Introduction

Youth suffering from major depression and suicidal ideation have common and fortunately treatable mental health issues. Data from the National Institute for Mental Health (NIMH), indicate that 13.3% of American adolescents (ages 12-17) experienced an episode of major depression in 2017 (NIMH, 2017). Additionally, suicide is the second leading cause of death for individuals between the ages of 10 and 24 (Centers for Disease Control, 2015). Researchers have continued to acknowledge that youth depression has a strong link to youth suicide attempts (e.g. Deutz et al., 2016; Goldston et al., 2009; Miller et al., 2017; NIMH, 2017). Even with these well-known and serious implications of youth suffering from major depression, it is estimated that few youth seek and receive the mental health assistance they need, something that is also reinforced in international data. (e.g. Clement et al., 2015; Cummings, Wen, & Druss, 2013; NIMH, 2017; WHO, 2018).

Depression education in schools and community settings is increasingly being seen as a way to engage in a prevention/mental health promotion intervention, due to the ability of these interventions to educate about stigma and to build youth capacity to engage in help-seeking (Balaguru, Sharma, & Waheed, 2013; Surgenor, Quinn, & Hugues, 2016). This present study features a universal intervention (a middle school-based depression awareness curriculum developed by some of the study authors called Teen Depression: Stories of Hope and Health, referred to hereafter as TDSHH), and a program evaluation designed to assess whether this intervention can decrease mental health stigma, increase knowledge about depression, and enhance help-seeking behavior in middle school youth.

As a diagnosis of depression is one of the mental health issues strongly associated with suicide risk (NIMH, 2017), it is important to note that many youth report that stigma presents a major barrier to seeking help for depression. Depression education in schools is viewed as one key component involved in preventing youth suicide by decreasing stigma and engaging in early intervention (e.g. Clement et al., 2015; Petrova et al., 2015; Ruble et al., 2013; Surgenor, Quinn, & Hughes, 2016). By making social-emotional learning (SEL) programs in middle and high schools feature depression education, adolescents and their school community can learn both about depression and also engage in new help-seeking behaviors within their school context to increase student access to mental health services (Pisani et al., 2012; Kelly, Raines, Stone, & Frey, 2010; Surgenor, Quinn, & Hughes, 2016). As will be detailed in the following section, TDSHH incorporates many of the best practices in depression education and has extensively reviewed the literature to identify these key practices (Klimes-Dougan, Klingbeil, & Meller, 2013; Petrova et al., 2015; Surgenor, Quinn, & Hughes, 2016; Whitlock, Wyman, & Moore, 2014) in order to amplify student voice in the components of the intervention.

Background on Teen Depression: Stories of Hope and Health

Erika's Lighthouse (EL) started in 2004 in response to youth suicides in the Chicago suburbs. It is a non-profit education group (led by a staff of 4 full-time social work practitioners, several of whom previously also worked as school social workers) and it is also comprised of adults and teens who have often been personally touched by

depression and suicide themselves. The leaders of EL believe that this fact (that so many of them have a direct connection to youth suicide and depression) is essential to the programs that they offer free to schools.

Teen Depression: Stories of Hope & Health (hereafter referred to as TDSHH) was created by EL as a universal intervention for 7th and 8th grade classroom environments (TDSHH, 2015). It is a classroom curriculum to be taught by a health or wellness teacher in partnership with school mental health professionals and is best suited for a middle school audience. There is no additional training required to deliver the program, aside from the adult educators/treatment professionals reviewing the video, discussion guide, and supplemental materials before showing them to their students. TDSHH involves three lessons that focus on understanding depression, how to get help for yourself or a friend and good mental health. The primary teaching tool is a video featuring five diverse teens sharing their stories of hope and resilience. Just as with the other EL programs that are offered to parents and to high schools, the purpose of this intervention is to increase student knowledge about depression, reduce stigma surrounding depression and increase the likelihood that students with depression will receive help.

