

Impact of a Virtual Role-play Simulation in Teaching Motivational Interviewing Communication Strategies to Occupational Therapy Students for Readiness in Conducting Screening and Brief Interventions

Allison Sullivan
American International College

Glenn Albright
Baruch College, City University of New York

Nikita Khalid
The Graduate Center, City University of New York

BACKGROUND. This study describes the impact of a training simulation aimed to increase preparedness and confidence of users' strategies in conducting screening and brief intervention (SBI).

METHOD. This quasi-experimental, single-group pretest–posttest design included 44 Masters students. Changes in student confidence and preparedness in selecting appropriate responses during the virtual assessment were measured.

RESULTS. Paired sample t-tests indicated a significant increase in students' preparedness and confidence when addressing patients' substance use in all phases of the intervention.

CONCLUSION. Computer role-play simulation training in motivational interviewing strategies is effective for improving preparedness and confidence to screen, motivate to seek treatment, and refer patients with behavioral health concerns.

Keywords: substance use, mental health, healthcare provider education, screening, role-play, virtual patients, substance use, brief interventions, instructional methods

BACKGROUND

The likelihood that occupational therapy practitioners across a broad spectrum of practice settings will encounter patients with problematic substance use is exceptionally high. In 2018, the Substance Abuse and Mental Health Services Administration (SAMHSA) conducted a National Survey on Drug Use and Health and found that 53.2 million people from 12 years of age and up (19.4%) had used an illicit drug during the past year, and 20.3 million (7.4%) met the criteria for substance use disorder. When the Institute of Medicine's Committee on the Quality of Health Care in America released *Crossing the Quality Chasm: A*

New Health System for the 21st Century (2001), the need for community-based screening for health risk behaviors such as substance use, along with appropriate assessment and referral activities was highlighted. The Substance Abuse and Mental Health Services Administration's screening, brief intervention, and referral to treatment (SBIRT) skills form an evidence-based intervention practice for identifying, reducing, and preventing problematic use, abuse, and dependence on alcohol and illicit drugs (Madras et al., 2009). SBIRT was initially intended for use in primary care settings and its goals include preventing the unhealthy consequences of alcohol and drug use among those whose use may not have reached the diagnostic level of a substance use disorder and helping those with an addiction disease to enter and stay with treatment (SAMHSA-HRSA, n.d.).

Although competency in referring, screening, evaluating, and intervening effectively is emphasized in the SBIRT model, these skills are not exclusive to behavioral health practice. The development of humanistic attitudes paired with nuanced clinical reasoning skills, self-awareness and meaningful reflective practice are widely recognized across allied health literature as essential if occupational therapy (OT) students are to be effective practitioners (Gelman, 2012; Mallory, 2003; McAllister, Tower, and Walker, 2007; Rush, 2008). Consequently, academics in these professions and other fields of adult learning have investigated the best instructional practices to foster efficacy in clinical reasoning and skills, instill confidence in OT students preparing to use these skills, and in turn embrace them as their own (Schell & Schell, 2017; Scheinholz, 2010).

The emphasis on OT practitioner assessment and evaluation competence regardless of practice setting is reflected in the 2018 Accreditation Council for Occupational Therapy Education® (ACOTE®) Standards (ACOTE, 2018). There are no less than 29 individual educational standards devoted to this domain of occupational therapy program evaluation. ACOTE-accredited programs are required to provide students with instruction in and demonstrate effective learning outcomes for each one of these standards. In order to meet these criteria, practice involving one-to-one live role-play rehearsal is the standard method for creating opportunities for learners to develop these skills and receive feedback regarding their efforts for improved outcomes due to the fact that the screening, assessment, evaluation, and referral of patients invariably involve specific communication and interviewing techniques (Hedge et al., 2015). Although these "hands-on experiences" are favored for developing students' competency in this skill set, their feasibility and effectiveness is questionable, specifically when addressing behavioral health concerns. McPherson, Goplerud, and Adam (2015) cite trainers' own discomfort initiating conversations about behavioral health, with time constraints and lack of expertise in conducting brief interventions being among the common educational barriers for developing practitioner competency. Due to the difficulties involved in establishing plentiful practical experience and skills while still under training as well as the cost and time to establish them, organize contingencies, and provide the necessary supervision to ensure patient safety, alternative means for addressing these learning needs are highly desirable (Albright et al., 2017). Computer simulation education presents an efficient and cost-effective means for increasing student competency in these techniques in low-risk learning activities. A study by Lowes, Hamilton, Hochstetler, and Paek (2013) suggests that the opportunity for learners to experiment with a range of behavioral health intervention techniques is one benefit of this form of education.

