JOURNAL OF SCHOOL HEALTH

American School Health Association
Connecting Health & Learning
www.ashaweb.org

RESEARCH ARTICLE

Enhancing Educator Engagement in School Mental Health Care Through Digital Simulation Professional Development

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ABSTRACT

BACKGROUND: Despite the critical role of educators as gatekeepers for school mental health services, they receive limited training to support student mental health. We report findings from a trial of an online mental health role-play simulation for elementary school teachers on changes in attitudes and self-reported helping behaviors for students experiencing psychological distress.

METHODS: We randomly assigned 18,896 elementary school teachers to wait-list control or intervention conditions in which they received the 45- to 90-minute online role-play simulation. We administered a version of the validated Gatekeeper Behavior Scale at baseline and postintervention, which measures attitudinal dimensions shown to predict teacher helping behavior change. Self-reported helping behaviors were collected at baseline and 3-month follow-up. Outcomes were compared between the intervention follow-up and control group baseline measures.

RESULTS: The intervention group posttraining scores were significantly higher ($p < .001$) than the control group for all the preparedness, likelihood, and self-efficacy Gatekeeper Behavior subscales. All 5 helping behaviors were significantly higher among the intervention group at follow-up compared to the control group at baseline.

CONCLUSIONS: We found that a brief online role-play simulation was an effective strategy for improving teacher attitudes and behaviors needed to perform a positive mental health gatekeeper role in schools.

Keywords: child and adolescent health; mental health; school psychology.

Citation: Long MW, Albright G, McMillan J, Shockley KM, Price OA. Enhancing educator engagement in school mental health care through digital simulation professional development. J Sch Health. 2018; 88: 651-659.

Received on May 9, 2017
Accepted on March 3, 2018

Children and adolescents do not receive adequate treatment for mental health disorders. Nationally, 12.8% of children aged 8 to 11 years and 13.4% of adolescents 12 to 15 who participated in the 2001 to 2004 National Health and Nutrition Examination Survey were diagnosed with one of 6 DSM-IV defined mental health disorders in the past year.[1] Only 51% of participants received medical care for their disorder, with adolescents almost twice as likely to have received care as children.[1] Analysis of data from the nationally representative Medical Expenditure Panel Survey found that the prevalence of severe mental health impairment among children aged 6 to 11 years had declined from 10.6% in 1996-1998 to 8.9% in 2010-2012.[2] During this period, utilization of mental health services for children with severe impairment increased from 28% to 45%.[2] While overall treatment levels have increased, only 24% of children aged 6

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Data were provided for analysis by Kognito. Dr. Long and Dr. Price received support from the Department of Prevention and Community Health at the Milken Institute School of Public Health at the George Washington University.

to 11 years received psychotherapy compared to 33% who received psychotropic medications.[2] Given the current lack of adequate access to psychotherapy, a substantial increase in mental health services provided to children is urgently needed.

Due to their frequent contact with children and existing health services capacity, schools and teachers are particularly well-situated to close the gap in unmet mental health need among children.[3] Schools are already the primary providers and a reliable referral system for mental health services.[4] While availability of school- or community-based clinical services is an essential component of treating mental health disorders in childhood, classroom teachers and other educators serve a critical function in the early identification and referral of children experiencing psychological distress.[5-7] The potential positive role of teachers in promoting mental health extends far beyond early identification. Teachers can provide observations and feedback on whether treatment is working in the school setting. More broadly, teachers can help their students develop knowledge and social and emotional skills that lead to positive mental health outcomes, including behavior inside and outside the classroom and attitudes toward school.[8,9]

Despite the importance of the role of teachers in promoting mental health among children, teachers generally do not receive adequate training and report not feeling prepared to handle mental health problems. Preservice teacher training does not typically include specialized mental health training.[10] While many state teaching standards do address competency areas broadly related to school mental health, a 2014 review of state standards for professional teaching found that only one-fifth required teachers to be able to identify and explain early mental health symptoms.[11] It is no surprise that with a lack of preservice training and limited requirements for competency in the area, teachers report a lack of experience, training, and confidence to appropriately address mental health problem among their students.[6,7] In addition to calling for more mental health services and improvements to school leadership, middle school teachers who participated in a study of the challenges of teaching in communities with high levels of violence cited lack of training as a key barrier to success.[12] Without additional training, teachers may not be able to perform their role as gatekeepers responsible for early identification of children requiring mental health services.[13]