TDSHH is based on the organization's own efforts to consult the research literature in designing their programs and is founded on these core ideas from the literature: depression is common amongst adolescents; it is serious and the largest risk factor for youth suicide; it is a diagnosable mental disorder with specific symptoms; it is treatable and; friends are often the first to know of a friend's depression (Erika's Lighthouse, 2019; e.g. Clement et al., 2015; Petrova et al., 2015; Ruble et al., 2013; Surgenor, Quinn, & Hughes, 2016) . The tone of the program is critical to its success and is also derived from evidence-based concepts of safe and effective messaging for suicide prevention - avoiding dark, sensational and fear-based messaging and instead providing a message that is positive, honest, fact-based and inclusive (Petrova et al., 2015). (The full program can be found on Erika's Lighthouse's website: https://www.erikaslighthouse.org/teen-depression-stories-of-hope-health)

Though the program has been well-received thus far, to date no formal evaluation of TDSHH has been conducted. The EL team engaged the first author to conduct an independent evaluation of TDSHH to examine the impacts of the program. This report is presented as a pilot study of TDSHH to better inform the efforts of EL going forward, and to better inform efforts by school social workers and other school mental health professionals to help their schools deliver effective mental health promotion programming to early adolescents.

Purpose of the Evaluation

The main objectives of the proposed evaluation were to examine the effects of TDSHH on middle school students in the areas of knowledge about depression, willingness to seek help from adults and belief that adults can help themselves and others. Specifically, the evaluation sought to test the following hypotheses:

1) Students in TDSHH classrooms will show increased knowledge about depression, compared to students in the control group condition.

2) Students receiving the TDSHH intervention will show higher scores on willingness to seek help from trusted adults for depression and suicidal ideation compared to students in the control group condition.
3) Students receiving TDSHH will show an increase in their belief that adults could help them or their friends with depression and suicidal behavior compared to students in the control group condition.
4) Students receiving TDSHH will show positive gains in terms of students demonstrating knowledge about positive ways to enhance their own mental health, the impact of stigma on help-seeking for people who have depression, and warning signs of fellow students who may be suicidal, compared to students in the control group condition.

Method

Sampling. In Fall 2015, two Chicago suburban middle schools agreed to be part of the TDSHH intervention study. Both schools (referred hereafter as MS 1 and MS 2) agreed to have the program delivered to 7th and 8th grade students via their school health classes in accordance with the team's research design goals. (Working with the first author's institution, the team received approval for the research project from the university Institutional Review Board or IRB. All procedures involved securing parental consent via an opt-out option provided by the school and approved by the IRB, as well as obtaining student assent.)   The schools were selected based on their being similar demographically to prior schools where TDSHH had been offered based on a consultation of publically-available data (Illinois Report Card; https://www.isbe.net/reportcard), and each school was invited to be part of the study based in part on their not having had the TDSHH program running in their school prior to the study.

 Procedure. In both schools, a pre/post-test wait-list control quasi-experimental design was used. The pre-test was delivered to both the TDSHH groups and the control students at the same time and each condition received the post-test at 6 weeks after the TDSHH intervention. All sessions of the TDSHH intervention were delivered by the creators of TDSHH in Fall 2015 in the students' health classes to increase the fidelity of the program's implementation. Students in both MS 1 and MS 2 control conditions received TDSHH in the Winter 2015 semester as part of their regular health class.

Data collection. Each student in the study (total N=223, 105 in the treatment group, 118 in the control condition) completed a questionnaire that incorporated a depression knowledge scale (DKS) created by the EL team and two additional standardized scales, the four-item Help-Seeking Acceptability at School Scale (HSA) (Wyman et al., 2008) and the three-item Adult Help for Suicidal Youth Scale (AHSY) (Schmeelk-Cone, Pisona, Petrova, & Wyman, 2012). Schmeelk-Cone et al. (2012) found the HSA and AHSY had acceptable internal consistency (.84 for HSA, .67 for the AHSY), with the authors writing that the two scales "provide researchers and program evaluators with psychometrically sound scales for measuring, within a school population, student norms and attitudes about help-seeking for suicide concerns (Schmeelk-Cone et al., 2012, p. 169)."