Despite its identification as a promising instructional methodology for promoting health education learning and skill development (Cook et al., 2011), the effectiveness of computer simulation training specific to OT treatment and education is very limited at this time (Ozile et al., 2019). *SBI Skills Assessment* is an online computer role-play simulation developed by New York-based health simulation company Kognito and is designed to assess learners' competency in accurately selecting appropriate evidence-based inquiries and responses in order to screen adults for substance use with validated tools, conducting brief interventions, and coordinating referrals to treatment (Kognito, 2019).

The dual purposes of this investigation, therefore, were as follows:

- 1) Contribute to the body of evidence regarding best practices in psychosocial OT education and practice, and

- 2) Promote understanding of the efficacy of computer simulation training in improving the accuracy, preparedness and confidence of students of health professions in screening and brief intervention (SBI) and enhance their understanding of the core values of their profession.

This paper describes a study conducted with 44 entry-level Masters OT students in the spring semester of their second year in order to examine whether computer simulation training would increase their preparedness and confidence in screening, brief intervention, and referral to treatment skills. The simulation is situated prior to administering a comprehensive psychosocial occupational therapy assessment, including screening for problematic substance use, in a live one-to-one role-play rehearsal using volunteer first-year occupational therapy students from the same program as mock “patients.” Although there is evidence supporting the use of computer simulation training in health education (Albright et al., 2016; Albright et al., 2018; Boyle & Pham, 2019; Burmester et al., 2019; Koetting & Freed, 2017; Kuzma et al., 2018), a paucity of research in this instructional methodology exists specific to OT education.

METHOD

This study followed a quasi-experimental, single-group pretest–posttest design. The independent variable is SBIRT computer simulation training as a method of instruction. The dependent variables are the attitudinal constructs of self-efficacy or confidence and preparedness of students to engage in SBI conversations using motivational interviewing conversation tactics before and after the SBI computer simulation training. A purposive sample of 44 second-year MSOT students participated in this experiment. The experiment procedures were as follows: (1) pre-readings about substance use and SBIRT in primary care (Brown et al., 2019); (2) a 90-minute recorded webinar with accompanying slides focused on prevention and SBI for peer support (SAMHSA, 2015); (3) completion of a highly advanced and interactive online role-play computer simulation where students are given the opportunity to practice their SBI skills individually (*SBI Skills Assessment*, Kognito); and (4) participation in a face-to-face clinical simulation, including interactive role-play rehearsals in one-to-one campus-settings, using materials prepared by the course instructor, and based on the American Occupational Therapy Association’s Occupational Profile Template (AOTA, 2017).

PARTICIPANTS

Forty-four students completed the pretest–posttest. The mean age of participants was 26.05 years (SD = 4.70). Thirty-six of the students were female, six were male, and two were non-binary. Twenty-nine students reported being white, five students described themselves as Black/African American, six reported being Asian, two described themselves as Puerto Rican, two students identified themselves as Hispanic and one as Hawaiian/Pacific Islander.

MEASURES

Students’ self-perceived preparedness and confidence were measured via Survey Monkey assessments the beginning and end of the training that focused on specific SBIRT skills (i.e., engagement, building rapport, providing feedback, assessing readiness, and negotiating an action plan). Responses were collected using ordinal Likert-type scales. Preparedness was rated on a 5-point Likert scale ranging from “very low” to “very high.” Confidence in their SBI skills was rated on a 5-point scale ranging from “strongly disagree” to “strongly agree.”

PROCEDURES

Following institutional review board approval from American International College, students in a psychosocial OT intervention course enrolled themselves in the computer simulation training entitled *SBI Skills Assessment* provided by Kognito. Next, the students completed the reading that had been assigned on

this topic and listened to the SAMHSA webinar recording on MI while viewing the slideshow that accompanied the presentation. They were then sent a link to the Pre-training Survey through a secure browser. In this communication, students were informed that the survey was voluntary and was designed to assess the effectiveness of the ensuing training. They were given the option to complete the survey or skip it and go straight to the computer simulation. The pre-training survey measured students' self-reported confidence and preparedness in four primary components of the SBIRT model: screening patients for behavioral health concerns, initiating a conversation regarding substance use, motivating a patient to seek behavioral health treatment, and referring patients to additional treatment.

