

KOGNITO'S AT-RISK SUITE

Using Simulated Conversations with Virtual Humans to Build Mental Health Skills among Educators, Staff, and Students

A Summary of Five Longitudinal Studies

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INTRODUCTION

Suicide is a significant public health problem worldwide. In 2010 alone, there were 38,364 suicides in the U.S. (105 per day; one suicide every 14 minutes), where suicide is the third leading cause of death among youth ages 10-24. It is also estimated that there are 25 suicide attempts for each death by suicide. The good news is that suicide is preventable. Most suicidal people give definite indications of their suicidal intentions (e.g., things they say, write, or post on social media sites). Research has shown that even a simple act of connecting at-risk individuals with words of hope or caring can play a significant role in their decision to seek help or re-consider their plans to die by suicide.

Unfortunately, the public at large is unaware of how to recognize warning signs, understand their significance, and act on their concern. In addition, stigma around mental illness and ignorance about the benefits of treatment are still prevalent among both the general public and those who struggle with psychological distress, such as depression, anxiety, alcohol and substance abuse, PTSD and thoughts of suicide. This document provides a summary of five longitudinal studies conducted to evaluate the effectiveness of the following Kognito mental health simulations:

- (1) *At-Risk for University Faculty and Staff*
- (2) *At-Risk for College Students*
- (3) *At-Risk for High School Educators*
- (4) *At-Risk for Middle School Educators*
- (5) *Veterans on Campus for Faculty and Staff*

The studies analyzed the ability of each program to create a significant and enduring impact on mental health skills, behavior, and referral rates of individuals who exhibit signs of psychological distress including depression, anxiety, and suicidal ideation.

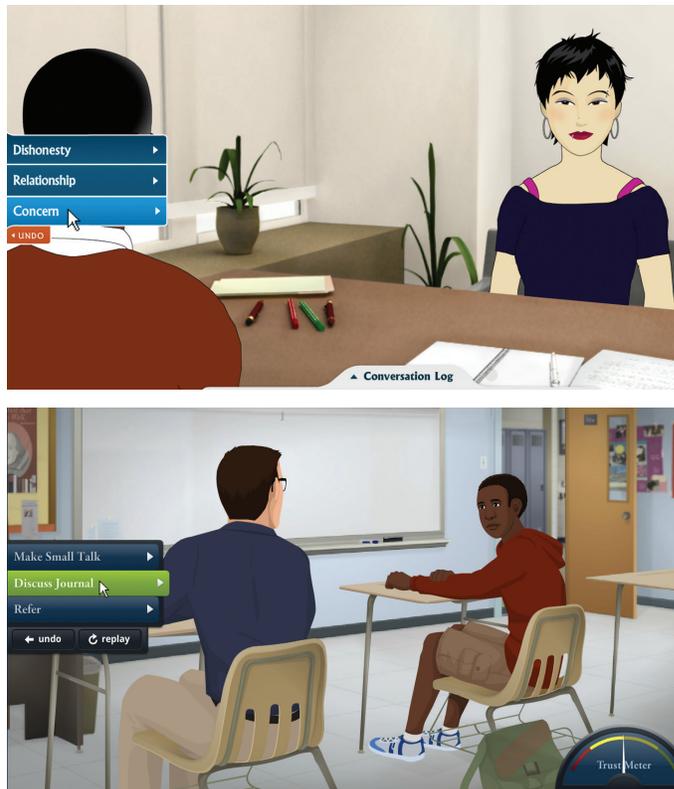


Figure 1: Snapshots of simulated conversations with virtual students.

Description of Simulations

The online self-paced simulations include a few unique elements: (1) behavioral rehearsal exercises where users practice speaking with virtual students that act and respond like real students experiencing psychological distress, (2) content extending beyond suicide risk to address identifying, approaching, and referring individuals showing signs of common disorders, including depression and anxiety, and (3) personalized feedback to users throughout the learning experience as opposed to only upon conclusion.

The simulations were developed by Kognito Interactive with input from mental health experts and educators. All five simulations are listed in Section III of the SPRC/AFSP Best Practices Registry. At-Risk for College Students is also listed in SAMHSA's National Registry of Evidence-Based Programs and Practices. As of April 2013, over 450 organizations in the US, UK, and Australia have adopted one or more of these programs to train over 1 million people. Demos of the trainings can be viewed at www.kognito.com/demos.