A number of studies have evaluated the impact of training teachers to perform a positive gatekeeper role in school mental health on identification and referral of students who are suicidal,[14] with fewer evaluations of programs targeting middle or elementary school teachers. Two studies of gatekeeper training in middle schools using the Suicide, Options, Awareness, and Relief and Question, Persuade, and Refer models found increased gatekeeper knowledge about suicidality and self-efficacy to perform a gatekeeper role, but more limited impact on staff queries of students about suicide.[15,16] These studies have emphasized the use of active learning and in-person role-play activities to provide teachers the opportunity to practice skills needed to serve as an effective gatekeeper.[14,15]

Whereas these efforts have demonstrated some success at improving teacher knowledge, attitudes, and behavior, scaling trainings with active role play to meet the large gap in teacher training will be a challenge. The *At-Risk for Elementary School Educators* simulation is an online digital experience developed by Kognito (www.kognito.com) using a conversation platform that is comprised of a group of development, delivery, API, data collection, and analytic technologies integrated with principles of neuroscience, social cognition, adult learning, applied game mechanics, and storytelling. In this study, we evaluated the impact of the *At-Risk for Elementary School Educators* online mental health role-play simulation for elementary school teachers on changes in teachers' helping attitudes and self-reported helping behaviors for students experiencing psychological distress.

METHODS

Participants

We recruited participants from 10 geographically dispersed states by email from district superintendent offices, principals, and word of mouth. The initial sample included 27,325 elementary school teachers and staff who completed some part of the training and evaluation. We excluded 8429 participants who did not complete all required parts of the study, leaving 18,896 participants in the analytic sample. Excluded participants' scores were significantly higher on 2 of the study variables, initial preparedness to assist a student in psychological distress ($p < .001$; Cohen's $d = .06$) and initial self-efficacy to engage in helping behaviors ($p < .01$; Cohen's $d = .04$) than participants who completed the entire study, but were not significantly different from study completers on likelihood of engaging in helping behaviors ($p > .05$). Demographic information on the analytic sample is available in Table 1.

Instruments

We used a modified version of the validated Gatekeeper Behavior Scale to assess educator attitudes and intentions.[17] The original Gatekeeper Behavior Scale is an 11-item tool used to determine the impact of online virtual-human gatekeeper simulations by measuring attitudes and intentions that have been shown to be related to changes in behaviors and include 3 dimensions or subscales: learner preparedness, likelihood,

Table 1. **Sample Characteristics**

	N*	%
Sex		
Female	16,816	92.3
Male	1342	7.4
Other	52	0.3
Race/ethnicity		
White, non-Hispanic	11,684	68.1
Black, non-Hispanic	1214	7.1
Hispanic	3654	21.3
American Indian/Alaska Native	51	0.3
Asian	366	2.1
Native Hawaiian/other Pacific Islander	27	0.2
Multiple ethnicities	161	0.9
Age		
18-24	1171	6.5
25-29	2415	13.4
30-34	2457	13.6
35-39	2501	13.9
40-44	2541	14.1
45-49	2245	12.4
50-54	2001	11.1
55-59	1594	8.8
60-64	841	4.7
65+	280	1.6
Primary role		
Teacher	12,941	70.5
Teacher's aide	2090	11.4
Administrator (principal, vice-principal)	641	3.5
Mental Health Professional	553	3.0
Administrative Assistant/Clerical	326	1.8
Other (eg, student teacher, technician, health care provider, and librarian)	1806	9.8
Years working in education		
0-5	5673	31.4
6-10	3862	21.3
11-15	3173	17.5
16-20	2158	11.9
21-25	1541	8.5
26-30	957	5.3
31+	726	4.0

*Sample sizes vary due to missing data.

and self-efficacy to engage in gatekeeper behaviors. We assessed the Gatekeeper Behavior Scale's construct and content validity via confirmatory factor analysis and had internal reliabilities of .95 for preparedness, .85 for likelihood, and .94 for self-efficacy. For this current study, we added or changed several items to reflect addressing student mental health at the elementary school level, such as discussing with a parent concern about the signs of psychological distress their child is exhibiting or to help parents be informed about mental health support services available to a child who is exhibiting signs of psychological distress. The Gatekeeper Behavior Scale was administered at baseline, posttest, and at 3 months follow-up.