INTERVENTION

The SBI role-play simulation is a 30-minute online training that included a virtual coach who guided students through two realistic practice scenarios with different virtual humans in various settings. In the simulation, users communicate with emotionally responsive virtual patients that are coded with memory and personality and will react like a real patient undergoing an SBI assessment (Figure 1). Users communicate with the virtual patient by selecting from a range of effective or ineffective communication tactics as determined by national subject matter experts. Once a tactic is selected, the user will see their patient's verbal and non-verbal responses, which provides them feedback on how they are progressing through the role-play. Users successfully complete the simulation when they have demonstrated proficiency in specific SBI skills, including engagement with the interview participant, building rapport, eliciting pros and cons of making behavioral changes, providing feedback to the interview subject, assessing the client's readiness to engage, negotiating for action, summarizing and thanking, and motivational style. These skills are evaluated automatically and presented to the user at the end of the training as a performance dashboard. After two initial practice role-play sessions with the virtual patient, students completed a test scenario from which they received an initial "challenge score" in each of these skills. They were then able to continue rehearsing with their virtual coach in practice scenarios while receiving feedback on their responses until the accuracy of their responses on the independent test scenario was assessed at a minimum of 75 out of 100 possible points in each of the training components.

FIGURE 1
KOGNITO'S SBI SKILLS ASSESSMENT COMPUTER SIMULATION TRAINING



After completing this activity and achieving a minimum competency challenge score of > 75%, the students were permitted to conduct face-to-face on-campus clinical simulations with volunteer first-year occupational therapy students. These one-to-one interactive role-play rehearsals used materials prepared by the course instructor and were based on the American Occupational Therapy Association's Occupational Profile Template (AOTA, 2017). A follow-up survey sent a month after completion of the post training survey allowed students to provide qualitative information about their perception of the value of the training.

The following steps were taken to reduce observer bias: no grade was attached to student performance in any step of the study process (although 1% extra credit was awarded for completion of the computer simulation training), participant consent was housed in a server that was inaccessible to faculty involved in the study, and the creators of the Kognito computer simulation program are not affiliated with the college where the study took place. Students were instructed to spend time reflecting on their experience but there was no guided class discussion during the study period.

ANALYSIS

Data were analyzed using IBM SPSS Statistics (Version 21; IBM Corp., Armonk, NY). Data were organized by four components of SBI skills (screening patients for behavioral concerns using validated instruments, initiating a conversation with patients about their behavioral health, using motivational interviewing to encourage a patient to seek behavioral health treatment, and scheduling a follow-up visit or referring patients to additional behavioral health treatment or support services). Using a paired samples t-test, response frequencies of the individual preparedness and confidence Likert-type items were compared on pretest versus posttest competency and confidence scores.