SUBJECTS AND METHODS

The studies were conducted between April 2011 and March 2013 with 1,326 teachers, staff, and students at 195 educational institutions in 28 US states. Eighty percent of participants were teachers/staff members and 20% were students. The student training (*At-Risk for College Students*) was mandated to 52% of the students as part of their freshmen orientation, course work, or onboarding as Resident Assistants. All other participants had the option to take the simulation and were not compensated. Twelve percent of educators and staff had previously completed other mental health education. Please

see the *Appendix* for detailed demographics and study results by product.

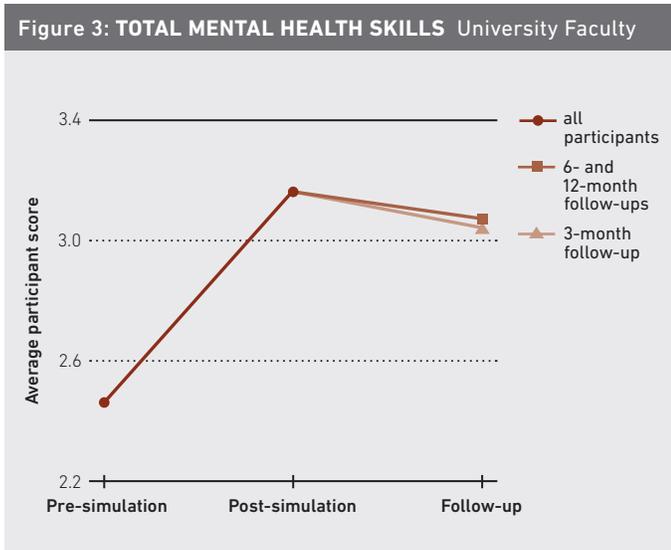
Participants first completed a pre-survey (baseline) and the online simulation followed immediately by a post-simulation survey. Participants then completed one or more follow-up surveys occurring on average within 3 months. Study results were analyzed using a repeated measures analysis of variance to determine the change in dependent variables across all measurement points.

RESULTS

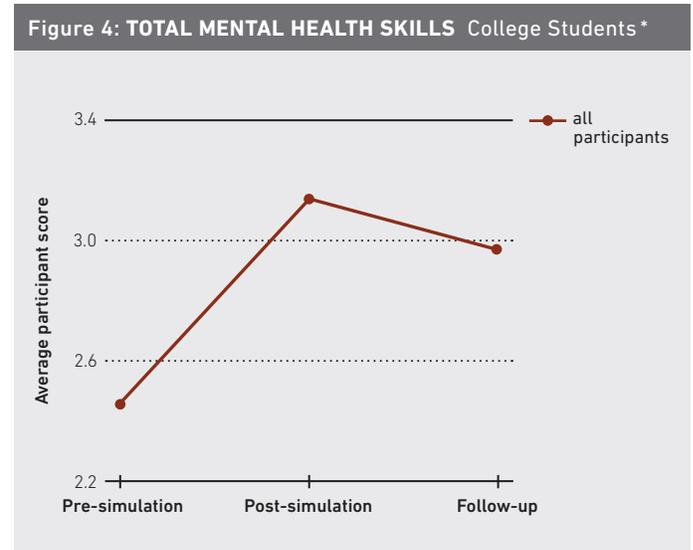
1. Mental Health Skills

The studies found significant increases ($p < .05$) in Total Mental Health Skills from pre- to post-training that remained significant in all follow-up points. Total Mental Health Skills were comprised of 4-5 self-perceived preparedness measures that included: (1) identify when a student's appearance is a sign of

psychological distress, (2) identify when a student's behavior is a sign of psychological distress, (3) discuss concern with a student, (4) motivate the student to seek help, and (5) make a referral to mental health support services.



Changes in total mental health skills from pre- to post-simulation to 3-, 6-, and 12-month follow-up points



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

2. Behavioral Change and Referral Rates

The studies also found significant and sustainable behavioral changes on three levels:

APPROACH AND REFERRAL RATES: Participants reported a significant increase ($p < .05$) at follow-up points in terms of the number of students they were concerned about, approached, and referred to support services during the prior two academic months. Educators and staff members reported an increase of 25%–71% in the average number of students they approached to discuss their concern (students reported an increase of 70%). In addition, educators and staff members reported an increase of 37%–53% in the number of students they referred to support services (students reported an increase of 53%). Please see *Table 1* for more details.