Means efficacy is a measure of an individual's belief in the utility of the tools available for performing a job that has been correlated with changes in behavior.[18] We measured means efficacy after administration of the simulation with 7 items on a 5-point Likert response scale that ranged from ''not at all to a very little extent'' to ''to a very great extent.'' We used these scale items to assess teacher satisfaction with the simulation.

We assessed self-reported helping behaviors at baseline and 3 months follow-up. All items required numeric responses where participants estimated over the prior 2 academic months how many students they were concerned about and approached to have a discussion about their concern, the number of parents they had discussions with about their concerns and how parents could access support services, as well as the number of conversations they had with their colleagues surrounding students in psychological distress.

Procedure

All participants completed baseline assessments followed by the *At-Risk for Elementary School Educators*, a self-paced online simulation that takes 45 to 90 minutes. Following completion of the simulation, participants completed a postsimulation survey, and a 3-month follow-up survey. The simulation platform upon which *At-Risk for Elementary School Educators* is built integrates motivational interviewing (MI) skills into role-play experiences with a virtual student and parent who have emotions, personalities, memories, and reactions similar to students experiencing psychological distress and their parents. The goal is to teach educators how to employ a set of MI strategies to support gatekeeper skills in a school setting and to manage a conversation with parents regarding concerns about their child. MI is an evidence-based, goal oriented, client-centered counseling approach designed to actively engage clients in identifying their problems and to increase their intrinsic motivation to change their behavior.[19] The simulation allows teachers to practice these role-plays and receive ongoing feedback from a virtual coach on how to apply 4 core MI skills that include: (1) asking open-ended questions; (2) providing affirmation; (3) reflective listening; and (4) summarizing client self-assessment. These techniques are associated with effective therapy and are thought to encourage strong rapport and to support behavioral change.[19]

Learners communicate with the virtual student or parent by selecting from a dynamic menu of dialogue options (see Figure 1). The dialogue options represent a variety of effective, neutral, and ineffective conversation tactics and once selected they see their virtual character ''perform'' the dialogue and then observe the verbal and nonverbal response of the virtual student or parent. A new set of dialogue options then appears, based on which tactic was selected. A Comfort Meter provides continual feedback based on

Figure 1. **Screenshot of a Virtual Role-Play Conversation With a Parent in At-Risk for Elementary Educators**

the choices made by the learner as he or she progresses through the simulation. If the learner selects choices that include being critical, judgmental, or labeling, the Comfort Meter will decrease, and learners will find it harder to complete the simulation. Additionally, a virtual coach provides real-time positive feedback for correct tactics and suggestions for incorrect tactics or pitfalls. Throughout the simulation learners are able to occasionally view the virtual characters private thoughts, which are designed to provide the learner with greater insight, understanding, and empathic communication skills. The role-play is completed once the learner earns the trust of the parent and they agree to talk to the student about seeing the school psychologist.

Following baseline data collection, we randomly assigned participants into either the intervention group (N = 9427) or the wait-list control (N = 9469). The intervention and control group did not differ significantly on sex, race/ethnicity, age, years in education, work role, or previous degree of mental health training (all chi-square test significance values were greater than .05). In addition, the control group and intervention group did not differ significantly on initial levels of preparedness to assist a student in psychological distress, self-efficacy to engage in helping behaviors, or likelihood of engaging in helping behaviors. Specifically, preparedness of the intervention group at baseline (mean = 3.23, SD = .71) was not significantly different from the control group ($t(18,880) = .27$, $p = .79$). Likelihood of the intervention group at baseline (mean = 3.04, SD = .65) was not significantly different from the control group, $t(18,781) = .23$, $p = .82$. Finally, self-efficacy of the intervention group at baseline (mean = 2.86, SD = .56) was not significantly different from the control group, ($t(18,678) = .70$, $p = .49$). The randomization was not effective on one measure of baseline helping behaviors. The mean number of parent discussions regarding concern about a student's psychological distress was significantly higher ($p < .05$) among the intervention group at baseline (mean = 0.79) compared to the control group (mean = 0.74).