RESULTS

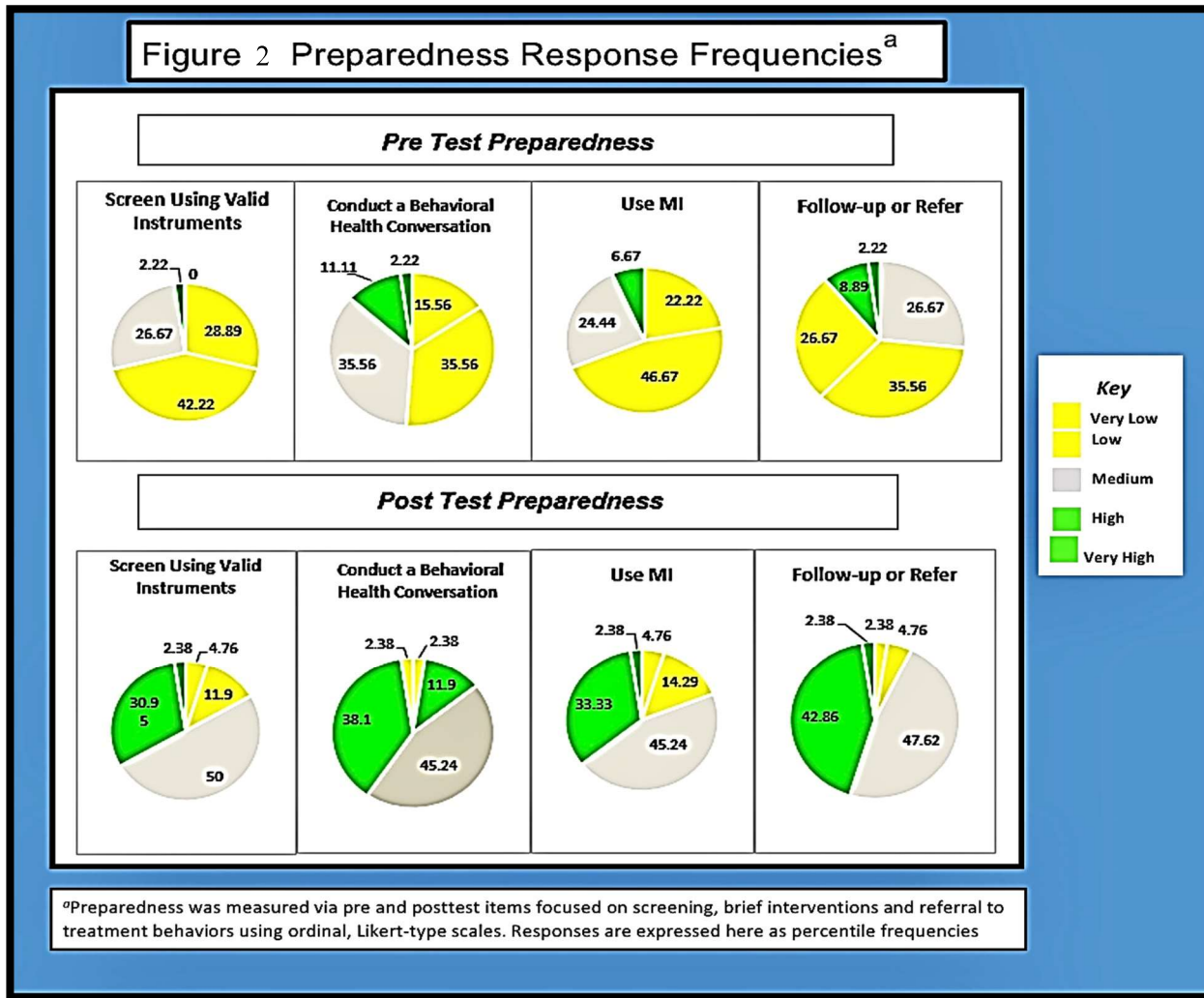
All four preparedness behavior components increased significantly from pretest to posttest. Paired samples t-tests were conducted on the following items: screening patients for behavioral concerns using validated instruments, initiating a conversation with patients about their behavioral health, using motivational interviewing to encourage a patient to seek behavioral health treatment, and scheduling a follow-up visit or referring patients to additional behavioral health treatment or support services. Results are presented in Table 1. Figure 2 presents pre- and posttest preparedness response frequencies expressed as percentiles of respondents.

**TABLE 1
PREPAREDNESS PAIRED SAMPLES T-TEST RESULTS**

| | Mean | Std Dev | 95% Confidence Interval of the Difference | | Paired t-test | | |
|-----------------------------|-------------|--------------------|--|--------------|--------------------------|-----------|------------------------------|
| | | | Lower | Upper | t value | df | Sig (two- tailed) |
| PREPAREDNESS | | | | | | | |
| Screen pre | 2.00 | .81 | | | | | |
| Screen post | 3.18 | .84 | -1.45 | -0.92 | -9.01 | 43 | 0.65 |
| BH conversation pre | 2.48 | .98 | | | | | |
| BH conversation post | 3.30 | .82 | -1.08 | -0.55 | -6.39 | 43 | 0.46 |
| Use MI pre | 2.14 | .85 | | | | | |
| Use MI post | 3.18 | .87 | -1.32 | -0.78 | -7.18 | 43 | 0.55 |
| Refer pre | 2.23 | 1.03 | | | | | |
| Refer post | 3.43 | .76 | -1.52 | -0.89 | -7.80 | 43 | 0.59 |