For the *Veterans on Campus* program, almost 50% of faculty and staff reported an increase in the number of veteran students they (1) identified as exhibiting signs of psychological distress, (2) approached to discuss concern, and (3) referred

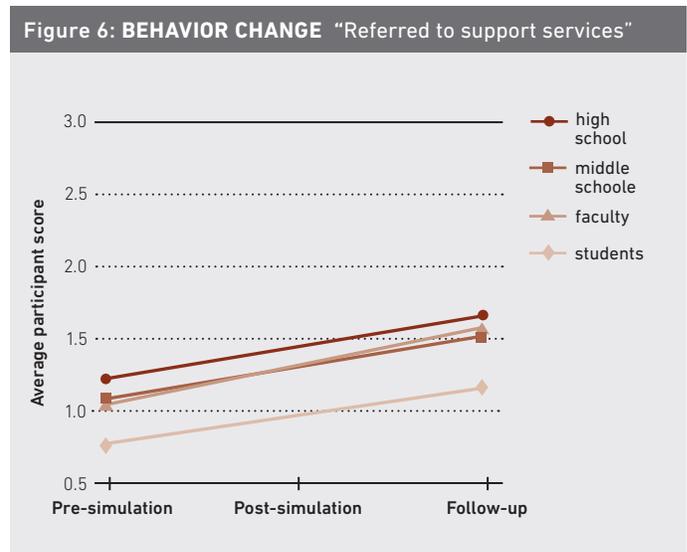
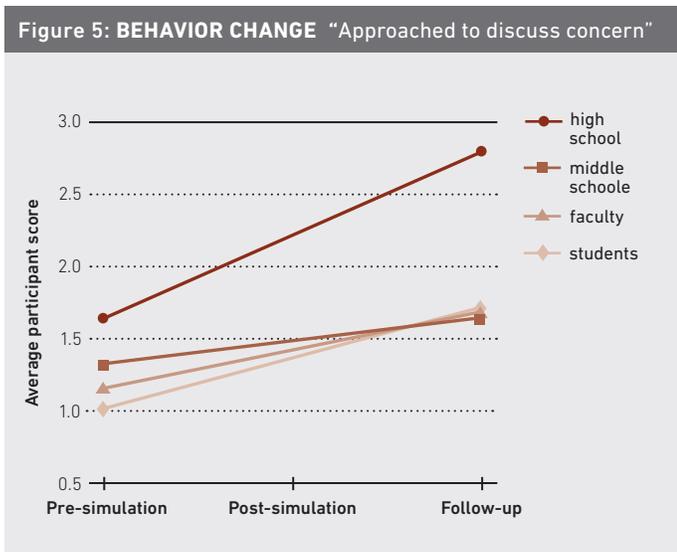
to mental health support. In addition, 48% of them reported an increase in the number of veteran students they referred to non-mental health campus office such as academic advisement or veteran-certifying officer.

SPEAKING WITH COLLEAGUES ABOUT AT-RISK STUDENTS: On average, 63% of educators and staff who completed the simulation reported an increase in the number of conversations they had in real life with other faculty, staff, and administrators about students they were concerned about.

SELF-REFERRAL: Students who completed the At-Risk for College Students simulation reported a significant increase ($p < .05$) at the 3-month follow-up point in terms of the likelihood that they will seek help from their school’s counseling/mental health center when feeling psychologically distressed themselves.

Average number of students that participants...	University Faculty (n=115)	High School Educators (n=115)	Middle School Educators (n=115)	College Students (n=115)
Were concerned about	42%	69%	21%	27%
Approached to discuss concern	47%	71%	25%	70%
Referred to support services	42%	37%	53%	53%

* Measurements only include answers by participants who completed the pre and follow-up surveys at least two months into the academic year.

