

At-Risk for HIGH SCHOOL EDUCATORS

Using Simulated Conversations with Virtual Humans to Build Mental Health Skills among High School Educators

A Longitudinal Study

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INTRODUCTION

Suicide is the third leading cause of death among teenagers. According to a 2011 study by the CDC, the suicide rate among teens has climbed in the past few years, from 6.3% in 2009 to 7.8% in 2011. The study also found that in the prior 12 months, 15.8% of high school students seriously considered attempting suicide, 12.8% made a plan, and 7.8% attempted suicide one or more times. Psychological distress including depression and anxiety are also significant problems for this age group. Unfortunately, the vast majority of these distressed students don't seek help, making it extremely difficult to identify and assist them.

Mental health education has been established internationally as a critical component of comprehensive suicide prevention strategies and as a method to engage the community in identifying and connecting distressed individuals with support services. Several studies have shown that mental health education is effective in changing knowledge and attitudes but has moderate effect on actual behavior in terms of approaching distressed students and

referring them to support services. One hypothesis to this limited effect is the lack of active learning strategies like role plays and practice in both online and in-person workshops.

This study examines whether an online simulation that includes simulated conversations with virtual students where learners practice approaching and referring distressed individuals can result in significant increases in both mental health skills and behavior, and whether such changes remain significant over time.

Description of Simulation

At-Risk for High School Educators is a 60-minute online professional development simulation. In the simulation, users enter a virtual environment and engage in three conversations with virtual students that exhibit signs of psychological distress including anxiety, depression, and suicidal ideation. In this process, they learn to recognize warning signs and use motivational interviewing tactics to build trust and motivate the student to seek help. To complete the simulation, learners must successfully identify and refer the three students to support services.

The simulation was developed by Kognito (www.kognito.com) with input from mental health experts and over 250 high school educators in the US. The simulation is listed in SAMHSA's National Registry for Evidence-Based Programs and Practices (NREPP) and in Section III of the SPRC/AFSP Best Practices Registry. Introduced in 2011, the simulation has been adopted by state agencies and non-profits to train over 200,000 teachers in seven states including Texas, Ohio, New Mexico, Alaska, Arizona, and New York. A demo can be viewed at www.kognito.com/demos.



Fig. 1: Snapshot of a simulated conversation with a virtual student.

