



RESEARCH BRIEF

# Effects of adolescent SBIRT education using simulated learning technology in health professional training

## Introduction

Screening, Brief Intervention, Referral to Treatment (SBIRT) is an evidenced-based model to deliver prevention, early intervention, and treatment services for people with substance use disorders and those at risk of developing them. Social workers, nurses, and other health professionals can help prevent and reduce substance use among youth by using the SBIRT model in care settings. NORC at the University of Chicago, in collaboration with leading professional associations, subject matter experts, and technology partner Kognito, developed and evaluated an Adolescent SBIRT Curriculum to train the current and future nursing, social work, and interprofessional workforce on screening and intervening for substance use.

Since 2015, over 600 academic institutions and organizations have implemented the curriculum and 25,000 individuals have been trained via virtual and classroom instruction.

This study evaluated the impact of the education on learners' attitudes towards working with people who drink alcohol; perceived readiness, confidence, competence; knowledge, and skills.

## Sample and Methodology

Learners completed a pre-training survey, received adolescent SBIRT education including an online simulation, and a post-training survey. A pretest-posttest design was used to investigate the effects of the education on attitudes, confidence, competence,

**"I really enjoyed being able to learn the material in...different environments. Each step reinforced the previous and seemed to really maximize memory and content retention. I'll remember the SBIRT course for a long time."**

**- University of Michigan School of Nursing, Advanced Practice Nursing Student**

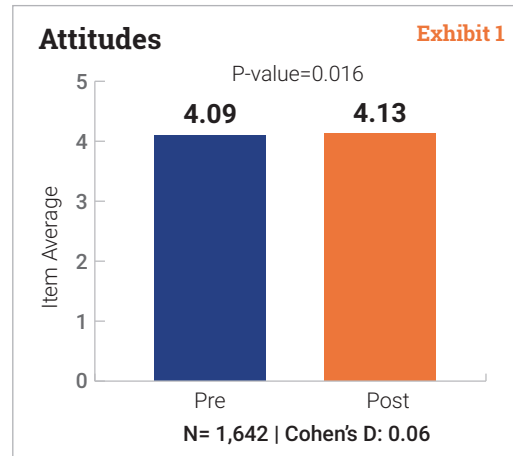
readiness, knowledge, and skills. The sample included 33 schools of nursing, social work, and interprofessional education. 1,592 students and 54 educators and practitioners completed both the pre- and post-training survey. Paired t-tests were conducted to evaluate overall



differences between pre- and post- measures. Subgroup differences (i.e., undergraduate vs. graduate students) in outcomes were evaluated using independent sample t-tests and OLS regressions. Separate OLS regression models were conducted for undergraduate and graduate students.

## Overall Results

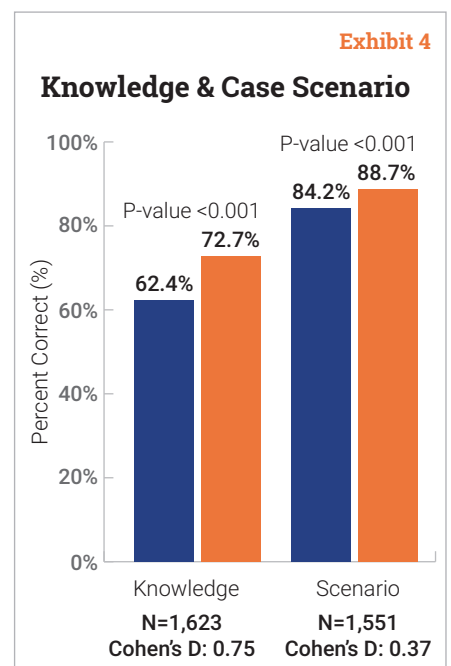
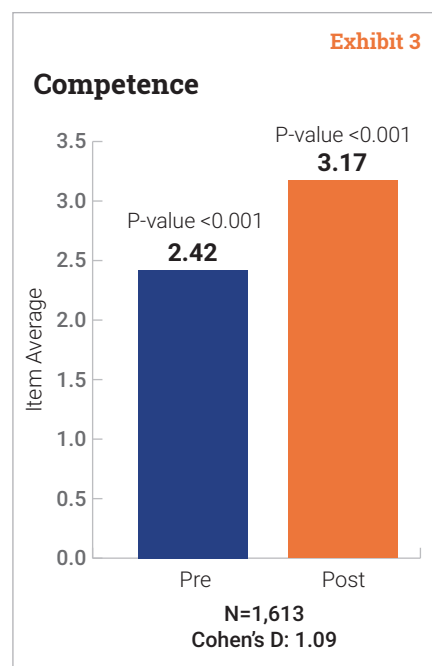
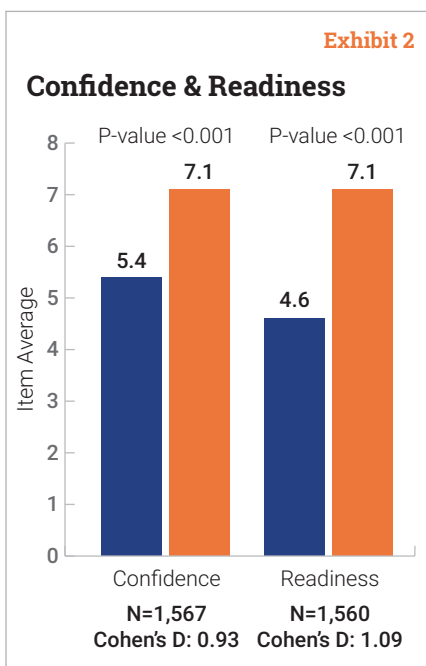
Exhibits 1-4 show the results of the t-tests for the overall sample for each construct. All learners showed significant pre-post improvement across all outcomes. For attitudes, while there was a significant positive change from pre to post, the effect size was very small (Exhibit 1).<sup>1</sup> In contrast, learners showed large effect sizes for changes in confidence, competence, and readiness, indicating a significant and