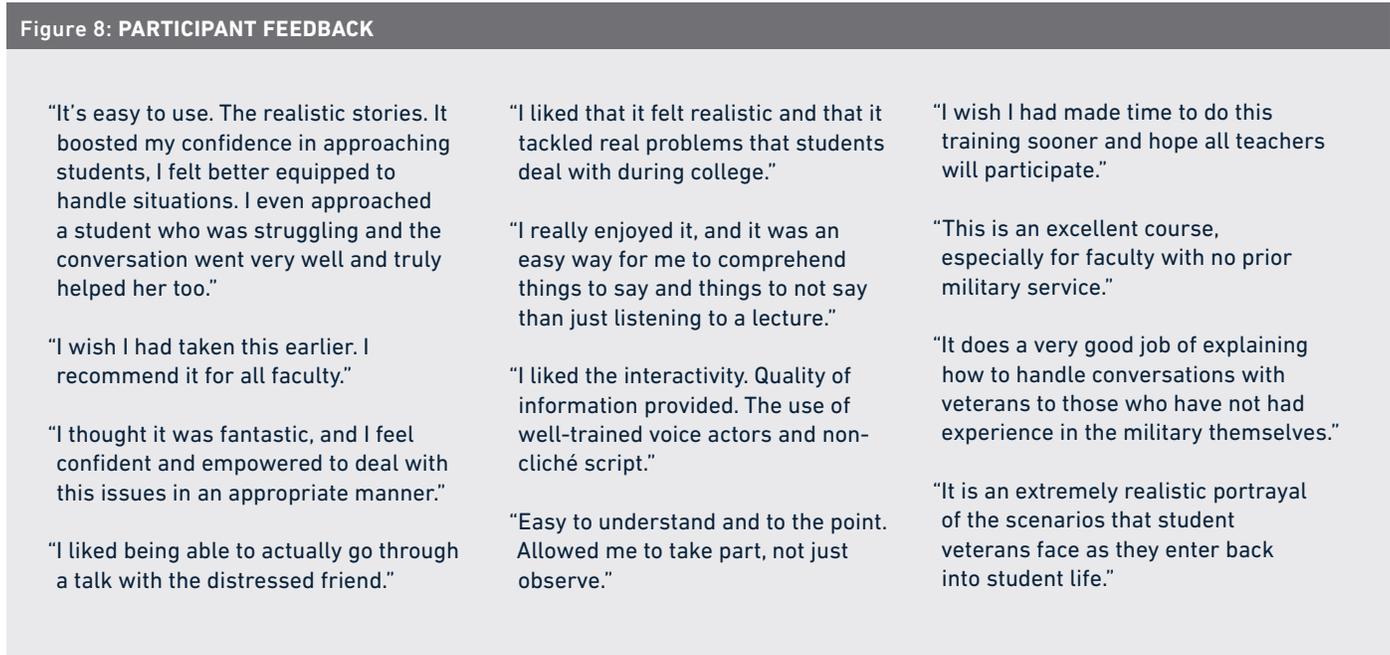
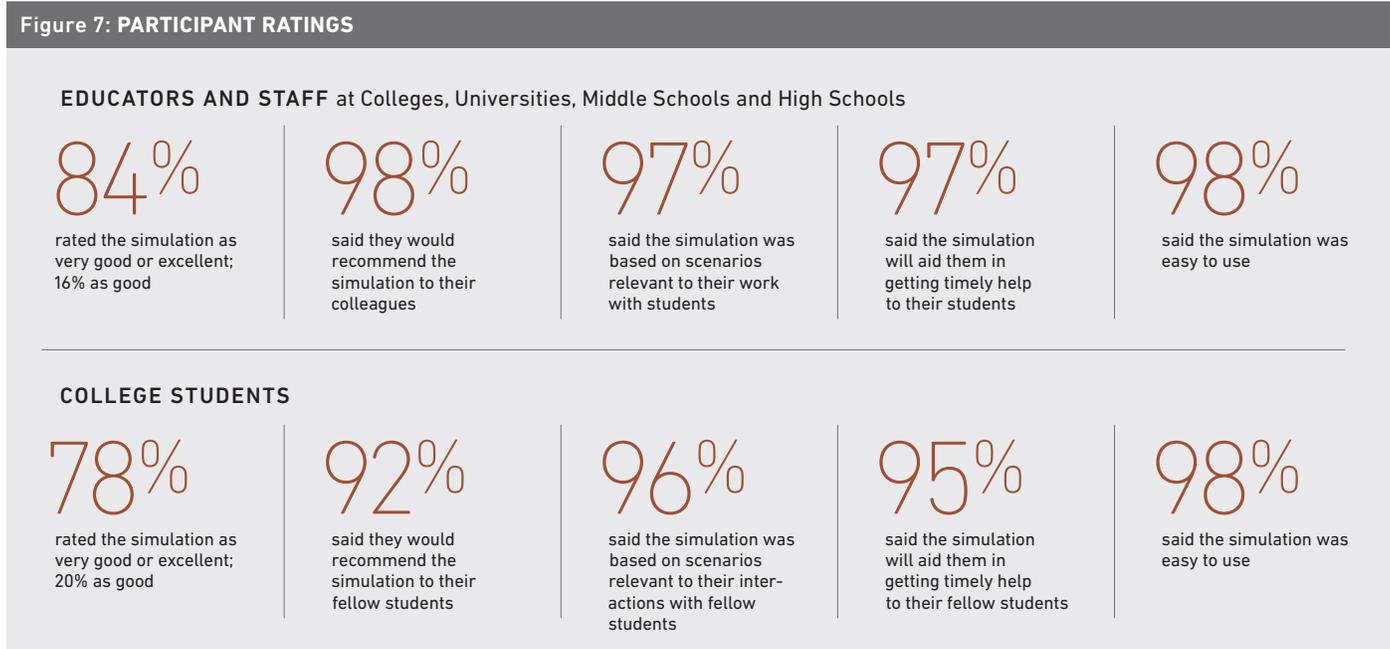