Data Analysis

We report descriptive statistics on the means efficacy scale to evaluate satisfaction with the simulation among participants in the intervention group. To estimate the intervention's effect on teacher attitudes, we compared the intervention group's posttraining Gatekeeper Behavior Scale responses to the baseline survey responses among participants in the wait-list control group. Because the 3 Gatekeeper Behavior Scale outcomes are all expected to be closely associated, we utilized a multivariate analysis, Hotelling's T^2, to

Table 2. **Means Efficacy Among Intervention Group (N = 9427)**

	Not at All/Very Little	A Little	Some	Great	Very Great
Please indicate to what extent you think that the course is					
A useful tool	0.5%	2.0%	19.4%	46.3%	31.8%
Well constructed	0.8%	2.2%	16.9%	46.0%	34.1%
Easy to use	2.1%	4.1%	18.9%	40.9%	34.1%
Likely to help you help a student	0.6%	1.8%	16.8%	45.5%	35.4%
Likely to help you talk with a parent of a student you are concerned about	0.8%	2.1%	17.9%	44.7%	34.5%
Based on scenarios that are relevant to you, your students and their parents	1.0%	2.8%	19.3%	43.7%	33.1%
Able to aid you in getting timely help to your students	0.8%	2.2%	19.2%	45.7%	32.1%

assess the impact of the simulation on these outcomes as a whole, thus reducing the danger of type I error when evaluating each individual variable in more detail. We used independent sample *t* tests to compare control and intervention groups on each scale individually, and finally to compare groups on each individual item. We compared the mean number of helping behaviors in 2 ways. First, we compared the 3-month follow-up means among the intervention group to the baseline responses among the control group using independent sample *t* tests. Second, we used paired-sample t-tests to evaluate changes within the intervention group from baseline to follow-up. We conducted an additional set of analyses using 2-way ANOVA tests to determine if participant ethnicity/race had a significant moderating role on the 3 primary outcomes of preparedness, likelihood, or self-efficacy.

RESULTS

Participants in the intervention group were highly satisfied with the simulation (Table 2). Thirty-two percent of participants rated the simulation ''excellent,'' the top point on the scale, and 43.8% rated it as ''very good.'' In addition, 97.9% of participants agreed or strongly agreed that all educators in their school should take the simulation. Concerning difficulty of the simulation, about 84.5% indicated the simulation was at their skill level, 4.9% below their skill level, and 6.8% above their skill level. Results suggest overall that a very large proportion of participants found the simulation to be helpful and effective.

The intervention was effective at increasing preparedness, likelihood, and self-efficacy to perform positive gatekeeping behaviors. There was a significant positive difference across all items in the Gatekeeper Behavior Scale between the posttraining responses from participants in the intervention group and baseline responses from participants in the control group, $F(3,18{,}480) = 2190.35$, $p < .001$, $\eta^2_{\text{partial}} = .26$). Preparedness of the intervention group in the posttraining survey (mean = 4.04, SD = .64) was significantly higher than preparedness of the control group (mean = 3.24, SD = .72), $t(18651) = 81.01$, $p < .001$. Likelihood of the intervention group (mean = 3.40, SD = .59) was significantly higher than likelihood of the control group (mean = 3.04, SD = .65; $t(18568) = 39.62$, $p < .001$). Finally, self-efficacy of the intervention group (mean = 3.29, SD = .49) was significantly higher than self-efficacy of the control group (mean = 2.85, SD = .57; $t(18511) = 56.62$, $p < .001$). Posttraining means from the intervention group and baseline means from the control group for each item in the modified Gatekeeper Behavior Scale are presented in Table 3.