positive change in views on these constructs from pre to post (Exhibit 2-3). Lastly, for knowledge, there was a statistically significant and positive change, with a relatively large effect size. For the case scenario that measures changes in skills, there was a statistically significant and positive change with a small effect size (Exhibit 4).

## Subgroup Results

We first compared learners by program level (i.e., undergraduate vs. graduate students) both before and after the training. There were significant differences between graduate and undergraduate students' scores for competence, confidence, and readiness prior to receiving the training, with undergraduates scoring lower



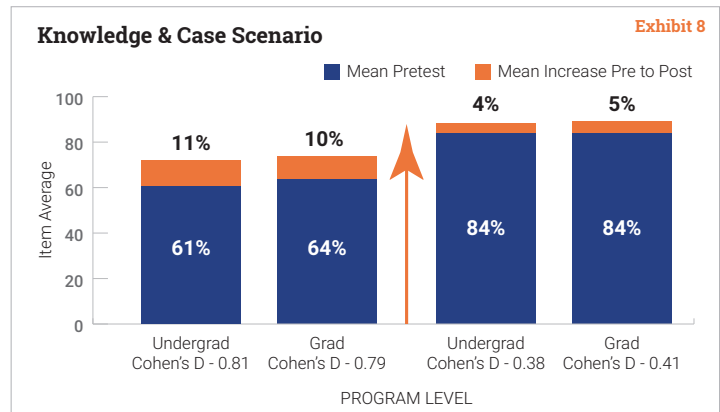
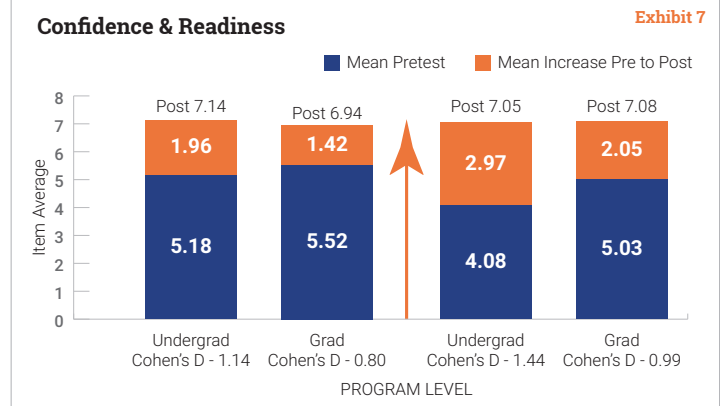
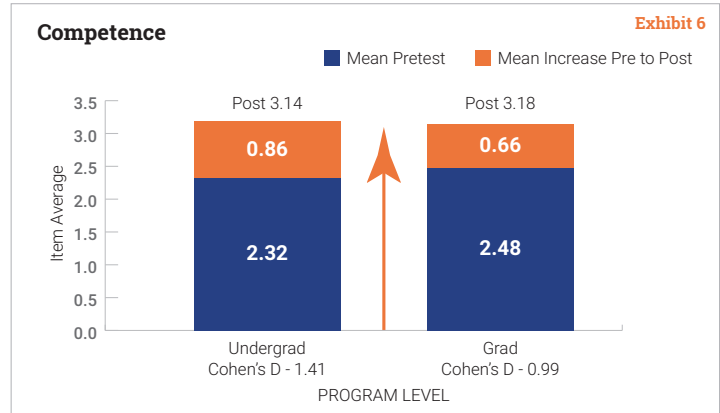
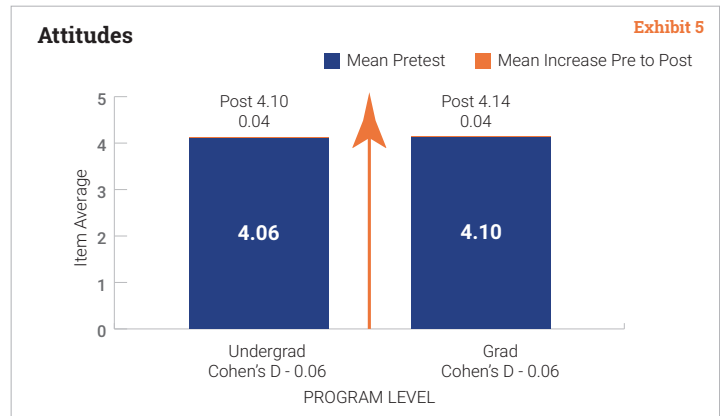