p = < .05

**FIGURE 2
PREPAREDNESS RESPONSE FREQUENCIES^a**



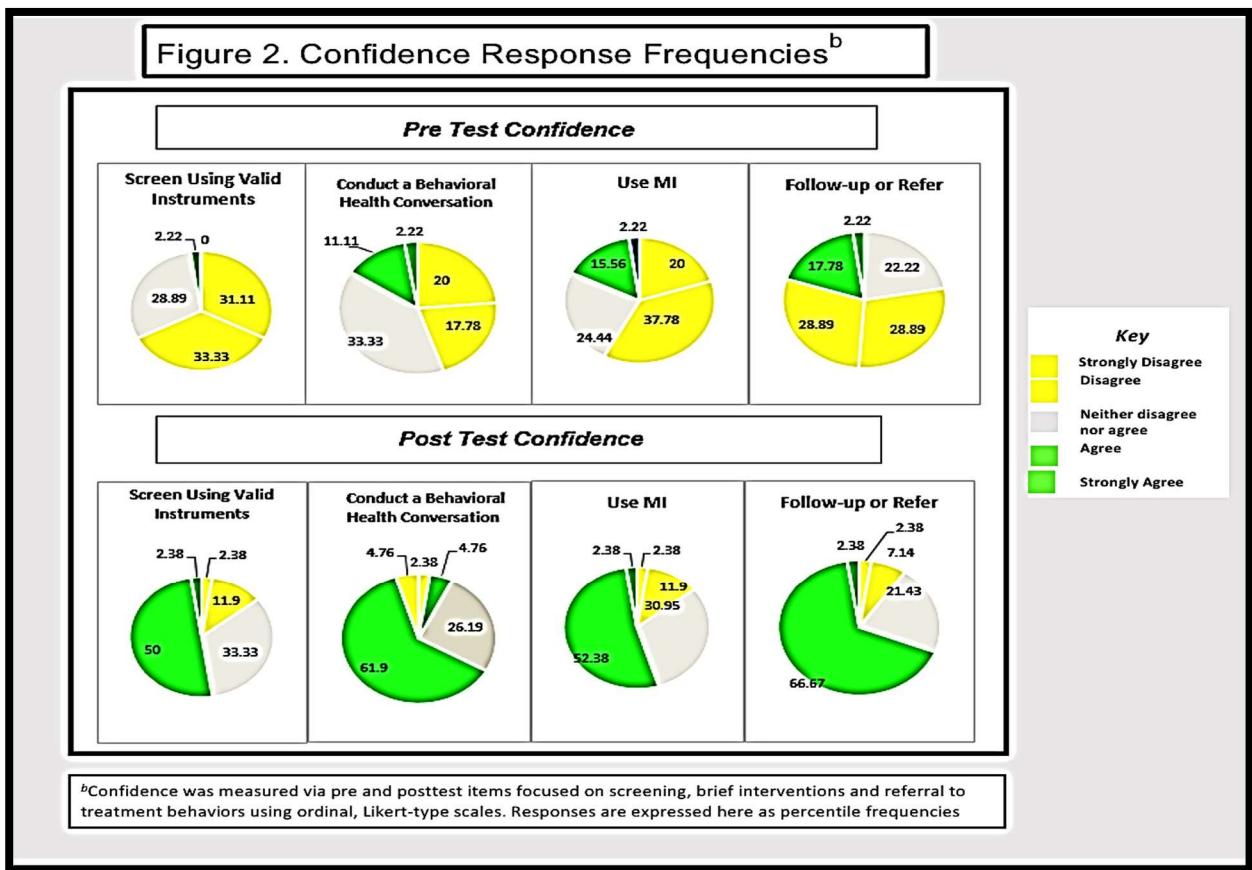
Paired samples t-tests were also conducted on student confidence in implementing those same components of SBI, with all four significantly increasing from pretest to posttest as well. Results are presented in Table 2. Figure 3 presents pre- and posttest confidence response frequencies expressed as percentiles of respondents.