In tests for moderation of the intervention effect by participant race/ethnicity, we determined that participant race/ethnicity did not interact significantly with treatment group for likelihood. However, participant race did interact significantly with treatment group for preparedness ($F(3, 17{,}083) = 5.85$, $p < .01$). Post hoc pairwise comparisons revealed that, within each racial/ethnic group, the control and treatment means were significantly different (Bonferroni-corrected $p < .001$ in all 4 cases). Within the control condition, non-Hispanic black participants scored significantly higher than Hispanic and non-Hispanic white participants. Asian, American Indian/Alaska Native, or Multiple ethnicities participants scored significantly higher than non-Hispanic white participants. There were no differences in the treatment group across racial/ethnic groups. Thus, the results suggest that although some groups started at different places, they all ended with similar scores, with the greatest gains being exhibited by non-Hispanic white participants with a control-treatment group mean score difference of .84. Note, however, that all group differences were very similar, falling between .68 and .84, suggesting that the significant interaction effect may be statistically significant due to high power, but the practical significance may be minimal.

Participant ethnicity/race also interacted significantly with treatment group for self-efficacy ($F(3, 17{,}002) = 4.95$, $p < .01$). Post hoc pairwise comparisons revealed that, within each racial/ethnic group, the control and treatment means were significantly different (Bonferroni-corrected $p < .001$ in all 4 cases). Within the control condition, non-Hispanic black participants scored significantly higher than Hispanic and

Table 3. **Mean Differences in Gatekeeper Behavior Scale Item Scores Between Intervention Group (N = 9427) Posttreatment and Control Group (N = 9469) at Baseline**

	Mean-Control at Baseline (SD)	Mean-Intervention Postsimulation (SD)	*t* Value
Preparedness: How would you rate your preparedness to . . .			
Recognize when a student's behavior is a sign of psychological distress	3.40 (.74)	4.06 (.67)	63.55
Recognize when a student's drop in academic performance is a sign of psychological distress	3.36 (.77)	4.05 (.67)	64.96
Recognize when a student's physical appearance is a sign of psychological distress	3.48 (.77)	4.06 (.68)	54.41
Have a discussion with a student to gather more information about the signs of psychological distress they are exhibiting	3.31 (.86)	4.09 (.68)	67.67
Motivate a parent whose child is exhibiting signs of psychological distress to seek help	3.04 (.91)	3.99 (.72)	78.72
Discuss with a parent your concern about the signs of psychological distress their child is exhibiting	3.12 (.94)	4.00 (.72)	71.85
Apply communication strategies such as reflective statements and open-ended questions in those discussions with parents	3.05 (.93)	4.05 (.70)	82.89
Help parents be informed about mental health support services available to a child who is exhibiting signs of psychological distress	3.11 (.97)	4.03 (.72)	73.32
Likelihood: How likely are you to . . .			
Have a discussion with a student to gather more information about the signs of psychological distress they are exhibiting?	3.12 (.70)	3.45 (.61)	34.08
Have a discussion with a parent about the signs of psychological distress their child is exhibiting?	2.94 (.75)	3.36 (.65)	40.78
Try helping parents be informed about mental health support services available to a student exhibiting signs of psychological distress?	3.07 (.73)	3.41 (.63)	33.45
Self-efficacy			
I feel confident in my ability to have a discussion with a student to gather more information about the signs of psychological distress they are exhibiting.	2.98 (.60)	3.33 (.51)	43.25
I feel confident in my ability to discuss with a parent my concern about the signs of psychological distress their child is exhibiting.	2.80 (.66)	3.27 (.53)	53.10
I feel confident in my ability to help parents be informed about mental health support services available to a child who is exhibiting signs of psychological distress.	2.85 (.66)	3.29 (.53)	49.29
I feel confident in my ability to apply communication strategies such as reflective statements and open-ended questions in discussions with parents.	2.78 (.67)	3.29 (.52)	57.63
Role of educators			
Mental health plays a key role in student success.	3.57 (.57)	3.57 (.51)	0.27*
Part of the role of educators is to help parents be informed about mental health support services for a child who is exhibiting signs of psychological distress.	3.31 (.60)	3.44 (.53)	16.12

*$p > .05$.
All items significant at $p < .001$, unless otherwise indicated.

non-Hispanic white participants. There were no differences in the treatment group across racial/ethnic groups. Thus, the results suggest that although some groups started at different places, they all ended with similar scores, with the greatest gains being exhibited by non-Hispanic white participants with a control-treatment group mean score difference of .46. As noted above, the significant results may be a result of the large sample size and high power to detect an effect.