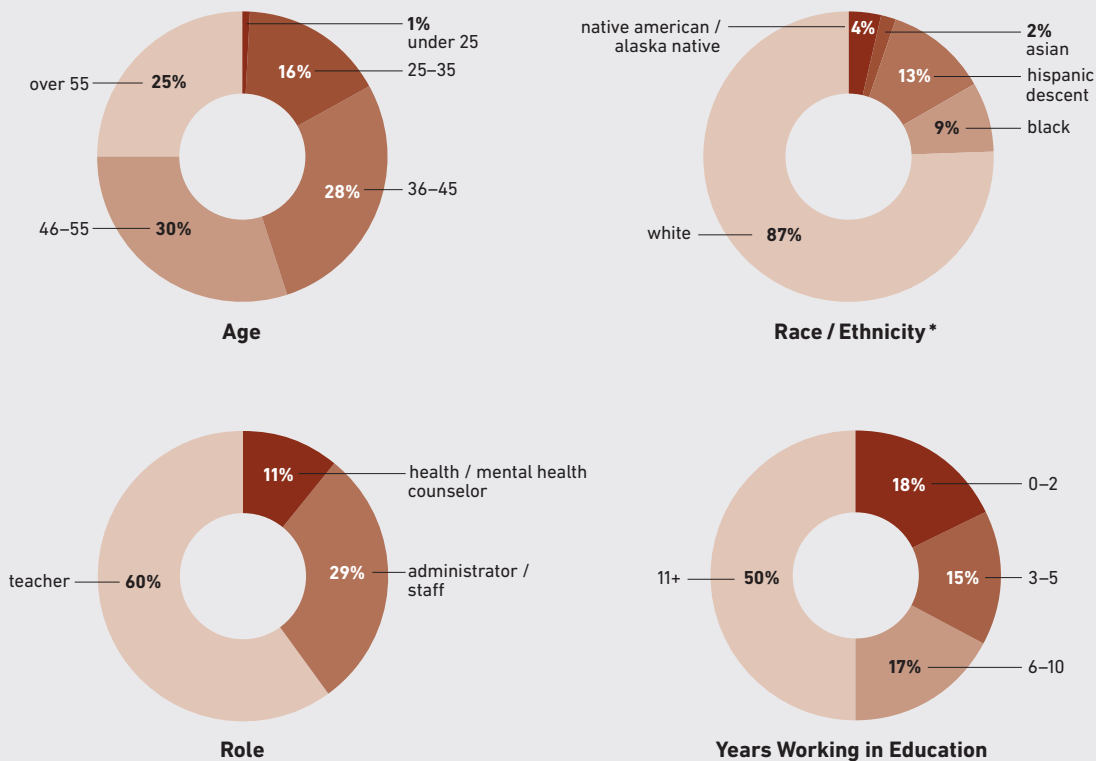
SUBJECTS AND METHODS

The study was conducted between May 2011 and Feb 2013 with 216 high school teachers and personnel in 82 schools in five states (Texas, New York, North Carolina, California, and Arizona). Seventy-nine percent of participants were females, and 17% received prior mental health training. Additional demographic information is shown in *Fig. 2*.

Participants first completed a pre-survey (baseline) and then the 60-minute online simulation, followed immediately by a post-simulation survey. Participants then completed a 3-month follow-up survey. All surveys were conducted online at a computer of the participant's choosing. Participants were educators

in institutions that purchased the simulation from Kognito and chose to have Kognito embed the survey tools into the training to assess its effectiveness. Most participants (84%) learned about the simulation via an email sent by their principal or state agency, and 14% heard about the simulation from a colleague. All participants had the option to take the simulation and were not compensated. Study results were analyzed using a repeated measures analysis of variance to determine the change in dependent variables across all three measurement points or a repeated measures t-test for those with only two time points.

Fig. 2: DEMOGRAPHICS



*Participants could identify with more than one race/ethnicity.

RESULTS

1. Mental Health Skills

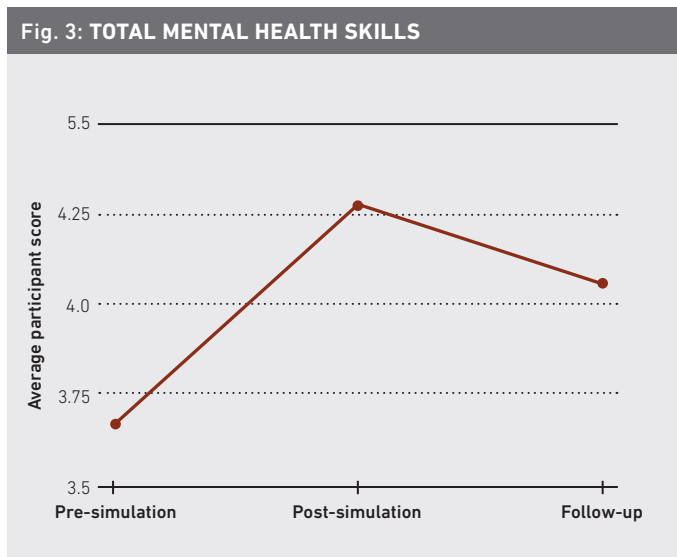
The study found a significant increase ($p < .05$) in Total mental Health Skills from pre- to post-simulation that remained significant at 3-month follow-up (Fig. 3). Total Mental Health Skills included three self-perceived preparedness measures that include ability to: (1) identify when a student's behavior or appearance is a sign of psychological distress, (2) discuss concern with a student and motivate them to seek help, and (3) make a referral to mental health support services. Participants reported their preparedness for each measure using a 5 point Likert scale from very low (1) to very high (5).