TABLE 2
CONFIDENCE PAIRED SAMPLES TEST RESULTS

| | Mean | Std Dev | 95% Confidence Interval of the Difference | | Paired <i>t</i> -test <i>t</i> value | df | Sig (two-tailed) |
|----------------------|------|---------|---|-------|--------------------------------------|----|------------------|
| | | | Lower | Upper | | | |
| CONFIDENCE | | | | | | | |
| Screen pre | 2.04 | .94 | | | | | |
| Screen post | 3.41 | .82 | -1.54 | -1.09 | -11.82 | 43 | 0.76 |
| BH conversation pre | 2.70 | 1.11 | | | | | |
| BH conversation post | 3.64 | .75 | -1.26 | -0.60 | -5.69 | 43 | 0.43 |
| Use MI pre | 2.41 | 1.06 | | | | | |
| Use MI post | 3.43 | .82 | -1.28 | -0.77 | -7.99 | 43 | .60 |
| Refer pre | 2.48 | 1.11 | | | | | |
| Refer post | 3.61 | .75 | -1.46 | -0.82 | -7.20 | 43 | 0.55 |

p > .05

FIGURE 2
CONFIDENCE RESPONSE FREQUENCIES^b



The four statements about preparedness were summed and correlated with the four statements on confidence for the pre-test scores as were the posttest statements. The four pre-test statements about preparedness had a mean of 8.84 (SD = 3.17). The four pre-test statements about confidence had a mean of 9.68 (SD = 3.74). Pearson's correlation was significant, $r(42) = .788$, $p = .0001$, and $r^2 = .62$, indicating that as preparedness increases, confidence increases. The posttest statements about preparedness had a mean of 13.09 (SD = 2.99). The posttest statements about confidence had a mean of 14.09 (SD = 2.74). Pearson's correlation was significant, $r(42) = .81$, $p = .0001$, $r^2 = .66$, signifying that as preparedness increases, confidence increases.

DISCUSSION

The results of this study present an advance in experiential learning via an innovative approach to developing clinical competencies in screening, brief interventions, and referral to treatment (SBIRT) skills using a computer simulation. The investigation yielded a strong, positive relationship between direct participation in an innovative computer simulation using SBIRT skills and the confidence and accuracy of OT students in selecting appropriate responses when using these skills in a virtual assessment after a peer-to-peer psychosocial occupational assessment was administered. OT practitioners can demonstrate leadership in SBIRT programs as direct service providers and occupy a place of trust in the patient care continuum by providing services in the settings for which SBIRT was intended (Birkhauer et al., 2017). In order for these practitioners to develop and lead SBIRT programs in their workplaces, however, they must first possess the ability to deliver these skills competently and have sufficient confidence and preparedness when doing so to inspire these therapists to promote SBIRT program development.

Evidence that students valued this training can be seen in their responses to follow-up questions. All participants who completed the post survey agreed that the simulation was based on scenarios relevant to their future work with patients, 98% rated the overall simulation as "good" or "excellent," and 93% stated that they would recommend this training to their peers.

In addition to the quantitative data that demonstrated students' positive evaluation of the training, individual student feedback as illustrated in these quotes is also revealing:

"I enjoyed the simulation; there were a few instances in which I selected the wrong response and I really appreciated how the program explains why mistakes are incorrect. That helped me learn a lot about the appropriate way to phrase feedback in order to avoid language that may lead the individual to consider reasons why they cannot achieve their goals (for example, instead of asking "Why didn't you rate your motivation to change a higher number like 9?" you would ask "Why didn't you rate your motivation to change a lower number like 4?"). This concept is new to me and I believe that the simulation did a great job of teaching it comprehensively."

"I liked how the responses created a real-life response/experience."

"Once I go out on fieldwork this will be very helpful and I definitely plan on utilizing this knowledge."

Although these findings support the results of other investigations that found computer simulation training to be beneficial to health education students (Cook et al., 2011; Ozile et al., 2019), there were limitations. Demographic variables were not analyzed due to small sample sizes and these small sample sizes for demographic variations resulted in decreased power for analyzing differences and limited generalizability of the results. In addition, due to the nature of student assessment within a college semester, no control group was designated. This study explored only the relationship between preparedness and confidence of students in response to one specific computer simulation in the skills identified, at one college in the Northeastern United States. Currently, it is not possible to determine whether changes generated

through alternative instructional methodologies or using different simulations would be retained through ensuing fieldwork or after participants begin practicing.