on all constructs. After the training, there were no significant differences in competence or readiness observed by program level and undergraduate students showed significantly higher post confidence scores compared to graduate students. This indicates that undergraduate students improved more than their graduate counterparts, as they “caught up” with graduate students on competence and readiness and surpassed them on confidence post training.

We then conducted subgroup analysis by program level (i.e., graduate students and undergraduate students) separately and found that both undergraduate and graduate students improved from pre to post across all constructs. Exhibits 5-8 display the impact of the training by program level. For attitudes, both groups improved from pre to post, but the change was minimal, and the effect size was very small (Exhibit 5). In contrast, students showed large effect sizes for changes in confidence, competence, and readiness, indicating a meaningful and positive change from pre to post (Exhibit 6-7). Lastly, for knowledge and the case scenario, both groups demonstrated a positive change, with a moderate to large effect size (Exhibit 8).

In addition to significant differences by program level, we saw significant differences in pre-post improvement on competence, confidence, and readiness measures between learners with and without prior SBIRT and motivational interviewing (MI) training. Learners without prior training in SBIRT improved more in competence and readiness compared to those with prior SBIRT training. Similarly, learners without prior MI training improved more in competence, readiness, and confidence compared to those with prior MI training.

**PRE-POST DIFFERENCES BY PROGRAM LEVEL**





## Key Takeaways

1. **All learners showed significant pre-post improvement on all constructs.**
2. In comparing results by program level, undergraduate students scored significantly lower than graduate students on the pre-test for competence, confidence, and readiness. However, after the training, undergraduates **“caught up” with graduate students on competence and readiness and even surpassed graduate students on confidence.**
3. We found significant differences in pre-post improvement between learners with and without prior SBIRT and MI training in competence, confidence, and readiness. However, **learners who did not have prior training improved more than those who had prior training.**



Check out our Adolescent SBIRT by NORC at the University of Chicago website!

## Interested in learning more about the project?

- Check out our Adolescent SBIRT by NORC at the University of Chicago [website!](#)
- Access NORC's [Adolescent SBIRT Curriculum!](#) As an educator or trainer, you can access the entire skills-based Adolescent SBIRT Curriculum, which includes:
  - ☑ 300+ page Learner's Guide to Adolescent SBIRT and companion PowerPoint slide deck
  - ☑ 4-part on-demand educational series Using SBIRT to Talk to Adolescents about Substance Use
  - ☑ State-of-the-art SBI with Adolescents online simulation training programs for students
- Check out our [Educational Exemplars](#) and [Testimonials](#) from academic institutions that have implemented the curriculum in their programs.
- Join our Adolescent SBIRT email list to receive our monthly e-newsletter by completing this short [online form!](#)
- Contact the SBIRT Team at [SBIRTeam@norc.org](mailto:SBIRTeam@norc.org)

i. Cohen J. (1988). Statistical Power Analysis for the Behavioral Sciences. New York, NY: Routledge Academic [Google Scholar]