ** - Assessment towards Deliberate Self Harm Questionnaire
- **AGMv** - African Guide: Malawi version
- **ALGEE** - assess risk of suicide, listen non judgmentally, give advice and information
- **ASQ** - Attitudes and Skills Questionnaires
- **BV** - Bullying Victimization
- **CA** - critical appraisal
- **CB** - Codebook
- **CDI** - children depression inventory
- **CMH** - chronic mental health
- **CPES** - Children’s pessimistic explanatory style
- **DES** - data extraction sheet
- **DV** - Dependent variable
- **FGD** - Focus group discussion
- **GBS** - gatekeeper behavior scale
- **HSC** - Hopelessness scale for children
- **IR** - independent reviews
- **LOE** - Level of evidence
- **LS** - Likert scale
- **KDSQ** - Knowledge of Deliberate Self Harm Questionnaire
- **MH** - Mental health
- **MHFA** - mental health first aid
- **MHKA** - mental health knowledge and attitude
- **MHL** - mental health literacy
- **MI** - Motivational interviewing
- **OBQ** - Olweus Bully/Victim Questionnaire
- **PPTA** - Pre post training assessment
- **SA** - suicide attempt
- **SB** - suicidal behaviors
- **SDQ** - strength and difficulties questionnaire
- **SH** - self harm
- **SI** - suicidal ideation
- **SMH** - School mental health
- **SRWOR** - Self- report written open ended responses
- **WEMWBS** - Warmick Edinburg Wellbeing scale
- **WISE** - well-being in secondary education
- ▲ - Increase
- * - Statistically significant with p ≤ 0.050

### Table

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<td>▲</td>
<td>▲*</td>
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Appendix D

Figure 1

Bandura’s Social Cognitive Theory

Appendix E

Figure 2

Rosswurm and Larrabee evidence based practice model

(Reavy, 2016)
Pre-Training Questionnaire (T0)

FORM T0

This survey is anonymous, meaning none of your identifiable information (e.g., name, birthday, social security number etc.) will be asked. Please create a unique ID below so we can link your data collected at different time. Pick the first three letters of your mother’s first name and the last 3 digits of your cell phone number. For example, if your mother’s first name is Debbie and your phone number is 123-456-7890, your ID= deb890

ID_______________ Date: _______________

Demographics:

Age (Birth Year only): ___________

(Mark ‘X’ where applicable)

Ethnicity: ______African American   ______Caucasian
          ______Native American ______Hawaiian/Pacific Islander
          ______Asian ______ Mixed Race
          ______Other (Please specify) ___________

Gender: _______Male ________Other (please specify) ___________
         _______Female

Educational Background: _______Less than high school _______ Technical degree
          _______High School _______ College degree
          _______Some College _______ Professional/Graduate

Years as a Mentor: ___________ (In years)

Ever Received Mental Health Training in the past?
In answering the following questionnaire, select the answer by CIRCLING.

**Very unlikely**= I am certain that it is NOT likely; **Unlikely** = I think it is unlikely but am not certain; **Likely**= I think it is likely but not certain; **Very likely**= I am certain that it IS very likely.

1. 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, to what extent do you think it is likely they have Generalized Anxiety Disorder?
   - Very unlikely
   - Unlikely
   - Likely
   - Very Likely

2. 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

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, 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 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
In answering the following questionnaire, select the answer by CIRCLING.

**Agree=4; Rather agree= 3; Rather disagree=2; Disagree=1; Don’t know=0**

6. People with severe mental illness have to take medication for the rest of their lives

   Agree    Rather agree    Rather disagree    Disagree    Don’t know

7. People with severe mental illness are not able to acquire new skills.

   Agree    Rather agree    Rather disagree    Disagree    Don’t know

8. People with severe mental illness are failures

   Agree    Rather agree    Rather disagree    Disagree    Don’t know

9. Severe mental illness is caused by bad luck

   Agree    Rather agree    Rather disagree    Disagree    Don’t know

10. People with severe mental illness are dangerous

    Agree    Rather agree    Rather disagree    Disagree    Don’t know

---

In answering the following questionnaire, select the answer by CIRCLING.