CONCLUSION

With the likelihood that few students will have Level II fieldwork opportunities in traditional mental health care settings, one challenge for academic programs is to ensure students' entry-level competence in mental health skills and knowledge (Sullivan & Mendonca, 2017). By providing opportunities for students to develop competency and accuracy in using appropriate techniques when discussing and educating clients on their substance use, we can better prepare students for leadership in settings that employ health care practice models that address population health such as the public health model of addiction and recovery, and the harms reduction approach (SAMHSA-HRSA, n.d.). Future studies should determine whether improvements in student confidence and preparedness in SBI skills can be replicated. Educational interventions for students who demonstrate negative changes in confidence and preparedness need to be identified. Changes to student confidence and preparedness through alternative instructional methodologies need to be identified for purposes of comparison.

There is insufficient evidence at this time to conclude that any one educational approach to preparing students for screening and intervening with patients who have problematic substance use behavior is the most effective. Failing to adopt training such as this within OT curricula, however, almost guarantees that educators will have less objective and validated tools for developing students' skills in this area, and that this represents a risk factor for poor quality interventions and outcomes for people with problematic substance use who receive OT treatment. Given the complexity of promoting safe, effective, client-centered, sustainable health outcomes for people with disabilities, health professional educators must continue to develop opportunities and adopt practices that maximize student learning (Sullivan & Mendonca, 2017).

IMPLICATIONS FOR OCCUPATIONAL THERAPY EDUCATION

The results of this study have the following implications for occupational therapy education:

- Computer simulation may be more effective than other instructional methodologies in yielding meaningful improvements in student preparedness and confidence in using SBI skills.
- Student evaluation of training in SBI skills suggests that instruction in interviewing for substance use behaviors should be offered in educational programs followed by subsequent experiences as students progress through their education.

ACKNOWLEDGMENTS

We would like to thank American International College for support of this project. We would also like to thank Dr. Sandra Segó for her statistical expertise and Dr. Christine Helfrich for her guidance and feedback.

REFERENCES

- Accreditation Council for Occupational Therapy Education. (2018). 2018 Accreditation Council for Occupational Therapy Education (ACOTE®) standards and interpretive guide. Retrieved from <https://www.aota.org/~media/Corporate/Files/EducationCareers/Accredit/StandardsReview/2018-ACOTE-Standards-Interpretive-Guide.pdf>
- Albright, G., Adam, C., Serri, D., Blecker, S., & Goldman, R. (2016). Harnessing the power of conversations with virtual humans to change health behaviors. *Mhealth*, 2.
- Albright, G., Bryan, C., Adam, C., McMillan, J., & Shockley, K. (2017). Using virtual patient simulations to prepare primary health care professionals to conduct substance use and mental health screening