The intervention was associated with significant increases in self-reported helping behaviors in both the between-group and within-group analyses (Table 4). All 5 of the helping behaviors were significantly higher at follow-up among the intervention group compared to baseline among the intervention group. For example, the number of students about which teachers were concerned was 36% higher among the intervention group (mean = 1.70 vs. 1.25, $t = 4.05$, $p < .001$). The number of student and parent discussions increased by 54% (mean 1.57 vs. 1.02, $t = 5.49$, $p < .001$) and 70% (mean = 1.26 vs. 0.74, $t = 6.12$, $p < .001$), respectively. Similarly, 4 out of 5 behaviors were significantly higher among the intervention group at follow-up compared to baseline. The fifth behavior, the number of colleagues with which the teacher discussed concerns regarding a student, was marginally statistically higher (mean = 2.09 vs. 1.80, $t = 1.89$, $p = .06$).

DISCUSSION

We found that a brief online role-play simulation for elementary school teachers was effective at improving teacher preparedness, likelihood, and self-efficacy to perform positive gatekeeping behaviors for students experiencing psychological distress. Similarly, all racial and ethnic groups demonstrated significant increases in being better prepared, more likely and self-confident to engage in helping behaviors with students in psychological distress. The simulation was also effective at increasing self-reported helping

Table 4. **Intervention Effect on Self-Reported Helping Behaviors**

	Within-Intervention Change		
	Pretest Mean (SD)	**Follow-Up Mean (SD)**	***t* Value**
In the past 2 academic months			
How many students have you been concerned about due to the signs of PD they are exhibiting?	1.39 (2.23)	1.71 (2.62)	2.33*
How many students have you approached to have a discussion and gather more information about the signs of PD they are exhibiting?	1.16 (1.91)	1.58 (2.50)	3.45**
How many parents have you had discussions with regarding your concern about the signs of PD their child is exhibiting?	.92 (1.81)	1.27 (2.40)	2.61**
How many parents have you had discussions with regarding accessing support services for their child?	.79 (1.71)	1.14 (2.31)	2.71**
How many colleagues have you had discussions with regarding your concern about a student who is exhibiting signs of PD?	1.80 (2.39)	2.09 (2.62)	1.89†
	Between Intervention and Control		
	Control Mean (SD)	**Intervention Mean (SD)**	***t* Value**
In the past 2 academic months			
How many students have you been concerned about due to the signs of PD they are exhibiting?	1.25 (2.07)	1.70 (2.59)	4.05***
How many students have you approached to have a discussion and gather more information about the signs of PD they are exhibiting?	1.02 (1.84)	1.57 (2.47)	5.49***
How many parents have you had discussions with regarding your concern about the signs of PD their child is exhibiting?	.74 (1.55)	1.26 (2.38)	6.12***
How many parents have you had discussions with regarding accessing support services for their child?	.67 (1.48)	1.15 (2.32)	5.96***
How many colleagues have you had discussions with regarding your concern about a student who is exhibiting signs of PD?	1.65 (2.44)	2.08 (2.59)	3.34**

†p = .06, *p < .05, **p < .01, ***p < .001.
PD, psychological distress.

behaviors, including higher numbers of student and parent conversations regarding teacher concerns as well as higher numbers of conversations with parents regarding accessing support services.

These results compare favorably to the limited research on training high school and middle school teachers to address suicidality among their students. Foremost, this is one of the largest evaluations of teacher gatekeeper training programs published to date. Previous studies have been conducted among a few schools in a single geographic area with at most a few hundred teachers in the sample.[14-16] Second, this study is the first that we know of to evaluate the impact of teacher gatekeeper training on helping behaviors for elementary school children. While mental health disorders can be more serious risks among older children and adolescents, young children experience these disorders at high rates and do not receive adequate access to appropriate mental health treatment that can alter their health trajectory.