3. Satisfaction and Learning Experience

Participants highly ranked the simulation’s learning experience and design, including the responses listed in *Figure 5*.

Participants also provided the open-ended responses about their experience with the training shown in *Figure 6*.

Lastly, 97% of participants said that all faculty, staff, and administrators in their school should take the simulation.



CONCLUSION

These five longitudinal studies found that all dependent variables showed significant ($p < .05$) increases from pre to post-simulation, and that those increases remained significant at 3-month follow-up points. These findings strongly suggest that the At-Risk suite 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 them to support services as well as discussing concerns about such students with colleagues in school. In the case of students, it also increased the likelihood that they will self-refer if they begin to experience psychological distress.

Finally, the result of the studies showed that participants found the simulations to be easy to use, engaging, realistic, and helpful to them in getting timely help to students. ■

Notes:

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APPENDIX

	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Study Period	5/11 – 2/13	9/12 – 3/13	4/11 – 12/12	6/12 – 2/13	5/11 – 1/13
# of Participants	216	114	430	296	270
# of Schools	82	19	63	11	20
# of States	5	2	24	8	10
# of Follow-up Surveys	1	1	3	3	1
Timing of Follow-up Surveys	3-month	3-month	3, 6, 12 months	4, 6, 12 weeks	3-month

DEMOGRAPHICS	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Race/Ethnicity (participants could identify with more than one race/ethnicity)	White: 87% Asian: 2% Black: 9% Native American/ Alaska Natives: 4% Hispanic descent: 13%	White: 90% Asian: 2% Black: 9% Native American/ Alaska Natives: 1% Hispanic descent: 10%	White: 85% Asian: 5% Black: 10% Native American/ Alaska Natives: 3% Hispanic descent: 9%	N/A	White: 77% Asian: 12% Black 9% Native American/ Alaska Natives: 3% Hispanic descent: 10%
Age	Under 25: 1% 25–35: 16% 36–45: 28% 46–55: 30% 56+: 25%	Under 25: 9% 25–35: 28% 36–45: 29% 46–55: 27% 56+: 7%	Under 25: 8% 25–35: 29% 36–45: 19% 46–55: 21% 56+: 23%	Under 25: 7% 25–35: 29% 36–45: 21% 46–55: 21% 56+: 22%	17–19: 43% 20–22: 38% 23+: 19%
Gender	Female: 79% Male: 21%	Female: 79% Male: 21%	Female: 77% Male: 23%	Female: 65% Male: 34.5% Transgender: 0.5%	Female: 64% Male: 36%
Years working in Education	0–2: 18% 3–5: 15% 6–10: 17% 11+: 50%	0–2: 26% 3–5: 18% 6–10: 20% 11+: 36%	0–2: 29% 3–5: 30% 6–10: 20% 11+: 21%	0–2: 21% 3–5: 26% 6–10: 21% 11+: 32%	N/A
Employment Title or Class Status	Teacher: 60% Health/Mental Health Counselor: 11% Admin/Staff: 29%	Teacher: 74% Admin/Staff: 26%	Faculty: 40% Admin/Staff: 44% Grad Student/RA: 6% Other: 10%	F/T Faculty: 7% Adjunct Faculty: 29% Admin/Staff: 64%	Freshmen: 24% Sophomore: 24% Junior: 22% Senior: 14% Grad Student: 16%
RA/Student Leader	N/A	N/A	N/A	N/A	Yes: 35% No: 65%
Prior Mental Health Education	No: 83% Yes: 17%	No: 83% Yes: 17%	No: 87% Yes: 13%	No: 96% Yes: 4%	N/A
Mandatory	N/A	N/A	N/A	N/A	Yes: 52% No: 48%
Time interacting with students on a daily basis	N/A	Under 1 hour: 18% 1–2 hours: 12% 2+ hours: 70%	N/A	N/A	N/A