- and brief intervention. *Journal of the American Psychiatric Nurses Association*, 24(3), 247–259. <https://doi.org/10.1177/1078390317719321>
- Albright, G., Bryan, C., Adam, C., McMillan, J., & Shockley, K. (2018). Using Virtual Patient Simulations to Prepare Primary Health Care Professionals to Conduct Substance Use and Mental Health Screening and Brief Intervention. *Journal of the American Psychiatric Nurses Association*, 24(3), 247-259.
- Birkhäuser, J., Gaab, J., Kossowsky, J., Hasler, S., Krummenacher, P., Werner, C., & Gerger, H. (2017). Trust in the health care professional and health outcome: A meta-analysis. *PLOS One*. <https://doi.org/10.1371/journal.pone.0170988>
- Boyle, S., & Pham, T. (2019). The Innovative Integration of SBIRT Training Using Standardized Clients and Computer Simulation in Social Work Education. *European Journal of Education*, 2(2), 50-56
- Brown, C., Stoeffel, V., & Munoz, J. (2018). *Occupational therapy in mental health: a vision for participation* (2nd ed.). Philadelphia: F.A. Davis.
- Burmester, K.A., Ahluwalia, J.P., Ploutz-Snyder, R.J., & Strobbe, S. (2019). Interactive computer simulation for adolescent screening, brief intervention, and referral to treatment (SBIRT) for substance use in an undergraduate nursing program. *Journal of pediatric nursing*, 49, 31-36.
- Cook, D.A., Hatala, R., Brydges, R., Zendejas, B., Szostek, J.H., Wang, A.T., ... Hamstra, S.J. (2011). Technology-enhanced simulation for health professions education: A systematic review and meta-analysis. *The Journal of the American Medical Association*, 306(9), 978-988. <http://dx.doi.org/10.1001/jama.2011.1234>
- Gelman, C. (2012). Transformative learning: First year MSW students' reactions to, and experiences in, gerontological field placements. *Educational Gerontology*, 38, 56–69. <https://doi.org/10.1080/03601277.2010.500579>
- Hedge, N., Neville, M.A., & Pickens, N.D. (2015). How patient educators teach students: Giving a face to a story. *The Open Journal of Occupational Therapy*, 3(1), Article 4. <http://dx.doi.org/10.15453/21686408.1143>
- Institute of Medicine Committee on Quality of Health Care in America. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC. DOI: 10.17226/10027
- Koetting, C., & Freed, P. (2017). Educating undergraduate psychiatric mental health nursing students in screening, brief intervention, referral to treatment (SBIRT) using an online, interactive simulation. *Archives of psychiatric nursing*, 31(3), 241-247.
- Kognito, (n.d.). *SBI Skills Assessment*. Retrieved from https://kognito.com/wp-content/uploads/Health_ProductSheet_ASBI.pdf
- Kuzma, E., Boucher, B., Gray, B., Burmester, K., Ploutz-Snyder, R., & Strobbe, S. (2018). Preparing advanced practice registered nursing students to deliver adolescent sbirt for substance use. *Journal of Nursing Education*, 57, 736-741. DOI: 10.3928/01484834-20181119-06
- Lowes, S., Hamilton, G., Hochstetler, V., & Paek, S. (2013). Teaching communication skills to medical students in a virtual world. *Journal of Interactive Technology & Pedagogy*, (3). Retrieved from <https://jitp.commons.gc.cuny.edu/teaching-communication-skills-to-medical-students-in-a-virtual-world/>
- Madras B.K., Compton W.M., Avula, D., et al. (2009). Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple healthcare sites: Comparison at intake and six months later. *Drug and Alcohol Dependence*, pp. 280-295. DOI:10.1016/j.drugalcdep.2008.08.003
- Mallory, J.L. (2003). The impact of a palliative care educational component on attitudes toward care of the dying in undergraduate nursing students. *Journal of Professional Nursing*, 19, 305–312. [https://doi.org/10.1016/S8755-7223\(03\)00094-2](https://doi.org/10.1016/S8755-7223(03)00094-2).
- McAllister, M., Tower, M., & Walker, R. (2007). Gentle interruptions: Transformative approaches to clinical teaching. *Journal of Nursing Education*, 46, 304–312. <https://doi.org/10.3928/01484834-20070701-04>.

- McPherson, T., Goplerud, E., & Adam, C. (2015). Integrating adolescent substance abuse screening, brief intervention and treatment in health professions education. *Addiction, Science & Clinical Practice, 10*(Suppl. 2), 1-2. <https://doi.org/10.1186/1940-0640-10-S2-O36>.
- Ozelie, R., Both, C., Fricke, E., & Maddock, C. (2016). High-Fidelity Simulation in Occupational Therapy Curriculum: Impact on Level II Fieldwork Performance. *The Open Journal of Occupational Therapy, 4*(4). <https://doi.org/10.15453/2168-6408.1242>
- Rush, B. (2008). Mental health service user involvement in nurse education: A catalyst for transformative learning. *Journal of Mental Health, 17*, 531–542. <https://doi.org/10.1080/09638230802053383>
- Scheinoltz, M., (Ed.). (2010). *Occupational therapy in mental health: considerations for advanced practice*. Bethesda, MD: AOTA Press.
- Schell, B., & Schell, J. (2017). *Clinical and professional reasoning in occupational therapy* (2nd ed.). Baltimore: Lippincott Williams and Wilkins.
- Substance Abuse and Mental Health Services Administration –Health Resources and Services Administration. (n.d.). In SBIRT: *Screening, brief intervention, and referral to treatment: Opportunities for implementation and points for consideration*. Retrieved from https://www.integration.samhsa.gov/SBIRT_Issue_Brief.pdf
- Substance Abuse and Mental Health Services Administration. (2019). Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series H-54). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
- Sullivan, A., & Mendonca, R. (2017, November). Impact of a fieldwork experience on attitudes toward people with intellectual disabilities. *American Journal of Occupational Therapy, 71*(6). <https://doi.org/10.5014/ajot.2017.025460>