**Strongly agree=4; Agree=3; Disagree= 2; Strongly disagree=1**

11. I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress.

    Strongly agree    Agree    Disagree    Strongly disagree

12. I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress.

    Strongly agree    Agree    Disagree    Strongly disagree

13. I feel confident in my ability to help a suicidal student for mental health support

    Strongly agree    Agree    Disagree    Strongly disagree

14. I feel confident that I know where to refer a student for mental health support.
This survey is anonymous, meaning none of your identifiable information (e.g., name, birthday, social security number etc.) will be asked. **Please create a unique ID below so we can link your data collected at different time. Pick the first three letters of your mother’s first name and the last 3 digits of your cell phone number. For example, if your mother’s first name is Debbie and your phone number is 123-456-7890, your ID= deb890**

ID: _______________

Please tell us what you think of this presentation by checking the boxes that you think best applies.

<table>
<thead>
<tr>
<th>Evaluation outcome</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Not sure</th>
<th>Agree</th>
<th>Strongly agree</th>
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<tr>
<td>The content presented was appropriate to address mentor’s understanding of mental health.</td>
<td></td>
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<td></td>
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<tr>
<td>My knowledge about mental health and mental illness have improved.</td>
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<td></td>
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<td>I am more comfortable in identifying signs and symptoms of mental distress.</td>
<td></td>
<td></td>
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<td>I am confident in being able to identify students who may have a mental health problem.</td>
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<tr>
<td>I have better understanding about how to help student access appropriate mental health care in my community.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am more comfortable in supporting students who may have a mental health problem.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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What was the **most** useful learning that you obtained through the presentation?

________________________

Do you think all mentors at the club should have the opportunity to access the training for knowledge and awareness?

________________________
In answering the following questionnaire, select the answer by CIRCLING.

Very unlikely = I am certain that it is NOT likely; Unlikely = I think it is unlikely but am not certain; Likely = I think it is likely but not certain; Very likely = I am certain that it IS very likely.

15. 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, to what extent do you think it is likely they have Generalized Anxiety Disorder?

   Very unlikely  Unlikely  Likely  Very Likely

16. 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
17. 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 to what extent do you think it is likely they have Major Depressive Disorder?

- Very unlikely
- Unlikely
- Likely
- Very Likely

18. To what extent do you think it is likely that Personality Disorders are a category of mental illness?

- Very unlikely
- Unlikely
- Likely
- Very Likely

19. 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

In answering the following questionnaire, select the answer by CIRCLING.

Agree=4; Rather agree= 3; Rather disagree=2; Disagree=1; Don’t know=0

20. People with severe mental illness have to take medication for the rest of their lives

- Agree
- Rather agree
- Rather disagree
- Disagree
- Don’t know

21. People with severe mental illness are not able to acquire new skills.

- Agree
- Rather agree
- Rather disagree
- Disagree
- Don’t know

22. People with severe mental illness are failures

- Agree
- Rather agree
- Rather disagree
- Disagree
- Don’t know

23. Severe mental illness is caused by bad luck

- Agree
- Rather agree
- Rather disagree
- Disagree
- Don’t know

24. People with severe mental illness are dangerous

- Agree
- Rather agree
- Rather disagree
- Disagree
- Don’t know

In answering the following questionnaire, select the answer by CIRCLING.
mentally health literacy

**Strongly agree=4; Agree=3; Disagree= 2; Strongly disagree=1**

25. I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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26. I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress.

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<thead>
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<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</thead>
</table>

27. I feel confident in my ability to help a suicidal student for mental health support.

<table>
<thead>
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<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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</table>

28. I feel confident that I know where to refer a student for mental health support.

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<tr>
<th>Strongly agree</th>
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<th>Disagree</th>
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Appendix I

Table 3

Descriptive statistics of variables over time

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<th>Maximum</th>
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<td>19.00</td>
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Appendix J

Knowledge score and effect size over time

Figure 6

*Sum knowledge score over time*

![Sum Knowledge Score over time](image)

Table 4

Cohen’s effect size on knowledge

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<tr>
<th></th>
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<th>SD</th>
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<td>Effect size for T0-T2</td>
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Appendix K

Attitude score and effect size over time

Figure 7

*Sum attitude score over time*

![Chart showing Sum Attitude Score over time](image)

Table 5

Cohen’s effect size on attitude

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<th>Effect size for T0-T1 ATTITUDE</th>
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Appendix L

Self-efficacy score and effect size over time

Figure 8

*Sum self-efficacy score over time*

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