2. Behavioral Change and Referral Rates

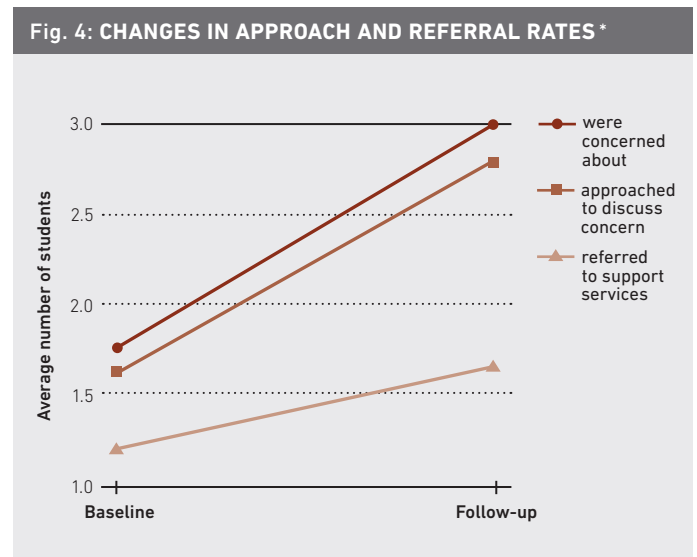
The study found significant and sustainable behavioral changes on two levels:

A. APPROACH AND REFERRAL RATES: Participants reported a significant increase ($p < .05$) at 3-month follow-up in terms of the number of students they were concerned about, approached, and referred to support services during the prior two academic months (Fig. 4). Specifically, there was an increase of 71% in the average number approached by participants and 37% in the number referred by participants to support services (Table 1).

SPEAKING WITH COLLEAGUES ABOUT AT-RISK STUDENTS: Seventy percent reported an increase in the number of conversations they had with other adults in their school about students they were concerned about.



Changes in total mental health skills from pre- to post-simulation to 3-month follow-up point



Changes in the average number of students that participants were concerned about, approached, and referred in the prior two academic months

Table 1: CHANGES IN APPROACH AND REFERRAL RATES *

Average number of students that participants...	Baseline	Follow-up survey	Percent change
Were concerned about	1.77	2.99	69%
Approached to discuss concern	1.63	2.79	71%
Referred to support services	1.21	1.66	37%

* n=99 as we only included answers by participants who completed the pre- and follow-up surveys at least two months into the academic year.

3. Satisfaction and Learning Experience

Participants highly ranked the simulation's learning experience and design. For example, 98% said they would recommend the simulation to their colleagues and 94% said it was based on scenarios relevant to their work with students (Fig. 5 and Fig. 6).

In addition, 97% of participants said that all educators in their school should take the course, as well.

Figure 5: PARTICIPANT RATINGS

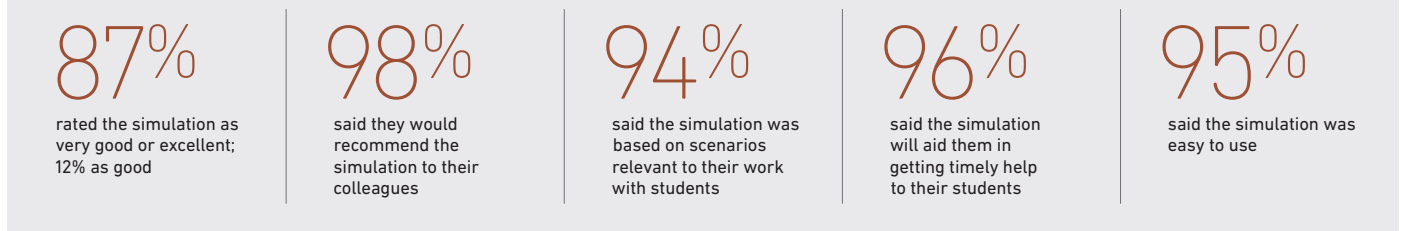


Figure 6: PARTICIPANT FEEDBACK



CONCLUSION

The study found that the simulation, which includes simulated conversations with virtual humans where learners practice approaching and referring distressed individuals, results in significant increases in mental health skills and changes in behavior and that those changes remain significant at 3-month follow up point.

These findings strongly suggest that *At-Risk for High School Educators* has an immediate and strong enduring impact on:

(1) Building Mental Health Skills: identifying, approaching, and referring students exhibiting signs of psychological distress.

(2) Changing Behaviors: increasing the number of students that learners connect with and approach to discuss their concerns, and, if necessary, refer to support services, as well as discuss concerns about such students with colleagues in school.

Finally, the study showed that participants found the simulation to be easy to use, engaging, realistic, and helpful to them in getting timely help to students. ■

Notes:

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