The use of online role-play simulations with students has a number of key strengths that may make it more effective than face-to-face training. The *At-Risk for Elementary School Educators* simulation allows teachers to participate in realistic situations that could be stressful to enact in real life, which allows them to make mistakes and learn in a stress-free environment that has been shown to facilitate skills development.[20] This is particularly important given the seriousness of the subject matter and the evidence showing that practicing teachers feel ill-prepared to effectively manage classroom behavior of students experiencing psychological distress.[6,7] Virtual training provides the opportunity for teachers to make up a skills deficit without the threat of embarrassment or negative evaluation from instructors, peer teachers, or administrators.

Online training also has the potential to maintain training fidelity while scaling teacher training volume nationally with a sustainable cost structure as opposed to face-to-face training, for which costs includes facilitator time, travel, materials, and teacher substitutes, all of which are marginal costs that are unlikely to decline at a larger scale. The use of the standardized, yet interactive virtual conversation platform does not require ongoing evaluation and monitoring of trainer fidelity to in-person training programs conducted in research settings. Because this intervention was evaluated as delivered at scale, there is no need to determine whether the results of an efficacy trial would be replicated with a large cohort of trainers with varying education and skill levels. Because the online virtual simulation evaluated in this study is self-directive and interactive, it can also provide a customized learning experience depending

on the existing skill level of each teacher, which would not be possible in large group trainings.

While the results of this study are encouraging, further research is needed on how teacher training can be integrated into broader approaches to improving school mental health services. Regardless of their level of training, teachers cannot be expected to effectively meet the needs of students experiencing psychological distress without sufficient availability of clinical and nonclinical counseling and other psychiatric services. Instead of being implemented as a stand-alone solution, teacher training should be included as an essential part of a broader Whole School, Whole Community, Whole Child approach.[21]

Limitations

The primary limitation of the study is the relatively short follow-up time and use of self-report for measuring changes in teacher helping behaviors. Future studies should measure the impact of the training over at least one school year and should use objective measures of changes in teacher helping behaviors, such as documented referrals to school mental health services. While the study's use of a wait-list control design with random assignment to the intervention and control group provides good internal validity, this study did not evaluate the impact of the online training compared to traditional face-to-face professional development. However, given the lack of preservice or in-service training on this content for many teachers, the use of a no-training control group in the current study approximates the current standard of care well. We also did not evaluate how the availability of existing school mental health services or school culture may moderate the impact of individual teacher training. Future research may consider the use of a quasi-experimental design to compare changes in objective measures of referrals and other helping behaviors documented in existing administrative datasets among schools or districts adopting the training compared to control schools or districts providing standard professional development.

Conclusions

This study demonstrated among a large sample of elementary school teachers that a brief online role-play simulation increased teachers' preparedness, likelihood, and self-efficacy to respond to student mental health needs. The training was effective at increasing self-reported helping behaviors over a 3-month period, including increasing the number of conversations addressing mental health concerns with students, parents, and colleagues.

IMPLICATIONS FOR SCHOOL HEALTH

More than half of elementary school students are not receiving adequate care for their mental health disorders, leading to poor health outcomes and reduced ability to succeed in school.[1] Despite the focus of researchers, policymakers, and practitioners on developing a whole-school approach to the promotion of children's mental health, teachers are often not trained on how to respond appropriately to students experiencing psychological distress.[10,11] Actions schools may take include:

- Schools should consider assessing teachers' level of preparedness to support student mental health. The Gatekeeper Behavior Scale is a brief, validated scale that can be used as a baseline assessment as well as a measurement of the effectiveness of training.[17]
- Schools should include teacher training in their comprehensive mental health planning. Schools may consider this or other validated online trainings as an option for meeting the need for additional teacher training. Simulations like *At-Risk for Elementary School* have the potential to cost-effectively reach large numbers of geographically dispersed elementary educators.

Human Subjects Approval Statement

The Baruch College (City University of New York) Human Protections Program Office determined that *At-Risk for Elementary School Educators* is a professional development program and did not meet the definition of human subjects research as defined by the federal regulations 45 CFR 46.102. Participants provided informed consent and agreed to use of their response for scientific publication.

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