 Finally, the EL team created several open-ended questions (OEQ) to evaluate the extent that students understood depression symptoms; strategies students could use to

improve their mental health; the impact of stigma on help-seeking for depression and suicidal ideation; and warning signs indicating a teen might be considering suicide. (The final study instrument is available from the first author by request.) In addition, the EL team coded the 6 open-ended questions on depression knowledge, stigma and suicide awareness and assigned a total score of correct answers for each of the questions ranging from 0-13, using accepted methods in designing and coding open-ended questions (De Vaus & De Vaus, 2013; Stone, 1993)   Two EL team members then coded a sub-sample of responses (n=10), and they attained sufficient inter-rater reliability (IRR) of .8 on these responses to proceed with the analysis of the findings.

Results

Demographics

The TDSHH treatment classrooms (n=105) and control classrooms (n=118) had an average age of 12.6 and was 51.5% female. (Note: no other demographic data on the youth in the two conditions was made available to the team by the schools i.e. race, SES, so those cannot be included in this data set, beyond the overall demographic composition of the two middle schools. We acknowledge this as a limitation later in our paper.) The two middle schools here in an American context (typically involving students that are 11-14 years of age, and being often set apart from primary grades and the secondary high schools, thus constituting their own specific school culture and population.) are both in suburbs of Chicago. They were chosen because they matched fairly well on school characteristics (class size, college readiness, graduation rates, percentage of low-income students, percentage of students who are English learners, and overall instructional spending per student). Their results were combined for this analysis, meaning that rather than two separate analyses, the total for the treatment groups in both schools and control conditions were assessed using an independent t-test. A pre-post/test wait-list control group design was employed to test the study hypotheses, and results are summarized below.

Findings from TDSHH Questionnaire Data

Based on independent t-test analysis of the pre-and post-tests for the TDSHH and Comparison classrooms, we saw that the following the following preliminary conclusions can be drawn from the data:

•TDSHH increased student knowledge of depression based on the depression knowledge scales created from EL's expertise. The participants in the health condition showed a statistically significant increase in their scores on the knowledge scale (questions 1-10 on the survey) from pre- to post-test. This increase in score (M = 1.77, SD = 1.80) was significantly greater than the change in score of the students in the control condition, which was effectively zero (M = .00, SD = 1.57); t (222)=6.888, p < .0005. This difference for the TDSHH condition was statistically significant compared to the control group classes. Students who had TDSHH at 6 weeks post-test had retained a significant amount of new information about depression, stigma, and signs of suicide, and also how to deal with depression that was affecting either a friend or themselves.

For every one of the 6 open-ended questions (OEQ) on the questionnaire, TDSHH students reported statistically significant change from pre-to post-test compared to the control gym condition students, t (222)=3.2247, p-value: .0013. Compared to the control group, a statistically significant portion of students in the TDSHH condition could:
1) Identify up to 5 symptoms of depression
2) Accurately recount how long someone needs to be depressed to be diagnosed with depression
3) Identify up to 3 healthy ways that youth can take care of their mental health
4) Explain how stigma might prevent people from seeking help for their depression
5) List two warning signs of someone considering suicide
6) Identify strategies to help a friend who is suicidal involving seeking out a trusted adult

•*TDSHH increased students' willingness to seek help from trusted adults at school with depression and other mental health problems.* The participants in the TDSHH condition showed a statistically significant increase in their ratings on the HSA scale. For the HSA, t (222)= -4.300, p < .0005. Students who had TDSHH at 6 weeks post-test were likely to report seeing adults in the school as people they could seek help from if they were upset. However, the help scale scores for the control group also increased, making it difficult to assess how impactful TDSHH program was with these two school samples.

•*TDSHH increased students' belief that adults could help one of their friends who was suicidal.* The participants in the TDSHH condition showed a statistically significant increase in their ratings on the AHSY from pre- to post-test. For the adult scale, t = -5.132, p < .0005, indicated a statistically significant difference between the TDSHH condition and the control group classes. Students who had TDSHH were much more likely to view adults as helpful resources for a fellow adolescent friend who was suicidal. *Summary.* TDSHH appeared to show an impact on key areas of depression awareness/suicide prevention for middle school students in the TDSHH condition compared to the control group classrooms. These findings as well as the earlier ones noted above were found for both school populations, further bolstering this preliminary evidence for the TDSHH intervention.