APPENDIX (continued)

MENTAL HEALTH SKILLS	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Comparing follow up and post-simulation results to baseline: Significant and Enduring Change at p<.05					
Identify when a student's appearance is a sign of psychological distress	Yes	Yes	Yes	Yes	Yes
Identify when a student's behavior is a sign of psychological distress	Yes	Yes	Yes	Yes	Yes
Discuss concern with a student	Yes	Yes	Yes	Yes	Yes
Motivate the student to seek help	Yes	Yes	Yes	Yes	Yes
Make a referral to mental health support services	Yes	Yes	Yes	Yes	Yes

BEHAVIORAL CHANGE LEVEL 1	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Sample size	n=99	n=114	n=115	N/A	n=165
Comparing follow up and post-simulation results to baseline: Significant and Enduring Change at p<.05					
# of Students they were Concerned About, Approached, and Referred	Yes	Yes	Yes	50% of Participant Reported an Increase	Yes
% Change Between Follow-up and Baseline Points					
# of Students Concerned About	69%	21%	42%	N/A	27%
# of Students Approached to Discuss Concern	71%	25%	47%	N/A	70%
# of Students Referred to Support Services	37%	53%	42%	N/A	53%

BEHAVIORAL CHANGE LEVEL 2	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Percent Reporting an increase					
Talk to Others about Concerns	70%	68%	66%	50%	N/A

BEHAVIORAL CHANGE LEVEL 3	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Comparing follow up and post-simulation results to baseline: Significant and Enduring Change at p<.05					
Self-Referral Likelihood	N/A	N/A	N/A	N/A	Yes

APPENDIX (continued)

SATISFACTION AND LEARNING EXPERIENCE	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Percent Agreeing to Statement					
Rated Simulation as "Very Good" or "Excellent" (Rated as "Good")	87% (12%)	86% (14%)	84% (16%)	81% (19%)	78% (20%)
Would recommend the simulation to their colleagues	98%	96%	98%	97%	92%
Reported the simulation was easy to use	95%	96%	99%	99%	98%
Reported the simulation is based on scenarios relevant to their work with students/interaction with	94%	99%	100%	95%	96%
Reported the simulation would aid them in getting timely help to their students/fellow students	96%	99%	97%	96%	95%
Agreed that everyone in their school should take this simulation	97%	N/A	97%	N/A	N/A

MILITARY CULTURAL COMPETENCY	At-Risk for High School Educators	At-Risk for Middle School Educators	At-Risk for College Faculty & Staff	Veterans on Campus	At-Risk for College Students
Comparing follow up and post-simulation results to baseline: Significant and Enduring Change at p<.05					
Knowledge of common challenges facing the student veterans	N/A	N/A	N/A	Yes	N/A
Talking with student veteran about their military service	N/A	N/A	N/A	Yes	N/A
Referring student veterans to the appropriate campus offices	N/A	N/A	N/A	Yes	N/A
Managing classroom discussions around veteran sensitive issues.	N/A	N/A	N/A	Yes	N/A