Discussion of Findings and Implications for Additional Research and Practice
This pilot study evaluation locates TDSHH squarely in the burgeoning depression awareness/suicide prevention literature as a promising intervention that certainly merits further investigation, particularly for early adolescents (Klimes-Dougan, Klingbeil, & Meller, 2013; Petrova et al., 2015; Whitlock, Wyman, & Moore, 2014). With a focus on creating a consistent, safe and interactive space for young people, TDSHH has built on the longstanding expertise of the intervention developers and this evaluation clearly shows that those efforts to develop TDSHH, a further elaboration of their work with high school-age youth, has been time well-spent. Based on the data described here, TDSHH demonstrates strong potential as an intervention that builds an awareness of what depression in young teens looks like, how teens can recognize symptoms in themselves and/or their friends, and how they can identify and eventually turn to trusted adults at school to help themselves or a friend.

This study also reinforces the role that school mental health professionals, in collaboration with health teachers and other educators, can provide in teaching mental health awareness. This role is not one that all school social workers have spent much time in, having instead a focus primarily built around their individual student caseload and crisis intervention. To see how feasible it would be to have those same professionals engage in supporting teachers in delivering the TDSHH to all incoming 7th grade students, with the understanding that they could then be available to provide more intensive supports to students who do seek help for themselves or a friend, seems to be a key finding here, and one that could be adapted and implemented by school social workers in diverse international contexts as well.

These admittedly preliminary results are very encouraging for several reasons. First of all, this is the first trial of TDSHH since its inception, and the results indicate that the anecdotal and intuitive appeal of this program is bolstered now by empirical support. Secondly, this trial showed statistically-significant change in a real-world setting of two suburban Chicago middle schools, two schools that are very similar to other schools that have been working with EL and their other school-based interventions since 2004. In terms of the actual findings, each of the key indicators (increased knowledge of depression, increased willingness to seek help from school adults, increased belief in the ability for adults to provide real help to a suicidal friend) is considered essential to effective depression awareness and suicide prevention programs (Balaguru, Sharma, & Waheed, 2013; Singer et al., 2018; Surgenor, Quinn, & Hugues, 2016), and compared to other programs, the brevity and turn-key nature of the program makes it a strong candidate for adoption across many school contexts (indeed that is exactly what has begun to happen, as TDSHH has gotten a strong response from school districts around the country who like the free, easy-to-use quality of the program). From this pilot data it appears that TDSHH is a brief intervention that has shown some initial impact on all of these indicators, and continues to show this impact at a 6-week follow-up period.

Limitations

While this pilot study shows some positive initial outcomes, several important limitations are noted. The most important one is the one area where the change in TDSHH was not statistically significant compared to the wait-list control group classrooms, the HSA Scale. While statistically significant change was shown with the TDSHH condition from pre-to post-test, these changes were also shown in the classroom control condition. This indicates several possible areas to explore in a future evaluation, most directly whether the dosage of TDSHH here was sufficient to change willingness of youth to seek help for this early adolescent population.

Additionally, the sampling plan and wait-list control design, while more rigorous than a simple pre/post-test design, was not a randomized trial, as both the TDSHH and comparison group youth represented a convenience sample of schools who were willing to participate. Additionally, the self-created EL depression knowledge measure, while supported from the extensive literature search conducted by the EL staff, has not been subjected to psychometric testing, limiting its reliability and validity as a research measure. Furthermore, though the two middle schools used for this study shared many demographic and SES similarities, the specific youth themselves were not precisely matched on all demographic variables for the evaluation (indeed, this could also have

impacted the help-seeking scores). Further, because TDSHH was facilitated by Erika's Lighthouse staff and not the school's own teachers (increasing the likelihood that the intervention was implemented with high fidelity), future studies would benefit from assessing the program's impact when taught by health teachers or other school mental health professionals serving that specific school community.

Conclusion

These preliminary results discussed here represent encouraging findings that invite additional investigation into the potential scope and reach of TDSHH to impact depression awareness/suicide prevention outcomes for early adolescent youth in 7th and 8th grade. This work represents a collaboration from a dedicated group of practitioners and researchers, and follows a collective process that has built on the wisdom of the educators and practitioners who created TDSHH. Much future work is needed to further investigate additional ways that TDSHH can be feasibly and effectively translated to even more diverse adolescent populations e.g. rural youth, inner-city youth, as well as ways that the materials might be refined by future study and more widely disseminated.

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